



# WPI

Worcester Community  
Project Center

## Enhancing Communication at the YMCA Central Community Branch

Project Center: Worcester Community Project Center

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## **ABSTRACT**

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The Central Community Branch Young Men’s Christian Association, or YMCA, in Worcester, Massachusetts is a cause-driven organization that works side-by-side with families and people of all ages to strengthen the community. The goal of this study was to collaborate with the YMCA to assess and enhance forms of communication amongst staff and between staff and parents at the afterschool program. Using participatory observation, surveys, interviews, and research, we found that the YMCA’s communication would benefit from the use of a mobile application to help with tracking of the participants. In addition, our research also revealed that parent satisfaction would improve if the environment of the pick-up area included seating and a bulletin board.

## **ACKNOWLEDGMENTS**

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In addition, we would like to thank our sponsors David Connell, for giving us a warm welcome to the Central Community Branch YMCA, Pamela Suprenant, for her constant positivity and energy as well as her helpful feedback, and Sarah Levy for her continuous enthusiasm and for allowing us to spend time with the children in the afterschool program. We would also like to thank the afterschool program staff for all of their assistance throughout the course of our project.

Lastly, we would like to thank all of the organizations and people that allowed us to interview and survey them. Their insight helped us understand the needs of all individuals involved in afterschool programs, including the staff, children, and parents to ultimately create a solution and make recommendations to enhance communication in the Central Community Branch YMCA Afterschool Program.

## EXECUTIVE SUMMARY

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Being a parent is a challenging job in itself, but adding to it with the stress of a long work week, or doing it alone, can make it even more difficult. Many parents and families rely on child care or afterschool programs so their child can participate in quality programs while the parents work. Since child care is an essential tool for the healthy development of children, it is important to have the communication at child care programs be as efficient and effective as possible in order for children, staff, and parents to enjoy the many benefits associated with the program.

An Afterschool Program (ASP) is a safe, structured, and supervised setting with well-planned programs, trained and professional staff, and a large quantity of activities and materials (Park, 2017). One place that provides early childhood education and afterschool programs is the Young Men's Christian Association (YMCA). The YMCA, also known as the Y, is a nonprofit human service organization, who is committed to strengthening the community while providing a safe space for learning, physical activity, and teaching good morals. It is a staple for those whose parents may not be able to pick them up after school, or for those who need more work in their development outside of the classroom. The YMCA provides opportunities to make friends through after-school programs, which builds a sense of community among people of different neighborhoods.

The local YMCA in Worcester is the Central Community Branch, which is a part of the YMCAs of Central Massachusetts. This particular YMCA is located at 766 Main Street in Worcester, MA, and is a very important staple in the community, given the diverse ethnicities and people of many different economic backgrounds. The Y is committed to meeting the needs of all its constituents while having to overcome everyday obstacles such as language barriers and finding the best way to communicate with both staff and parents.

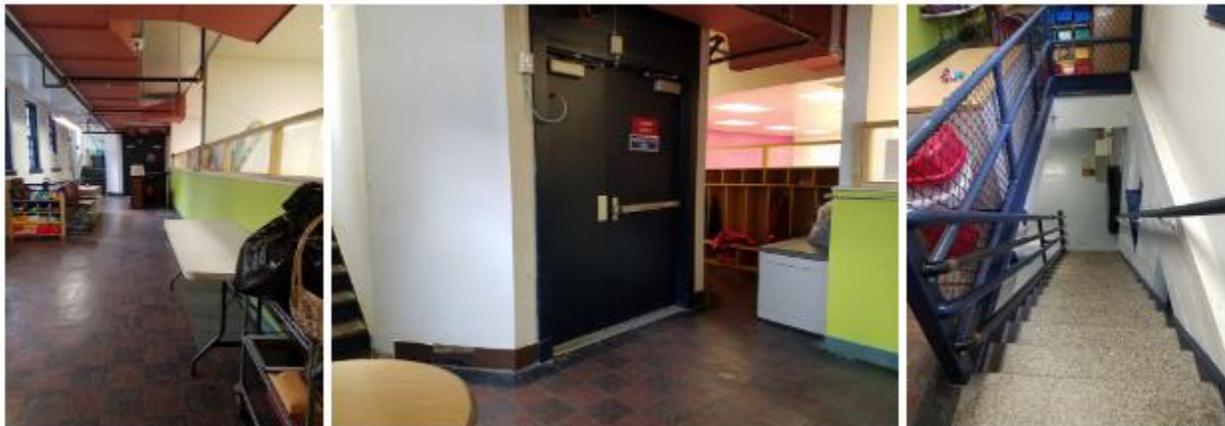
There are so many barriers, such as language, to developing effective communication between the YMCA and the participant families. These barriers can be overcome through creative solutions such as implementing technology. Throughout this project, our team was able to accomplish this and much more. In the methodology chapter, we discuss the methods we used in order to accomplish our over-arching goal for the project.

Our group completed this project in collaboration with the Central Community Branch of the YMCA. The main goal for our project was to collaborate with the YMCA to assess and enhance forms of communication amongst staff, and between staff and parents of the afterschool program. In order to achieve this goal, we developed and completed the following five objectives:

1. Assessed the current communication methods used amongst the YMCA staff
2. Assessed the current communication methods used between organizations' staff and parents
3. Developed new and improved forms of communication at the YMCA
4. Evaluated developments and pilot the new form of communication at the YMCA
5. Developed and propose recommendations for the YMCA about communication and membership

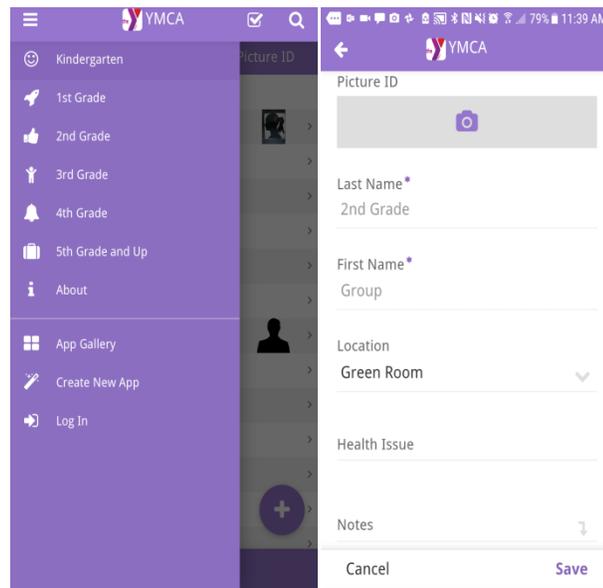
We conducted surveys with the YMCA staff and parents of the YMCA afterschool program. We analyzed the survey data to determine how efficient the pick-up process was at the YMCA afterschool program, and to see which method of communication was the most effective for both parents and staff. Following this, we conducted interviews with other non-for-profit organizations to investigate what methods of communication worked best for them that might also be effective at the YMCA. We compared certain software for mobile applications to develop a new form of communication at the YMCA Afterschool Program. This application will be used for tracking the location of the students while they are in the YMCA. We then narrowed

down the selections based on criteria from the comparison chart, and piloted and tested the software with the features that the YMCA staff felt were necessary. This application has since been developed, and is now in use at the YMCA. We also piloted and tested a bulletin board in the waiting area in order to create a more comfortable environment for parents waiting for their children. Following the testing, the group developed findings and recommendations for the YMCA to improve the app, and the waiting area. We made slight adjustments to the quick menu functions, and took pictures of the children in order to give them a profile picture on the application. We made the YMCA staff informational video tutorials and user guides in order to fully understand the capabilities of the app, as well as to troubleshoot any problems that may arise. The user guides can be found in Appendices I, J and K.



Initially, the YMCA was looking for a way to enhance communication amongst the staff in order to improve the time of the pick-up process. We found that the **parents tended to get frustrated while waiting to pick up their child.** Upon further observation and data collection, the group realized that the wait time was not the main cause of the parents' frustration at pick-up. **We found that parents just *feel* that they are waiting much longer than they actually are.** This feeling can be attributed to a combination of pick-up area environmental factors, such as a

lack of sitting area and reading material. *We suggest that putting a few chairs in the pick-up area, shown in the above pictures, would allow parents to sit and wait after a long work day, which will make the process seem faster. Also using digital frames to display pictures of the children can add an engaging aspect to the process.*



After observing pick-up at the YMCA several times, we also determined that **YMCA pick-up and transition times would benefit from an easier to use and more efficient method of tracking children in the afterschool program.** The transition time occurs when the group of students is moving from one place to another. According to the staff, the pick-up time and the transition time were the two most hectic periods during the day. The delay of transition times and lack of communication between staff can cause confusion when it comes time for the parent to pick up their child.

	Big Brother Big Sister	Girls Inc.	Girl Scouts	Boys and Girls Club	YMCA
Phone Call	X			X	X
Email		X	X		X
Face-to-Face		X		X	X
Social Media			X	X	
Website			X		
Fliers					X
Newsletter	X		X	X	
Mobile Application	X				

Our group then conducted several interviews with other nonprofit organizations to understand how they communicate amongst their staff, as well as how they communicate with the participants' parents. The form of communication each organization uses is shown in the above table. **No specific type of communication always worked for every parent and staff involved.** Many other nonprofit organizations have similar issues with communication, and therefore *use a combination of communication methods to ensure that information is received.*

	Google Sheets/ AppSheet	My Attendance Tracker	Scantrakk	Kinderlime	Jackrabbit Care	Tadpoles	App Machine
Price	Free	\$10/mo	\$299/mo	\$2.50/child /mo	~\$319/mo	\$250/mo	\$49-69/mo
Attendance	X	X		X	X	X	
Picture ID	X	X		X	X	X	X
Tracking	X		X			X	
Multiple Lists	X	X			X	X	X
Parent Access		X		X	X	X	X
Aesthetics	X	X	X	X		X	X
Staff Messaging	X	X			X	X	X
Tablet	X	X	X	X	X	X	X
Play Store	X		X	X			X
App Store	X		X	X		X	X

Following the interviews, we determined that a mobile application would help with tracking the students in the YMCA Afterschool Program. After doing online research for

different tracking applications, we chose and compared several different options using the above comparative table. The options include: Google Sheets, Tadpoles, Roll Call, ScanTrakk, App Machine, My Attendance Tracker, Kinderline, and Jackrabbit Care. We assessed each one of the applications as a group, and presented the options to the staff. After much discussion and feedback with the YMCA team, it was determined that **the Google Sheets application would make the most sense for YMCA tracking purposes.** *We suggest the staff continue to use the mobile app,* as it will help with tracking the children and cause less communications errors during the pick-up process.

Following the development of the application, an additional finding was that **most parents do not have a membership at the YMCA because of the cost, and they do not have time during the day to come use the facilities or attend the programs.** We surveyed 18 parents of participants in the afterschool program and only 3 of them had a membership at the YMCA. Of the 83% that do not have a membership, 47% said the reason they did not purchase a membership is because of the cost. Additionally, 47% said they do not have enough free time to use the facility, and 13% said they are members of other gyms. The two outstanding reasons that parents do not have memberships are because of the cost and lack of free time. The YMCA knows it is a fundamental component in the lives of many of the families that participate in their programs, and they want to make sure they are providing the families with all means necessary to succeed.

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## CHAPTER 1: INTRODUCTION

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Being a parent is a challenging job in itself, but adding to it with the stress of a long work week, or doing it alone, can make it even more difficult. So many parents and families rely on child care or afterschool programs so that they can work and provide while their child enjoys quality activities and supervision. Programs like these are necessary for families, in order for them to go about their busy lives. Although the programs themselves have many benefits, the pick-up and transition times at many child care program can oftentimes be hectic and allow for miscommunications. However, since child care is an essential tool for the healthy development of children, it is important to have the communication at child care programs be efficient and effective in order for children, staff, and parents to all enjoy the many benefits associated with the program.

It is important at a young age that children learn how to develop relationships and interact with others (Herrera, 2000). Early childhood education programs aid the development of vital interpersonal skills through socialization with other children and with child care providers (Karoly and Gonzalez, 2011). They also aid in the development of cognitive, emotional, and physical skills by promoting healthy minds and healthy bodies (Karoly and Gonzalez, 2011). While some children have certain advantages and disadvantages in their childhood, early child education programs can give equal opportunity for all children. And while there are many disadvantaged groups all over the world, the Young Men's Christian Association (YMCA) exemplifies an organization that allows equal opportunity to all of its members and participants as outlined in their Diversity and Inclusion statement (Mission, 2017).

Not only are early child education programs beneficial for children, but they are also very beneficial for the parents involved (Karoly and Gonzalez, 2011). Many parents have demanding careers in order to provide for their children, and while many parents would really enjoy

watching their children grow and develop every hour of the day, they have other responsibilities and occupations that they must tend to in order to make a living. Many households, especially those with single parents, face challenges such as supporting their families and maintaining economic sustainability (Holyfield, 2010). These challenges coupled with the challenge of supporting the developmental needs of their children put parents in a tough situation. Thus, child care programs provide busy parents an opportunity to enroll their children in a program in which the goals include educating young people and improving their social skills drastically.

Children progress from early education programs to community based afterschool programs. While early education programs are important, the development of the children never stops. Afterschool programs are important resources for young children trying to learn how to build relationships and grow in a community. Learning social responsibility is an extremely important social issue in many communities, especially in those where strong role models may be scarce. These programs provide tutoring, physical activity and social interaction in order to help these children grow in all facets of their lives (Park, 2017).

One organization that provides services such as early childhood education and afterschool programs is the YMCA. The YMCA, also known as the Y, is a nonprofit human service organization, who is committed to strengthening the community while providing safe space for learning, physical activity, and teaching good morals. It is a staple for those whose parents may not be able to pick them up after school, or for those who need more work in their development outside of the classroom. The YMCA provides opportunities to make friends through afterschool programs, which builds a sense of community among people of different neighborhoods.

The local YMCA in Worcester is the Central Community Branch, which is a part of the YMCAs of Central Massachusetts. This particular YMCA is located at 766 Main Street in Worcester, MA, and is a very important staple in the community, given the diverse ethnicities, and people of many different economic backgrounds. The Y is committed to meeting the needs of all its constituents while having to overcome everyday obstacles such as language barriers and finding the best way to communicate with both staff and parents.

The goal for this project was to collaborate with the YMCA to assess and enhance ways of communicating amongst the staff and between staff and parents of the afterschool program. To do this we researched early childhood education (ECE) programs, afterschool programs, the YMCA, and barriers to communication. We discuss this background information in Chapter 2 of our report. In Chapter 3, we present our project goal and objectives and describe the methods we used to achieve each objective. In Chapter 4, we discuss our research findings and the recommendation we have developed based on our research findings for the YMCA. Finally, in Chapter 5 we provide a brief summary and offer concluding thoughts.

## **CHAPTER 2: BACKGROUND**

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Early child care and education programs and afterschool programs are both programs that set children up for the future by placing them in a healthy environment in order to grow and thrive. There are many programs in Worcester, MA that provide these types of services, including the YMCA. While these programs are very beneficial for young people, with the diverse Worcester population comes barriers that makes participation in early child care and education programs difficult. These barriers include transportation, cultural barriers, and language barriers. The YMCA of Central Massachusetts continues to explore new methods of communication in order to better the relationships with their members.

### **2.1 Early Child Care Education and Afterschool Programs**

Early child care and education (ECE) programs and afterschool programs (ASPs) are two options that a parent may enroll their child in. ECE programs are a means of providing children with care regimes and educational opportunities before the kindergarten age, while an ASP provides a structured and supervised setting with well-planned programs for school aged children. Formal ECE programs are center-based care programs that include private preschools and funded public preschools. These programs typically are more expensive than informal ECE programs, which include relative care, nonrelative care (babysitters and nannies) and parental care (Ertas and Shields, 2012). ASPs can be community-based, like the YMCA, school-based, or private. High quality programs like the Y can provide additional resources to better the children's development. Some aspects quality programs take into consideration are family schedules, affordability, and transportation (Park, 2017). The goal of an afterschool program is to provide opportunities and resources for youth development and academic success. Both types of

care have informal and formal programs, although both have the same goals, they do differ in some ways.

	FORMAL	INFORMAL
ECE	<ul style="list-style-type: none"> <li>• Higher cost</li> <li>• More available funding</li> <li>• Trained staff</li> </ul>	<ul style="list-style-type: none"> <li>• Less available funding</li> <li>• Provide supplies yourself</li> <li>• Relative/babysitter care</li> </ul>
ASP	<ul style="list-style-type: none"> <li>• Availability of resources</li> <li>• Affordable</li> <li>• Build relationships with peers and mentors</li> <li>• Trained staff</li> </ul>	<ul style="list-style-type: none"> <li>• More focus on individual child</li> <li>• Lower cost</li> <li>• Parental/relative care</li> <li>• Less focus on building relationships</li> </ul>

Table 1: Comparative Table of Formal and Informal Programs

Child care and education can be very expensive for parents that choose to either pay for a formal program with all necessary supplies to take care of their child, or to purchase supplies on their own and choose informal care. Federal, state, and local governments recognize the gravity of this expense, and provide funds for both types of programs (Ertas and Shields, 2012?). The expense of formal programs tend to be more easily measured than informal programs which require combining concrete quantities such as costs of paper, pencils, diapers, and hard to measure costs like time and effort. Therefore, there is less funding available to those that choose informal programs. The high cost of many of these formal programs put many low-income families at a disadvantage. Accordingly, over 85% of the families that participate in the afterschool program at the Central Community Branch YMCA are given financial assistance (P. Suprenant, personal communication, February 10, 2017).

### 2.1.1 Benefits of ECEs and ASPs

Despite ECE programs being a major expense for all families, they are a vital tool for healthy child development. The participating child reaps the most benefits from these programs,

but parents can also prosper by enrolling their children. Participation in ECE programs has proven to be valuable for children short-term and long-term; it lays a foundation for healthy development cognitively, emotionally, socially, and physically. Some of these benefits include school readiness, cognitive gains at the time of school entry, high levels of socioemotional development, smaller use of special education in elementary grades, reduced rates of grade repetition, and higher high school graduation rates. In addition, children who take part in ECE programs tend to have improved economic and social outcomes in adulthood; these include higher earnings, reduced use of welfare, and lower rates of crime as observed by Perry Preschool and Chicago Child-Parent Centers evaluations (Karoly and Gonzalez, 2011).

All families, regardless of any disadvantages, can expect to experience all of these benefits as well as profit from specific gains tailored to their situation. Children of non-English speakers, including some immigrants, will also stand to make huge language gains and practice in pre-reading and pre-math skills in the English language (Karoly and Gonzalez, 2011). These skills prove to be useful as the children enter grade school age, when precious time does not have to be spent on basic knowledge of the English language and how to behave in a school setting. Similarly, parents whose first language is not English, will benefit in the same sense; having their child be comfortable in the English language will translate into the household where parents may pick up knowledge of the language from their child.

Ten years of research and evaluations done by The Harvard Family Research Project published in 2008 show three primary factors for creating a setting to achieve positive outcomes for the youth: access to and sustained participation, quality programming, and promoting strong partnerships with other programs such as schools and families (Little et al., 2008). The fellows of Harvard College noted in their studies that the majority of students in a structured high quality

ASP do better in school. In a 2 year study called *Study of Promising After-School Programs*, 3000 students were studied across 35 different middle schools and elementary schools in different cities and states. The study showed significant gains in standardized test scores for children enrolled in an ASP compared to their peers that were unsupervised after school (Little et al, 2008). These programs also decreased drop-out rate and lowered suspension rates. Programs focused on solely academics did not result in the expected academic improvement, but balancing the programs with extracurricular activities like recreational sports and arts was more engaging and effective in increasing academic performance (Park, 2017). ASPs also show that children in these programs avoided behavioral problems, drugs, violent behavior, sexual activity, and juvenile crime. Also many of the youth in these programs were found to be at a healthier weight than non-participants (Little et al., 2008).

It is vital to a child's wellbeing and development to be able to form good relationships (Herrera, 2000). It is important for the staff and mentors to build strong relationships with the participants so that they can use the program to its full potential. It is reported that in community-based programs, 45% of the mentees felt "very close" to their mentor, versus the 32% in school-based programs (Herrera, 2000). The closer and more supportive relationship that a child has with their mentor shows more of an impact on the child's life, and community-based programs show better quality relationships. Over and over again, quality afterschool programs prove to be a great investment in a child's life and well-being.

There are many studies with evidence supporting the participation in afterschool programs, but a study comparing all different after school care possibilities showed an ASP may not be the best choice. The study showed that children in relative or parental care have fewer schoolwork problems than those in ASPs, and those in parental care also had fewer behavioral

problems than those in ASPs (Park et al, 2017). Although one study found those outcomes, ASPs are great places to let your child bond with other students, and build relationships with mentors and peers.

## **2.2 Barriers to Participation in ECE and Afterschool Programs**

It is important to be aware of factors that contribute to success in a diverse youth. As a country, we struggle to provide high-quality education to every student; there is an education gap between ethnically diverse students in low-income neighborhoods and white students in higher income areas. A national sample done by the National Center for Education Statistics in 2001 shows 11% of white students were in advanced classes, while only 2% of blacks and 3% of Hispanics made it into those same classes (National Center for Education Statistics [NCES], 2001). Eight years later in 2009, so few students of color and low income reached the advanced benchmark that the findings rounded to 0% (Education Trust, 2013). These students had the ability to reach the advanced classes, but failed to reach the goals for different reasons. In many cases this has to do with a lack in educational opportunities. For example, 55% of high schools offer calculus, but only 29% of predominantly Black and Hispanic high schools offer this course (U.S. Office for Civil Rights [OCR], 2012). The bottom line is that minorities and low income student just do not have as much access to resources as their affluent counterparts.

To address this problem, putting a child in an area with a sense of belonging can help the student reach his or her potential (Olszewski-Kubilius, 2014). There are organizations that help minorities and immigrants get a solid education foundation so they can move on to college. In order to help the diverse youth reach their goals, educators have matched programs to the needs of the children, tended to factors affecting their achievement during the programs, provided challenging yet enriching programs, and maintained supportive networks and equal opportunities

for all children (Olszewski-Kubilius, 2014). The need to intensify efforts to bridge the educational gap is immense and can help reshape the future of minority children in low-income families.

Members of disadvantaged families experience a lot of barriers that make participation in ECE programs difficult. Accessibility and affordability of ECE programs are a few of these barriers. A family could lack access to ECE programs because of transportation, cultural barriers, or language. Some families do not have a car, are unable to obtain a license due to legal status, are inexperienced with American driving regulations, and have difficulties in navigating public transportation due to the language barrier. These factors all contribute to complications in transportation to ECE programs. Also, many ECE programs lack a promotion of ethnic and cultural identity along with an English based curriculum. This causes discomfort for many parents that strongly believe in maintaining cultural ties along with displeasure in communicating with childcare providers that are culturally insensitive and incompetent (Karoly and Gonzalez, 2011). In many cases, parents could not communicate with childcare providers even if they wanted to due to the language barrier.

