



Technology Consulting in the Community

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**UPMC Health for Life Summer
Camp at Braddock**

Yiku Zhang

Final Consulting Report

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UPMC Health for Life Summer Camp at Braddock

Executive Summary

Student Consultant, Yiku Zhang
Community Partner, Michelle Chisholm

I. About the Organization

UPMC made a commitment to Braddock Community in Western Pennsylvania to offer enhanced community-based health and social services. One such service is UPMC Health for Life Summer Camp at Braddock. The Health for Life Summer Camp is open to children ages 6 to 17 in the Greater Braddock Community at no charge. Attending the Summer Camp includes a seven-week day-camp beginning in June and one-week overnight camp in August. The Camp's mission is: *To provide a safe, secure and supportive environment for the Braddock area youth.*

Started in 2000, the Camp is a financially independent program from UPMC as it is funded by local businesses and individuals. The annual budget is about \$130,000 (including the salaries paid for all temporary employee and the working campers) and the camp has approximately 100 spaces every summer. The camp offers a wide range of activities, which vary from year to year depending on the sponsors' support, including

- healthy exercise, fresh vegetables and fruits
- training on money management and social skills
- preparation for job and career skills
- practice in creative writing, arts and crafts
- community services
- fun and exciting field trips

The Manager of Women and Children's Programs, Michelle Chisholm, has run the camp almost every year since it started. Besides this, she is also a Behavioral Health Therapist at UPMC. She is the only full-time employee for the summer camp program, and is in charge of almost everything regarding the camp:

- recruiting counselors and other temporary camp employees,
- contacting donators and camper households for camp events,
- raising funds and budgeting for the camp activities and employee payrolls,
- handling the application packages and other camp data in hardcopies and softcopies,
- preparing, scheduling and managing all camp activities,
- evaluating the annual performance and reporting the analysis result.

She uses a MS Access database to record some camper related data in the past six years and maintains many spreadsheets and hardcopies to manage all the camp data.

II. Consulting Task: Improve Camp Information Management

In this IT consulting project, the community partner and student consultant worked together and developed a new camp management database. The new database structuralized the tables in the original database, integrated counselors and other camp data facilitating the camp information management, generated more functions such as the Mailing List and BMI Evaluation queries, which were manually input before, streamlining the camp management and quantitative analysis.

III. Outcomes

In the new database, 11 tables were created and 667 records from the previous database were migrated and normalized in the new table structures. The newly designed input process, queries and reports require less effort and are more time-saving than the previous. For example, it took Michelle about 10 minutes to input each candidate's application data in database and other spreadsheets, now it takes about 2 minutes to confirm and reuse previous records. Every year there are about 100 candidates to attend the camp, and with the new database, CP could save $100 \times 8 = 800$ minutes, about 13 hours to input application data.

After this project, the community partner is expected to maintain and enlarge the database based on the current database structure. The community partner practiced creating tables, forms, queries, and reports with the student consultant when developing the new database. The procedures were documented in the user manual and reviewed together by the community partner and the student consultant. It will be a useful document for further reference. Any changes involved the data structure and programming in the database will need to seek extra IT support.

IV. Recommendations

Continuing to integrate more camp data in the database is recommended, such as payroll and camp activities schedules. It is more easily to manage and collect the data in one database than separately spreadsheets and hardcopies. Also isolated data tends to cause data inconsistency and inaccurate. Enforcing constraints on the input data is also recommended. Constraints could avoid some typos and input mistake.

The strategically technology plan is recommended for the future three years and a complete breakdown is discussed in the full report. Besides maintaining the current database, community partner could consider technology preparation and implementation for the contact management system and the website integrated with the camp management system. The contact management system could facilitate community partner to communicate with camper households, counselors, and donators through various channels of communications: paper mailing, email contacts, phone calls and text message. The web portal is necessary when the capacity of camp increase. It could facilitate the camp information management with enable online application, expand the camp influence and attract more support with displaying more camp events, pictures, videos, sharing the camper growth stories, and collecting public suggestions and feedback.

Community Partner

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UPMC Health for Life Summer Camp at Braddock

Final Consulting Report

Student Consultant, Yiku Zhang
Community Partner, Michelle Chisholm

I. About the Organization

Organization

UPMC Health for Life Summer Camp at Braddock, as part of UPMC's commitment to the Braddock Community in Western Pennsylvania, is one of the enhanced community-based health and social services. The Health for Life Summer Camp provides a seven-week day-camp beginning in June and one-week overnight camp in August for children ages 6 to 17 in the Greater Braddock Community for free.

The Camp's mission is:

To provide a safe, secure and supportive environment for the Braddock area youth. By educating the children about their health and challenging them to take an active role in their overall well-being, the UPMC Health for Life Summer Camp at Braddock hopes to eliminate future health disparities in the community. The UPMC Health for Life Summer Camp at Braddock also seeks to ensure that the children of the Braddock service area are prepared to be the leaders of tomorrow.

Started in 2000, the Camp is a financially independent program from UPMC. It was originally a program set up by UPMC Braddock until its closure in January 2010 and now is under UPMC McKeesport. In over a decade, the Camp is provided at no cost to the participants and has several established sources of funding. The budget for a 100-space summer camp is about \$130,000, most of it from individual and organizational donors and foundations' and businesses' sponsors. In every spring, the "traveling basket raffle" is a popular fundraiser among UPMC business units, local business and organizations. Another important fund-raising activity is UPMC Children's Ball in March. The Camp has a good relationship with local businesses and schools. The Manager of Women and Children's Programs/Behavioral Health Therapist, Michelle Chisholm manages most of the fund-raising and camp expenses, and UPMC McKeesport accounting department records all the activities and numbers.

Facilities

Most summer camp activities are held at the Fairless School in North Braddock. The Camp office is located at 820 Braddock Avenue in the Heritage Community Initiatives building. The space, including two offices and about eight-person open office space, is rent from the Heritage Community Initiatives and all UPMC employees work there will move back to UPMC McKeesport in this August (2013 summer).

Programs

Every year, returning camper families are given the opportunities to participate in an early enrollment process, and receive the application package in mails. The families are encouraged to complete all of the required paperwork and have the mandatory physicals completed by their primary care physicians. Families that complete the early enrollment process receive points toward

the overnight camp portion of the program. A formal registration event usually is held in March at the Fairless School in North Braddock for new families as well as returning families who needed assistance with the paperwork or a physical.

