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Version 2.0

ITERATION 2 REPORT

Sugar Battle

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1. Introduction

1.1 Background and problem

The aim of our project is to help kids with obesity or overweight to make a healthy choice and thus make both the parents and the kids happy. Childhood obesity has become a pervasive social problem around the world. According to the World Health Organization (WHO), the number of overweight children under the age of five is estimated to be over 41 million in 2016 around the world. In Australia, 25% of children (aged 2 to 17) were overweight or obese in 2014-15 (Australian Institute of Health and Welfare, 2018). Furthermore, those kids are likely to stay obese as they grow up and more likely to develop diseases like diabetes and cardiovascular diseases at a younger age than other children (World Health Organization, 2018).

The target audience in this project will be the parents of those kids. Obesity leads to several diseases but not limited to type 2 diabetes and chronic diseases including cardio vascular diseases which costed the Australian government around $48 billion in 2008.

1.2 Solution

Whilst obesity is a complex issue with many contributing factors, one important factor is exercise. Exercise burns off energy obtained from the food we eat, rather than allowing our bodies to store it as fat. Diet is also crucial – what and how much energy the person consumes is a leading contributor to obesity. Diet and exercise are things that can be changed and are within control, however it is important to recognize that medical and genetic issues can also contribute to obesity – these are not easy to control without medical advice. The project will develop a system that will primarily be a website with different functions and it will be divided in three iterations which will remedy the situation.

Our project aims at helping the parents of those kids with obesity by providing a fun and healthy environment where they will be encouraged to go out and be more active and be physically fit. In addition to that they will be able to access a list of recipes on the website where there will be recipes of dishes which are easy to cook and under 15 minutes and above all is healthy.

1.3 Lean Canvas

<table>
<tr><th>Problem / Need</th><th>Solution</th><th>Unique Value Proposition</th><th>Competitive Advantage</th><th>Customer Segments</th></tr>
<tr><td rowspan="3">1. Increasing number of obese children in Australia.

2. About 25% of children are obesity or overweight in Australia.</td><td>Provide a health tracking website for parents of obesity or overweight children.</td><td rowspan="3">1. Parents and kids can know more information about the problem of over sugar intake and be aware of overweight and obesity issue.

2. Parents can also take suggestion from the website and control the sugar intake of their children.

3. Parents can make a plan for their children about what date they will go which parks or playgrounds.

4. Parents can track their playing history by using the calendar function provided on the website.</td><td></td><td rowspan="3">Parents of obesity or overweight children (age group from 5 -10)</td></tr>
<tr><td>Key Metrics</td><td>Channels (Marketing and Communication)</td></tr>
<tr><td>Using a network traffic calculator to count how much time the website has been visited.</td><td>Website over the Internet</td></tr>
</table>

2. Iteration Overview

The project will be divided into three iterations, and various functionalities will be developed as the passing through of iteration procedure. At the end of the iteration process, the team will deliver a completely building product which can developed to contain more functionalities, more features as well as usability, security, reliability.

2.1 Persona

Several personas are provided as below to help demonstrate the requirement of the product.

Photo	Name	Age	Gender	Background	Motivation
	Mary	30	Female	A teacher as well as a mother of one overweigh child (8 years old), own a Bachelor of Education degree	The weight of her child is increasing day by day, and she wants to know the sugar level of different drinks and snacks to help her decide what to provide for her child to eat.

	Jack	35	Male	A software engineer and a father of 2 girls (one of the children is obesity, both girls are 6 years old), divorced, has a Master of IT degree.	He is busy in the work and has limited time to take care of his girls, he wants to look for some health diet list for his girls and save his time.
	Vivian	40	Female	A housewife with no job, a mother of two obesity children (a 6-year-old boy and a 9-year old girl), has lots of time.	She is worried about the health problem of her children, she cooks health food for her children but none of them love the food, she wants to look for some cooking suggestions and experiences shared by other parents and makes her children love the healthy food.