Like language barrier, socioeconomic status is another overarching concern that nurtures so many barriers to ECE programs. Although instead of accessibility, this affects affordability.

Socioeconomic status (SES) can be described as a measure of the household income and occupational status of those in the household (Bradley and Corwyn, 2002). SES is an important concept for understanding the low-income population and the issues they face; this knowledge will reveal why ECE programs are vital for this population despite being hindered from participating in them due to financial obligations. Low SES is associated with difficulties in affording health care and safe housing. Low SES can influence both cognitive and academic

achievement and socioemotional development later in childhood and into adulthood as well. However, the effects are dependent on how long poverty persists for the individual and at what age it begins. Mothers of higher SES tend to work in occupations that require the completion of a variety of tasks and problem solving opportunities. These mothers are more likely to provide their developing children with more warmth and support and a greater number of stimulating materials for the child. This style of parenting leads to more comprehensive understanding of verbal skills (Bradley and Corwyn, 2002). Early introduction to ECE programs, using subsidized care if needed, will counterbalance the effects of low SES on education resulting in reduced rates of grade repetition, higher high school graduation rates, and early exposure to reading and math skills (Karoly and Gonzalez, 2011).

### 2.2.1 Forms of Communicating within Child Care Programs

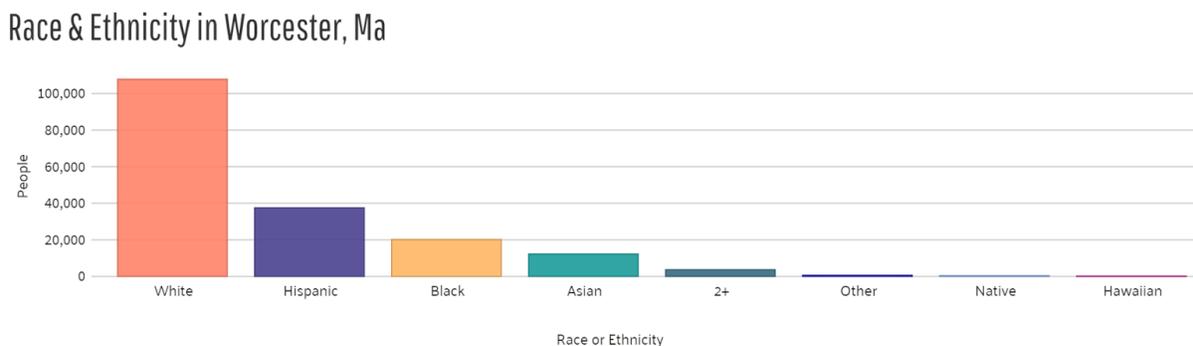
Communication with all parents of children in ECE and afterschool programs is vital for family dynamics and success of the participants. Parental involvement inside and outside of their child's program is essential for supporting early childhood development (Copple and Bredekamp, 2009). Parents who assume a more active role in early childhood programs are likely to see implications on academic achievement, student engagement, student motivation, and self-esteem (Hilado et al, 2011). There are three main forms of communication that would be appropriate for these types of populations: verbal, written, and community action strategies. Verbal communication can be in the form of phone calls, in the parent's language of choice, made by the teacher or child care provider, or translator if necessary. During this type of communication, it is important for the call to remain short and concise, to reduce any confusion the parent might have, as they may not be familiar with the American school system. It will also be vital to explain the program that their child is involved in, and answer any questions the

parents might have. Before ending the call, the teacher or provider should make it known that the parents can initiate calls or other methods so that an open line of communication is available (Columna, 2009).

Written communication can be just as effective as verbal and may even be easier for the teacher or provider. The teacher or provider can initiate or maintain contact with the parents through written letters mailed to the child's home, or through the use of technology. Technology has made communicating with people much easier; emails and text messages can be sent within seconds, and people can post nearly anything online for others to read and respond to. Using technology entails sending emails and updating web pages so that parents can be immediately updated about their child's progress. Written information can be easily translated to another language other than English for the convenience of the parents, eliminating the language barrier. When utilizing technology as a form of communication, it is important to remember that there are gaps in what is available between populations. Members of the Hispanic population use the internet less than non-Hispanic people (Columna et al, 2009). Additionally, people with low SES are unlikely to be able to afford computers, cell phones, and Wi-Fi for home use. Public access in the form of public libraries, internet cafes, and public Wi-Fi will be dependent on the region. On the other end, teachers or child care providers may encounter their own barriers for the use of technology in their programs. These barriers may include lack of money for training and access of the technology. The teachers may also have personal barriers such as not being comfortable with technology or they do not believe it will add to the classroom (Blackwell et al, 2013). In conclusion, there are many barriers for the use of technology both inside and outside of the classroom. It is important to consider all aspects in order to determine whether technology will be an appropriate and successful form of communication.

Lastly there are community action strategies that can be used as a form of communication. Community action strategies involve face-to-face contact between providers and parents. They can take the form of one-on-one conferences, group session involving many parents, and home visits. This form of communication may require the presence of translator if there is a language barrier, but it can be a very effective form of communication. Body language can be perceived during this form of communication, unlike verbal or written contact, which can provide information on whether or not parents are happy or satisfied with the care of the child. In addition, parents of disadvantaged youths, such as those who suffer from a language barrier, like Hispanics, have the opportunity to meet other parents and form a support group and expand their social resources (Columna et al, 2009). Home visits will allow the providers to get to know the parents and the students on a more intimate level, and may be a more convenient type of meeting for the parents. In contrast, this form of communication may not be as convenient for providers and may require a lot of preparation.

### 2.3 The Community of Worcester



<sup>1</sup>Figure 1: Racial and Ethnic Makeup of Worcester (Worcester, MA, 2015)

<sup>1</sup> Worcester, MA. (2015). Retrieved February 03, 2017, from <https://datausa.io/profile/geo/worcester-ma/#demographics>

Understanding a community is vital to be able to assess their needs. Worcester is home to a diverse population. As seen in the graph in Figure 1, as of 2015, approximately 20% of the Worcester population identifies as Hispanic or Latino, and about 11% identify as Black and 8% as Asian (Worcester, MA, 2015). Worcester also has many communities within its borders: Ghanaian, Albanian, and Vietnamese populations each have between 1500 and 4000 people born in that country and each live predominately in one area of Worcester (Goodman et al, 2015). Due to the existing diversity, many people speak a language other than English, the most common being Spanish. It is estimated that about 35.8% of Worcester citizens speak a non-English language (Worcester, MA, 2015). Other languages spoken include African, Vietnamese, Chinese, Armenian, other European Languages, Scandinavian, and Yiddish.

Since the beginning of its history, the city of Worcester has always been a centralized hub for immigrants of all nations. This city became a land of opportunity for many who lacked this fortune in their homelands. The English were the first immigrant group to truly settle in the area, and thus established the permanent settlement of Worcester. From this point on, immigrants from all over the world came to Worcester in order to find jobs, land, homes, and good fortune for their families. These groups include the Irish, Eastern Europeans, Hispanics, and Asians (Heritage, 2015). The mass movements of immigration that occurred in Worcester's history are the primary reason that the city is so diverse today. The diversity in the Worcester community translates to a diverse workplace, which causes communication barriers.

## **2.4 Combating Communication Barriers**

The main challenge in a diverse workplace or community is conquering communication barriers. In one study done, individuals from different generations were integrated into diverse groups to provide role models or mentors. These methods are specific to multi-generational

individuals (Madera, n.d.). There are now four different generations in workplaces, and the gap between them is evident in areas of technology, and work styles. In addition to this type of communication barrier, there are also language barriers. Communication with parents of certain populations has proven to be very difficult for teachers and child care providers, especially those parents whose first language is not English. Ensuring that no group or ethnicity will feel offended by any particular content through proper translation is necessary for effective communication (Columna et al, 2009). Language classes for the employees can improve employee performance, and even satisfaction (Madera, n.d.). It also states that simply using gestures and demonstration can overcome communication barriers.

When trying to communicate with a diverse population, it is important to think not only about the differences in language, but also the cultural differences and norms of the community (Columna et al, 2009). In one study, Peña, an author of a journal on educational research, reported that many Mexican-American parents viewed teachers as authorities that should not be questioned (Peña, 2000). It states when a parent's input does not seem wanted, they will not interact with the staff or teachers (Peña, 2000). As a result, the ASPs and ECE programs that have a diverse population of participants need to make the parents feel like their input is welcomed in order to have full communication. In order to accomplish this, diversity training for employees should be offered (Madera, n.d.).

## **2.5 Economics of Worcester**

The Bureau of Labor Statistics reveals that as of December of 2016 Massachusetts tied for second with South Dakota for states with the smallest percent of the population being unemployed at 2.8%. The City of Worcester's unemployment rate is similar with 3.0% of the

population being unemployed, which is roughly 10,500 people (“Unemployment Rates for States, Seasonally Adjusted”, n.d.).

In 2015 dollars, the median household income in Worcester was approximately \$7,500 less than that of the United States’ median household income (“Quick Facts, Worcester County, Massachusetts”, n.d.). With less income being brought in annually, it is expected that the cost of living would be adjusted accordingly. However, Worcester was rated as more expensive to live in compared to the United States on average. (“Worcester, Massachusetts”, n.d.). This information juxtaposed provides an explanation as to why so many people in Worcester are living in poverty, around 22.4% of the population (“Quick Facts, Worcester County, Massachusetts”, n.d.). High cost of living and low incomes put the residents of Worcester at a huge disadvantage. Affording daily life in Worcester gets in even tougher when those in the community are faced with the challenge of affording ASPs or ECE programs.

## **2.6 The Young Men’s Christian Association**

The Young Men’s Christian Association (YMCA), originally founded in 1844, now has many branches scattered throughout the world that continue to aid in meeting the needs of the community (YMCA, 2017). The Central Community Branch in Worcester, MA continues the mission of the YMCA, with priorities of: youth development, healthy living, social responsibility, and mission advancement. This YMCA is very open to the apparent diversity of the Worcester population, which is described in their diversity inclusion statement: “The YMCA of Central Massachusetts will nurture and support an environment that reflects, respects, and celebrates our differences, and embraces the richness of our diversity” (YMCA Mission, 2017). The organization consistently encourages the membership of people from all ethnicities, races, and socioeconomic statuses through their inclusive programs. The programs we will be most

closely working with are the Child Care Programs which involve activities for Preschool and School age children. Some preschool activities include nap time, circle time, gym, swimming, breakfast, lunch, snack time, educational center time, and free play. The school age children are provided with similar activities but they are shaped more to their age so they also have access to computers, rock climbing, team-building games, community service projects, and homework time (P. Suprenant, personal communication, February 10, 2017).

#### 2.6.1 Enhancing External and Internal Communication at the YMCA

The YMCA of the Central Community Branch is surrounded by a very diverse community. People of all races, ethnicities, religions, cultures, and socioeconomic statuses utilize this organization for its constructive and convenient programs. It is especially important to those in disadvantaged populations including those whose first language is not English, those of low SES status, immigrants, and single-parent households. The Y does not see these populations as disadvantaged despite the adversity that they must undergo every day. Instead the YMCA sees the great potential of these populations and the growth they can undergo by participating in ECE programs. These groups of people stand to gain so much from the YMCA as outlined in the previous sections, and so it is crucial that communication within ECE programs is enhanced. New methods of communication and optimization of old methods of communication, between the YMCA and its associated families, will allow progress of each child involved in ECE programs to be tracked and analyzed to ensure proper development and success of the child. There are so many barriers, such as language, to developing effective communication between the YMCA and the participant families. These barriers can be overcome through creative solutions such as implementing technology. Throughout this project, our team was able to

accomplish this and much more. In the next chapter, we discuss the methods we used in order to accomplish our main goal for the project.

## CHAPTER 3: YMCA METHODOLOGY

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### 3.1 Introduction

The main goal for our project was to collaborate with the YMCA to assess and enhance forms of communication amongst staff and between staff and parents of the afterschool program. In order to complete this goal, we assessed what the YMCA is currently using to communicate. Next, we discovered why some parents of children in the program do not have their own memberships. Once we had this information, we made recommendations to ultimately help the YMCA's communication, and bring awareness to parents and staff. In order to complete this project successfully, we developed the following five objectives:

1. Assessed the current communication methods used amongst the YMCA staff
2. Assessed the current communication methods used between organizations' staff and parents
3. Developed new and improved forms of communication for the YMCA
4. Evaluated and piloted the new form of communication at the YMCA
5. Developed and proposed recommendations for the YMCA about communication and membership.

### 3.2 Objectives

#### 3.2.1 Objective 1: Assessed the Current Communication Methods Used Amongst the YMCA Staff

The first step was to observe and evaluate the current forms of communication used by the YMCA staff. This helped us determine where the communication gaps started and why. Using this information, we were able to determine whether the staff needed a completely new form of communication, or if certain aspects of their current communication methods would just need to be altered. We used participatory observation to immerse ourselves in the transition and

pick-up processes. We also distributed surveys and facilitated a focus group discussion with the staff, to determine what the staff needed and wanted in terms of communication.

#### Participatory Observation of YMCA Staff and Parents

Participatory observation is a way to study and watch how the staff communicates, as well as immerse ourselves into the process so we can get an insider viewpoint. We conducted the participatory observation at the YMCA Central Community Branch. During this time, we took part in an absolute immersion, so our group could see how each classroom was run and how the program functioned as a whole. The staff uses radios and clipboards to communicate and keep track of the participants (P. Suprenant, personal communication, February 10, 2017). So we observed the pick-up process for the afterschool programs on three separate occasions to determine how well these tools worked. We conducted the first observation on March 13<sup>th</sup>, 2017. During this observation we took down qualitative data on how the staff communicated with each other, any problems that arose during this communication, and the demeanor of the parents waiting for their children. During the first observation day we did not participate in the process and only conducted direct observation of the processes. This helped us get initially acclimated to the process that parents and staff undergo during pick-up time so that we knew exactly what to record for the next observations. During the subsequent two observations, we used spreadsheets to track how long each parent was waiting for their child. We chose observation as our method because it helped us identify when and where communication errors occurred, and how the parents were affected by staff's communication. After gathering this observation data, we developed graphic representations of the data to determine what times were busiest and the average waiting time for parents.

### Surveys of Staff

Surveys are a way to collect anonymous data from a large group. We administered the staff surveys on March 22<sup>nd</sup>, 2017 from 3:00 pm to 4:00 pm at the YMCA. We distributed the surveys to the staff asking their opinion of the effectiveness of the current communication system. We chose a survey because it allowed us to gather data from a large group of staff members, while allowing the staff to keep their responses anonymous. Anonymity allows for respondents to be more honest with their answers. This was an easy way to gather the opinions of the staff and compare them to our observations. Information from the staff was vital to identifying the overall effectiveness of the YMCA's current communication method because staff use it every day, and have experienced the weaknesses and strengths. To see the staff survey, see Appendix A. When making the surveys we paid close attention to the wording we used, the order of the questions, and the length of the questions (Fowler, 2002). We collected survey responses from 16 staff members out of a possible 30.

We analyzed the data by compiling it and creating a graphical illustration of all communication issues that staff reported, and staff opinions on the efficiency of their current communication tools. We then used these graphs to help us assess what factors are affecting the staff the most and used this data to further our project.

### Focus Group with YMCA Staff

A focus group is an interview with more than one participant that is designed to explore what a certain group of people think and feel about a topic (Interviews: Focus groups). Focus groups can yield very specific information in an open group setting. We decided to use a focus group because we needed the staff to help us brainstorm ideas for how communication could be improved amongst them. This was an opportunity for participant interaction between us and the staff, and the answers we collected required a discussion. Group-think, or a tendency to want

conformity or harmony in group results, may be a disadvantage of focus groups when sensitive topics are on the agenda (Interviews: Focus groups). In those situations, interviews may be used in its place. However, we chose not to do individual interviews with staff because they took up more time and resources. Focus groups require less time to complete and allow for a discussion of ideas amongst the group (Interviews: Focus groups). We held the focus group on April 7<sup>th</sup>, 2017 at the YMCA and it included six staff members. The questions can be seen in Appendix G. We needed more information about specific issues identified in the surveys and with a number of staff members available, we were able to see how large of a problem each communication issue posed. We were also able to get their opinion on the possibility of tablets and other tools as a form of communication and if they believe it could help. While conducting the focus group we had to be sure to keep the group on track to guarantee we get our questions answered. We categorized the focus group results based on the answers and discussion of the group. We were then able to use this data to expand on the information gathered from the surveys in the previous section.

### 3.2.2 Objective 2: Assessed the Current Communication Methods Used Between Organizations' Staff and Parents

In order to enhance communication between the YMCA and the participant families, we needed to identify the forms of communication organizations, including the YMCA, used to communicate with their constituents. Our team accomplished this objective through; a focus group of YMCA staff; and interviews with: parents of children involved in the central MA YMCA programs, the Site Based Match Support Specialist of Big Brothers Big Sisters Robin Lilly, Associate Director of Programs of Girls Inc. Coral Titone, Chief Membership and Strategy Officer of Girls Scouts Colleen Holmes, and Executive Director of the Boys and Girls Club Liz

Hamilton. The information we received from this research helped us identify forms of communication that could be implemented at the YMCA.

#### Focus Group of YMCA Staff

The focus group discussed in Objective 1 was also utilized to achieve Objective 2. Through this focus group, we were able to identify and assess the ways that YMCA Afterschool Program staff currently communicate with parents about the progress of their children.

We asked focus group participants about parent communication. During the focus group, we also presented our ideas of technological solutions to improve parent-staff communication. We then sought the focus group participant's opinions of whether or not a tracking app would enhance the communication between parents and staff. See Appendix G for a complete list of questions that we asked the staff.

After collecting responses, we quantified the data by categorizing the responses that stated that communication is not working, and those that stated that communication is working. We used these numbers to rank which communication methods are best according to staff. We also compiled all communication issues that the interviewees mentioned so that we can address those issues in our recommendations. Lastly, we qualified the responses of the staff to determine which technological option was desired most. This information helped us determine which option to pilot at the YMCA.

#### Survey to Parents about Access to Technology, Pick-up, and Membership

We distributed a paper survey distributed to parents with children in the afterschool program beginning on March 29<sup>th</sup>, 2017, and ending on April 4<sup>th</sup>, 2017. We handed out this survey at pick-up time from 4:00 PM to 6:00 PM at the YMCA Central Community Branch pick-up area. This survey was conducted in order to determine whether or not parents of YMCA

afterschool program participants have access to the necessary technology for certain forms of communication. In this survey we also asked for information about the parents' level of satisfaction with the pick-up process and if they had a YMCA membership. Surveys can be useful as they are typically easy to administer to a large number of people, and offer the chance of receiving a lot of responses (Fowler, 2002).

In order to determine if technology should be used to communicate with parents, we surveyed parents about the technological equipment they have access to in and out of their homes. If most parents did not have access to a cell phone or a computer, an app or a website would not be feasible. Please see Appendix B for the survey questions. These questions included whether or not the participant has access to a Smartphone, a computer and with access to the internet, and the ability to download applications. Constructing the survey was difficult because we were dealing with a very diverse group of prospective respondents. The questions were structured in a way that all participants would understand despite potential language barriers, or education level. We also translated the surveys using the Vietnamese Student Association and the Portuguese Student Association at Worcester Polytechnic Institute because we were informed by staff that not all parents could read and write in English. This was difficult because not every question directly translated to another language, which is why we also offered parents the option of taking it home to a trusted friend to help translate. In the survey we asked questions associated with a sensitive topic: socioeconomic status. Many participants may have been hesitant to fill out the survey because they felt uncomfortable or embarrassed of sharing that they did not own a Smartphone or computer. Therefore, it was vital for our group to ensure confidentiality for all participants. By assigning participants an ID number when collecting their response, we avoided collecting names that risked connecting responses to participant identities (Fowler, 2002).

Our group compiled the survey responses using Excel Spreadsheets to quantify how many people have access to each type of technology, and reported the findings back to our sponsors. We used this data to assess whether certain forms of communication are feasible, such as an email newsletter or an app. We also used this survey as an opportunity to ask parents if they would be willing to be interviewed about how to make the waiting area more comfortable for parents at pick-up time. Additionally, we compiled the responses to determine how many parents have a membership themselves and how satisfied parents were with particular aspects of the pick-up process.

#### Interviews with Local Organizations

Next, we conducted interviews with staff of local schools and employees of the following local organizations: Boy and Girls Club, Girl Scouts, Girls Inc., and Big Brothers Big Sisters. On March 29<sup>th</sup>, 2017 we conducted phone interviews with Colleen Holmes, Chief Membership and Strategy Office of Girl Scouts of Central and Western Massachusetts, and Coral Titone, Associate Director of Programs for Girls Inc.. We conducted the Big Brothers Big Sisters interview over email with Robyn Lilly, Site-Based Match Support Specialist. On April 4<sup>th</sup>, 2017 we interviewed Liz Hamilton, Executive Director of the Boys and Girls Club of Worcester over the phone. We interviewed these individuals to explore what forms of communication they use to communicate with people of diverse backgrounds, why they have found those methods to be effective, and compare it to what the YMCA Central Community branch does. We used structured interviews, which allowed our team to efficiently get the necessary information in a short period of time without the need for additional dialogue. Structured interviews involve the interviewer asking specific questions in a pre-planned order without deviating from that order, and there is no participation from the interviewee besides asking the questions or pre-planned

probes (Bailey, 2006). Structured interviews are also good for comparing answers from different groups (Bailey, 2006).

At these interviews, we asked the leaders about the forms of communication that they currently use to speak to their program participants, and those of non-English speaking backgrounds, if they use an app or website, whether that form of communication has been effective, and how they communicate with other staff. More questions are located in Appendices C, D, E, and F.

Our team took detailed notes using a laptop or pen and paper. Based on the information collected by teachers and organizational leaders, we were able to compare their forms of communication to the YMCA's methods, and identified forms of communication that YMCA had not tried that might be efficient. The results of this analysis gave us a list of forms of communication, and an evaluation of their effectiveness, to try and pilot.

### 3.2.3 Objective 3: Developed New and Improved Forms of Communication for the YMCA

In order to develop an improved form of communication, we conducted research into pre-existing mobile applications, websites, and other data gathering programs. First, we came up with a list of criteria that would meet the needs of the YMCA, which we created using the findings from objectives 1 and 2. This list included the program's ability to keep track of the child's attendance and location, have multiple lists of children for each group, allow access to parents, and have a staff message board. Some other important factors were the program's cost, whether it was aesthetically pleasing, and what kind of tablet's operating system it can run on. After identifying the needed criteria, we explored the seven best options and compared in Table 2.