Usually the camp has 100 spaces (depending on the fund) and children aged 6 to 17 are selected based on past participation, time of application, zip code of home address and only excluded for severe mental or physical health issues. All selected children are separated into age specific groups and each group is assigned a color for camp activities.

The camp offers a wide range of activities, which vary from year to year depending on the sponsors' support, including healthy exercise, fresh fruits and vegetables; training on money management and social skills; practice in creative writing, arts and crafts; community services; preparation for job and career skills; fun and exciting field trips. The following is some of the popular activities:

- **Work-Study Program:** participants ages 14-17 were eligible to participate in the program. Youth ages 14-15 are assigned to the Grey group and completed a number of community projects and camp management projects. Youth ages 16-17 are assigned to the Sapphire group and receive more intense work experience. The participants in this group are assigned to various organizations and businesses and are given the opportunities to learn a skill or trade. Employers will pay the participants for their work.
- **Physical Fitness:** the camp places a major focus on physical fitness. Its activities include walking program, SPARKS program and other physical activities such as football, soccer and etc. The everyday walking program records the steps the children walk and other health indicators. The SPARKS program teaches the children a variety of cooperation and aerobic games that encourage them to be active and interactive. Tests are conducted and a number of health indicators, such as Body Mass Index (BMI), heart rate, and blood pressure, are recorded and tracked during the camp activities. Usually these data will show the children's physical improvement after seven weeks of structured activities and education.
- **The Saving for Tomorrow Program:** this is a financial literacy education program was designed by Michelle. It focuses on skills and concepts such as the proper way to write a check and complete a journal entry. Also results of pre-tests and post-tests are recorded and analyzed for the effect.
- **Field Trips & Overnight Camp:** the most expecting fun of the summer camp, also as opportunities to practice socialization and appropriate behavior skills as well.

Staff

The community partner Michelle Chisholm is the only full-time employee for the camp management and she is also a full-time therapist at UPMC. Michelle has run the summer camp for thirteen years and she takes charge of all the camp activities and information management including paper works and electronically-stored file. Most camper data is stored in an Access database and many separate spreadsheets. Only Michelle has the access to those data, which are stored in her network folders on UPMC system platform. She is comfortable with basic Access database operation and intermediate proficiency in Excel and Word. She is a self-taught technical user and often helps other in the office for common problem shootings. The office secretary also assists some paperwork about the camp events.

During the summer time, the camp will hire about 20 temporary paid employees as counselors to assist the camp management. Most of the counselors are teachers and college students, and usually more than half of them worked with the camp before. The counselor jobs opening is post on UPMC career system in spring. The previously counselors receive invitation emails to be returned counselors and many of them will introduce friends and classmates to apply for the position. Counselors are assigned to specific group based on experience and interest. Each group is also assigned a lead counselor. Lead counselors are typically veteran counselors that mentor new counselors, monitor paperwork compliance and maintain overall group cohesiveness.

The camp also hires temporary staff, such as dietary aides and van drivers during the summer.

Technology Infrastructure and Management

UPMC employees are provided the username and the password to log into UPMC network and information system, which provide each user a remote desktop and personal network folder called M Drive. Users only use local system to connect to UPMC system, and all applications and files are run on UPMC remote system. The system is a Microsoft Window XP Operation System Platform and equipped with Microsoft Office Suite 2007.

The UPMC IT department is in charge of the hardware and UPMC system. The camp manager Michelle maintains and manages the camp database and other files in her M Drive. UPMC IT does not build nor maintain the camp database. It is Michelle's responsibility and she is the only user for the database.

Internal and External Communications

Counselors apply for the job via UPMC career page and Michelle receives notifying emails and can check the applications information in UPMC HR System. Usually year-round communication is via emails. During the summer, face-to-face and phone-call communication involves every day.

To reach the camper families and donors, Michelle usually sends out paper mails and emails (if possible for receivers). During the summer camp, Michelle makes phone calls to keep in touch with campers' parents.

Information Management

Camper information is mainly collected by paper documents. Michelle manually inputs data from hardcopy application packages, attendance sheets, and other sheets into the database and spreadsheets. The original camp information management database was created by a UPMC non-IT department employee seven years ago. It consists of input interfaces, reports, queries, and tables, storing the most of the important camp records. The database is loosely structured and tables are not designed based on the normalization. Michelle makes extra efforts to manually evaluate campers' performance and summarize historical data based on the data in the database.

Michelle keeps counselors, donators, and financial information in separate spreadsheets.

UPMC carefully avoids information disclosure. As a result, any information involved UPMC does not allow to connect with social media, such as Facebook, and any third party software without formal authorization.

II. Consulting Task: Improve Camp Information Management

Motivation

Description

The consulting task is to assist Michelle to streamline the information management processes, improve the current database to record more comprehensive and accurate camp information and leverage the collected data for further analysis.

During the camp seasons beginning from receiving applications, the camp manager Michelle works over ten hours a day, and makes a great effort to management all the data: review and record children's application packages; arrange camp activities and input these activities records into the database; recollect contact information and type it into mailing list spreadsheet; track and keep temporary staff's contact and payroll information in separate spreadsheets and so on. A structuralized and multifunctional database integrated with more camp information is needed for Michelle to streamline the camp information management and increase the efficiency.

Moreover, the unstructured data in isolated spreadsheets and loosely related tables in database restrains further data analysis and quantifying the camp's achievement. For example, many participants show a progressive improvement physically such as Body Mass Index (BMI) and psychologically such as living style and behaviors through three to five year participation, but currently it's hard to extract data to quantify these progresses. Providing all those summary and analysis data helps the community, donors, and supporting partners to recognize the camp's significant healthy and positive impact on the growth of the youth.

Approach

--Requirement Gathering: examine current camp management processes and identify information flows by meeting, observing work processes, and visualizing and structuring the work flows.

--Literature Research: search the existing camp management solution and tools; help Michelle to determine whether or not external resources should be dedicated to the project.

--Planning & Implementation: prioritize tasks and evaluate the feasibility, and set the project milestones and schedules; implement the plan and adjust the pace and tasks.

--Wrapping up & further work: document the user-guide and propose further recommendations.

Outcomes

According to the requirement gathered in first-month meetings and the feedback during the project, the new database was designed and developed. The previous data was reorganized and fitted in the new database structure. Corresponding input interfaces, queries and reports were created.