2.2 User stories

Iteration 1 (done by 31/08/2018, Week 6)	The primary work on iteration 1 is to construct the main framework of the website, and to set up the whole system on the cloud server. The main functionality of this iteration is to provide a sugar level calculation.		
Epic	As a user, I want to know the sugar level of different snacks and drinks and I want to calculate the total sugar level of snacks or drinks I provided for my children, so that I can know whether my children have taken too much sugar and I can adjust the amount of snack for my children based on the result.		
Story Number	User Stories	Status	Priority
1.	Mary wants to know how much sugar in drinks or snacks so that she can knows whether her child is having too much sugar.	Completed	Medium
2.	Vivian wants to calculate the total amount of sugar she provided to her children so that she can adjust the sugar plan for her children based on the calculation result.	Completed	High

3.	Jack wants to know how much sugar is appropriate for his daughters so that he can save his time and provide low sugar level food for his daughters.	Completed	Low
Iteration 2 (done by 14/09/2018, Week 8)	The main work on iteration 2 is to update the system database and the main functionalities of this iteration is to provide a map function for users and the map is combined with calendar. Information page about diseases of over sugar intake will be on the website as well.		
Epic	As a user, I want to look for nearby playgrounds and parks for my children and add an activity to the calendar and go back to track the activity in the future so that I can know where I have taken my children to and how much time we spent on the parks or playground.		
Story Number	User Stories	Status	Priority
1.	Jack wants to know the parks near his home so that he can know where to take his daughter to play.	Completed	High
2.	Mary wants to have an account for the website so that she can go back and track the activity she has planned for her children.	Completed	High
3.	Mary wants to add activity on the calendar based on the parks or playgrounds so that she knows how much time she spent with her children on which parks or playgrounds.	Completed	Medium
4.	Vivian wants to the information of health disease related to over sugar intake so that she can remind her and her children not to take too much sugar.	Completed	Low
Iteration 3 (done by 28/09/2018, Week 10)	The main purpose on iteration 3 is to improve and perfect the functionalities done on the previous iteration. More functionalities could be added on iteration 3 such as the community function and diet list suggestion function.		
Epic	As a user, I wants to look for experiences shared by other users as well as share my experience with them so that I can learn something from others such as good way to control the sugar intake for children and I can help other users who need help. I also want to look some diet food		

	suggestion so that I can know what is good for my children.		
Story Number	User Stories	Status	Priority
1.	Vivian wants to look for experiences sharing by other parents and know how they help their children to lose weight so that she can help her children to become healthier.	Processing	High
2.	Vivian wants to share her own cooking experiences to other users so that she can help other parents as well as learning from them.	Processing	High
3.	Jack wants to look for some healthy food diet suggestion for children so that he can prepared healthy food for his daughter before he goes to work.	Processing	Medium
4.	Mary wants to know the history of how much sugar she provided for her child so that she can better control the sugar level for the upcoming date.	Processing	Low

2.3 Change on iteration 2

The functionalities for iteration 1 are remained unchanged expect the UI of the whole system. The functionalities built on iteration 2 are different compare to the plan on iteration 1. The map function is moved from iteration 3 to iteration 2. The map function will combine with a calendar and allow user to track activities and plan. The calendar is a new function for the system. The information page about diseases related to over sugar intake will be provide on the website on iteration 2. The diet list suggestion is moved to iteration 3 because related information and dataset are not enough in this stage. Register and log in function is also moved to iteration 2 and user requires to log in before they can use the tracking function. The plan for iteration 3 is to provide community function for users. Data visualization will also be added on the website for iteration 3. Sugar level tracking function is also added for the iteration 3.

2.4 Security

The main security of iteration 1 is the communication channel. The website is on the Internet and most of the servers will be allocate on the Azure cloud server. Therefore, for the security of the website, SSL encryption as well as the certificate are required on

the setting of the website.

The main function provided on iteration 2 is map function, calendar tracking function, register and log in function as well as information providing function. As such, security issues could exist on the register and login function. SQL injection should not be a problem in the system because the language for the system is ASP.Net and it prevent the SQL injection. The problem is the register and log in function. User are required to register to the system before they can use the tracking function provided by the system. The strength of the user password is important. the system should force user to set a strong password, otherwise user account can be hacked easily. Although the website will not require use to input personal information, the password should be strong enough to prevent users account from losing.