	Google Sheets/ AppSheet	My Attendance Tracker	Scantrakk	Kinderlime	Jackrabbit Care	Tadpoles	App Machine
<b>Price</b>	Free	\$10/mo	\$299/mo	\$2.50/child/mo	~\$319/mo	\$250/mo	\$49-69/mo
<b>Attendance</b>	X	X		X	X	X	
<b>Picture ID</b>	X	X		X	X	X	X
<b>Tracking</b>	X		X			X	
<b>Multiple Lists</b>	X	X			X	X	X
<b>Parent Access</b>		X		X	X	X	X
<b>Aesthetics</b>	X	X	X	X		X	X
<b>Staff Messaging</b>	X	X			X	X	X
<b>Tablet</b>	X	X	X	X	X	X	X
<b>Play Store</b>	X		X	X			X
<b>App Store</b>	X		X	X		X	X

Table 2: Comparative Chart for Applications and Websites

### 3.2.4 Objective 4: Evaluated and Piloted the New Form of Communication at the YMCA

Two of our sponsors, Pamela Suprenant and Sarah Levy, brought to our attention difficulties staff often have in attempting to communicate with YMCA participant parents. Thus, the group evaluated the effectiveness of the current forms of communication between the staff and parents. We explored whether the best method of communication would be technology based, or in paper handout form. In order to achieve this objective, we gave parents technology surveys, and used participatory observation with the students as our subjects.

#### Data Analysis

We used the data collected throughout the project to determine whether we were able to make an electronic data gathering tool for the YMCA to use with parents, as well as amongst staff. We analyzed the findings of the focus groups of YMCA staff and volunteers, the surveys to parents about access to technology, and the interviews with local leaders completed in Objective 2. The information together collected from these methods helped us determine what forms of

communication were most effective for both parents and staff externally at the YMCA. We used this analysis to generate a list of forms of communication to use for our experiment.

In the staff interviews, we had the staff prioritize what they believed to be the most important functions of this app. In the beginning, the interview contained very broad information about what they would like the app to include, which allowed us to identify their expectations for the application. The staff gave us several features that they wanted the app to include, such as: attendance, tracking of the children, and profile pictures. We were then able to give feedback on the expectations that were feasible and communicate that some wanted functions of the application were not possible given the time and resources that we had. Once we decided on features of the app, we performed cost analysis to figure out if the YMCA had the funds to implement such a solution.

One problem that we faced was that we needed to determine if an app was a feasible option. Therefore we conducted the parent surveys referenced in Objective 2 to determine whether or not technology would provide a useful tool. After compiling our data from the survey, and unveiling that most parents have access to mobile applications, we were able to determine that an application is a feasible option. Once we began development of the tracking program, which we named the YMCA Location Tracker Application, we needed to follow up with the staff to adjust the minor details, such as style, accessibility, etc. From here, we needed to test the YMCA Location Tracker Application with groups of children in order to see how effective it was.

#### Piloting Different Forms of Communication

From our observations with the pickup process and the parent surveys, we noticed that the parents quickly lost patience while waiting for their child. Thus, we wanted to pilot methods

to alleviate some of the challenges caused by the waiting area space. We piloted the idea of having a bulletin board in the waiting area, so that parents would have something to look at while they waited for their kids.

In order to find out if a bulletin board is an effective method of communication, we planned and executed a naturalistic observation experiment where we requested the children in the afterschool program to participate and then observed and recorded how many children actually participated that day. In the experiment, we planned a Spirit Day, and alerted the parents via different forms of communication. On this day, each group of children was assigned to wear a particular color shirt, in order to differentiate the different form of communication used to contact their parents. One group of children's parents were told via email about this Spirit Day, one group of children's parents through word of mouth, one group of children's parents by passing out the YMCA newsletter, and another by being notified of the new bulletin board. At the end of the day, the amount of kids wearing their Spirit Day gear gave us an indication as to what form of communication worked the most effectively in this given situation. This Spirit Day took place April 13<sup>th</sup>, 2017 at the YMCA. This experiment helped us understand the efficacy of each communication method. We physically saw which parents got the message regarding their child's Spirit Day assignment. Also, a Spirit Day is fun for children, as it was a day filled with games. One problem we ran into is that the sample size may not be large enough to gather accurate data. We used this data, as well as previous data, to determine which of the communication methods worked most effectively for the majority of parents. This experiment alone does not prove that one form of communication is more effective than another, but rather gives us more data on which to base our recommendations for communication at the YMCA.

### 3.2.5 Objective 5: Developed and Proposed Recommendations for the YMCA about Communication and Membership

Ultimately, at the end of our project, we made recommendations to the YMCA that we believe will help resolve the communication challenges they had. The data analysis took place throughout the project, but we created our recommendations during the week of April 24<sup>th</sup>, 2017. After completing all of the surveys, interviews, focus groups, and the experiment, we looked at the data we gathered from them, and then recommended to the YMCA which form of communication would most beneficial for the staff and the parents. We also gave the YMCA insight into why some child care program parents are not members and why the process of pick-up at the YMCA is unsatisfactory for some parents.

We completed the data analysis in a variety of ways. In order to understand why some parents were not members and why the pick-up process was unsatisfactory, we categorized our data. This method is done by looking through all of the responses from objectives one through four, and splitting them up into categories so we can have a deeper understanding of the data we gathered (Doc Jay, 2013). To determine the feasibility of an electronic data gathering tool for communicating, we comparatively analyzed seven potential tools. We then showed this comparison to the YMCA staff using a comparative chart. We used this method to understand the strengths and weaknesses of each website and application for communication.

Using the multiple methods and data analysis, we were able to complete objectives one through four. We then made the appropriate recommendations to our sponsors at the YMCA. In the next chapter, we discuss the findings and results of the project.

## CHAPTER 4: FINDINGS AND RECOMMENDATIONS

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### 4.1 Introduction

The YMCA's have a common goal of strengthening the community. Specifically, the Central Community Branch YMCA strives to be a facet in the Worcester community through activities promoting their core values. Child care programs are such an important part of youth development, so it becomes necessary to ensure that all aspects of the programs are at its best. Effective communication is arguably the most important feature needed to better these types of programs so that the many benefits of child care programs can be appreciated by not only children, but staff and parents, as well. The following findings helped contribute to the deliverables that we will leave with the YMCA Central Community Branch. The three user guides that we have created can be found in Appendices I, J and K. Our additional deliverables include a bulletin board and whiteboard for parent communication that is currently being used at the YMCA pick-up area, tablets for the staff, the YMCA Location Tracker Application, and two tutorial videos on how to use the YMCA Location Tracker Application and Google Sheets. All of the findings are used to create recommendations that will aid in building and expanding relationships with YMCA families through engaging and improved services.

### 4.2 Communication in the Afterschool Program

Finding 1: Phone calls and emails are the best methods to communicate with parents and should be used.

We surveyed 18 parents from the YMCA Afterschool Program, and asked them to choose which form(s) of communication they preferred. Figure 2 below shows the preference of these forms of communication.

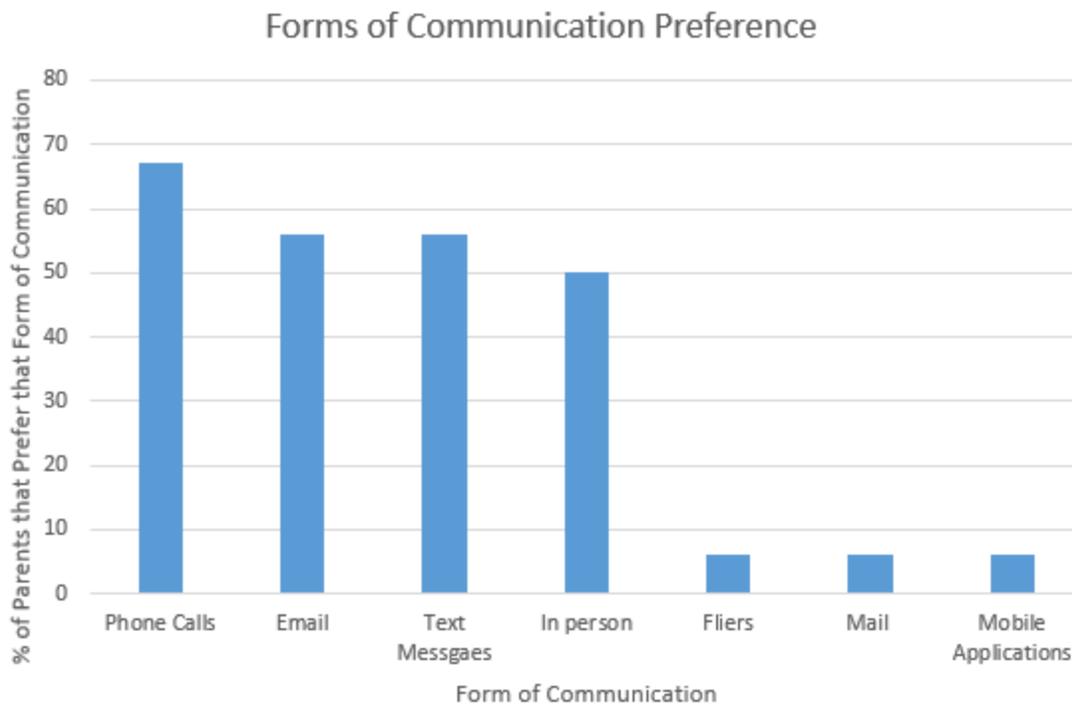


Figure 2: Forms of Communication Preference

The results of our survey showed that, 67%, or 12 parents, said that they preferred phone calls and 56%, or 10 parents, said they prefer emails. While interviewing Big Brothers Big Sisters, and Boys and Girls Club in Worcester, we found that phone calls were used when information had to be communicated with parents immediately. Although phone calls and emails were preferred, no single form of communication is used by everyone. *Because of this, we find that the YMCA should use all forms of communication when communicating with parents.* Another popular form of communication is newsletters. According to the Site Based Match Support Specialist for WPI and Elm Park Community School for Big Brothers Big Sisters, Robyn Lilly, newsletters are useful to communicate large amounts of information, but she also recognizes that there is no confirmation that the parents receive those letters (R. Lilly, personal communications, March 23, 2017). Our Spirit Day experiment, showed the effectiveness of fliers in communicating with parents. For the Kindergarten group, 29% of children were wearing blue,

which was more than any other group. The rest of the results from the experiment are shown in Table 2 below. Despite the results from this Spirit Day, we realize that there were several other factors that could have altered the results, including the interest of a fifth grader compared to a kindergartner, how busy the parent of the child is, etc. Thus, while fliers proved to be an effective method in this experiment, we recognize that there may be other factors involved.

Group	Shirt Color	Form of Communication	Number of Children Wearing Their Color
Kindergarten	Blue	The staff handed out fliers to the parents	9
1 <sup>st</sup> Grade	Green	A flier was posted on the bulletin board	4
2 <sup>nd</sup> Grade	Red	The staff member at the pick-up desk told the parents at pick-up	3
3 <sup>rd</sup> Grade	Yellow	A flier was given to the children	3
4 <sup>th</sup> Grade	Black	An email was sent to the parents	5
5 <sup>th</sup> Grade & Up	Purple	The staff announced it to the class	8

Table 3: Spirit Day Experiment Results

Personal communication is often used at the YMCA and other organizations for sharing immediate information because it is a fast way to get information to parents in the limited time they are there to pick up their children (P. Suprenant, personal communication, February 10, 2017). An issue with in person communication is that many parents do not speak English. In order to address this issue, organizations including the YMCA use staff to translate when necessary. Additionally, Big Brothers Big Sisters sometimes use the “Bigs” to translate, and Girls, Inc. use the children to translate information to parents, when necessary. In person communication with some of the children, especially if they are in the fifth grade and older group, can also be beneficial. Eight children from the fifth grade and up group wore their color, purple, and they heard about the Spirit Day from the staff announcing it to the class, so in person

communication is important. Organizations can also communicate with parents through mobile applications, although Girl Scouts, Boys and Girls Club, and Girls, Inc. said they do not use this form of communication (C. Holmes, personal communication, March 29, 2017; L. Hamilton, personal communication, April 4, 2017; C. Titone, personal communication, March 29, 2017). Girls Scouts and the Boys and Girls Club said that they use Facebook to market information, although the page does not get a lot of traffic (C. Holmes, personal communication, March 29, 2017; L. Hamilton, personal communication, April 4, 2017).

Finding 2: Parents/guardians would be interested in meeting with the staff to discuss activities their children have been participating in and learn about upcoming events

The YMCA currently has the parents read and sign progress reports at the time of pick-up. In many cases, this adds to the pick-up waiting time. Parents were asked if they would attend a meeting where the staff would discuss the activities of their child, upcoming events, etc. in the parent survey and the results from that question are shown in Figure 3 below.

Parents answer to: Would you attend a meeting with the staff and other parents/guardians to discuss activities your children have been participating in, upcoming events, etc.?

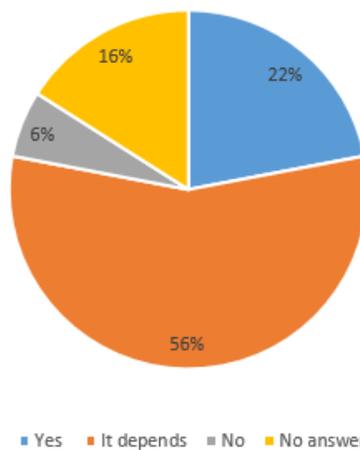


Figure 3: Survey Results: Would you attend a Meeting?

Out of the 18 parents, 22% said they would attend this meeting, and 56% said that there are dependent factors that would make them able to attend or not. These factors could include the time of the day the meeting is held, the day of the week the meeting is held, if the meeting was individual between staff and parent/guardian or if it was staff and a group of parents/guardians. In our interviews with the Boys and Girls Club, and Girls, Inc., they said that face to face communication is the most efficient form of communication, although it is not always the most feasible (L. Hamilton, personal communication, April 4, 2017; C. Titone, personal communication, March 29, 2017). This is because it is usually informal and not documented, and because in the busy time of pick-up, the staff might not be able to tell every parent that comes into the building. As shown in Figure 3 from Finding 1, 50% of the survey respondents prefer in person communication with staff, so in person communication is one of the more desired forms of communication. In order to make this a more feasible option, turning face to face communication into a more organized form of in person communication, such as a meeting, would be beneficial.

Finding 3: YMCA pick-up and transition times would benefit from an easier to use and more efficient method of tracking children in the afterschool program.

The staff members themselves noticed issues amongst their communication and transitions. From our survey results with the staff, 12 staff members, or 75% of the staff that took our survey, said that they were unable to hear other staff over the noise of all of the children talking and playing. Ten staff members, or 62% of the staff, said that there are times when groups are not where the schedule says they are, and that transition times are difficult to communicate. These two instances are related because the long transition times are causing groups to not be in their scheduled locations at the scheduled times. Additionally, 11 staff members, or 69%, have experienced radio failure while trying to communicate with other staff so

all of these issues combined made the whereabouts of children unclear. During our observations of the pick-up process on Thursday March 16<sup>th</sup>, at one of the busiest pick-up times for the afterschool program, the radio at the pick-up desk died. Also, earlier on this day, one of the staff members working at the desk had to say the child's name five times in order for the person at the other end of the radio to hear her. On Wednesday March 22<sup>nd</sup> during pick-up, the wrong child was brought up to the pick-up desk because the staff on the other end of the call for pick-up misunderstood the staff member calling for pick-up. This just adds more time for the parents to wait, more work for the staff to execute, and less time the children that were accidentally brought for pick-up get to spend in the program.

We also observed the transitions of classes to new locations and noticed that these took a long time. Below is a timeline representing this transition.

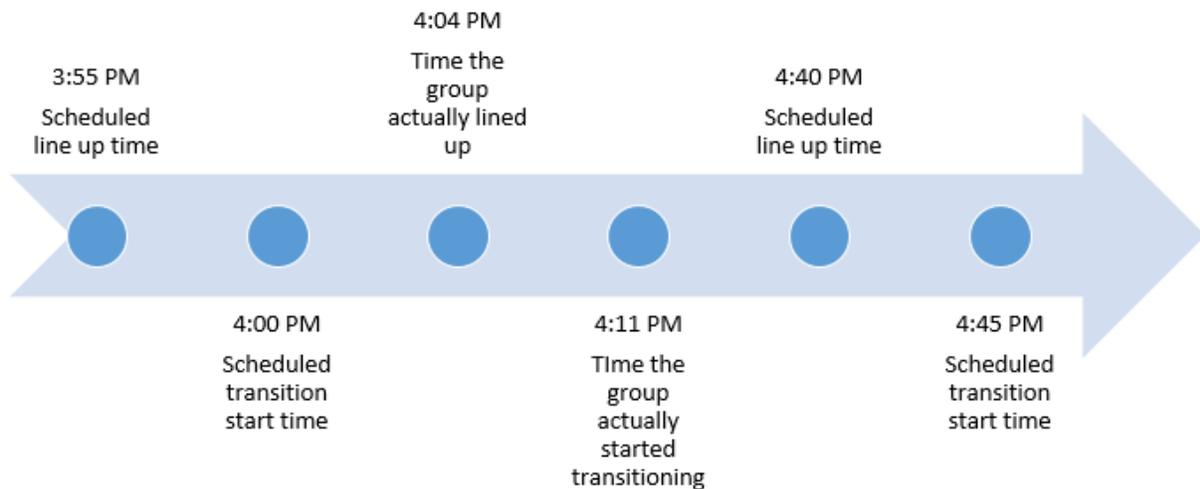


Figure 4: Timeline

The timeline shows that the group we observed was supposed to line up in their classroom at 3:55 PM and leave to transition to their next destination, Studio A, at 4:00 PM. The group did not line up until 4:04 PM because some children had to finish their snack and this was

a group of Kindergarteners so younger children usually take a longer time to finish up what they are doing and get into line. They did not actually leave the classroom until 4:11 PM, also shown on the timeline above, and 12 children stayed in the classroom to finish their homework. The issue here is that if a parent of a child in this group came to pick one of them up at any point on the timeline between 4:04 PM and 4:11 PM, the staff at the front desk would look at the schedule and see that their group is in Studio A, when they are actually still lining up in the classroom. If a parent of one of the 12 students still in the classroom came to pick up at any point in the timeline between 4:11 PM and 4:45 PM, then the staff at the front desk would call to Studio A, when they are actually in the classroom still finishing their homework. This delay of transition time and lack of communication between staff can cause confusion when it comes time for the parent to pick up their child. We also conducted a focus group of the staff and they thought that the communication amongst the staff is as efficient as it can be with the resources they have (clipboards and radios), but with new resources it could be improved.

Finding 4: Many other nonprofit organizations have similar issues with communication, and therefore use a combination of communication methods to ensure that information is received

We conducted several interviews with other nonprofit organizations to understand how they communicate amongst their staff, as well as how they communicate with the participants' parents.

In the interview with Big Brothers Big Sisters (BBBS), they informed us that the easiest method for them to communicate with the parents is mostly by phone call. Along with that, they send much of their information by sending newsletters home with their child. Ideally, according to Robyn Lilly, BBBS prefers face-to-face communication; however it is not likely with their organization and the parents. Use of phone call is the only way to get into immediate contact with parents. However, the staff runs into issues like language barriers, changed numbers, and

leaving messages when no one picks up the phone. While newsletters were deemed to be an effective form of communication, there was no way to confirm if the information reached the parent. These newsletters are always translated into Portuguese and Spanish in order to reach that target population. A mobile application using mass texting was also attempted. However the information for each individual child is very different, therefore it was not utilized very often (R. Lilly, personal communications, March 23, 2017).

In the interview with the Associate Director of Programs at Girls, Inc., Coral Titone, she informed us that they primarily communicate via email, but they are looking for a more innovative kind of technology in order to communicate more effectively. The problem with email is that they continue to have difficulty getting responses back when needed. They also have no way of translating information for parents whose first language is not English. Oftentimes they need to have the child present in order to translate information into both languages. The staff has monthly meetings amongst themselves, and they prefer to use face-to-face communication with the parents whenever it is available. Within the staff they have a shared drive that they use to communicate with common information. Girls Inc. admitted that they could use help with their pick-up process communication as well (C. Titone, personal communication, March 29, 2017).

When speaking to the Chief Membership and Strategy Officer of the Girl Scouts, Colleen Holmes, we discovered that they use a combination of many types of communication methods in order to reach out to parents. The Girl Scouts use mass emails, monthly newsletters, different social media pages, and their website to communicate outward. They explained that it definitely depended on the parent that they were communicating with, as well as the type of question they were asking. They shared that not one form of communication is more effective than another, so

they need multiple tools to communicate with parents who are busy and need other options. All of their materials come with a translated Spanish version as well. However, they do not have any sort of translators, and have to rely on friends and family in order to translate information in meetings (C. Holmes, personal communication, March 29, 2017).

Finally, when speaking to the Executive Director of the Boys and Girls Club, Liz Hamilton, we found that all parents first go on a tour and attend an orientation of the building and organization. The Boys and Girls Club also said that a combination of different communication methods worked the best, as they use social media, letters, phone calls, and face-to-face communication to speak with parents. They find face-to-face communication is the most effective because the staff is able to build relationships with the parents. In face-to-face meetings, the staff is able to communicate the child's progress to the parent in a much more personal manner. Within the staff, the Boys and Girls Club utilize walkie-talkies within the building to communicate amongst their staff. However, when there is a confidentiality factor, it is best when a face-to-face meeting is necessary (L. Hamilton, personal communication, April 4, 2017).

The results of the interviews with other organizations are illustrated in Figure 5 below, which compares each organization side-by-side based on what forms of communication they use to contact parents.

	Big Brother Big Sister	Girls Inc.	Girl Scouts	Boys and Girls Club	YMCA
Phone Call	X			X	X
Email		X	X		X
Face-to-Face		X		X	X
Social Media			X	X	
Website			X		
Fliers					X
Newsletter	X		X	X	
Mobile Application	X				

Figure 5: Forms of Communication Used by Different Organizations

### 4.3 Recommendations for Improved Communication in the Afterschool Program

The initial question to be answered regarded how communication amongst staff and between staff and parents could be improved. Through our thorough research and observations, we have concluded that the YMCA should utilize the following recommendations regarding forms of communication to use for communicating with parents. Based on our many findings, we have provided the following recommendations to enhance the YMCA afterschool program’s communication with all parties.

Recommendation 1: The YMCA should communicate with parents through a combination of methods including emails and phone calls.

Since the YMCA needs to communicate with about 200 parents, diverse methods of communication should be used for maximum results. Phone calls are necessary to use when information needs to be communicated immediately with parents since they can ensure the information was received by the parent or guardian. Emails are easy for the staff to send out

since you can send mass messages including all of the parents in the program. We conducted surveys to parents and interviewed with other leading community organizations, and found the majority of parents prefer to communicate via email and/or phone call. Although, since every parent and family is different, a number of different forms of communication are necessary. The Big Brothers Big Sisters program also sends home flyers and letters to communicate information with parents (R. Lilly, personal communications, March 23, 2017). In addition, 100% of the organizations we spoke to say they use multiple methods to communicate with parents. Thus, to ensure that information is being communicated to all families and parents, multiple methods that include emails and phone calls are to be used.