1. Requirement gathering

Through several meetings to talk about problems, observe current working processes and study the existing database, database improvement requirements were gathered:

- Input: More fields in the camper information, such as mental health information, T-shirt size; Recording steps program and counselor data; Attendance is allowed to reschedule; the decimal is allowed for recording SPARKS data;

- Query: Search a returning camper's progress; Count T-shirt number; Evaluate BMI and Blood Pressure with Sparks data; generate mailing lists.

By reviewing multiple camp management software packages, the community partner understood the capacity and functionalities of possible solutions. After considering UPMC IT policies, user preferences, and the limited technology support, Michelle and I made the decision to develop a new Access database and reuse current data as much as possible. Implementation details were confirmed and tests were conducted during the database development.

2. Database development

2.1 Tables and data relationship

To include more accurate and comprehensive information in the database, to reduce unnecessarily repeated data input, and to facilitate data extraction and analysis, the new database structure and table schema were designed.

Relationship schemas of the previous database and the improved one are shown in the screenshot 1-2 at in the Appendices. The original database contained four loosely related tables and unstructured table schema. In the new database, 11 tables were created according to the contents and the database design guidelines (3 NF).

667 records from the demographic table in the previous database were migrated and normalized into Camp Data table and Candidate table. Duplicated records were deleted and typos were revised. Candidate_ID was assigned as the primary key in Candidate table and was matched as the foreign key in Camp Data table manually. Step Program table and Youth Work table were newly created to record more camp activities performance data. Counselor table and Group Counselor table were newly created to record Counselor data. Gender, Camp group etc. tables (not included in the relationship screenshot) were created to record input values for radio boxes, which allow users to choose from multiple entry choices, at input interfaces.

2.2 Forms and input interface

Camp data input and counselors data input interfaces were created based on the new table structure. (See screenshot 5-6: Camp data input interface, Screenshot 7-8: Counselor data input interface in the Appendixes)

Notes field was added in candidate information, which allows more information to be recorded for each camper. The usage of Camp_ID avoids repeated demographic data input of the same candidate for different years of attending the camp and facilitates further data analysis to quantify the candidate's progress during successive years' camp activities. Age attribute was calculated by the DateDiff function according to Date of Birth attribute automatically, no longer requiring manual calculation of age information. Several data types in SPARKS table were changed to decimals from integer so that the database accepts more accurate SPARKS data for BMI calculation. Counselor data input interface and tables reduce the usage of external spreadsheets and integrate isolated camp data outside the database. Some fields were assigned a default value, e.g. camp year was filled as the current year in system automatically and some fields were set as radio box to facilitate the input process and normalize the input data.

2.3 Queries and mailing lists

Some data to be searched frequently were written into queries based on the new table structure. For example, participant mailing list query searches for candidate information from the previous year

and extracts the name and address information to create a new table, which Michelle could export to Excel spreadsheet to print for mailing list for the potential candidates. The mailing list spreadsheet was manually typed before. To evaluate the children's Body Mass Index (BMI) and blood pressure (BP), customized public function BMI Calculation and BP Evaluation were coded in the VBA module (the programming language in the Microsoft Access database). (See screenshot 9: Mailing list query and the table generated from the query; screenshot 11: BMI queries for each year, each camper and year's summary)

2.4 Reports and printable sheets

Some reports for printable paper sheets to record daily activities performance and to summarize previous years performances were created based on the new table structure. (See screenshot 12: Camp data sheet design)

3. Overall outcome

The new database allows more structuralized relationships and table schemas, reducing data redundancy and facilitating the camp data's input, search and analysis, allowing a capacity increase for integrating more data.

The newly designed input process, queries and reports require less effort and are more time-saving than the previous process. For example, it took Michelle about 10 minutes to input each candidate's application data in the database and other spreadsheets, now, it takes about 2 minutes to confirm and reuse previous records. Every year, there are about 100 candidates to attend the camp, and with the new database, Michelle could save $100 \times 8 = 800$ minutes, about 13 hours to input application data.

The new database requires more accurate data and supports more data analysis. For example, the attendance sheet was designed as check-boxes for five-days a week and did not allow Michelle to record the rescheduling information, so the calculated rate did not reflect the actual situation when camp activities were rescheduled. The new one allows users to input scheduled days for each week and attended days for each candidate and counselor. It not only increases the rate accuracy but also facilitate calculating the payroll in according with the attendance.

4. Sustainability

Data relationships, table schemas, and other skills were explained to Michelle when confirming the content and design of the database. This allows Michelle to more easily adapt to the new database and also enables her to change and revise the database after this project.

Michelle practiced creating tables, forms, queries, and reports with me when developing the new database. Michelle wrote down the notes and user-reference while developing the database. And the document was reviewed and revised together by Michelle and me. It will be a useful document for Michelle's future reference.

Currently, Michelle is able to insert more content and change the database when the camp arrangement varies. A fundamental change in camp activities or management, for example, if online application is developed, it will need to import new data source, this kind of database change will be beyond Michelle's technical capabilities.

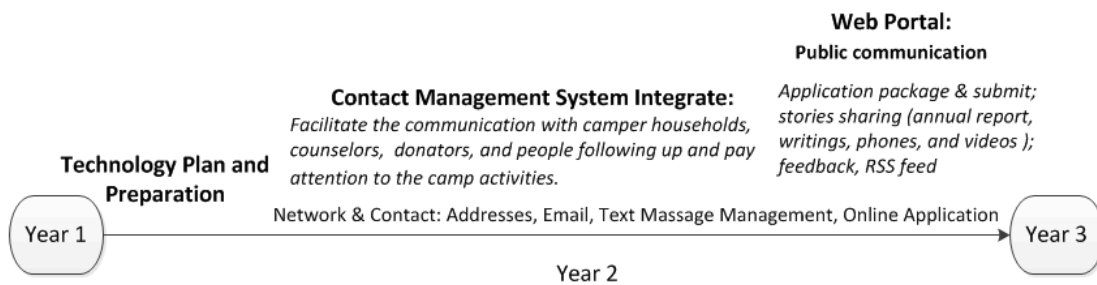
III. Recommendations

A. Vision

The future of UPMC Health for Life Summer Camp should successfully make and share long-term health life style impact on the youth and their families on the greater Braddock community, be recognized as an influential and effective community activity that enriches the life of every participant. It accomplishes this vision by attracting wide support from more companies and individuals, by continuously harnessing and enhancing the right technologies to facilitate the camp management, communicating effectively with its participants, community and the public at large. New technologies will enable the summer camp to qualify and quantify the value it brings. Streamlined management and effective communication will further improve and insure its mission.

