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ITERATION 1 REPORT

SUGAR BATTLE

Team Name: Super Ninja

Team Number: TA342

Team Members:
Lu Chen
Songnan Lin
Jizhou Wang
Ram Purmessur

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1. Introduction

The report will give a detailed understanding of the first iteration deliverables of our project which is sugar battle. The aim of our project is to help children with obesity or overweight to make a healthy choice and thus make both the parents and the children happy. One in four children of aged 2 to 14 are either overweight or obese in Australia in 2014 - 2015. Therefore, the target audience in this project will focus on parents of overweight or obese children (age from 5 - 10).

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. The project will develop a system that will primarily be a website with different functions and it will be divided in three iterations.

In the first iteration a website will up and running and no login details will be required where the user will be able to see sugar quantity in four main categories which are drinks, cakes, chocolate and ice-cream. These four main categories were chosen as they are the highest consumed items in children with obesity or overweight. The starting page of the website will show the main purpose of the website to the user and then information will be displayed regarding the situation of consuming high sugar items. The parents can opt to see how much sugar in grams their kids had consumed from four categories drinks, cakes, chocolate and ice-cream we have set up for iteration one. In that regard the parents will get an understanding of the overall picture and might think about alternative. In addition to that the website will provide a recommendation of how many hours of jogging recommended.   The changes from the project proposal was to narrow down our functionality and limit the children with obesity or overweight from 5 years to 10 years.

In the second iteration, there will be an extended functionality of the first iteration where the website will provide a diet list or a recommendation of the high sugar items for e.g. the website will suggest a low sugar drink like coconut water instead of coke or apple juice and reward the kids if they follow the recommendation and the rewards could be movies or trips. The effect of consuming too much sugar will be shown where the obesity kids can look around and understand the risks at an early stage of their lives.

In the third iteration a community functionality will be added to the website where users can get together and plan a cooking session or even host a session for healthy food for the kids. The website will also provide a map to show the locations of

recreational activities or parks where parents can meet and have a social gathering and can share their experience with their kids.

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 weigh 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

2.2.1 Iteration 1 (done by 31/08/2018, Week 6)

Iteration 1	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.	
Story Number	**User Stories**	**Expected date of completion**
1.	As a mother, Mary wants to know how much sugar in drinks or snacks so that she can knows whether her child is having too much sugar. how much snacks are appropriate to provide for her child to eat or drink.	31/08/2018
2.	As a mother, 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.	31/08/2018
Changes on Iteration 1	The initial plan for iteration 1 is to provide information, MBI calculation and Map functions. However, the functionalities are too much for iteration 1. By following the mentors' suggestions, the team will focus on providing sugar level calculation on drinks, ice cream, chocolate and cake.	

2.2.2 Iteration 2 (done by 14/09/2018, Week 8)

Iteration 2	The main work on iteration 2 is to update the database of the system and the main functionalities of this iteration is to provide diet list suggestion as well as basic information about high sugar level intake. (disadvantage, health problem, etc.)	
Story Number	**User Stories**	**Expected date of completion**
1.	As a mother, Vivian wants to get some information about health problem of high sugar intake so that she can remind herself to provide health food to her children.	07/09/2018

2.	As a father, Jack wants to check healthy diet list for his daughters so that he can spend less time on cooking healthy food for them.	14/09/2018
Changes on Iteration 2	The previous plan for iteration 2 is to provide an attractive web page for children to user the website. But now, the team will focus on the iteration 1 and provide information section on iteration 2. The main functionalities of iteration 2 could be change later.	

2.2.3 Iteration 3 (done by 28/09/2018, Week 10)

Iteration 3	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 login function. A map function could also be provided for parents to find location of parks or recreational activities.	
Story Number	**User Stories**	**Expected date of completion**
1.	As a mother, Vivian wants to look for experiences sharing by other parents and know how they help their children to lose weigh so that she can help her children to become healthier.	28/09/2018
2.	As a mother, Vivian wants to share her own cooking experiences to other users so that she can help other parents as well as learning from them.	28/09/2018
3.	As a father, Jack wants to find some good place near his home so that he can take his girls out and play with them as well as help his overweigh girl lose weight.	28/09/2018
Changes on Iteration 3	The plan for iteration 3 is to provide community function for users. However, the functionalities could be change at later time. No changes have been made on iteration 3 yet.	