Recommendation 2: The YMCA should email progress reports to the parents to look at and then offer a paper copy to sign at pick-up.

Implementing this gives the parents time to look over the report and share it with their partners or other guardians, thus they do not have to spend time at pick-up reading it. We recommend that the staff emails the progress report to the parents to give them time to read and share it with other parents or guardians. Once the parent arrives at the YMCA they will be able to sign the report right away, and will not have to wait additional time reading the report, thus, improving the pick-up process.

Throughout our research it was important to get information from other leading organizations to compare and contrast methods of communicating. Based on our findings through interviews with Boys and Girls Club, Girls, Inc., Big Brothers Big Sisters, and Girl Scouts, we have provided recommendations that were found to be helpful elsewhere.

Recommendation 3: The YMCA should require an orientation for the parents prior to enrollment of the child each year to discuss the forms of communication to be used, the pick-up process, and other prospective issues.

If the YMCA were to implement an orientation, the staff would be able to clearly communicate the expectations of parents at pick-up time, and also identify the method that will be used to communicate. During our observations and throughout our project we have noticed some parents are frustrated with the pick-up process and the time it takes to sign out their child. We also noticed many parents prefer different communication methods when it comes to communicating with the YMCA. In addition to this many parents come to pick up their child after the 6:00 deadline. The Boys and Girls Club of Worcester uses an orientation for the parents and children together, to communicate all expectations. Any possible issues with these expectations or methods could be discussed and other accommodations could be made, if necessary. An orientation each year would help remind each parent and cause less miscommunications and late pick-ups in the future.

Recommendation 4: The YMCA should hold a monthly meeting with the parents to discuss upcoming events, any concerns from the parents, and the progress of the children.

Meeting with parents face-to-face to discuss events, concerns, and progress of the child is necessary to build better bonds with the parents and create a sense of trust and community. As of now, the YMCA does not meet with parents in a group setting, and only meet individually upon request or if absolutely needed. Our surveys with the parents conclude that parents would be open to monthly meetings with the staff. In addition, face-to-face communication is agreed upon to be the most efficient form of communication by all four organizations. Half of the parents surveyed said they prefer face-to-face communication so monthly meetings would definitely

improve communication. The YMCA should find a reasonable time for parents to attend a short meeting because this would be very beneficial for all parties.

#### **4.4 Importance of a Welcoming Pick-up Environment**

Finding 5: Parents with children in the afterschool program are often exhausted and tense at the end of a long work day and therefore may not have the patience to wait more than four minutes to pick up their child.

Originally, it was speculated that the wait time for parents to get in and out of the YMCA building was too long, but through our research, we found that parents *feel* that they are waiting much longer than they actually are. This feeling can be attributed to a combination of pick-up area environmental factors, such as a lack of sitting area and reading material. Through the observational study of pick-up time done on Thursday, March 16<sup>th</sup> and Wednesday, March 22<sup>nd</sup> between 4:00 PM and 6:00 PM, over 178 parents entered the YMCA building. Twelve other parents who came in during this time could not be tracked as they did not leave through the same door being observed by our team, and therefore their data is excluded from the study. Of the parents that were tracked, the wait time per parent on average was calculated to be only 4 minutes and 18 seconds. Six of these 178 parents, were considered outliers in our data because they were observed to be spending extra time in the pick-up area waiting to speak with a staff member after their child was ready to leave. These parents were taken out of the average to yield a more accurate representation of pick-up waiting time could be calculated to be 4 minutes and 7 seconds. These averages were unexpectedly short. By taking note of the parent's reactions and interactions during pick-up time we were able to deduce why some of survey respondents, 46% of 18 parents, were not feeling either satisfied or extremely satisfied with the pick-up process.

During observation, one father who came to pick up his child verbally exclaimed his frustrations, claiming it took 10 minutes for his daughter to be ready when in reality it had only

taken 5 minutes to complete the pick-up process according to our documentation. In another instance on Wednesday, March 22nd, a parent became visibly and verbally agitated about leaving as soon as she walks into the door. The whole pick-up process for this mom only took 6 minutes, slightly above the average time. Many other parents who we observed during this time had similar reactions as these two parents, or seemed bored and focused on their cell phone.

So although the wait time for the pick-up process was not a problem, attitudes of parents seem to change the perception of this wait time. In addition, there were few parents waiting a long time, the two longest being 19 minutes to pick one child and 19 minutes to pick up four children. This is evidence that, although there is not an imperative need, there is always room for improvement during pick-up time. In addition, through our observations and interviews with staff, we became aware of the limitations of the pick-up area. *We found that the pick-up and waiting area could use improvement.* Currently the waiting room area is very small with no real seating for parents, as you can see in Figure 6. Children and staff are constantly walking through the area to go from the lower deck up through the stairs in the pick-up area to go to the gym and vice versa. The desk takes up most of the space in the area and displays all the necessary sign out sheets and flyers available for parents. The buzzer and camera sit on the wall above the desk so that a staff person behind the desk can easily buzz parents into the building. Additionally, the small hallway off the side of the pick-up area houses cubbies for children's belongings as well as a plastic chest for storage and a bulletin board for posting required licensing information.

During our observation, it was clear that there was no good place for parents to stand. They were either in the way of other parents trying to get to the sign-out pages, in the way of the children moving from the gym to the lower deck, or were hidden in the hallway where they could not be seen by their children or by the staff members. We did see some parents use the plastic

chest as a seat most parents remained standing. Our surveys to parents further supports this finding, as 51% of parents surveyed said that they were not satisfied or extremely satisfied with the seating at the pick-up area. It is clear that the space and seating at the pick-up area is insufficient for the amount of parents that come the YMCA Afterschool Program, especially during their busiest hour between 5:01 and 6:00 PM when 69% (123/178) of parents come in to pick up their child.

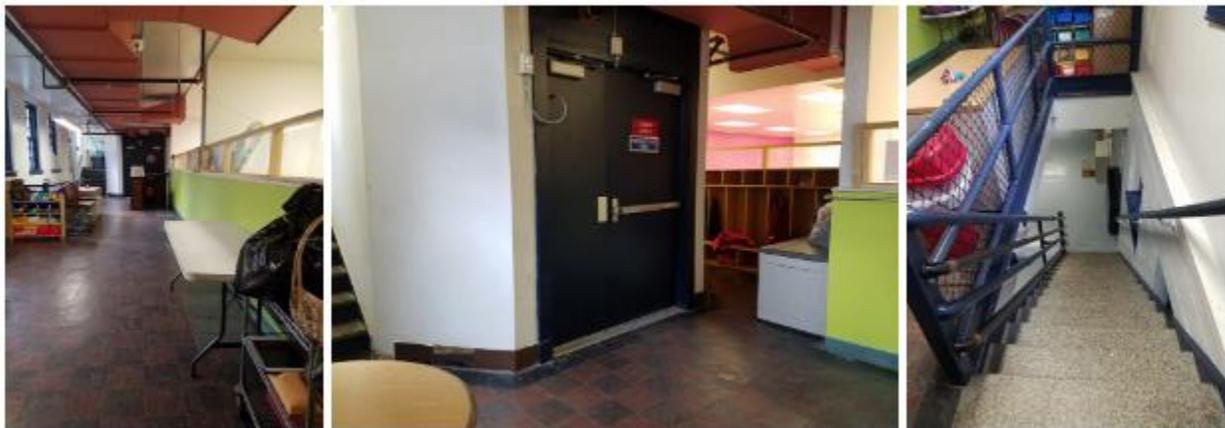


Figure 6: (from left to right) Upper deck area, pick-up area, and stairs leading to lower deck

Moreover, the pick-up area has no distractions to keep parents occupied while they wait, which may cause parents to become more impatient than they would in a more engaging, welcoming pick-up area. The only things for parents to do during pick-up time is to look at flyers on the desk, look at the bulletin board with the YMCA's licensing information or to talk to staff members or other parents. Some parents occupy themselves by going to find their child in a classroom themselves instead of having staff find them, but most parents just wait in the pick-up area.

On Tuesday, April 10th, we implemented a second bulletin board with a white board section to try to engage parents. The bulletin board contained information about a summer youth sports league and information on what the children in the program had for snack that day. The

bulletin board was up for a few days before we ran the Spirit Day communication experiment on communication in order for parents to get acclimated to the bulletin board prior to the experiment. Although the bulletin board did not seem as effective as other methods of communication, it still gives parents something to look at and interact with during pick-up time.

#### **4.5 Recommendations on Developing a Welcoming Pick-up Environment**

Throughout our project, we noticed many frustrations regarding the pick-up process and area. We have provided recommendations to help improve the environment for parents during this busy time.

Recommendation 5: The YMCA should provide seating for parents and a digital frame displaying photographs of the children to create a more comfortable and engaging environment.

Parents felt as if they were standing at the door for much longer than they actually were. We discovered this could be because of the environment. The pick-up area is not very spacious and the walls are bare with nothing to look at. We recommend that the YMCA puts more comfortable seating in the pick-up area so parents can sit and wait for their child. Also using digital frames to display pictures of the children involved in a YMCA afterschool activity can add an engaging aspect to the pick-up process and help communicate with parents some of the things that the children do during the program. Parents would have something to look at and may be eager to see pictures of their child. Thus increasing satisfaction levels with the program and lessening frustrations.

Recommendation 6: The YMCA should continue to use the bulletin board and whiteboard to communicate upcoming events with parents and give the parents flyers and information to look at while waiting.

Another way to improve the environment is to continue the use of the bulletin board and whiteboard that we piloted. The boards give the parents a place to look while waiting for their children and offer an additional way of communicating with parents. Flyers and upcoming events can be posted for parents to see and read while waiting. Not only are the boards improving the environment, but they are also adding a method of communicating between staff and parents.

#### **4.6 Membership**

Finding 6: Most parents do not have a membership at the YMCA because of the cost, and they do not have time during the day to come use the facilities or attend the programs.

We surveyed 18 parents of participants in the afterschool program and only 3 of them had a membership at the YMCA. Of the 83% that do not have a membership, 47% said the reason they did not purchase a membership is because of the cost. Additionally, 47% said they do not have enough free time to use the facility, and 13% said they are members of other gyms. The two outstanding reasons that parents do not have memberships are because of the cost and lack of free time.

#### **4.7 Implementing New Technology for the Afterschool Program**

Finding 7: The YMCA Location Tracker Application is the most feasible option for YMCA tracking purposes.

From our meeting with our sponsor, we knew that the YMCA was looking for a mobile application to help with tracking the students in the YMCA Afterschool program. After doing online research for different tracking applications, we came across several different options, including: Google Sheets, Tadpoles, Roll Call, ScanTrakk, App Machine,

MyAttendanceTracker, Kinderline, and Jackrabbit Care. We assessed each one of the applications, and presented the options to the staff.

The group developed criteria in order to decide which option would be the best solution to the needs of the Y. We used the comparative chart below in order to decide which app would best suit the needs of the YMCA.

	Price	Attendance	Picture ID	Tracking	Multiple Lists	Parent Access	Aesthetics	Staff Messaging	Tablet	Play Store	App Store
<u>Google Sheets/ AppSheet</u>	Free	X	X	X	X		X	X	X	X	X
<u>My Attendance Tracker</u>	\$10/ mo	X	X		X	X	X	X	X		
<u>Scantrakk</u>	\$299/ mo			X			X		X	X	X
<u>Kinderlime</u>	\$2.50/ child/ mo	X	X			X	X		X	X	X
<u>Jackrabbit Care</u>	~\$319 /mo	X	X		X	X		X	X		
<u>Tadpoles</u>	\$250/ mo	X	X	X	X	X	X	X	X		X
<u>App Machine</u>	\$49- 69/ mo		X		X	X	X	X	X	X	X

Table 4: Comparative Chart of Attendance and Tracking Applications

Taking into account our sponsor needs, we narrowed it down to three options: Roll Call, Tadpoles, and Google Sheets. With the Roll Call application, the user was able to take attendance at the front desk; however it did not have a tracking application. As a stand-alone app, Roll Call was determined not to be the best option. With Tadpoles, the app had nearly every feature the YMCA needed. However, the cost of the app made it unrealistic as a short term solution. We reached out to another YMCA that uses Tadpoles for their child care program in order to see if the app was worth the cost. We interviewed Colleen Munger at the Capital District YMCA in Albany, NY about Tadpoles. While Ms. Munger had good things to say about the app, she also said it may not be the best option for our current situation (C. Munger, personal

communication, April 5, 2017). Finally, with the Google Sheets application, we were able to make a tracking app with the AppSheet program called the YMCA Location Tracker Application. This app is able to perform attendance and tracking features, and is available in any app store free of cost. *The YMCA Location Tracker Application is an effective method of tracking students because it updates in real time and is user friendly.*

After deciding on using Google Sheets, we went into the developing phase of the mobile application. We included different features into the application so that it had the ability to track different students in the building. Screenshots of the application are available in Figure 7. The groups for the application were separated by age, from Kindergarten through 5th grade and up. We decided to divide it up by grade because at the beginning of each day, children of each age group are designated a different classroom for which they are to check in to for the day. Each of the groups has a roster with the particular children of that age group, which also displays their location in the building next to their name. The location next to the child's name allows the user at the front desk to know exactly where the child is when the parent comes to pick up their child.

Using a drop down menu, the user is able to click on the location of the child, and change it from their previous location, to their new location. The user is also able to select multiple children to move, in case groups of children decide to move at the same time. The application features a quick menu for the top five most used locations for ease of use. These features were designed in order to move larger or smaller groups of people with the fewest clicks possible.

This ensures that the application is easy to use, and will be able to run as effectively as possible.

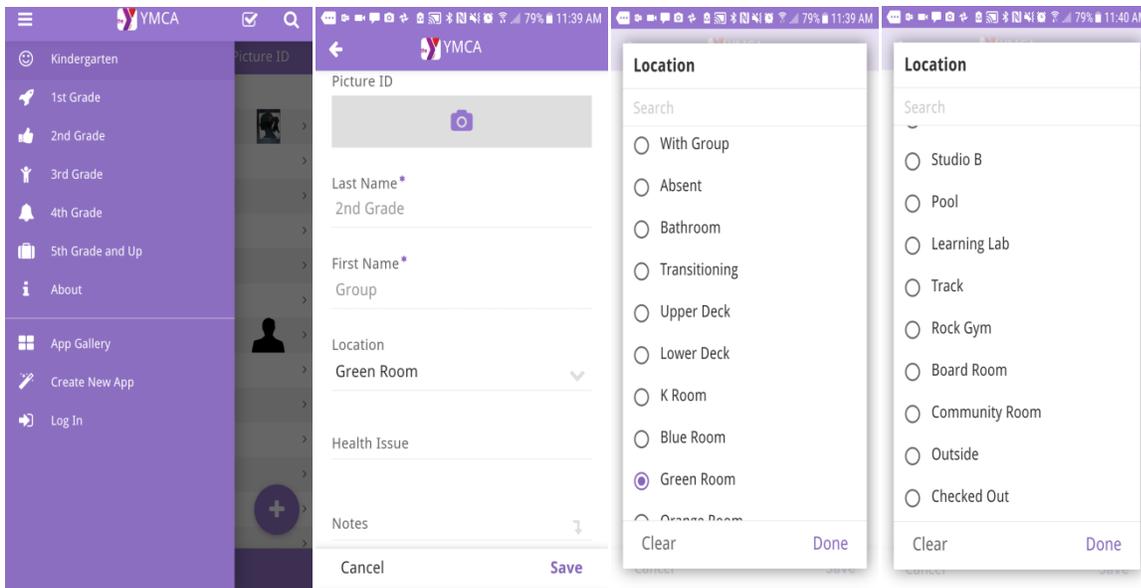


Figure 7: Screenshots of the YMCA Location Tracker Application

Through our testing and Wi-Fi mapping, we found great improvements are needed to seek the benefits that the app would bring. Most of the classrooms do not have any Wi-Fi, which poses a problem when it comes to updating the locations of each child.

#### 4.8 Recommendations for Implementing New Technology for the Afterschool Program

We believe the use of technology is necessary to make the afterschool program function at its best. We provided recommendations that will improve the communication.

Recommendation 7: The YMCA staff should use the mobile application that we created to communicate the locations of the children thereby making the transition and pick-up times more efficient.

A large part of our project was researching ways to improve the communication amongst the staff at the afterschool program. Based on the needs of the YMCA, we found that a mobile application would best fit their program. The biggest issue between the staff was communicating the location of the children with other staff, especially those at the pick-up area. The staff was using clipboards to track the children, but the problem with clipboards is that only the staff

member with the clipboard can see the child's location. The solution was the YMCA Location Tracker Application. The staff will be able to see and change each child's location and make updates in real time. Thus, we suggest the staff continue to use the mobile app, as it will help with tracking the children and cause less communications errors during the pick-up process.

Recommendation 8: The YMCA should work to update their wireless capabilities, including stronger Wi-Fi and more up to date and durable tablets. Specifically we recommend the YMCA invest in iPads or iPad minis because of their efficiency and lifespan.

As previously stated, the YMCA will benefit from a mobile application. For the mobile application to work, the YMCA needs to have consistent wireless capabilities. We also recommend that the YMCA buy durable and efficient tablets, specifically iPads or iPad Minis. These devices have a longer lifespan and can hold a charge longer than other tablets, which will ensure the device to last the full day.

Recommendation 9: The YMCA should look into the Tadpoles application for tracking and attendance purposes.

The Tadpoles application allows for tracking, attendance, and messaging; all the needs of the YMCA. The downside to this application is the cost. Although the Tadpoles Company offers a flat fee for YMCA's of \$250/month, it is currently cost prohibitive. Tadpoles also offers a parent application to see the progress of the child, activities and pictures from throughout the day. In addition, there is an administrator website that shows data from the day, and can send out emergency alerts to parents, or simple messages to both parents and staff. The Tadpoles application would not only help the staff, but also help grow the bond between the YMCA and the parents. Consequently, we recommend that YMCA investigate Tadpoles for future use

Recommendation 10: The YMCA should invest in more and stronger, more efficient walkie-talkies for use throughout the building.

As mentioned above, the YMCA staff uses walkie-talkies to communicate with other staff in the afterschool program. During our observations we saw many staff without walkie-talkies because there is not a sufficient number for each staff member. Thus we suggest that the YMCA invest in a larger number of walkie-talkies and ones with greater quality. The walkie-talkies are necessary for communicating when a child's parent has arrived and other important information. Higher quality walkie-talkies will improve the communication amongst the staff drastically. With higher quality walkie-talkies, the static noise or short lifespan should not be an issue. Less staff will have to venture from their assigned area; therefore communication will become more efficient.

#### **4.9 How to Implement the App**

To begin implementing the Google Sheets app (App Sheet) we recommend beginning with the second grade room. Since the Wi-Fi is strongest near this room, the application will work best here. The staff will be able to get used to using the app and it will update in real time so the front desk staff will see all the transitions. The second grade room has relatively young children that will move throughout the building during the day. The staff will be responsible for updating the application for the duration of the day. The next group we recommend would be kindergarten. The kindergarten classroom seems to move more as a group and to less locations, thus adding them as the second group to keep track of will be an easy addition for the staff. Once the Wi-Fi is stronger throughout the afterschool program area and there are enough tablets for each room, the staff should be able to easily implement the application with all other classrooms.

## **CHAPTER 5: CONCLUSIONS**

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Through our work on this project, we have seen firsthand how important the afterschool program at the Central Community Branch YMCA is to so many families in Worcester. This program gives children a place to go after school where they can continue their learning by getting help with their homework, have a healthy snack, exercise, and have fun with their friends. However, a lack of communication can cause confusion and frustration amongst the staff and the parents, as well, when they come to pick their child up. Keeping track of over 200 children from Kindergarten to 7th grade is a big job for the staff, so we aimed to give the staff tools to improve internal communication by developing the YMCA Location Tracker application. In order to do this we have created the YMCA Location Tracker application. This Location Tracker has the ability to display a whole group's location, as well as the individual location of a child, if they are not in the group. Once this app is implemented, it should increase the efficiency of the pick-up process in the afterschool program as well as keep the staff organized. Our hope is that we have created an application that will enhance the communication amongst the staff and allow them more time to focus on what they already do so well, giving children a fulfilling after school experience.

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## APPENDICIES

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### Appendix A

Survey about communicating internally within the YMCA: This survey was given out on paper in English at the YMCA Central Community Branch at March 22<sup>nd</sup>, 2017 from 3:00 PM to 4:00 PM to YMCA staff members.

#### Survey of Staff Communication

We are a group of students from Worcester Polytechnic Institute's Worcester Community Project Center (WCPC). We are conducting a survey about communication at the Central Community Branch YMCA. We believe this kind of research will enhance the communication amongst members of the YMCA staff. Your participation in this survey is completely voluntary and you may withdraw at any time. Please remember that your answers will remain anonymous. No names or identifying information will appear on the questionnaires or in any of the project reports or publications. This is a collaborative project between the YMCA and WPI, and your participation is greatly appreciated. If interested, a copy of our results can be provided at the conclusion of the study. Please feel free to email us if you have any questions. You can reach us at: YMCA-iqp17@wpi.edu. You can reach our WPI faculty advisors at: Corey Dehner, cdehner@wpi.edu and Derren Rosbach, drosbach@wpi.edu.

- 1) How long have you worked at the YMCA?
  - 0-1 years
  - <1-5 years
  - More than 5 years
  
- 2) How many kids are you typically in charge of at one time? (Check all that apply)
  - 1-5
  - 6-10
  - 11-15
  - 15+
  
- 3) What age children are you typically with during the day? (Check all that apply)
  - 4-6
  - 7-9
  - 10-12
  - 13-14
  
- 4) What type of information do you need to communicate to the other staff?  
(Check all that apply)

- Absences of children
- Which children are doing homework
- Whereabouts of each child
- Trips to bathrooms
- Beginning and ending of transition times
- Child illness
- Behavior issues
- Other, please specify: \_\_\_\_\_

For the following questions, please check all that apply.

	Cell phone	Clipboard	Tablet	Radio	In-person	Other, please specify
5) How do you currently communicate with staff?						
6) How do you currently keep track of your group?						
7) If you track when a child goes to the bathroom, do you use any of the following?						
8) Which do you always carry around with you in the building?						
9) Which do you sometimes carry around with you in the building?						
10) Please rank the effectiveness of each form of communication from 1 (least effective) to 3 (most effective)						

11) Do any of the following issues arise while communicating with other staff? (Check all that apply)

- Unable to reach staff member
- Unable to hear staff over noise
- Radio failure
- Forget to update other staff
- Staff is not where the schedule says
- Other, please specify: \_\_\_\_\_

	Very efficient	Somewhat efficient	Not efficient	I do not know
12) How efficient is moving your group during transition times?				
13) How efficient is tracking when a child goes to the bathroom?				