The attainment and sustainability of the vision requires a continuous effort in harnessing the technology and structuring the management processes. The improved database enlarges the capacity of the camp information management by adding more tables and fields, corresponding queries and reports. That helps Michelle model some processes into standardized queries and reports, which will increase and continue to increase the efficiency if Michelle masters the database manipulation skills.

The more highly structured management could be achieved by integrating all camp information into a consistent system, including an online application process and the contact management system. To better communicate with the public, the camp should have the portal to display its achievement and new status. The vision is forward-looking in what the organization should do to prepare itself and leverage new technology innovations in the next-three year. The implementation of the plan needs to re-evaluate periodically the changes of technology, organization, and expectations holistically in the long term.



The three-year technology plan

B. Goal 1 Improve the Contact Management

a. Background

Every year, Michelle spends extra time and makes the effort to contact different people involved in the summer camp activities. The improved database integrated some counselors contact information, but the integration is not powerful enough optimize the overall contact management work.

- Campers: From March to April, Michelle prepares all the application packages and mails the paper letters to about 70-90 households which may participate in this year's summer camp. People move around frequently in Braddock, and it's common to receive the "unable to deliver" mail. The given phone numbers of the parents

sometimes did not work, so Michelle could not contact the parents. Because Michelle knows those households very well, sometimes she could find people through another contact. This inconsistent contact information could be a potential problem if the camp would hire more people to manage the camp activities. The unstandardized work flow would block the growth and management of the camp activities.

- Counselors: Michelle sends out emails to previous counselors about current year counselor job openings in UPMC career sites and receives the application through the UPMC HR system. The shortcoming of this communication is the limited way to attract new people.
- Donators: Michelle contacts different people working in UPMC for the fund raising activities and also local businesses or organizations who could possibly support the camp. Some of these communications are still conducted by paper mail. And some of the donators have seasonally different contact addresses. This current outreach method is time-consuming for Michelle to keep in touch with donators and provides limited updated information for donators. The limitation of this donator contacting method impedes attracting new donators.

b. Justification

After observing the current process of contact management, there is a need to improve it and it is possible to use new technology to increase the efficiency. As for the specific communication style, the paper mailing communication is inefficiency. Moreover, more and more people can get access to the Internet for the Braddock households either by computer or by smart phones, so other communication ways may adapt gradually and possibly ultimately replace paper mail.

As the camp grows, this need will become the priority for the camp management.

c. Strategies

There are two approaches that could be considered for this problem. The second is recommended for the long-term increasing requirement and the technical support.

- Develop more functions and integrate more contact data in the Access database: the improved database already helps Michelle to generate the mailing list more easily, but does not split the contact information from each camper to each household. The donators' data could be organized into and migrated to the database. Michelle uses Microsoft Outlook to deal with emails. It's possible to integrate the email function directly into the Microsoft Access database. The drawback of this solution is inability to use phone call or SMS communication. Also more customized self-developed functions may increase the need for IT support.
- Select open source or commercial Customer Relationship Management (CRM) software package: there are many existing software packages solving the contact management problem. Michelle could consider adopting one of those software packages according to the requirement. For example, the commercial CRM salesforce.com has a non-profit version and provides free services to organizations with less than 15 users. It features general contact management functions and also could be customized by different modules. It has standard API to connect with MS Access and also with Skype, which means data could be transferred between salesforce and Access easily and could achieve the synchronization. Moreover,

Skype IM and VoIP call capabilities could benefit the mobile phone and SMS for communication. The software providers provide customer support and it is an advantage of this solution.

d. Expected Outcomes

- Easily add and update contact information in only one source;
- Easily sort out and search the relationship between those contacts;
- Easily generate customized mailing lists to print;
- Enable to select group email contacts;
- Enable to send auto email at specific time periods;
- Enable to group message texts to selected contacts.
- Staff: those solutions will bring positive effects to the staff. First, it will increase the efficiency of work processes and reduce work redundancies. It would also improve technical knowledge of the staff. Following up some websites and conferences, which provide technical support for non-profits and are listed below, would inform and update the community partner with new technical opportunities.

e. Resources

Many CRM solutions and evaluations are available online, especially the two websites mentioned below providing free technology advice to non-profit organizations. Many reliable customer reviews and recommendations are available there.

- Nonprofit Technology Network¹ holds annual the NTEN conference and introduces many technical solutions. CRM² is a popular topic in recent year conferences and therefore many discussions and articles available there: 2013 NTC Session Proposal- CRM Migrations: Properly plan, manage and staff your CRM migration project³; 5 Keys to Preparing for Your CRM System Implementation⁴; 2012 NTC Implementing CRM: What Works, What Doesn't, and How to Make Your Project a Success!⁵
- Ideal ware⁶ helps nonprofits make smart software decisions. Reports and articles about CRM for the non-profit are available: 10 Things to Consider in a CRM⁷; In Search of CRM⁸.
- Microsoft provides several contact management database templates, which can be found and downloaded on its support website⁹. There are also tutorials about implementing CRM in Access, such as How to Make Your Own CRM Using Microsoft Access¹⁰ at eHow Tech website.

¹ <http://www.nten.org/>, accessed at May 4th, 2013

² <http://www.nten.org/search/node/CRM>, accessed at May 4th, 2013

³ <http://www.nten.org/ntc-session/13994>, accessed at May 4th, 2013

⁴ <http://www.nten.org/articles/2012/5-keys-to-preparing-for-your-crm-system-implementation>, accessed at May 4th, 2013

⁵ <http://e.myntc2012.zerista.com/event/member/40736>, accessed at May 4th, 2013

⁶ <http://idealware.org/>, accessed at May 4th, 2013

⁷ <http://idealware.org/articles/10-things-consider-crm>, accessed at May 4th, 2013

⁸ http://idealware.org/articles/crm_constituents_processes.php, accessed at May 4th, 2013

⁹ <http://office.microsoft.com/en-us/templates/results.aspx?qu=contact&avg=zac&queryid=ee93a736-8f9f-4311-8228-c9a323942d00&vtags=Database>, accessed at May 4th, 2013

¹⁰ http://www.ehow.com/how_6718401_make-crm-using-microsoft-access.html, accessed at May 4th, 2013

- Salesforce.com is a leading CRM vendor, which provides SaaS (Software as a Service) products. It offers a comprehensive CRM that will help the organization become more organized and efficient. In addition, in order to support non-profit community, salesforce has released a website solely based on leveraging CRM's for their non-profits¹¹.