Issue on the iteration 3 is the cross-site scripting (XSS). User are allowed to put their experience and comment on the community section. XSS could happen if user input a script on the website. To prevent this, user input should be limited and checked to make sure the problem will not occur.

3. Current iteration

3.1 Detailed Description of Iteration 2

The main functions in iteration 2 is providing information about diseases related to high sugar intake and the healthy food recipe, providing map function for users to track their activities, and providing users the log in option.

Users can check information from this website. They will know the diseases which are related to the high sugar intake in the information tab. Users will understand how the diseases is caused and how to prevent the diseases and its effects in the long term.

In addition, the map function is combined the calendar, therefore, users can add and view their activities. Users can select the park or playground which they may be interested in, and once they chose the location, there will be a small calendar shown and users can select the date and add the activity into the calendar. Users can also view the previous activities in the calendar. This function can only be used when user log in, and if they what to add the activities without log in, there is a reminder to ask them to register an account and log in the website.

The log in function will be also implemented in iteration 2. Once user has an account, they can track their activities in map function and view their activity history frequently. Besides, log in function is also needed for users to track their daily sugar intake, which will be implemented in iteration 3.

3.2 Acceptance Form

Users can access the website and use the map function to track their activities, and use information tab to know some diseases information			Website: sugarbattle.australiasoutheast.cloudapp.azure.com	
User Story		**Acceptance Criteria**	**Y/N**	**Feedback**
1	Vivian want to register an account, so that she can track my activities and view the activity history	The website can successfully register a new user		
2	Vivian wants to log in her personal account so that she can add and view my activities	Users can successfully log in once they have an account		
3	Mary wants to know some information, so that she can know more knowledge about sugar	The website shows the information of sugar related diseases successfully		
4	Jack wants to find some nearby park in the map, so that he can take his kids to do some exercise	Website can successfully show all nearby parks and playgrounds after users searching		
5	Jack wants to add some activities into the calendar, so that he can make a plan for the activities	The website shows the calendar with correct dates and allow users to add their activity successfully		
6	Mary wants to view the activity history, so that she can know where they have been and make better plan in the future	The calendar in the website shows the users' history with appropriate activities		

4. Data Source

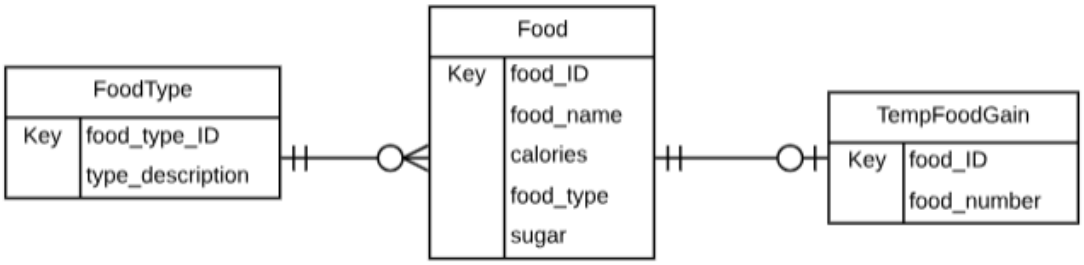
4.1 Data Description

Regarding the dataset used for the project, the Australian Institute of Health and Welfare has a breakdown of obesity and overweight in kids according to ages and this is shown over the last four financial years and this conclude how obesity is becoming an issue. The dataset shows which cities across Australian are affected and the percentage of the population with obesity kids. Regarding the dataset for the 4 categories items we aim at, there is an open source data which originate from openfoodfacts.com. We are using Australia specific datasets for the items in the website.

In addition to our functionality we have added a map for location of playgrounds and took the data from the data. The data will help in the location of different playgrounds where the parents can take the kids and be more active. Below is a tabular form of the data sources.