14) Are there any times when communication with staff is difficult?

(Check all that apply)

- Drop-off
- Pick-up
- Transition times
- Child bathroom break
- Staff bathroom break
- Other, please specify: \_\_\_\_\_

## Appendix B

Survey about technology access, pick-up process, and membership: This survey was administered in English, Portuguese, and Vietnamese via paper copies given out at the Central Community Branch beginning on March 29<sup>th</sup>, 2017, and ending on April 4<sup>th</sup>, 2017 to parents that came to the YMCA during pick-up time.

### **Parent/Guardian Communication at the YMCA**

We are a group of students from Worcester Polytechnic Institute. We are conducting a survey about communication at the Central Community Branch YMCA. We strongly believe this kind of research will ultimately enhance communication between parents and the YMCA. Your participation in this survey is completely voluntary and you may withdraw at any time. Please remember that your answers will remain anonymous. No names or identifying information will appear on the questionnaires or in any of the project reports or publications. This is a collaborative project between the YMCA and WPI, and your participation is greatly appreciated. If interested, a copy of our results can be provided at the conclusion of the study. Please feel free to email us if you have any questions. You can reach us at: [ymca-iqp17@wpi.edu](mailto:ymca-iqp17@wpi.edu). You can reach our WPI faculty advisors at: Corey Dehner, [cdehner@wpi.edu](mailto:cdehner@wpi.edu) and Derren Rosbach, [drosbach@wpi.edu](mailto:drosbach@wpi.edu).

#### **A. Membership**

1. Do you have a membership at the Central Community Branch YMCA?
  - Yes (please skip to section B)
  - No
  
2. Why do you not have a membership? Check all that apply.
  - Cost
  - Lack of free time
  - Location
  - Not interested
  - Not enough desired programs
  - Unfriendly staff
  - You have a membership at another gym
  - Other, please specify \_\_\_\_\_

#### **B. Technology and Communication**

3. What is your primary language?

- English
- Spanish
- Chinese
- Vietnamese
- Arabic
- Portuguese
- Other, please specify \_\_\_\_\_

4. Are you comfortable reading and writing in English?

- Yes
- No
- Only reading
- Only writing
- Unsure

5. Please fill out the following questions about technology access.

	Yes	No	Sometimes
Do you have daily access to a computer with internet access?			
Do you have daily access to a cell phone with internet access?			
Do you have daily access to a cell phone with the ability to download applications?			

6. What method(s) of communication do you prefer when communicating with the YMCA about your child(ren) (illness, behavior, activities, etc.) or the programs they are in?

Check all that apply.

- Text messages
- Smartphone Applications
- Phone Calls

- In person
- Email
- Flyers
- Mail
- Other, please specify \_\_\_\_\_

7. We understand how busy life is and that people forget. For counting purposes, please share how frequently you notify the YMCA when your child(ren) will be absent.
- Always
  - Sometimes
  - Never
8. Do you use the app Remind for communication with the YMCA?
- Yes
  - No
  - Sometimes
  - Unsure
  - I have not heard of the app Remind
9. What do you like and/or dislike about this app?(Please skip this question if you do not use the app Remind)
- 
- 

**C. Pick-up**

10. How many children (ages 0-17) in your household attend the YMCA Afterschool Program?
- 0
  - 1
  - 2
  - 3
  - 4
  - 5
  - 6+
11. Please share your level of satisfaction with the following aspects of the YMCA pick-up process.

	Extremely Satisfied	Satisfied	Neither Satisfied nor Unsatisfied	Unsatisfied	Extremely Unsatisfied
YMCA's knowledge of your child's whereabouts when you come to pick them up					
Time it takes to be buzzed in					
Time it takes to receive your child					
Time it takes to sign your child out					
The waiting area space					
The seating in the waiting area					
Other, please specify					

12. If you've ever been late to pick up your child from the YMCA Afterschool Program, how late were you?

- Less than 5 minutes
- 5-10 minutes
- 10-20 minutes
- 20+ minutes
- I have never been late to pick-up

13. Would you attend a meeting with the staff and other parents/guardians to discuss activities your children have been participating in, upcoming events, etc.?

- Yes
- No
- It depends

Thank you very much for taking the time to improve the YMCA's communication and pick-up procedures. Are you able to answer some additional questions about your experiences at the Y? If yes, please share your name, email address and phone number with a member of the team administering this survey.



## Appendix C

Interview questions about forms of communication: This interview was administered over email on March 23<sup>rd</sup>, 2017 at 11:41 AM and March 27<sup>th</sup>, 2017 at 10:10 AM with Big Brothers Big Sisters Site based Match Support Specialist Robyn Lilly.

We are a group of students from Worcester Polytechnic Institute. We are conducting interviews about communication between organizational staff members and their participants' parents. We strongly believe this kind of research will ultimately enhance communication between parents and the YMCA. Your participation in this survey is completely voluntary and you may withdraw at any time. Please remember that your answers will remain anonymous. No names or identifying information will appear on the questionnaires or in any of the project reports or publications. This is a collaborative project between the YMCA and WPI, and your participation is greatly appreciated. If interested, a copy of our results can be provided at the conclusion of the study.

1. Do you have an app or other database website that you use to communicate with parents of the children who participate in Big Brothers Big Sisters? If yes, has this form of communication been effective for your situation? If no, why not?
2. What do you think the best forms of communications are between your organization's staff and parents of your organization?
3. What forms of communication do you currently use to communicate with parents whose first language is not English?
4. How do you keep track of the progress of all of your members?
5. What do you think the best method of communication is amongst your own staff at each location? Do you use phone calls or walkie-talkies within the building?
6. How many children is each program in charge of at each location? (For example how many children typically participate in Big Brothers Big Sisters at Elm Park Elementary?)
7. How does pick-up process work after the program has concluded for the day? How do you notify the Big that their Little's parents are ready to pick up their child?

## Appendix D

Interview Questions about forms of communication: This interview was administered over the phone on March 29<sup>th</sup>, 2017 a 10:00 AM with Girl Scouts of Central and Western Massachusetts Chief Membership and Strategy Officer Colleen Holmes.

We are a group of students from Worcester Polytechnic Institute. We are conducting interviews about communication between organizational staff members and their participants' parents. We strongly believe this kind of research will ultimately enhance communication between parents and the YMCA. Your participation in this survey is completely voluntary and you may withdraw at any time. Please remember that your answers will remain anonymous. No names or identifying information will appear on the questionnaires or in any of the project reports or publications. This is a collaborative project between the YMCA and WPI, and your participation is greatly appreciated. If interested, a copy of our results can be provided at the conclusion of the study.

1. What is your role at Girl Scouts?
2. Could you tell us a little about how you communicate with parents/guardians of children who participate in Girl Scouts?
3. How has this type of communication been effective or ineffective?
4. Do you have an app or other database website that you use to communicate with parents of the children who participate in Girl Scouts? If yes, has this form of communication been effective for your situation? If no, why not?
5. What do you think the best forms of communications are between your organization's staff and parents of your organization?
6. What forms of communication do you currently use to communicate with parents whose first language is not English?
7. How do you keep track of the progress of all of your members?
8. What do you think the best method of communication is amongst your own staff at each location? Do you use phone calls or walkie-talkies within the building?

## Appendix E

Interview Questions about forms of communication: This interview was administered over the phone on March 29<sup>th</sup>, 2017 at 11:00 AM with Girls Inc. of Worcester Associate Director of Programs Coral Titone.

We are a group of students from Worcester Polytechnic Institute. We are conducting interviews about communication between organizational staff members and their participants' parents. We strongly believe this kind of research will ultimately enhance communication between parents and the YMCA. Your participation in this survey is completely voluntary and you may withdraw at any time. Please remember that your answers will remain anonymous. No names or identifying information will appear on the questionnaires or in any of the project reports or publications. This is a collaborative project between the YMCA and WPI, and your participation is greatly appreciated. If interested, a copy of our results can be provided at the conclusion of the study.

1. What is your role at Girl Inc.?
2. Could you tell us a little about how you communicate with parents/guardians of children who participate in Girl Inc.?
3. How has this type of communication been effective or ineffective?
4. Do you have an app or other database website that you use to communicate with parents of the children who participate in Girl Inc.? If yes, has this form of communication been effective for your situation? If no, why not?
5. What do you think the best forms of communications are between your organization's staff and parents of your organization?
6. What forms of communication do you currently use to communicate with parents whose first language is not English?
7. How do you keep track of the progress of all of your members?
8. What do you think the best method of communication is amongst your own staff at each location? Do you use phone calls or walkie-talkies within the building?
9. Could you describe how the pick-up process works after the program has concluded for the day? How do you notify the group leader that a parent is ready to pick up their child?

## Appendix F

Interview Questions about forms of communication: This interview was administered via phone at the Worcester Community Project Center on April 4<sup>th</sup>, 2017 at 1:30 PM with the Executive Director of the Boys & Girls Club of Worcester Liz Hamilton.

We are a group of students from Worcester Polytechnic Institute. We are conducting interviews about communication between organizational staff members and their participants' parents. We strongly believe this kind of research will ultimately enhance communication between parents and the YMCA. Your participation in this survey is completely voluntary and you may withdraw at any time. Please remember that your answers will remain anonymous. No names or identifying information will appear on the questionnaires or in any of the project reports or publications. This is a collaborative project between the YMCA and WPI, and your participation is greatly appreciated. If interested, a copy of our results can be provided at the conclusion of the study.

1. Could you tell us a little about how you communicate with parents/guardians of children who participate in Boys & Girls Club?
2. How has this type of communication been effective or ineffective?
3. Do you have an app or other online database that parents have access to? If yes, has this been effective in communicating with parents?
4. In your opinion, what do you think the best forms of communications are between your organization's staff and parents of your organization?
5. Could you tell us a little about the forms of communication you currently use to communicate with parents whose first language is not English?
6. Do you keep track of the development (socially, cognitively, emotionally or physically) of each of your members? If so, how do you track this? Do you share this information with parents/guardians?
7. In your opinion, what do you think the best method of communication is amongst your own staff at each location? Do you use phone calls or walkies-talkies within the building?

## Appendix G

Focus group questions about communicating externally with parents: This focus group was administered face-to-face at the YMCA Central Community Branch on March 31<sup>st</sup>, 2017 at 1:00 PM with staff members at the YMCA.

### **Staff Focus Group Questions**

We are a group of students from Worcester Polytechnic Institute. We are conducting a focus group about communication at the Central Community Branch YMCA for our student-run off-campus project. The goal of our project is to collaborate with the YMCA to assess and enhance forms of communication amongst staff and between staff and parents of the Afterschool Program. We strongly believe this kind of research will ultimately enhance communication between parents and the YMCA. Your participation in this interview is completely voluntary and you may withdraw at any time. Please remember that your answers will remain anonymous. No names or identifying information will appear on the questionnaires or in any of the project reports or publications. This is a collaborative project between the YMCA and WPI, and your participation is greatly appreciated. If interested, a copy of our results can be provided at the conclusion of the study.

1. Can everyone go around in a circle and introduce themselves and share where they are from and a fun fact about themselves?
2. What is your role at the YMCA? Are you considered upper deck or lower deck staff? (lower deck staff are those that stay with the groups of kids all throughout the day and upper deck staff are those that remain on the upper deck and complete tasks like monitoring drop off and pick-up as well as informing parents about upcoming events and paperwork)
3. First we will talk about communication between staff and parents. Can you tell us a little about how you communicate with parents?
  - a. Can you explain a little about your communication with parents during pick-up time? Do you currently converse with parents during pick-up times about the status of their children? For example, do you explain to parents when they enter the upper deck where their child is and how long approximately it will take for them to be ready to leave the YMCA?
  - b. Is this form of communication effective or ineffective? Why?
4. Now we will talk a little about the pick-up process. How efficient do you think the pick-up process is at the YMCA?

- a. Do you ever feel frustrated or overwhelmed by the pick-up process?
    - i. Follow up: what happens to make you feel this way?
  - b. Do you find that a lot of parents get agitated by the time it takes for the pick-up process to occur?
    - i. If they say yes: Based on your experience, why do you think the parents feel this way?
  - c. What changes would you like to make to this process to make it easier for staff? Would these changes make the process easier for parents as well?
  - d. Using your best judgment, how long on average do you think it takes for a parent to complete pick-up process (from when they walk in the door to when they walk out with their child)?
  - e. Next we will share the averages from the data we collected during pick-up on two different days. Does this number surprise you? Why do you think this number differs from what you estimated?
5. Next we will discuss communications amongst staff. Please describe any problems you run into while you are communicating with other staff during this process. Are there problems with using the walkie-talkies? Are there problems with staff moving children from rooms that they are scheduled to be in?
- a. Have you noticed any miscommunication between staff that work on the upper deck and staff that work on the lower deck? How is lower deck staff involved in the pick-up process? How is upper deck staff involved in the transition process between classrooms?
6. In your opinion, how efficient do you think transition times between rooms are at the YMCA?
- a. Please describe any problems you run into in terms of communicating with other staff during this process. Are there problems with using the walkie-talkies? Are there problems with staying on schedule?
  - b. Are you ever late or early in moving your group to the next room?
    - i. If they say yes: do you communicate to other staff that the group is not on time? How do you communicate this?
  - c. Does the group of children you are in charge of ever split up throughout the day? For example, does a portion of your group stay in the classroom and do

homework while another portion goes to the next scheduled room? How does the staff split up in this situation? How is this split communicated to other staff members?

Next part of the interview: show them the options we have come up with: Tadpoles, ScanTrakk, Google Sheets, Daxko

7. In your opinion, which of the options do you think would be most effective in enhancing communication amongst staff during pick times? Why?
8. In your opinion, which of the options do you think would be most effective in enhancing communication amongst staff during transition times? Why?
9. In your opinion, which of the options do you think would be most effective in enhancing communication between staff and parents? Why?
10. Do you have any concerns about any of the options? What are they?
11. Do you have any ideas about other types of applications or procedures that we could implement at the YMCA to improve communication?

## Appendix H

### Interview questions about communication, membership, and overall satisfaction of parents:

These interviews were administered over email on April 18<sup>th</sup>, 2017 at 11:22 AM with multiple parents with children who participate in the afterschool program at the YMCA.

We are a group of students from Worcester Polytechnic Institute. We are conducting this interview about communication at the Central Community Branch YMCA. We strongly believe this kind of research will ultimately enhance communication between parents and the YMCA. Your participation in this interview is completely voluntary and you may withdraw at any time. Please remember that your answers will remain anonymous. No names or identifying information will appear on the questionnaires or in any of the project reports or publications. This is a collaborative project between the YMCA and WPI, and your participation is greatly appreciated. If interested, a copy of our results can be provided at the conclusion of the study. Please feel free to email us if you have any questions. You can reach us at: ymca-[iqp17@wpi.edu](mailto:iqp17@wpi.edu). You can reach our WPI faculty advisors at: Corey Dehner, [cdehner@wpi.edu](mailto:cdehner@wpi.edu) and Derren Rosbach, [drosbach@wpi.edu](mailto:drosbach@wpi.edu).

1. Can you think of anything that would make the pick-up area more enjoyable for waiting parents? (Ex: seating, pictures of the children, etc.)
2. Have you noticed the bulletin board in the YMCA pick-up area?
  - a. What types of information do you think it will be helpful in communicating?
3. Are you open to getting yourself a membership at the YMCA?
  - a. What would make you interested in getting a membership?
4. What is your preferred method of communication with the YMCA? (Ex: emails, phone calls, flyers)
5. What factors determine whether or not you are able to attend a meeting with YMCA staff about activities your child has been participating in, upcoming events, etc.? (Ex: time of day, duration of meeting, other parents)
6. What do you need from the YMCA as a part of the community?
  - a. Is the YMCA meeting your needs?
7. Are there any other suggestions or comments for us to share with the YMCA or the YMCA afterschool program?

Appendix I

Worcester Polytechnic Institute

# USER GUIDE

Using AppSheet to Edit the YMCA Location Tracker Application for Mobile Device

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# Chapter 1: Description and Purpose

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The purpose of this user manual is to guide the application creator of the YMCA Location Tracking application developed using AppSheet, on how to make changes to the current setting and to add and delete groups. Regular everyday users of this application should not be making changes to the settings of the application. In order to change aspects of the application such as First Name of child and Last Name of child. These changes can be done within Google Sheets and cannot be changed on AppSheet. Adding and deleting children from pre-existing groups can be done within the Google Sheets or within the application itself.

## AppSheet

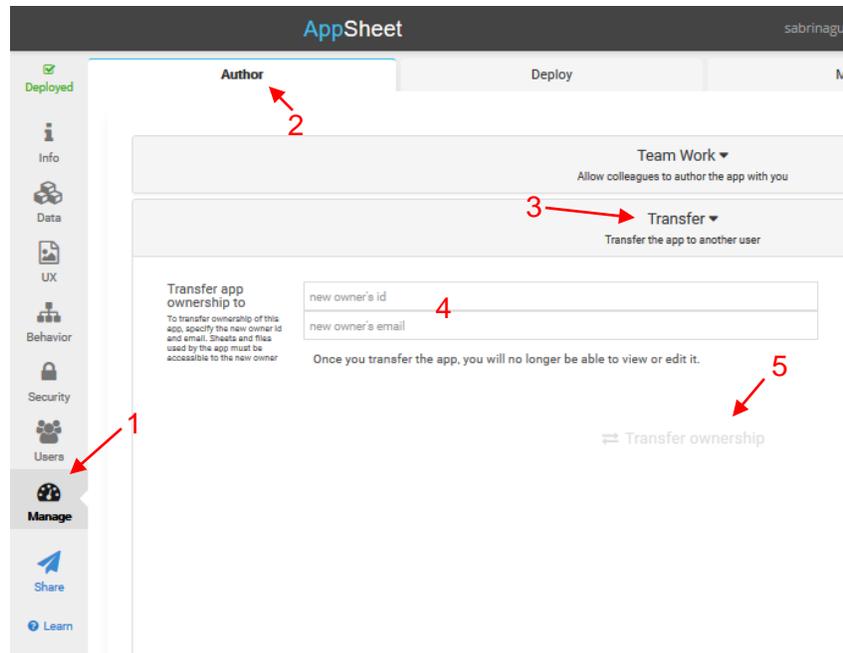
It is important to realize that AppSheet is both a website that you can access on a computer through a browser as well as an App you can download on your mobile device. The YMCA Location Tracker application is not actually an application itself. Instead, it is a shortcut to a particular program in the AppSheet application. Therefore in order to access the program, you must download the AppSheet app to your device. In order to make edits to the YMCA Location Tracker, you must visit the AppSheet website which will in turn make changes to the appropriate program within the AppSheet application. We will refer to the YMCA Location Tracker as an application for ease of discussion in this document.

## Chapter 2: Installation and Start up Process

### Section 1: Getting Access to AppSheet

In order to have access to AppSheet, the application creator must transfer the ownership of the application to your user ID. There is only one App creator at any given time. Only the App creator can make edits to the functions and style of the application. The current application creator should follow the steps below to transfer ownership of the application:

1. Go to the Manage option on the vertical toolbar after opening the application in a web browser.
2. Ensure you are opened up to the Author tab on the horizontal toolbar.
3. Click on the Transfer option.
4. Type in the new owner's ID and new owner's email.
5. Click the Transfer ownership button.



Once ownership is transferred, the previous creator will no longer have access to edit the application. After ownership is transferred, you will be the new creator of the application.

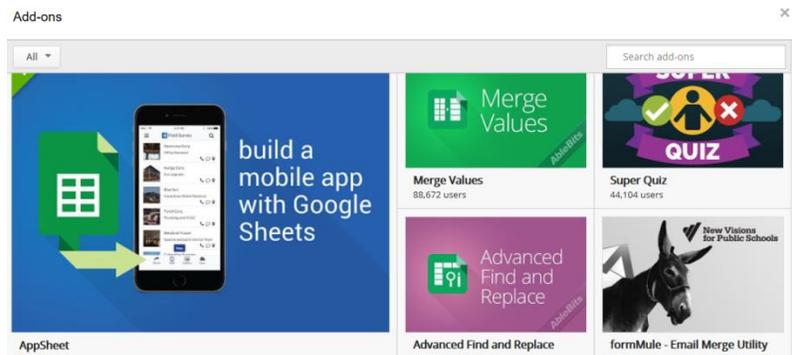
## Section 2: Getting to AppSheet Editor

You can access the AppSheet website in two different ways.

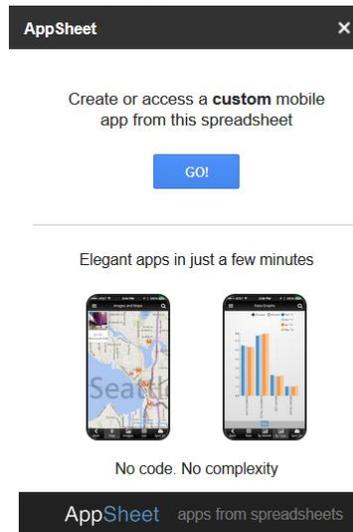
### Section 2a: Navigating by Google Sheets

The first method of getting to the application editor is to go through the Google Sheets page. You must have access to the Google Sheets page and be able to make edits. If this is not true, please contact the owner of the sheets page and request access to edit. Follow the steps below to navigate to the AppSheet Editor once you have editorial access to Google Sheets:

1. At the top of the page in the horizontal toolbar there is an option called "Add-Ons." Click this option.
2. Click "Get add-ons..." which will open up a pop up window with a list of add-ons that are available for Google Sheet users.
3. Scroll through the options until you find AppSheet.



4. Click on the option and then click the blue button in the top right corner labeled “+free” which will then bring you back to the Google Sheet page.
5. Now when you go to the Add-On option on the top toolbar, the option AppSheet should show up. Hover over this option and click Launch from the new set of options that appear. A pop up will show up on the right of the Google Sheet page.
6. Click the blue Go button to open up AppSheet in a new browser tab.



This should automatically open up to the application editing page. The page that is opened should also automatically log you in to your account on AppSheet, which is through the Google account that you used to transfer ownership of the application in the previous section. Ensure that the AppSheet page is opened in that Gmail account by looking on the top black toolbar. Your Gmail should be shown in grey, signifying you are logged into your account. If this is not true, try the second method of accessing the application editor.

### *Section 2b: Navigating by AppSheet Directly*

If this previous method did not work for you, follow the steps below:

1. Go to the website <http://appsheet.com>.
2. When the page loads, use your Gmail credentials to login into your account by clicking the login button on the top blue toolbar. The email you use should be the same Gmail account used to transfer ownership.
3. Once you login, you may need to grant access to AppSheet. Click the allow button if possible. This will allow AppSheet to access your account even when your offline so that changes can be made to the information within the application, such as location, even when you're not actively using your Google account.
4. AppSheet should automatically open to the My Apps page where the YMCA Location Tracker is listed with its respective logo. Click on the edit button outlined in blue to start making edits and changes to the application.