Developing a more customized Access Database is beyond Michelle's technical capacity and will need another internal or external support.

Some commercial software providers will not charge for non-profits, but Michelle may need external or internal IT supports to help select the software packages and implement the solutions.

Hiring an external technical consultant will require extra budget. Seeking internal IT support is a way to help. Working with another CMU project is an alternative.

C. Goal 2 Create the Web Portal

a. Background

Limited information about the summer camp program could be found on the Internet, and most introductory information about the camp is word-of-mouth. The camp prints out a few handouts for special events. Michelle proposed the idea to utilize social media to keep the public informed of the camp activities, and UPMC policies do not allow for integration of social media due to the privacy protection.

Michelle is working with UPMC media staff to develop the Camp's webpage under the UPMC homepage. The concern of the web development is that media staff who are in charge of the website are not proficient in technologies and all the update information must be approved by the media staff before posted.

b. Justification

To increase the camp influence and attract more support, the camp needs a web portal to communicate with the public, to provide the information about the camp (e.g. annual reports), to share and display stories of the summer camp, to encourage more people to adopt the health life plan and even to provide guides for parents.

The website is a necessity when the camp grows. It will facilitate the camp information management, e.g. application sources, and reduce the paperwork redundancy, e.g. mailing the paper application forms.

c. Strategies

The approach for this goal is to bring out a satisfied plan for the community partner to reach the agreement with the media staff.

The first step is to meet with the media staff and other related staff, evaluate the technology and information management processes, and list the technology and capability restrictions. Then information published on the website needs to be identified and gathered. Furthermore, a detailed plan should be made, including designing the webpage, integrating the existing data flows and

¹¹ <http://www.salesforcefoundation.org/nonprofit>, accessed at May 4th, 2013

functionalities, the detailed implementation schedule and further maintenance. The plan will be revised according to the feasible evaluations and the agreement with the media staff. Finally, the plan needs to be implemented within the scope and the timeframe.

The detailed webpage design plan should be within or could be reached within the media staff's capability. The Summer Camp Homepage could include the following content: About us, History, Annual Report, Partners, Contact Information, Application, Recent News, Shared Stories, Photo/Video Gallery and so on.

Michelle could collect more pictures and videos for the web content. And she could also encourage campers and counselors to write down interesting stories which could be printed out and shared with others.

For the online application function, the data should match and connect with the back-end camp management system. So should other information. Those data could be extracted and updated directly from the database.

d. Expected Outcomes

- The camp manager could post and update news about camp events in a timely manner;
- Camper candidates and counselors could apply for the camp directly through the website;
- The connection between the online application and camp management system could reduce the work tasks and to manually input that information;
- The automatic screening process for the camp application would be achieved by setting rules rather than manually screening.
- Staff: utilizing the technology will increase the efficiency of camp management and reduce work redundancy. Moreover, the web could reach out to the people that the camp manager could not reach by traditional mailing or face-to-face communication.

e. Resources

The implementation of this suggestion will need internal or external IT support.

Expense will incur when hiring an external IT consultant to design and implement the website.

Nonprofit Technology Network and Ideal ware also provide many media strategies and design suggestions on the websites: 2013 NTC Session Proposal: I Now Pronounce You Website & CRM: Marrying Your Website to Your CRM to Increase Staff Capacity & Maintain Your Brand¹²; The 2013 CMS Report Card¹³.

Nonprofit Geekery¹⁴ provides nonprofit technology resources about sharing best practices in social media strategy, web content management, digital asset management, and branding. Some articles are worth reading, for example, 10 Take-Aways from SXSW for Nonprofits¹⁵.

¹² <http://www.nten.org/ntc-session/13770>, accessed at May 4th, 2013

¹³ <http://idealware.org/online-seminars/2013-cms-report-card>, accessed at May 4th, 2013

¹⁴ <http://npgeekery.org/>, accessed at May 4th, 2013

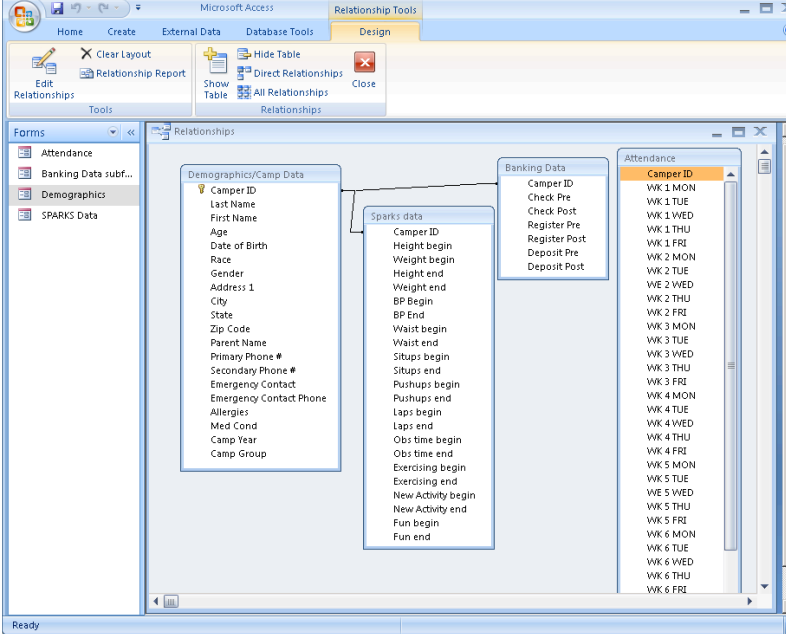
¹⁵ <http://npgeekery.org/2010/03/10-take-aways-from-sxsw-for-nonprofits/>, accessed at May 4th, 2013