Dataset	Year	Granularity	Copyright	URL	Update Frequency
A picture of overweight and obesity in Australia	2017	The data is in Excel showing the age range of people (both male and female) in the overweigh or obesity threshold	https://www.aihw.gov.au/about-our-data/accessing-australian-government-data	https://www.aihw.gov.au/reports/overweight-obesity/a-picture-of-overweight-and-obesity-in-australia/data	No update
Open Foodfacts-Australia	2018	The data is given in all the ingredients included in the items including the country of manufactured.	https://au.openfoodfacts.org/data	https://au.openfoodfacts.org/cgi/search.pl?search_terms=sugar+drinks&search_simple=1&action=process	As and when required
Playgrounds in Melbourne	2018	The maps are shown on a spatial coverage where streets names and parks names are provided	https://data.gov.au/about	https://data.gov.au/dataset/playgrounds	As and when required
Google Map API	2018	The website will embed a google map API on the location page.	https://cloud.google.com/maps-platform/terms/#17-copyrightpolicies-content-removaltermination-of-repeat----offenders-accounts	https://developers.google.com/maps/documentation/javascript/tutorial	As and when required

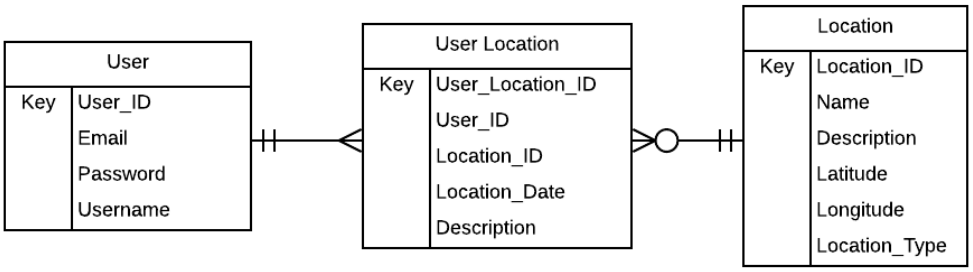
4.2 Data Model



ER Diagram 1

There are three entities in the model at iteration 1, which are named Food, FoodType and TempFoodGain. The diagram above shows the relationship between entities.

In the website, users can select the food or drinks and calculate the sugar level of the items they selected. Food is an entity that hold all information about the food items. FoodType is an entity that relates to Food entity and this entity record various food type. The TempFoodGain entity is serving for the sugar calculation functionality and it will be stored temporary information of the food collected by the user.



ER Diagram 2

3 more entities are added on iteration 2 which are ‘User’, ‘User location’ and ‘Location’. The diagram above shows the relationship between these 3 entities.

The ‘User’ entity records the basic information of user accounts, it will be utilized on the sign in and register function of the website. The ‘Location’ entity works for the map function of the website; the parks and playgrounds information are recorded in this table. ‘User Location’ works for the function of calendar and map function. When user add activities to the calendar and add place from the map, this entity will be used. 1 user can add more than one location and activities on the calendar and on location can response to different users.

5. Testing Detail

5.1 Testing Details

Tester	Hours spent on testing functions	Methods used
Kang (a student studying in Monash university)	15min	User test the website by using the manual input. Users gave some feedback for the website and discussed some ideas for next iteration. https://www.youtube.com/watch?v=7AlgjXG1AK4&feature=youtu.be
Tony (team member)	20min	Test website using manual input. The layout of each website pages has been tested, and “sugar intake”, “Disease”, and “Location” functions are tested.

Songnan Lin (team member)	20min	Test website using manual input. Testing the background and layout of the website pages. The functions of "Sugar intake", "Disease", and "Location" are tested step by step.
Lu Chen (team member)	20min	Test website using manual input. The website font and background consistency are tested. The functions of "Sugar intake", "Disease", and "Location" are tested step by step.
Ram (team member)	20min	Test website using manual input. Testing website layout and functions. Functions of "Sugar intake", "Disease", and "Location" are tested step by step.

6. Appendix

6.1 Changes in iteration 1

No.	Iteration 1 changes	Status
1	Change the user interface design of the website	The style and background have been changed now
2	Remove the "About Us" part in home page	The information of "About Us" has been removed from the website
3	Change the website word font	All the words have been changed to be the same font
4	Change the format of food pictures in "Sugar Intake Page"	Remove the food information under the picture, and just show the food pictures now
5	Change the user interface in "Result" page	The style of "Result" page has been consistent with other web pages
6	Update the database of snacks and drinks, more data have been added to the database.	All the data of snacks and drinks have been changed to be more accurate and correct