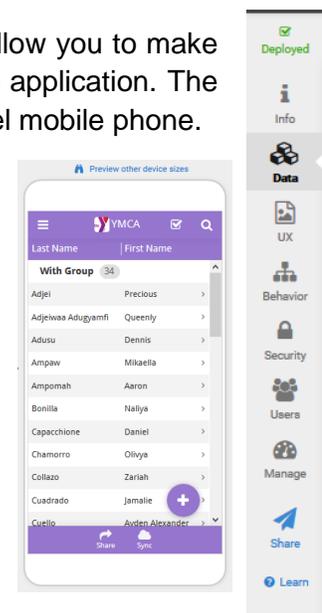
The next page may take a minute or more to load, but AppSheet is connecting you to the editing software for the application. It will bring you to the page where the info tab is opened. From here you can start making changes to the application and its functions.

## Chapter 2: Navigating AppSheet

There are multiple important tabs on the left vertical toolbar that will allow you to make edits to the functions, the formatting, and the sharing privileges of the application. The right side of the screen is where you preview the application on a model mobile phone.

### Section 1: Previewing the Application

On the right part of the screen, you will see a model cell phone. This shows you how the app runs on a mobile screen. You can run the program as if you were on a mobile device from this model. All changes you make on the model will change the information on the Google Sheets so that you can test the application and its functions. You can preview the application on other sized devices by clicking the “Preview other device sizes” button on top of the model. Here you can choose from tablets and cell phones either flipped vertically or horizontally.



### Section 2: Info Tab

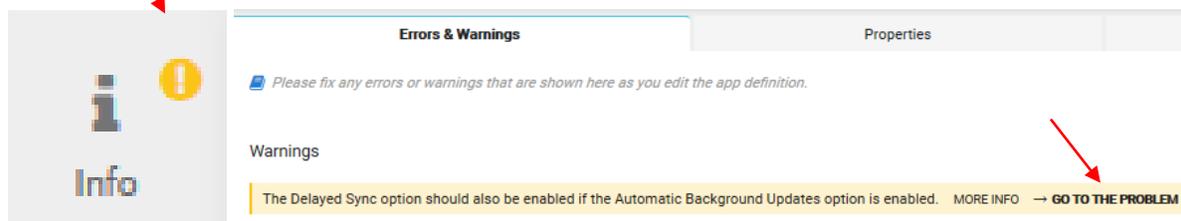


The info tab is where you would navigate to check if there are any errors in the application. The application will not run if there are any existing errors that need to be fixed. If there is an error, you will see a yellow or red circle right next to the info icon. Yellow circles mean that there is an error but the program can still run because AppSheet has automatically changed the settings for you so that there are no conflicts. Red circles indicate something that AppSheet cannot fix on its own and is preventing your application from running. When red error messages show up, the model cell phone on the right screen will also display an error message, making you unable to

preview the application. The application cannot be deployed unless all errors are addressed. The Info tab has 3 subtabs: Errors & Warnings, Properties, and Documentation.

To see what the error is about, follow the steps below:

1. Navigate to the Errors & Warnings tab on the top tab toolbar.
2. Read the comment next to the error to see what it is about.
3. Click the “go to” button, which will bring you to the editing page where you can fix the error.



The properties tab on the info tab will allow you to change the name, version, short description, description, and user guidance text boxes that will ultimately show up on the About tab under the menu on the application. If you make any edits to the text currently in the boxes, make sure to save your changes after you are done.

The Document tab on the info tab allows you to change the Category, Function, and Industry of this particular application. These options specify the purpose of the application. You can change these properties by selecting an option from each drop down menu. This application is currently set to non personal use because it will be used for the YMCA. You can also write a quick purpose and design detail blurb in this section. Additionally, you can name and download a PDF document with the file description and a reference URL for further documentation.

### Section 3: Data Tab

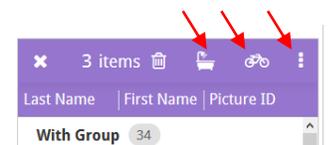


The Data Tab has five subtabs: tables, Column Structure, Slices, Actions, and User Settings. The Data Tab is where you will do most of the editing for this application.

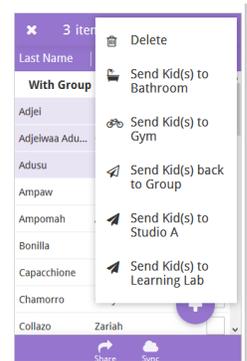
Under the tables tab, there is a grid view list of existing tables that you can edit or delete, as well as an option to create a new table. Each table represents a group of children in this case. At the bottom of this page there is a list of the same existing tables which you can further use to edit the tables.

Under the Column structure tab, there is a list of the existing tables. By clicking on the blue down arrow next to each table name, the page will jump down to the bottom and open up the table to show its column headings. The column headings should match the headings on the appropriate Google Sheet. On this page you can edit the names of the columns and each other their settings.

The Actions subtab allows you to create quick menu action to the application. Currently, there are actions to send multiple children to a location at once. To edit the actions, follow these steps:



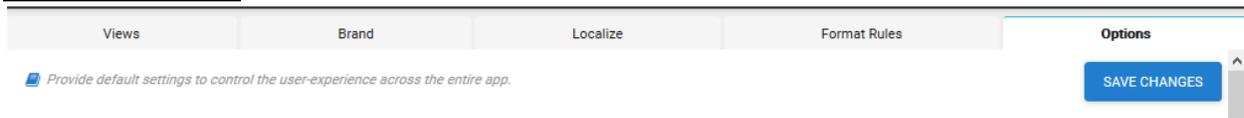
1. Click on the icon or the name of the desired action. A pop-up window will automatically show up. Here you can edit the name, the icon, the cause of the action, and the effect of the action.
2. Change the icon and name if you desire. This icon will show up in the quick options menu on the group list in the application.
3. The actions are currently set up so that you can click multiple children and move them to a desired location. Keep the other settings the same as they currently are. Only change the value of the column to a different location if desired. Note: this value must be a value in the predetermined list of locations or else the application will result in an error.
4. Click OK.
5. Click Save changes when done.



You can also add a new action or delete an existing one. Scroll to the bottom and click the blue plus button if you wish to add a new action. Click the blue delete button under an existing action to delete that action.

The slices and user settings tabs will not be used for the purpose of this application. However, they can be utilized for future use for more complicated purposes.

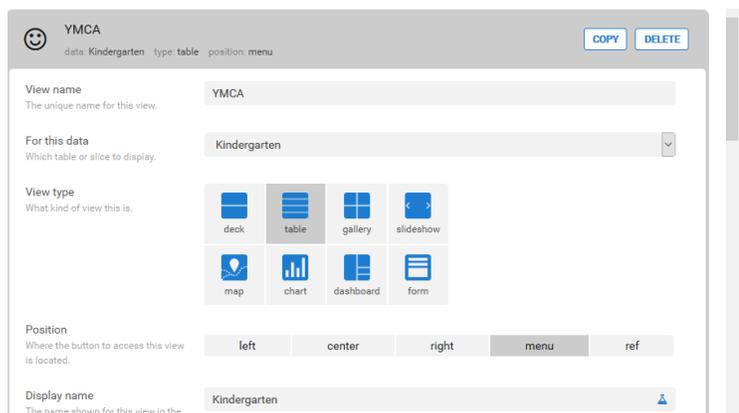
#### Section 4: UX Tab



The UX tab has five subtabs: Views, brand, Localize, Format Rules, and Options.

The views tab under the UX tab allows you to change the view of each table within the application. By clicking on the name of one of the tables, a settings menu shows up where you can choose to change where the table names show up in the application as well as how the information is sorted and grouped.

For now, each table is set to have its own unique name and icon. These names and icons are titles and pictures of the tables show on the menu. Additionally, each table is set to the same settings: view type is table, position is menu, rows are sorted by last name in ascending order and grouped by location in descending order, the groups are aggregated by a count, and column width is narrow.



The menu order changes the order that the tables are displayed on the menu. Kindergarten is 1, 1<sup>st</sup> Grade is 2, 2<sup>nd</sup> Grade is 3, 3<sup>rd</sup> Grade us 4, 4<sup>th</sup> Grade is 5, and 5<sup>th</sup> Grade and Up is 6. The groups are listed in that order on the menu in the application.

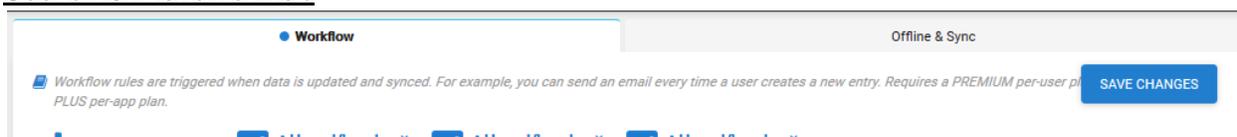
The brand tab allows you to change the color, logo, background and launch image of the application. For now, the settings are selected to match the YMCA color scheme.

The Localize tab allows you to customize the name of the buttons on the application. For example, you can change the Sync button to say “Update” or the edit button to say “Change.”

Format Rules tab is not used for the purpose of this application, but can be utilized for future use.

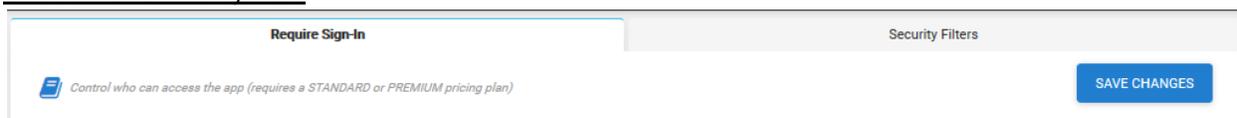
The options tab changes how the application starts, the size and font of the text on the app, settings for images uploaded on the application, and table view options.

## Section 5: Behavior Tab



The behavior tab is not used much for the purpose of this application. The workflow tab lets you add conditional rules that carry out actions when certain things change when using the application. There are not currently any rules, but this can be implemented for more complicated purposes in the near future. Under the offline and sync tab, there are options that can be turned on and off to make the syncing process more accurate or faster. Some of these options can only be used if you upgrade your subscription plan of your account. The application would not be free in this scenario, so those options are turned off.

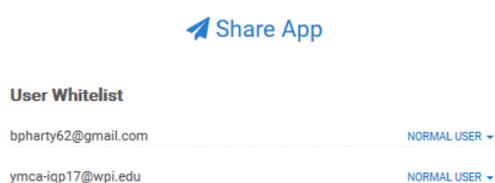
## Section 6: Security Tab



The security tab includes two sub tabs. Under Require sign-in you can choose to have the application require the user to sign into the application before being able to use it. Having a sign-in, however, requires the app to be private instead of public. AppSheet charges the creator money for a certain amount of sign-ins, so we will not be using this function. The security filters page should be left alone if there is no sign-ins. Every change made to the Google Sheet will show as being made by the app creator because the application does not know who is using the app without having to require all users to sign-in.

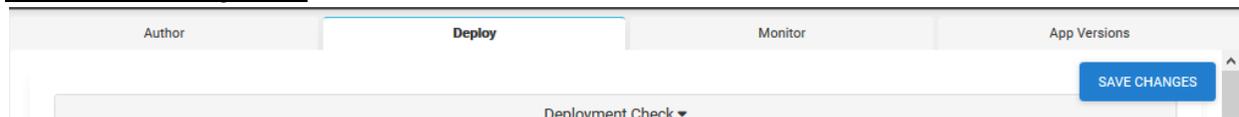
## Section 7: Users Tab

The Users tab shows all the current users who have been sent the installation link. You can change the permissions of each user here by selecting the down arrow next other current permission. Everyone isn't his list should have normal user as



their permission. You can click on the Share App button to send the installation link and a customized message by either email or SMS text.

## Section 8: Manage Tab



The manage tab has four sub tabs: Author, Deploy, Monitor, and App Versions.

### *Section 8a: Authoring and Owning the Application*

The Author tab is where the application creator would go to transfer the ownership of the application to another person. They would do this by clicking Transfer and then entering in the credentials of the new app owner. You can also delegate certain users to be co-authors of the application under the Team Work option. You can change options here such as Portfolio app and Hide app definition. There is also a copy and delete option where you can make a duplicate application or delete the current application. Copying the application will create a duplicate application that will appear under My Apps.

### *Section 8b: Deploying the Application*

The Deploy tab is where you will go when you have completed the application and want make the application available for everyday use. The application is in a prototype until it is deployed. To deploy the application, follow the steps below:

1. Click Deployment Check.
2. Run deployment check. AppSheet will then run a check to see if the application is ready to be deployed. The check will show you where changes need to be made so that the application can be ready.
3. Any errors will show up here with a red x box. Click on the details button next to the x box to show the details of the error\*.
4. If the application is ready, a blue box will appear to Move app to Deployed state. Click this button if you are ready to move forward, or click Continue editing if you wish to make more changes to the application.



Once the application is deployed, the blue Not deployed icon with an empty box located in the upper left hand corner of the screen changes to green Deployed with a checked box. You can un-deploy the application at any time by:

1. Click the Deployment Check option on the Deploy tab.
2. Click return app to Prototype state.

You can also pause the application and its ability to function by clicking on the Pause app button in blue at the bottom of the page.

The Whitelabel and Chatbot options under the deploy tab will not be used for the purpose of this application. These options convert the application to a custom application available on Google Play store and iTunes or Facebook messenger instead of running through the AppSheet application. This option, although desirable, costs money.

\*Note: the application can be moved to test mode with certain errors still occurring. However, after the testing period finishes, you must fix those errors before the application can be deployed.

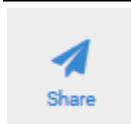
### *Section 8c: Retrieving Usage Data*

The Monitor tab is where you can obtain usage statistics, audit history, and a performance profile of the application for observational purposes of user usage.

### *Section 8d: App Versions*

The App Versions tab has two options of Version History and App Upgrade. Version History shows all the previous versions of this application. The application can be restored to these older versions by scrolling through the history, viewing it, and then restoring it. The App Upgrade option will upgrade the application on everyone's device that installed it to a new version. This option requires money to upgrade your subscription.

### Section 9: Share Button



The Share button at the bottom with the paper plane icon brings you back to the users tab. It automatically opens the pop up where you can send people the installation link for the application.

## Chapter 3: Making Edits

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AppSheet contains software that is relatively user-friendly. It may take practice to master, but it is necessary to know how the software works in order to allow progress of the YMCA After School Program. As the program grows, it may be necessary to create an additional group within the application or change the name of the group. On the other hand, it may also be necessary to delete a particular group, or change the functions of the application to either allow for more or less freedom of the application user.

### Section 1: Adding a New Group

#### *Section 1a: Creating a New Sheet*

The groups currently in the YMCA program are Kindergarten, 1<sup>st</sup> Graders, 2<sup>nd</sup> Grades, 3<sup>rd</sup> Graders, 4<sup>th</sup> Graders, and 5<sup>th</sup> Grade and Up. In order to add a new group to this list, follow the steps below:

1. You must first add a new sheet to the Google Sheets page used to create this application. If you do not know how to do this, please see the Google Sheet User Guide.



- Once you have a new sheet, rename this sheet to the name you want the new group on the application to have.
- Insert the same headings you see on the sheets for the other groups. The headings include, Picture ID, Last Name, First Name, Location, Health Conditions, and Notes.
- Add in the list of first and last names, health conditions, and notes. Leave the cells under the picture ID blank. Pictures for each child should be taken within the application on a mobile device. This should not be done through the Google Sheets.
- For the cells under the location heading, create a drop down list of possible locations. See the Google Sheet User Guide if you do not know how to do this already.
- In order to have an option to change an entire group's location on the application, you must add the group as if it were a child on your list. Make the first name of the group "Group" and the last name of the group "6<sup>th</sup> Graders" or something more appropriate for this particular new group\*. Create the drop down options for the location column for this row as well. Leave Picture ID, Notes, and Health Conditions blank.

Last Name	First Name	Location	Health Issue	Notes
1. Kindergarten	Group	K Room		
Adlai	Precious	With Group		

- When you're done entering the information, sort the information based on last names from A to Z. See the Google Sheets User Guide to do this.

You can also accomplish this goal by simply duplicating an existing sheet and changing the information within that copy sheet to match the new information. To do this, follow the steps below:

- Right click on the name of an existing sheet on the bottom navigation toolbar.
- Click Duplicate in the menu options that pop up. This will create a new sheet called Copy of [name of original sheet]. This new sheet has all the information and formatting as the original sheet.
- Rename this sheet to the new group name.
- Replace the children on this sheet to children in the new group. Replace their Last Name, First Name, Picture ID, Health Conditions, and Notes sections to match the information on the new group of children.
- Change their location to With Group for now.
- You must also change the Last name of the first line to match the information for the new group. The first name will still be group, but the last name must be changed to reflect the new group's name\*. Sort the list from A to Z based on last name.

\*Note: If you would like the group to show up first in the list of children like it does on the existing sheets, a number may need to be added to the beginning of the last name. For example, for the Kindergarten group, you will notice that it has a number 1 before Kindergarten in the last name. This is there so that when the list is sorted at the end, the group will show up first because numbers come before letters.

Last Name
1. Kindergarten

### Section 1b: Adding a Table to Reflect the New Sheet

To add a new table to the YMCA Tracker Location, follow the steps below:

1. Navigate to the app editor on AppSheet.
2. Click on the Data tab on the vertical toolbar on the left side of the screen. Here you will see a grid menu of all the existing groups. Each group represents a table that has been added to the application and its respective sheet on Google Sheet where it receives its information from. AppSheet software recognizes when a new sheet has been made on the Google Sheet.
3. There should be an option with a blue plus sign to “Add [name of sheet] Table.” If there is not, try to refresh the page.
4. Click on the blue plus sign above the “Add [name of sheet] Table” to add the table.
5. A pop up window comes up where you can change the name of the table if you desire.
6. Make sure “Allow updates” is selected. This ensures that users can both add and delete names of children to the group within the application.
7. Click Create Table. Now you should have on more group on the grid menu under the Data Tab.
8. When the page is done loading, make sure there are no errors by checking the info tab. If there are errors, then the program most likely cannot find the worksheet on the Google Sheets page.
9. Click the blue Save changes button to confirm the changes you have made.

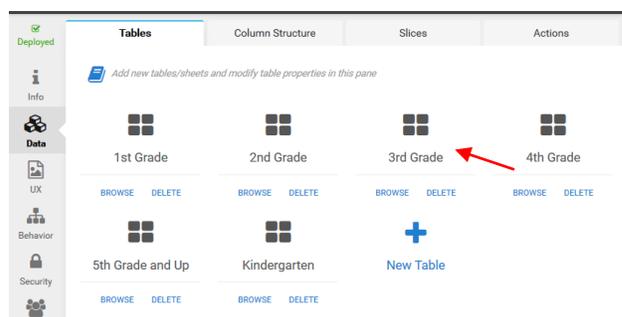
You have successfully added a new group. Move onto the next chapter to edit the table to the correct format or see the next section to add a table manually.

### Section 1c: Manually Adding a Table

If the option to “Add [name of sheet] Table” is not present on the Data tab after creating a new sheet, you will have to add the group manually.

To do so, read the steps below:

1. Click the blue plus sign above the text “New Table.”
2. You must make sure that the proper Goggle sheet is selected; in this case YMCA should be selected in the first drop down menu.
3. Under the worksheet drop down menu, find the name of worksheet you wish to make a new table from; in this case it should be the name of the sheet you just made on Google Sheets.
4. If you can't find the proper work sheet then try to close out of the pop up box, refresh the page and try the process again.
5. Click the next button and make sure “allow updates” is selected.
6. Click create a new table.



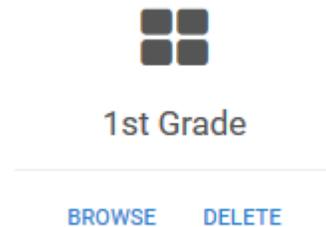
- When the page is done loading, make sure there are no errors by checking the info tab. If there are errors, then the program most likely cannot find the worksheet on the Google Sheets page.
- Click Save changes when done.
- Contact AppSheet help to troubleshoot any problems.

## Section 2: Editing a New or Existing Table

### *Section 2a: Editing the Raw Data within a Table or Deleting a Table*

Follow the steps below to edit the data within a table or to delete a table all together:

- Navigate to the Table sub tab under the Data tab. From this page you can make basic edits to the existing or newly created tables.
- Locate the desired table to edit.
- Click the Browse button in blue to be directed to the Google Sheet used to create that specific table or,
- Click the Delete button in blue to delete the table all together.
- When the page is done loading, make sure there are no errors by checking the info tab. If there are errors, then the program most likely cannot find the worksheet on the Google Sheets page.
- Click Save changes when done.



### *Section 2b: Editing the Definition of a Table*

To edit the definition of a table, or the settings and appearance of that specific table, follow the steps below:

- Click on the name of the table in grey of the desired table to edit the settings. A pop up window will show up where you can edit the table definition. One setting called “Are updates allowed?” assigns users certain privileges. Other settings include table name, source, source path, worksheet name, shared, data locale, security filter, access mode, schema, and data source.
- Table name should be the appropriate name of the table that will appear in the menu.
- Worksheet name should be the appropriate name of the worksheet used to create the table.
- Source should be the name of the Google Sheet originally used to create the application, in this case “YMCA.” The Source

should already be filled in and should not be changed.

5. Include and Shared should be checked off.
6. "Are updates allowed?" should be changed to "All\_Changes."
7. Data Locale should be "English (United States)."
8. Click OK when done.
9. When the page is done loading, make sure there are no errors by checking the info tab. If there are errors, then the program most likely cannot find the worksheet on the Google Sheets page.
10. Click Save changes when done.

Some of the same type of information can be found and changed by scrolling to the bottom of the Tables tab. Clicking the blue pencil and paper icon next to each table name will bring up the same Edit table definition box. Table name, source path, worksheet name, and "Are updates allowed?" can be directly changed at the bottom of the page. You can also choose to include or exclude a table from the application using the check box next to the pencil and paper icon. All of the tables should be checked off to be included in the application unless you wish to hide one of the groups from the users view. If you wish to do so, uncheck the box next to the name of that specific table and click the save changes button.

INCLUDE?	TABLE NAME	SOURCE PATH	WORKSHEET NAME/QUALIFIER	ARE UPDATES ALLOWED?
<input checked="" type="checkbox"/>	1st Grade	YMCA	1st Grade	ALL_CHANGES

### Section 2c: Adding Columns to Tables

To add a column to a table, follow the steps below:

1. Navigate to the Column Structure sub tab under the Data tab. Here you can edit existing columns within each table.
2. First select the desired table to enter out of the grid list of available columns. This will jump the page down to expand a table to show all columns.