About the Consultant

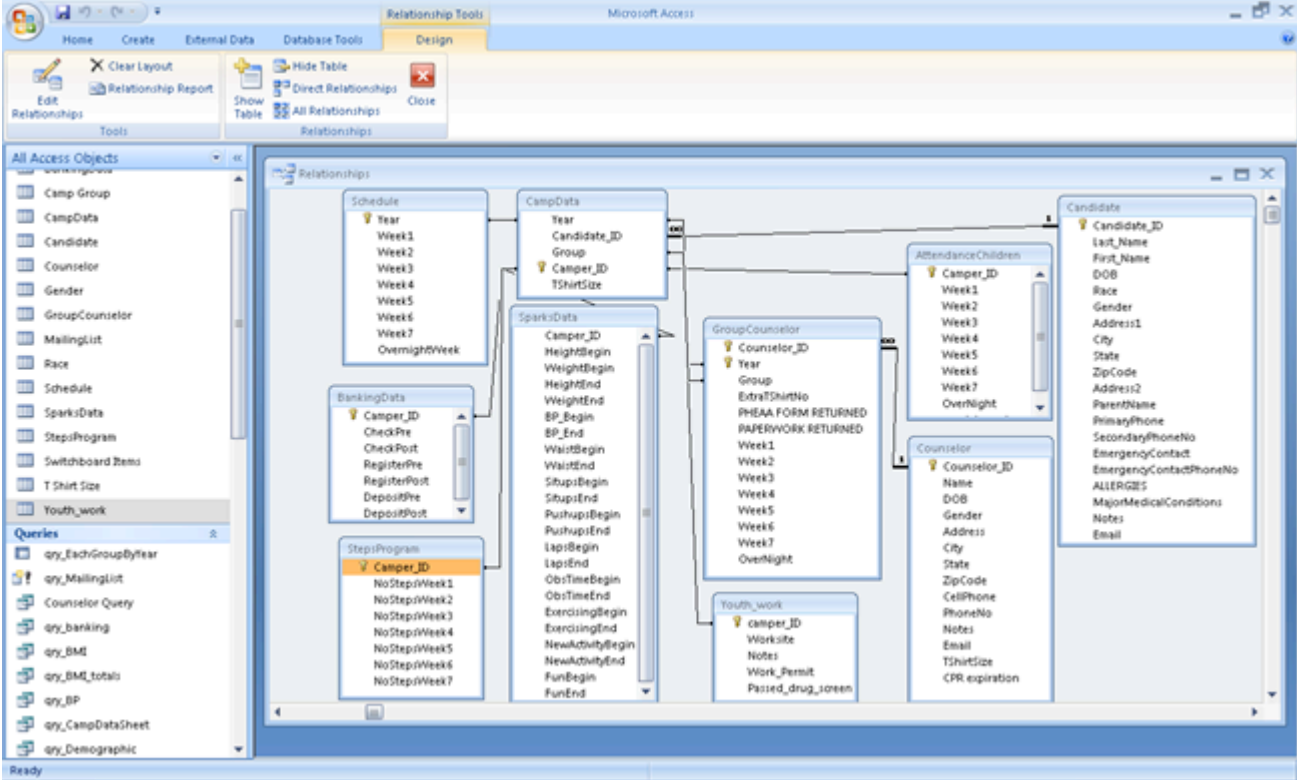
Yiku is a candidate of Master of Information Systems Management program at Heinz College, Carnegie Mellon University, graduating in December 2013. Her career interests include business process optimization, data analysis, database development and IT transition management.

Appendix A. Screenshots of the Database

Screenshot 1: Previous Database Relationship



Screenshot 2: Current Database Relationship



Screenshot 3-4: Previously Database Input Interface

**UPMC Braddock Hospital
Health for Life Summer Camp**

Camp Year: 2007
Camp Group: Purple

Camper ID: 001
Street Address: 1508 Grant Street
Last Name: Acrie
City: North Braddock
First Name: Malachi
State: PA Zip Code: 15104
Age: 6
Parent Name: Meagan Acrie
Date of Birth: 05/07/2001
Primary Phone #: (412) 629-8128
Gender: M
Secondary Phone #: (412) 373-8881
Race: African-America
Emergency Contact: Michael Acrie
Emergency Contact Phone #: (412) 670-8380

ALLERGIES
None

Major Medical Conditions
None

Camper ID	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Overnight Camp
001	MON <input checked="" type="checkbox"/>	MON <input checked="" type="checkbox"/>	MON <input type="checkbox"/>	MON <input type="checkbox"/>	MON <input checked="" type="checkbox"/>	MON <input checked="" type="checkbox"/>	MON <input checked="" type="checkbox"/>	MON <input checked="" type="checkbox"/>
	TUE <input checked="" type="checkbox"/>	TUE <input checked="" type="checkbox"/>	TUE <input type="checkbox"/>	TUE <input type="checkbox"/>	TUE <input checked="" type="checkbox"/>	TUE <input checked="" type="checkbox"/>	TUE <input checked="" type="checkbox"/>	TUE <input checked="" type="checkbox"/>
	WED <input checked="" type="checkbox"/>	WED <input checked="" type="checkbox"/>	WED <input type="checkbox"/>	WED <input type="checkbox"/>	WED <input checked="" type="checkbox"/>	WED <input checked="" type="checkbox"/>	WED <input checked="" type="checkbox"/>	WED <input checked="" type="checkbox"/>
	THU <input checked="" type="checkbox"/>	THU <input checked="" type="checkbox"/>	THU <input type="checkbox"/>	THU <input type="checkbox"/>	THU <input checked="" type="checkbox"/>	THU <input checked="" type="checkbox"/>	THU <input checked="" type="checkbox"/>	THU <input checked="" type="checkbox"/>
	FRI <input checked="" type="checkbox"/>	FRI <input checked="" type="checkbox"/>	FRI <input type="checkbox"/>	FRI <input type="checkbox"/>	FRI <input checked="" type="checkbox"/>	FRI <input checked="" type="checkbox"/>	FRI <input checked="" type="checkbox"/>	FRI <input checked="" type="checkbox"/>

**UPMC Braddock Hospital
Health for Life Summer Camp**

Camp Year: 2007
Camp Group: Purple

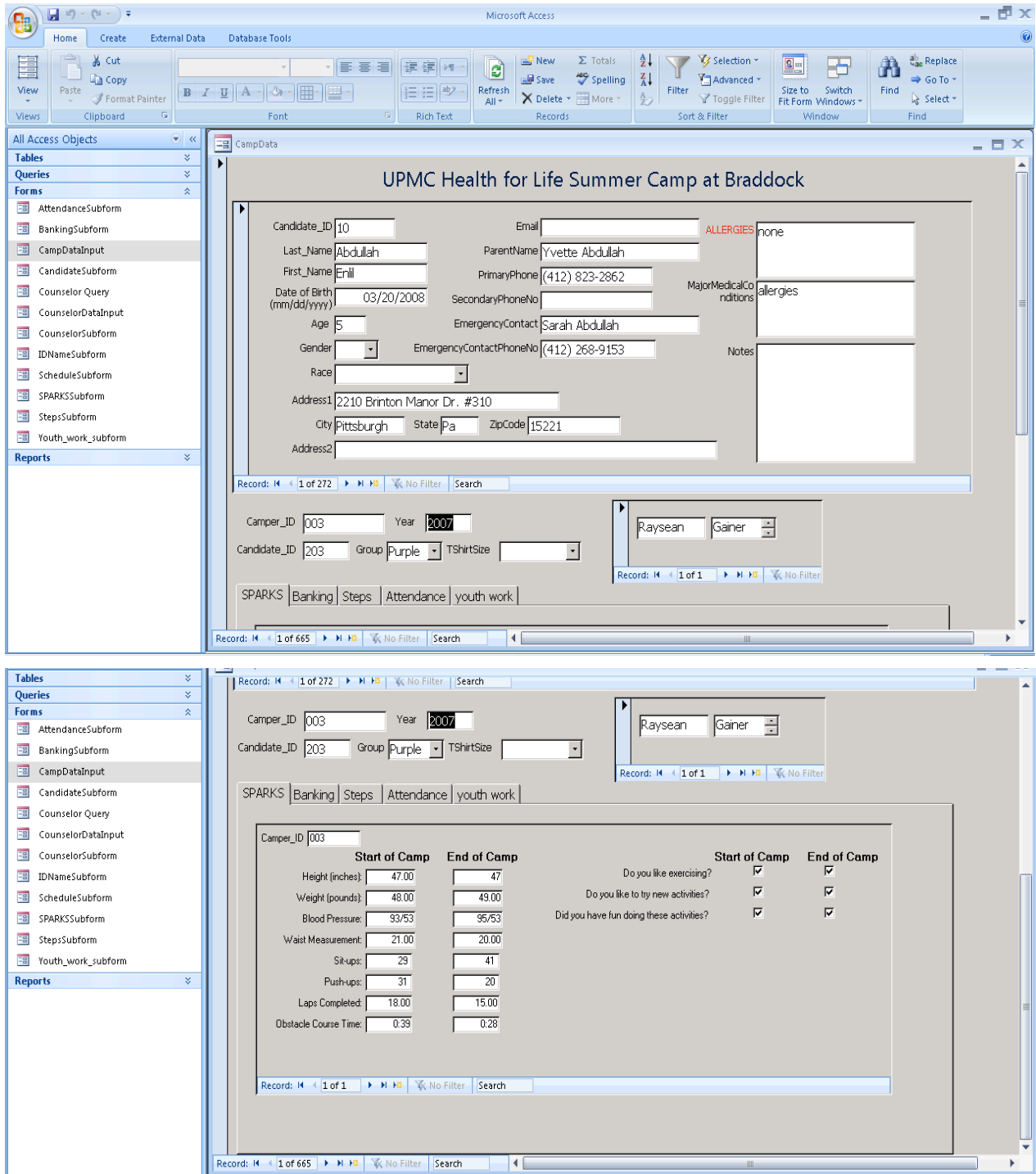
Camper ID: 001
Street Address: 1508 Grant Street
Last Name: Acrie
City: North Braddock
First Name: Malachi
State: PA Zip Code: 15104
Age: 6
Parent Name: Meagan Acrie
Date of Birth: 05/07/2001
Primary Phone #: (412) 629-8128
Gender: M
Secondary Phone #: (412) 373-8881
Race: African-America
Emergency Contact: Michael Acrie
Emergency Contact Phone #: (412) 670-8380

ALLERGIES
None

Major Medical Conditions
None

Camper ID	Start of Camp	End of Camp	Start of Camp	End of Camp
001	Height (inches): 47	51	Do you like exercising? <input checked="" type="checkbox"/>	<input type="checkbox"/>
	Weight (pounds): 66	65	Do you like to try new activities? <input type="checkbox"/>	<input type="checkbox"/>
	Blood Pressure: 83/41	84/43	Did you have fun doing these activities? <input checked="" type="checkbox"/>	<input type="checkbox"/>
	Waist Measurement: 22.00	23.00		
	Sit-ups: 5	10		
	Push-ups: 30	25		
	Laps Completed: 10.00	16.00		
	Obstacle Course Time: 0:36	0:28		

Screenshot 5-6: Current Camp Data Input Interface



Screenshot 7-8: Counselor Data Input Interface

The screenshots show the Microsoft Access interface for the 'Counselor Data' form. The top screenshot displays the main data entry form with the following fields:

- Counselor_ID: 2
- Name: Briana Panseri
- DOB: [Empty]
- Age: [Empty]
- Gender: F
- Email: panseri.b@gmail.com
- TShirtSize: Small
- CPR expiration: [Empty]
- Address: 118 Cedarwood Drive
- City: Monongahela
- State: PA
- ZipCode: 15063
- CellPhone: (724) 678-61E
- PhoneNo: (724) 258-94E
- Notes: [Empty text area]

The bottom screenshot shows the 'Attendance' subform with the following fields:

- Counselor_ID: 2
- Year: 2011
- Group: Yellow
- ExtraTShirtNo: [Empty]
- Name: Briana Panseri
- PHEAA FORM RETURNED: [Empty checkbox]
- PAPERWORK RETURNED: [Empty checkbox]

The 'Attendance' subform includes a table for tracking scheduled days per week:

Year	Week1	Week2	Week3	Week4	Week5	Week6	Week7	OvernightWeek
2011	[Empty]	[Empty]	[Empty]	[Empty]	[Empty]	[Empty]	[Empty]	[Empty]

Screenshot 9: Mailing List Query and the Table Generated

The screenshot shows a Microsoft Access interface. A dialog box titled "Enter Parameter Value" is open, asking for a "camp year" with an input field and "OK" and "Cancel" buttons. The main window displays a data table for a query named "MailingList".