 1st Grade		 2nd Grade	
 4th Grade		 5th Grade and Up	

3. Click on the "+ Virtual Column" option.
4. Enter the name of the column and App Formula for the appropriate column in the Google Sheet. Many times, you will not know the information needed to create a virtual column.
5. If you do not have that information, hit cancel and return to the Google Sheet page.
6. Add in a column into the Google Sheet manually. See the Google Sheet User Guide if you do not know how to do this.
7. After adding the column, return back to the AppSheet page you were just on.

8. Just under the name of the table and next to the “Show All Properties” option, click “Regenerate.” The new column should show up in the list of columns when the page loads.
9. When the page is done loading, make sure there are no errors by checking the info tab. If there are errors, then the program most likely cannot find the worksheet on the Google Sheets page.
10. Click Save changes when done.
11. If it does not, contact AppSheet to troubleshoot the problem.




### Section 2d: Editing Column Settings within a Table

If you wish to make edits to the settings of your new column or a preexisting column, follow the steps below:

1. Navigate to the Column Structure sub tab under the Data tab. Here you can edit existing columns within each table.
2. First select the desired table to enter out of the grid list of available columns. This will jump the page down to expand a table to show all columns. The columns include the columns created in the Google Sheets and computer generated columns. Columns currently in existence include: Picture ID, Last Name, First Name, Location, Health Issues, Notes, \_ComputedName, and \_Computed Key. The last two are computer generated columns that we do not wish to include in our application so the Hide box is checked off.

	COLUMN NAME	COLUMN TYPE	KEY?	ROW LABEL?	READ ONLY?	HIDE?	REQUIRE?
	<input type="text" value="_RowNumber"/>	<input type="text" value="Number"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	<input type="text" value="Picture ID"/>	<input type="text" value="Image"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	<input type="text" value="Last Name"/>	<input type="text" value="Name"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3. The only two columns that are required are Last Name and First Name so that when users add or delete a child on the application, there is proper identification of that child. Ensure that the Require box is checked off for those two options.
4. Column type is an important aspect of utilizing the information in each column within the application. The follow options should be chosen for each column:
  - a. For Picture ID, the option is set to “Image” so that users are able to capture and store a picture for photographic identification on the child’s profile.
  - b. Last Name and First Name have the option selected as “Name” so that users can type in a short text box.
  - c. Location is set to “Enum” which allows the user to select from a list of predetermined location and chose only one. “Enumlist” is similar to “Enum” except the user can elect multiple choices at once.

- d. Health Issues and Notes are set to “Text” and “Long Text” respectively in order to allow the user to type in phrases and sentences concerning the child. “Long Text” is just like “Text” although it allows for more characters in the text box.
5. When the page is done loading, make sure there are no errors by checking the info tab. If there are errors, then the program most likely cannot find the worksheet on the Google Sheets page.
6. Click the Save changes button to save all changes.

All tables currently have the same columns with the same settings for each column.

### Section 2e: Editing the List of Predetermined Locations

There are two ways you can edit the list of locations that in the drop down menu on each child’s profile within the application. You can do it automatically with the Google Sheets or you can do it manually through the AppSheet Editor for the application.

In order to learn how to do this automatically, you must use Google Sheets. Follow the steps in the User Guide to Google Sheets in order to edit the data validation of the cells under the location column in the spreadsheet. You can edit, add, or delete locations from here. Then when you add a new column or a new table to the application, the drop down values in that cell should automatically show up as an “Enum” list under the column structure tab and the column type setting. The locations entered in the Google Sheets should be the same location in the drop down menu on a child’s profile in the application.

If the proper values do not show up on the application, try doing this manually. Currently, all location columns are set up manually. So if you wish to change the locations in the existing groups, you must do follow the steps below:

1. Click on the Data Tab on the vertical toolbar.
2. Click on the Column Structure Tab on the horizontal toolbar.
3. Scroll to the bottom of the page where you see a list of all the tables.
4. Locate the desired table you wish to change the locations in.
5. Click on the Show button to show all existing columns for that table.
6. Click on the blue paper and pencil icon next to the Location column. This should be the 5<sup>th</sup> column in the list. An Edit column definition pop-up should automatically show up.
7. Under column type and Enum values, you can edit, add, or delete certain values. To edit a value, click in the text box of that value and start typing. To add a value, scroll to the bottom of the list of values and press the grey plus button. To delete a value, locate the appropriate location and click the grey x button.
8. You can change the order of how the locations appear in the drop down menu by using the up and down arrows next to the values in this list.
9. Click OK.
10. Click Save changes.



The screenshot shows the 'Edit column definition' dialog box. It has a title bar with 'Edit column definition' and a 'CANCEL' button. Below the title bar, there are two sections: 'Column Name' and 'Column Type'. The 'Column Name' section has a text input field containing 'Location'. The 'Column Type' section has a dropdown menu set to 'Enum'. Below these sections is a table of 'EnumValues'. The table has two columns: the first column contains the values 'With Group', 'Absent', 'Bathroom', 'Transitioning', 'Upper Deck', and 'Lower Deck'. The second column contains icons for deleting (x), moving up (↑), and moving down (↓). A red arrow points to the 'Transitioning' row.



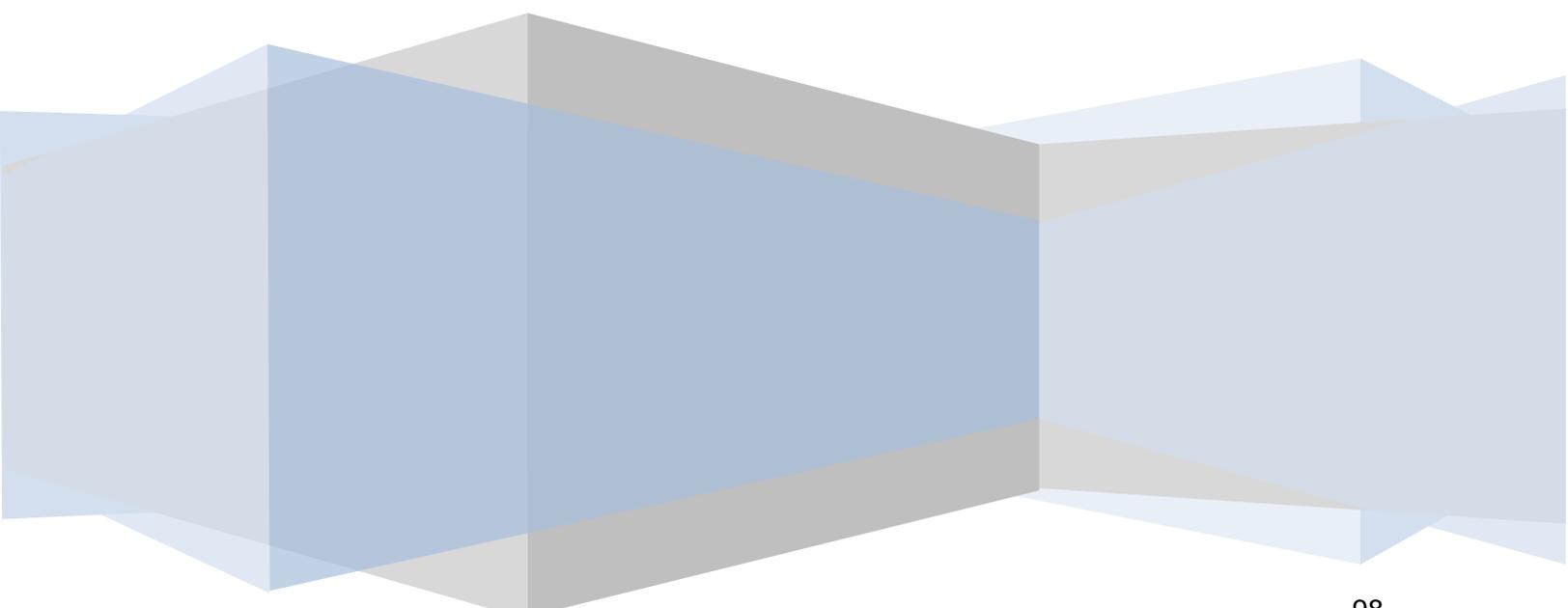
It is important to realize that by changing the locations manually in AppSheet, the location drop down list in Google Sheets will not be updated automatically. The locations should also be changed manually in the Google Sheets to avoid any discrepancy in information. See The User Guide to Google Sheets on how to change the data validation in these cells.

Appendix J

Worcester Polytechnic Institute

# USER GUIDE

YMCA Tracking Application for Mobile  
Devices



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# Chapter 1: Description

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This application was auto-created by AppSheet, a Google Add-On available through Google Sheets. The application utilizes and makes changes in real time to the spreadsheets in Google Sheets. The application was created specifically to satisfy the needs of the after school program of the YCMA Central Community Branch in Worcester, Massachusetts, but the information in Google sheets can be altered to satisfy the need of any small organization looking to track their constituents or groups of constituents in a building.



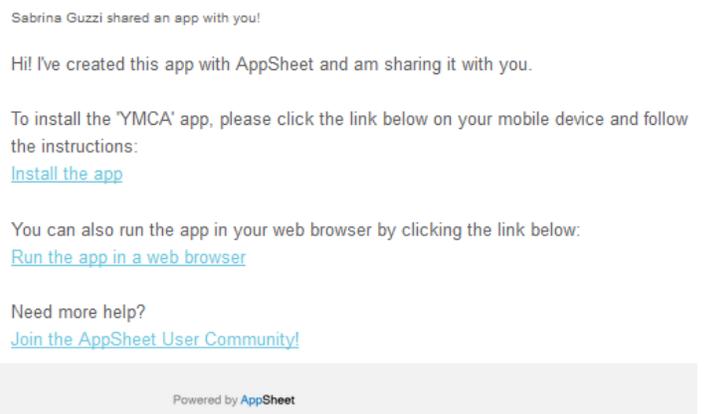
The application makes tracking the location of children within the YMCA building possible. With a few clicks of a button, you can change the location of groups of children or edit locations of specific children. The possible locations are predetermined and can be altered in Google Sheets or in AppSheet. Please see the User Guide to AppSheet for more instructions on how to do so. Through the YMCA Location Tracker, you can change the information on a child's profile that might be important to know while with their groups. Such information includes their picture ID, health conditions, or additional notes. First and last name may only be changed on the Google Sheets. All information changed in Google Sheets will change in the application once it syncs. All information changed in the application will change in the Google Sheets.

# Chapter 2: Installation and Start Up Process

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## Section 1: Acquiring the Installation Link

The application is available for installation on devices that run on iOS and Android operating systems. The link for the application must be shared with you by a current user or the application creator. Current users can share the link through the application by clicking the Share button on the bottom toolbar. The creator can share the link by going onto the AppSheet website where they created the application and clicking on the share button on the left vertical toolbar.



Installation Link Message

## Section 2: Downloading AppSheet

Once it has been shared with you via email or SMS text, follow the steps below to download the application:

1. Click on the link
2. Click on the green Install button. It will bring you to the Google Play Store or the Apple Store.
3. Download the application AppSheet.
4. Once AppSheet has been installed on your device, open the application by clicking on the icon on your device's home screen. The AppSheet Application should automatically start to download a shortcut icon on your home screen for the YMCA Tracker Application.
5. If it does not, return to the installation link you received and click it again.
6. If this does not work, contact AppSheet to troubleshoot your problem.



## Section 3: Start Up

To start the application, you can click on either the AppSheet icon or the YMCA shortcut icon that was automatically created for you on your home screen. Both ways will bring you to the tracking application. There is no Log In information needed to access the application. The application always starts by syncing the information so that everything is always updated when you start.

## Chapter 3: Navigation of Application

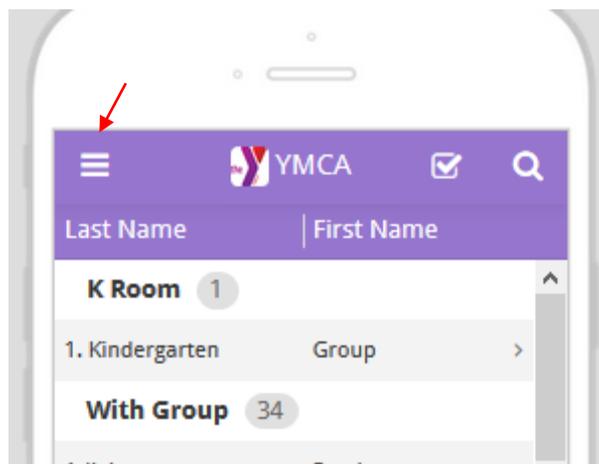
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### Section 1: Navigating to the Menu to Switch Groups

The app automatically opens to the kindergarten group. The upper toolbar should say "YMCA" with the logo. This application has 6 different groups of children: Kindergarten, 1<sup>st</sup> Grade, 2<sup>nd</sup> Grade, 3<sup>rd</sup> Grade, 4<sup>th</sup> Grade, and 5<sup>th</sup> Grade and Up. Follow the steps below to navigate to a different group:

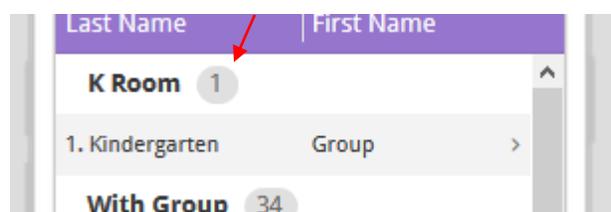
1. Click the menu button in the upper left corner of the screen to navigate to a different age group. A purple vertical menu toolbar should pop up with a list of all possible groups as well as an "About" option.

2. Click the age group you are looking for. Clicking this will open up the list of children in that group.



## Section 2: Searching the Group for a Child

The list of children in a specific group is grouped by location and sorted by the last name of the child. Next to each location, a number which is highlighted in grey is shown. This tells you how many children or groups are currently in that location.

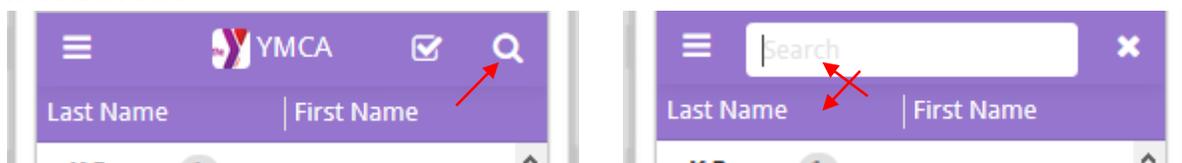


### Section 2a: Searching Manually

You can manually search the list by scrolling up and down with your finger. If you're looking for a child in a specific location, first scroll down to the appropriate heading for that location. Then search the children listed alphabetically by last name below that heading to find the child.

### Section 2b: Searching Virtually

You can find a specific child much quicker by clicking on the magnifying glass in the upper right corner of the screen on the purple toolbar. A white search toolbar will pop up. Click in the search bar and start to type any bit of information in. You can search based on location, name, health condition, or note and all the children with that information will show up. You may click on the desired child from the search results or you may exit the search by pressing the x button next to the search bar.



## Section 3: Navigating to the Previous Screen

When applicable, you can return to the previous screen by clicking on the back button, or the white arrow, located in the top left corner of the screen on the purple horizontal toolbar.



## Chapter 4: Changing a Child's Profile Information

### Section 1: Bringing up a Child's Profile

Once you have the group's list pulled up from the menu bar, click once on a desired child's name. This will highlight the child's name for a moment and then automatically bring up the child's profile where you can view and edit a child's location, picture ID, health conditions, or additional notes. First and last name can only be changed on the Google Sheets.

### Section 2: Editing the Child's Information

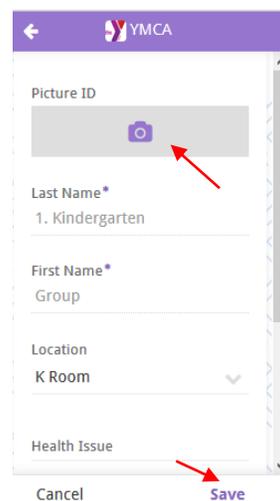


Press the edit button located in the circle, which looks like a white pencil in a purple circle. The screen will change to editing mode.

#### Section 2a: Adding and Deleting a Picture ID

To add a picture, follow the steps below:

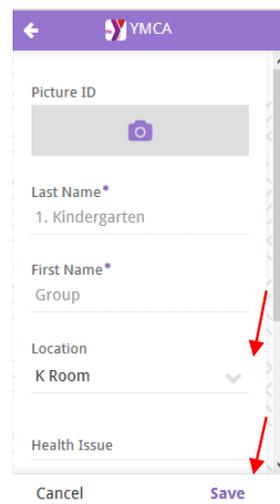
1. Press the camera icon under the Picture ID heading.
2. If you haven't already granted permission to AppSheet to access your device's storage, a pop up will come up. This message will ask you to allow the app to access your device's camera and gallery. Press OK or Allow.
3. Click on the camera icon again on the profile. The application will ask you to choose to take a new picture or to select a picture in your gallery that already exists.
4. Choose your desired option and take a picture of the child or select the picture from your device's gallery.
5. Save the changes by clicking the Save button in the lower right corner of the screen or continue making edits to the child's profile.



#### Section 2b: Editing the Location of a Child

To edit the location of the child, make sure you are first in editing mode on the correct profile. Follow the steps below to edit a child's location:

1. Click on the arrow below the Location heading. A pop-up menu should show up with a list of possible locations.
2. Choose the desired location from the drop down list. A child can only be in one location at a time, therefore you can only choose one option from the list

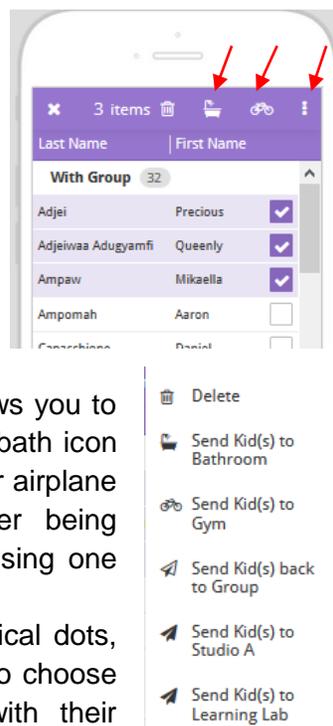


3. Save the changes by clicking the Save button in the lower right corner of the screen or continue making edits to the child's profile.

## Section 2c: Editing the Location of Multiple Children at Once

Only certain locations are available to move multiple children at once. To change the location of many children at once, follow the steps below:

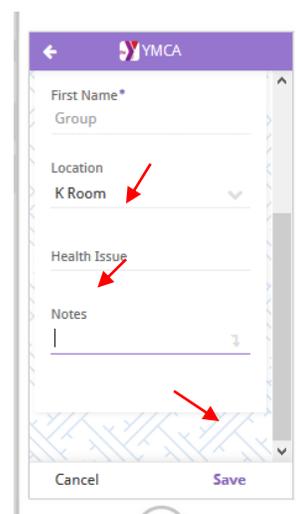
1. Navigate to the desired group's homepage by pressing the back button on a child's profile.
2. Click the check box located on the upper purple toolbar or hold down your finger on a child's name until it becomes highlighted.
3. Click on all the desired children that you wish to move to a certain location.
4. To move the selected children to a certain location, click either of the two icons on the upper purple toolbar next to the trash can icon. These two icons are quick options to move children to. With these options, the application allows you to move multiple children in the least amount of clicks. The bath icon represents moving the children to the bathroom. The paper airplane represents sending children back to their group after being separated. You can also choose to move the children using one additional click by using the quick menu:
5. Once you have children selected, click on the three vertical dots, which will bring up a quick menu with a list of locations to choose from. The quick menu has 5 options of locations with their respective icons.
6. Click on one of the options in the quick menu.
7. Syncing beings automatically so there is no need to save your changes.



## Section 2d: Editing the Health Issues or Notes Section

To edit the Health Issues or Notes of a child, make sure you are first in editing mode on the correct profile. Then follow the steps below:

1. Click on the Health Issues heading.
2. Start typing. Conditions like allergies, behavioral issues, or other health conditions that may be important to group leaders should be put here.
3. Save the changes by clicking the Save button in the lower right corner of the screen or continue making edits to the child's profile.



To change the Notes section, follow the steps below:

1. Click on the Notes heading.

2. Start typing. Things like typical parent pick up time, name of the child's associated school, or important comments from parents can be put here.
3. Save the changes by clicking the Save button in the lower right corner of the screen or continue making edits to the child's profile.

These sections only appear in the child's profile if something is written in the text box. If the text box is blank, the section is not displayed in view mode.

## Section 3: Saving or Dismissing Changes

When all desired changes have been made to the child, click the save button located in the lower right corner of the screen while in editing mode. The app will sync once the changes have been made. After it is done syncing, the screen will return to the child's profile in view mode with the appropriate changes made. To cancel the edits you have made select the cancel button in the lower left corner of the screen and the child's profile in view mode.



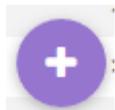
## Section 4: Navigating back to the Group or to another Child's Profile

To go back to the entire group click on the back button, or white arrow, in the upper left corner of the screen on the purple toolbar.

You can also swipe left or right on a child's profile while in view mode. This will bring you to the next child's profile on the list.

## Chapter 5: Adding a Child to the Group List

---



To add a child to the group, you must be on the group's homepage with the list of children appearing on the screen. Follow the steps below:

1. Press the purple plus button in the lower right corner of the screen. This will bring you to a page that looks similar to if you were making edits to a preexisting child's profile.
2. Add in the new child's information to the profile in the same manner you would to edit a preexisting child's information. First and Last Name are the only pieces of information that are required to add a new child to the group's list.
3. When you have put in all the desired information, click the save button in the lower right corner of the screen, or click the cancel button in the lower left corner of the screen to dismiss adding the new child.
4. After adding the child, click the back button located in the upper left corner of the screen to go back to the group.

## Chapter 6: Deleting a Child from the Group List

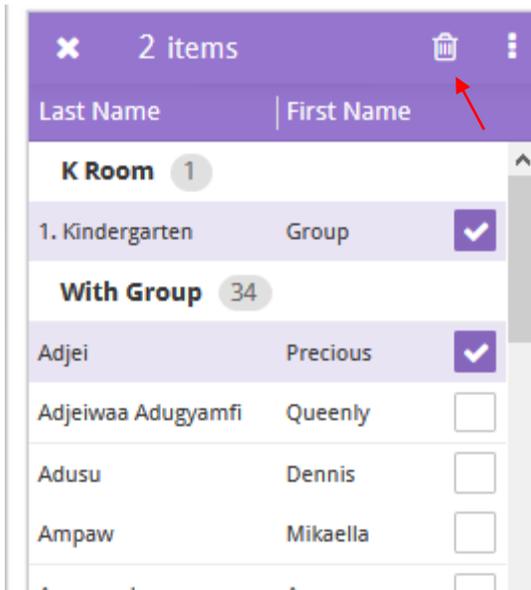
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To delete a child in a group, you must first be on the group's page with the list of children appearing on the screen. You can delete a child from the list in two different ways.

### Section 1: Method 1 of Deleting a Child from the List

The first way allows you to delete multiple children at once. Follow the steps below:

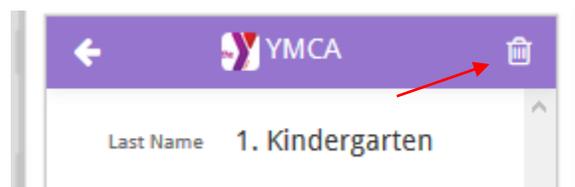
1. Select and hold down your finger on a child's name. The name of the child will change to be highlighted in light purple and a series of boxes will appear to the right of each child's information in the group list.
2. Or, you may also click on the checked box icon on the upper purple toolbar instead.
3. Select the names of the desired children at this time.
4. Once all desired children are selected, ensure that there is a check mark in the correct boxes.
5. To cancel the deleting process, click the x button in the upper left corner of the screen.
6. To continue the deleting process, click the trash icon located on the upper purple toolbar. A confirmation box will appear.
7. Click Delete to confirm deleting the selected child or children.
8. Click no, and the screen will be brought back to the group's homepage.



### Section 2: Method 2 of Deleting a Child from the List

You can also delete a child one at a time by following the steps below:

1. Select the child's name you wish to delete to navigate to the child's profile.
2. Once on the profile, click the trash icon in the upper right corner of the screen.
3. Click Delete to confirm deleting the selected child.
4. Click no, and the screen will be brought back to the child's profile in view mode.
5. Click on the back button, or white arrow, on the purple toolbar to be brought back to the group homepage.



## Chapter 7: Additional Actions

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### Section 1: The Sync Button

The sync button on the bottom toolbar will update the information in the application that might have been altered by another user. Use this button at any time while using the application if you are trying to find a child's location in order to display the most recent and accurate information. Clicking this button will bring up the sync screen with a picture of the YMCA Central Community Branch. Wait for the bar to completely fill with white and allow the application to sync or hit the cancel button to stop the syncing process. Either option will bring you back to the screen that you were just on before clicking the sync button.



## Section 2: The Share Button

The share button on the bottom toolbar allows you to share the installation link of the application with other users through email or SMS texting. Clicking this button does different things to different devices. It may bring up an option screen where you can share the link to specific contacts on your device or specific email accounts. When available, you can also share the link on social media or Google Drive.



## Section 3: Additional Menu Options

When navigating to the menu toolbar, there are other options besides clicking on possible groups. The about option brings you to a page that gives a description and shortened tutorial on how to use the application. If you click on the About option, click the menu button again to go back to the menu toolbar. There are also other options located on the bottom of the menu toolbar. These change based on who is viewing the app, user or creator. There may be an option to create a shortcut. By clicking this, AppSheet will create a shortcut with the YMCA icon on the home screen of your device. There may also be options such as App Gallery, Create a New App, or Log In/Out. These options will not be used for the purpose of the users.

Appendix K

# USER GUIDE

GOOGLE SHEETS

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# Section 1: Introduction

## About

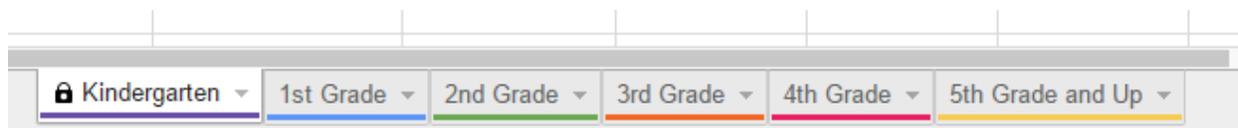
This user guide was made for the use of Central Community Branch YMCA After School Program staff. This google sheet, along with its application counterpart which is outlined in the App Sheet User Guide, have been designed to keep the locations of each child in the after school program more organized and visible to all staff while also having the ability to be updated in real time. Section 2 explains how to navigate and update the YMCA Tracking Sheet. Section 3 explains how to edit the sheet with general google sheet instructions and instructions on how to edit the specific functions on the YMCA tracking sheet.

## Opening the sheet on a computer

Click on this link: [https://docs.google.com/spreadsheets/d/17TMoAFtFo-L4xJzzEju5826pZwbtsuC2EVQRhYR\\_PSU/edit?usp=sharing](https://docs.google.com/spreadsheets/d/17TMoAFtFo-L4xJzzEju5826pZwbtsuC2EVQRhYR_PSU/edit?usp=sharing)

# Section 2: Navigation and Updating the YMCA Tracking Sheet

1. To switch your screen's view to a different group
  - a. There is a sheet for each *group* which is mostly separated by their grade (Kindergarten, 1<sup>st</sup> Grade, etc.) with a few exceptions. These are the groups that stick together for the most part during the day.
  - b. Switch sheets by clicking on the desired sheet tab at the bottom of the spread sheet



2. To change a group's location
  - a. Click on the drop down menu at the top of the spreadsheet. This location drop down menu applies to the group, so instead of having a child's name and location, it's the name of the group and their collective location.

	A	B	C	D	E	F
1	Picture ID	Last Name	First Name	Location	Health Issue	Notes
2		1. Kindergarten	Group	With Group	▼	

- b. Select your group's new location

Location	Health
With Group	
With Group	
Absent	
Bathroom	
Transitioning	
Upper Deck	
Lower Deck	
K Room	
Blue Room	
Green Room	
Orange Room	
Pink Room	
Gym	

Last Name	First Name	Location
1. Kindergarten	Group	Orange Room ▾

3. To change the location of a specific child
  - a. Click on the drop down menu next to the child's name

Smith	John	With Group ▾
-------	------	--------------

- b. Select their specific location

Greenalch	Alicia	Bathroom
Balicki	Michaela	Absent
Harty	Brendan	With Group
Guzzi	Sabrina	With Group
Smith	John	With Group
Greenalch	Alicia	With Group ▾
Balicki	Michaela	With Group ▾
Harty	Brendan	With Group ▾
Guzzi	Sabrina	With Group ▾
Smith	John	Bathroom ▾

- c. Once they are back with their group, repeat step a and change their location back to "With Group"

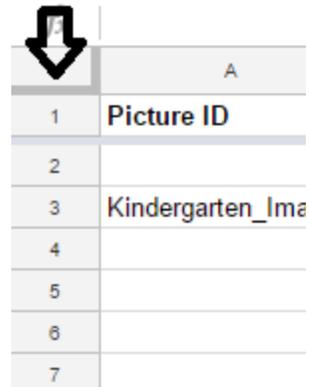
4. To see the full list of children in each group
  - a. Scroll through the list by
    - i. Clicking and dragging on the bar on the right side of the screen



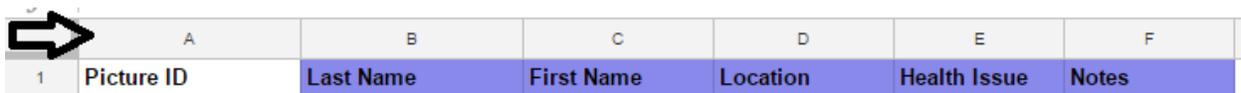
5. To search a specific child's name
  - a. Select the correct group's sheet
  - b. Press Ctrl F
  - c. Search the child by typing their name into the search bar that appears
  - d. The page will scroll until the name is visible and the cell with the name you are searching will turn green

## Section 3: Editing the Spreadsheet – General Google Sheets

1. To type content into cells
  - a. Select cell by clicking on it
  - b. Type the desired content
  - c. Press Enter, Tab, or select a new cell and repeat
2. To select multiple cells
  - a. If they are adjacent
    - i. Click and drag the cursor over all desired cells
  - b. If they are not all adjacent
    - i. Select the cell(s) that are adjacent
    - ii. Press and hold the “Ctrl” key
    - iii. Select the next group of cells
    - iv. Continue if needed
  - c. If you want to select a whole row
    - i. Click on its number label
  - d. If you want to select a whole column
    - i. Click on its letter label



	A
1	Picture ID
2	
3	Kindergarten_Ima
4	
5	
6	
7	



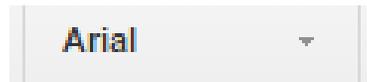
	A	B	C	D	E	F
1	Picture ID	Last Name	First Name	Location	Health Issue	Notes

- e. If you want to select multiple rows or columns
  - i. Click and drag the cursor over the desired number labels and letter labels respectively
3. To change the format of the font
  - a. Select cell(s) you want to edit

- b. Select what you want to edit by clicking on the button on the toolbar above the spreadsheet



- i. Font: Click on the drop down menu with the current font shown in the toolbar and choose the desired font



- ii. Font size: Click on drop down menu with the current font size and choose the desired size



- iii. Bold: Click on the B icon



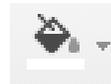
- iv. Italics: Click on the / icon



- v. Font Color: Click on the drop down menu with an A in the current font color and choose the desired color



- vi. Cell fill color: Click on the drop down menu with a paint can holding the current cell fill color and choose the desired color



4. If the amount of text in a cell exceeds the space given you can either

- a. Expand the row's and column's width and height by

- i. Putting the cursor over the line in between the row you want to expand (labeled by numbers on the left side of the spreadsheet) and the row next to it. A double sided arrow should appear and the line should turn blue.

1	Pictu
2	
3	
4	
5	
6	

- ii. Putting the cursor over the line in between the columns you want to expand (labeled by numbers on the left side of the spreadsheet) and the column next to it. A double sided arrow should appear and the line should turn blue.

	A	B	C	D	E
1	Picture ID	Last Name	First Name	Location	Health Issue

- b. Wrap the text in order to keep the cells width but increase its height
  - i. Select cell(s) that you want wrapped text
  - ii. Click on the “Text Wrapping” button on the tool bar above the spreadsheet



- iii. Click on the “Wrap” option



- iv. Before:

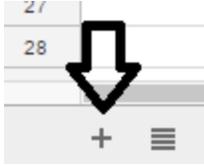
I	J	K	L	M	N	O
This sentence is too long to fit in one cell but I don't want to change the width of the cell so I should wrap it.						

- v. After:

I	J
This sentence is too long to fit in one cell but I don't want to change the width of the cell so I should wrap it.	

- 5. To insert a new row or column in between two rows or column that already have text in them
  - a. Insert a new row by right-clicking with your mouse on the row above and selecting “Insert 1 below” or right-clicking with your mouse on the row below it and selecting “Insert 1 above”
  - b. Insert a new column by right-clicking with your mouse on the column to the right and selecting “Insert 1 left” or right-clicking with your mouse on the to the left and selecting “Insert 1 right”

- c. You can also delete a row or column by right-clicking with your mouse on the desired row or column and selecting “Delete row” or “Delete column”
- 6. To add a new sheet to the document
  - a. Click on the “+” button on the bottom left corner of the spreadsheet

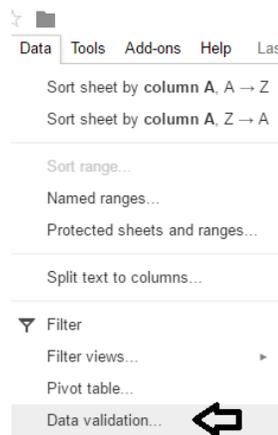


## Section 4: Editing the Spreadsheet – YMCA Location Tracker Main Google Sheet

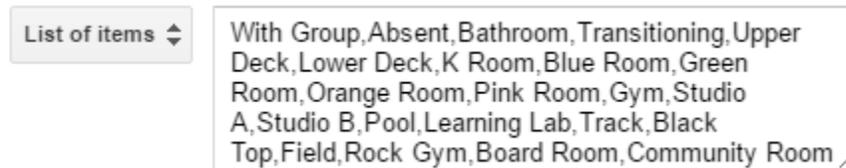
- 1. To edit the available location options in the drop down menu
  - a. Select the first cell in the location column (not the title cell)
  - b. Click the “Data” tab above the toolbar



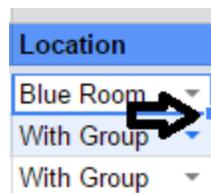
- c. Click “Data Validation”



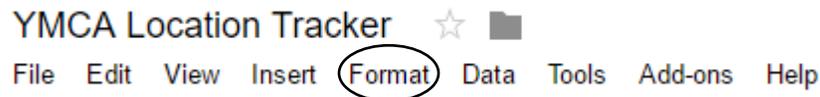
- d. Add or remove options with a comma separating each option



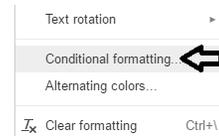
- e. Click the blue “Save” button
- f. Select the small square on the bottom right side of the cell



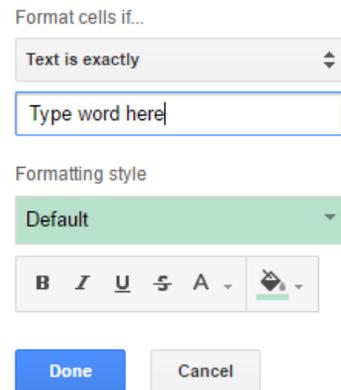
- g. Drag down until all location cells have been updated
2. To delete the drop down menu in a cell
  - a. Select the cell(s) that you want to delete in that location column
  - b. Repeat steps b and c from Section 4.1
  - c. Click the grey “Remove Validation” button
3. To add a new child to a group
  - a. Click on their group’s sheet in the document
  - b. Select a new cell at the bottom of the list
  - c. Enter last name, first name, pull the small square on the bottom of the location cell above it as outlined in Section 4.1.f, and add any health issues or notes as needed
4. To format certain cells or word in cells to change their color when a certain word is selected
  - a. Select all cells that you want to be conditioned
  - b. Click the “Format” tab above the toolbar



- c. Click “Conditional Formatting”



- d. Select “Text is exactly” in the “Format cells if” drop down menu. Type the word you want to condition that cell.



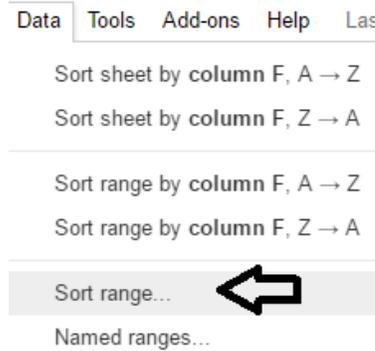
- e. Change the formatting that is triggered by that word as desired
- f. Click the blue “Done” button
- g. This is helpful because you can make certain important words like “Absent”, or “Bathroom” turn a certain color so it stands out if that option is selected as a location. Although, this color change doesn’t show in the AppSheet application.

5. To sort the list of information, which would usually be alphabetically by last name
  - a. Select all the information including last name, first name, location, health issues, Picture ID, notes, etc. Don’t include the headings of the columns.

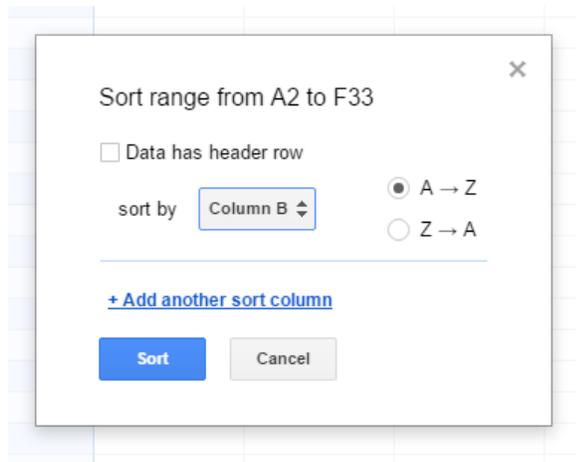
- b. Click on the “Data” tab above the toolbar



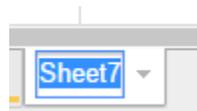
- c. Click “Sort Range”



- d. Click on the drop down menu and select the column for last names (Column B)
- e. Select the A → Z option
- f. Click the blue “Sort” button

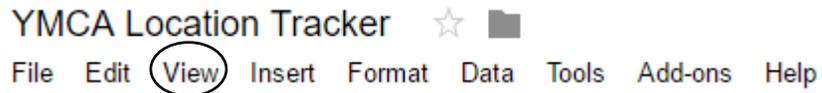


- 6. To add a new group to the document
  - a. Add a new sheet as outlined in Section 3.6
  - b. Name the new sheet by double-clicking on its new tab and typing in the desired name

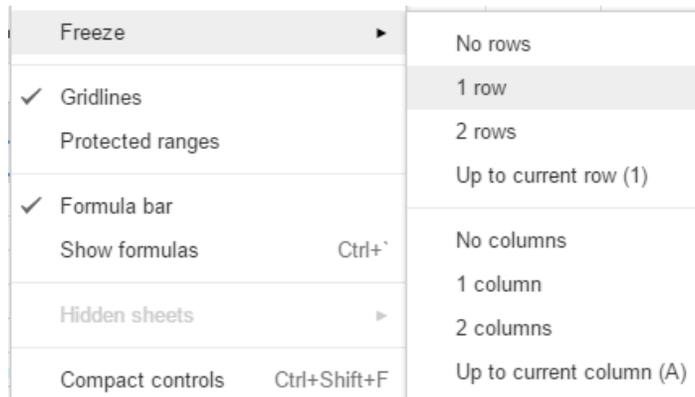


- c. Create headings for each column by typing in each category in the first cell of each column. You can follow the format of the other sheets as a guide. From left to right this should be Picture ID, Last Name, First Name, Location, Health Issues, and Notes. More headings can be added if desired by continuing to add them into the next columns.

- i. To keep the headings for each column at the top of the spreadsheet even when you scroll down the list
  1. Select row 1
  2. Click on the “View” tab above the toolbar



3. Click “Freeze”
4. Click “1 row”



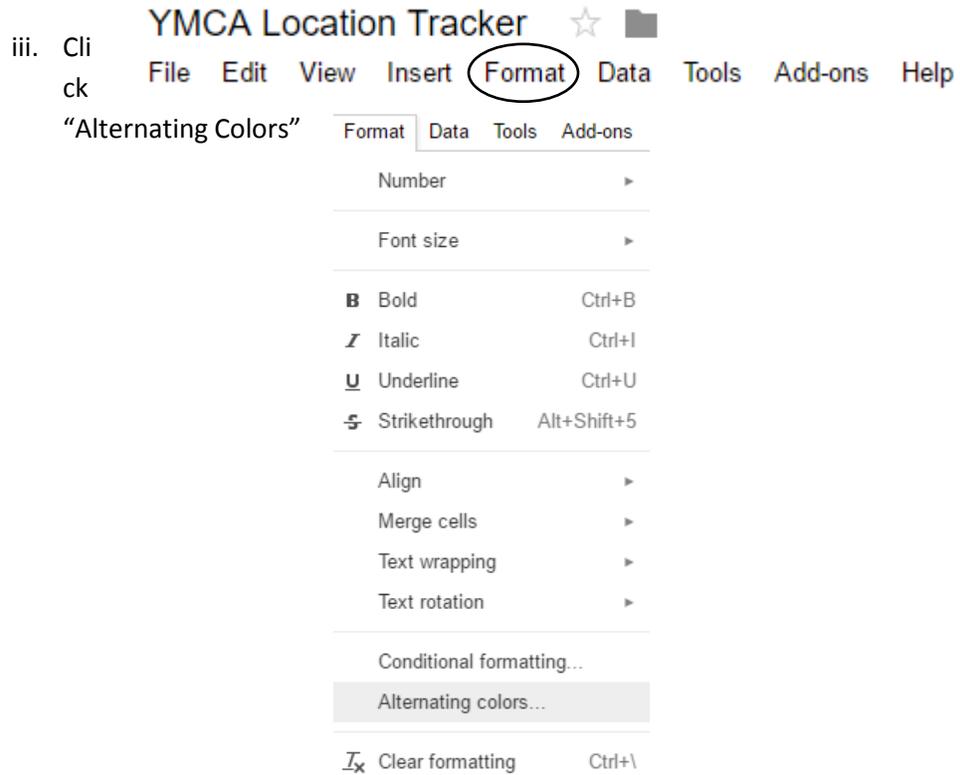
5. Result:

	A	B	C	D	E	F
1	<b>Picture ID</b>	<b>Last Name</b>	<b>First Name</b>	<b>Location</b>	<b>Health Issue</b>	<b>Notes</b>
2		1st Grade	Group	Blue Room ▾		

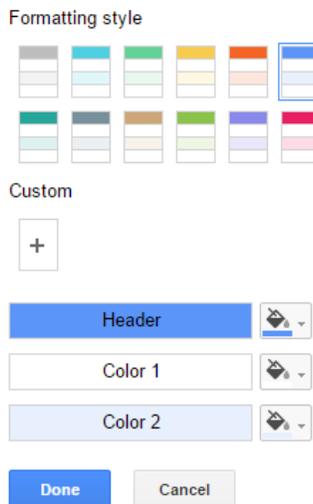
	A	B	C	D	E	F
1	<b>Picture ID</b>	<b>Last Name</b>	<b>First Name</b>	<b>Location</b>	<b>Health Issue</b>	<b>Notes</b>
34		Smith	John	With Group ▾		

- ii. To make these headings bold
  1. Follow the steps in Section 3.3
- d. Enter in the children and their corresponding data by following the steps in Section 4.3
  - i. Because there are currently no location drop down menu cells on the sheet yet, you can
    1. Go to a previously made sheet
    2. Copy one of the location drop down menu cells by selecting that cell and pressing the keys “Ctrl” “C”
    3. Go back to your new sheet
    4. Paste the location drop down menu cell in the first location column cell by selecting that cell and pressing the keys “Ctrl” “V”

5. Drag the cell down using the small box in the lower right corner of the cell, as outlined in Section 4.1.f, until every child has a location box next to them
- e. Give your cells an alternating color format, like in the other sheets
  - i. Select all of the data in the sheet, including headings
  - ii. Click on the “Format” tab above the toolbar



- iv. Choose from one of the existing formatting styles or customize your own pattern by clicking on the paint can next to each option: the Header, Color 1, and Color 2. This menu appears on the right side of the screen.



- v. Click the blue “Done” button
  - f. For this new sheet, you can edit the available location options in the drop down menu by following the steps in Section 4.1
  - g. For this new sheet, you can format certain cells or words in cells to change their color when a certain word is selected by following the steps in Section 4.4
  - h. For this new sheet, you can sort the list of information, which would usually be alphabetically by last name, by following the steps in Section 4.5
7. If any undesired edits are made to the spreadsheet
- a. You can undo by pressing the keys “Ctrl” “Z” until all unwanted changes are taken back