Year	Last_Name	First_Name	Address1	City	State	ZipCode	ParentName	Email
2012	Hill	Semaj	833 Kirkpatrick	North Braddock	PA	15104	Dparis Hamilton	
2012	Smith	DeMarae	714 Hickory Av	Braddock	PA	15104	Christine Smith	chrissi718@yahoo.com
2012	McGhee	Jasmin	7503 Ormond S	Swissvale	PA	15218	Jamal and Kylee Cotc	
2012	Green-Clark	Keyawnee	22 Moodie Stre	Braddock	PA	15104	Tina Clark	chardark22@comcast.net
2012	Rice	Nehemiah	829 North Aver	Braddock	PA	15104	Arik Morgan	ariknrthbrddck@aol.com
2012	Logan	Deja	23 B3 Melvin G	Pittsburgh	PA	15235	Tameka Finley	
2012	Prunty	Alfred	632 Corey Aver	Braddock	PA	15104	Shiane Prunty	shianeprunty@yahoo.com
2012	Triplett	Naseem	220 2nd Street	Braddock	PA	15104	Sarah Triplett	
2012	Wick	Gabrielle	1428 Ridge Ave	North Braddock	PA	15104	Missy Turner	turnerwick@yahoo.com
2012	Coto-Williams	Kyara	7503 Ormon Sti	Rankin	PA	15218	Kylee Coto-McGhee	coto3@verizon.net
2012	Cobbs	Amaura	1525 Grant Stre	North Braddock	PA	15104	Ginger Cobbs	cobbsfamily4@verizon.net
2012	Bedard	Chantal	1414 Brinton A	North Braddock	PA	15104	Rolanda Lawson	
2012	Griffin	Tylaa	110 Crescent G	Penn Hills	PA	15235	Robert and Kathy Griff	
2012	Triplett	Trinity	220 2nd Street	Braddock	PA	15104	Sarah Triplett	triplettSarah@gmail.com
2012	Taylor	Taron	102 Crescent D	Penn Hills	Pa	15235	Tiffanee Griffin	tiffaneegriffin@yahoo.com
2012	Moore	Taylor	1705 Madison	North Braddock	Pa	15104	Thomas Moore	
2012	Thomas	Khadlja	404 Center Stre	North Braddock	PA	15112	Dara Johnson	daranjohnson@hotmail.com
2012	Martin	Richard	113 Canaveral I	Pittsburgh	PA	15235	Tanya Maddox	tmaddox3@yahoo.com
2012	Harris	Terevan	3655 Longview	West Homeste	Pa	15120	Lynn Harris	lynno24@hotmail.com
2012	Griffin	Kaylynn	229 Lansdowne	Pittsburgh	PA	15147	Nicole Dudley	qkdudley@gmail.com
2012	Davis-Grubb	Martiese	1027 Ross Aver	Wilksburg	Pa	15221	Sidney Davis	
2012	Coto-Williams	Kyann	7503 Ormond S	West Mifflin	Pa	15218	Kylee Coto-McGhee	coto3@verizon.net
2012	Howe	Kyair	629 S. Parkvie	North Braddock	PA	15104	Shateima Hall	
2012	Thomas	Jaliyah	1002 Maplevie	Braddock	PA	15104	Zenobia Bowey	zenobiabowey@gmail.com

Screenshot 10: T-shirts Counting Query for Counselors and Campers

The screenshot shows a Microsoft Access interface with two data tables. The first table, "qry_tshirt_counselor", lists T-shirt sizes and counts for the year 2013. The second table, "qry_tshirt_kids", lists T-shirt sizes, counts, and groups for the year 2013.

TshirtSize	Year	T_shirt_no
Adult Medium	2013	2
Adult Small	2013	2
Large	2013	3
Medium	2013	4
Small	2013	6
XL	2013	3

Year	Group	CountOf Carr	TShirtSize
2013	Blue	5	Child Medium
2013	Blue	2	Child Small
2013	Blue	3	Child XL
2013	Grey	3	Adult Large
2013	Grey	1	Adult Medium
2013	Grey	5	Adult Small
2013	Grey	3	Adult XL
2013	Grey	1	Adult XXL
2013	Grey	1	Child Large
2013	Jade	4	Adult Large
2013	Jade	4	Adult Medium
2013	Jade	3	Adult Small
2013	Jade	2	Adult XL
2013	Jade	1	Adult XXL
2013	Kiwi	1	Adult Large
2013	Kiwi	4	Adult Medium
2013	Kiwi	1	Adult Small
2013	Kiwi	3	Child XL
2013	Orange	4	Child Large
2013	Orange	3	Child Medium
2013	Orange	2	Child XL
2013	Red	4	Adult Medium

Screenshot 11: BMI Evaluation Query for Each Year and Each Candidate

The screenshot shows three queries in Microsoft Access:

- qry_BMI_byyear:** A table with columns: Year, Last_Name, First_Name, Gender, Height, Weight, BMIBegin, BeginBMI, EndBMI, EndBMIEnd, EndBMIEva. Data rows include 2012 Hill Semaj M 7, 2012 Smith DeMarae M 7, 2012 McGhee Jasmin F 8, 2012 Green-Clark Keyawnee F 8, and 2012 Rice Nehemiah M 8.
- qry_BMI_summary_byyear:** A table with columns: Year, Gender, BeginBMIEva, EndBMIEva, CountOfCamper_ID. Data rows include 2012 M Overweight Normal 1, 2012 F Overweight Normal 1, and 2012 M Not Available Normal 2.
- qry_BMI_BP_byCamper:** A table with columns: Last_Name, First_Name, Gender, Year, BMIBegin, BMIEnd, BeginBMIEva, EndBMIEva, BPEvalbegin, BPEvalend. Data rows include Moore Sydney F for years 2007, 2008, 2009, 2011, 2012, and 2010.

Screenshot 12: Camp data sheet generated from report

The screenshot shows the Report Design Tools for a report named 'CampDataSheet'. The layout includes:

- Page Header:** Group, Camper_ID, First_NameLast_Name
- Camper_ID Header:** (Blank)
- Detail:**
 - ALLERGIES: ALLERGIES
 - Major Medical Conditions: MajorMedicalConditions
 - Camper Information:**
 - Gender: Gender, Date of Birth: DOB, Age: Age
 - Address: Address1, City, State, ZipCode
- Group, Sort, and Total:** Group on Camper_ID with A on top. Includes 'Add a group' and 'Add a sort' buttons.