2.3 Risk

Risks could exist in the website system:

1. The competition from other similar websites. There are some other mature health-related websites over the Internet and those websites provide lots of information, therefore, as a new website, it is not easy to draw users attention on this website which the team is building.
2. It is not easy to find enough dataset to support the functions, therefore, for some data in the website, they may be not related the topic.
3. It is also a risky operation to provide a text filed for users and allowing user to input on the website. A hacker can utilize the text filed and input some script on the website. Once the other user visits the website, the script is likely to run on the user's computer and cost loses.

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 after iteration 2 is the information section and healthy diet list. As such, security issues will not be serious and most of the security issues would be considered on iteration 3. The outcome of iteration 3 is to provide user a community function and allow user to input on the website. SQL injection will be a problem if the website provides a login function for user and the database need to be packed so that the SQL injection would not work. Another issue on the iteration 3 is the cross-site scripting (XSS) and 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 1

The first iteration of the project is concentrated on construct the framework of the website. In addition, primary functionality of the website is built on this iteration.

The main target of the website are parents with overweight or obese children (aged 5 to 10) and those parents might be concerned about the health of their children. In iteration 1, some basic information will be displayed to users on the home page of the website. The information will be about how much children is overweight or obese in Australia, how much sugar in a 600ml regular soft drink as well as how much sugar is advised every day.

Moreover, the website has a sugar level calculating function for users which can be accessed by selecting the tab 'Sugar Intake' on the top menu bar. The sugar level calculation page contains four main types of items which are soft drink, cake, ice-

cream and chocolate. The sugar level in 100 grams or litres will be shown in different items and users can pick what items they plan for their children and check the total amount of sugar in those items. In addition, a search function will be provided to users to find items more easily and allowed user to add new items into the calculation if the items are not listed in the website.

3.2 Acceptance Form

| Users can access the website and use the calculation function to know the sugar intake, and filter desert and drink by category.		http://www.sugarbattle.tk		
User Story		**Acceptance Criteria**	**Y/N**	**Feedback**
1	As a mother, Mary wants to use this website without time limited.	The functions will be installed in a stable and reliable website platform.		
2	As a mother, Vivian wants to know how much sugar my children have eaten, so I can help kids to control the sugar intake	Within the function, desert information and category is well displayed		
3	As a mother, Mary wants to search different kinds of items and drinks, so that she can easily find the food	A search bar will be shown and users can search for the different food without bugs		

4. Data Source

4.1 Data Source

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. 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=drinks&search_simple=1&action=process	As and when required

4.2 Data Model:
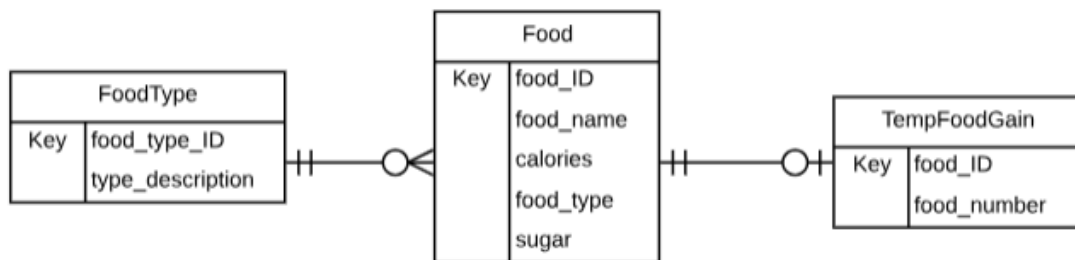
ER Diagram

There are three entities in the model 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 users.

5. Testing

5.1 Unit Testing

Test Case and Verification Script							
Functionality	**Test ID**	**Test Description**		**Test Date**	**Tester**	**Total Hour**	**Test Type**
Calculation function	1.1	Users can select and add the items to know the result of sugar intake		30/08/2018	Lu (team member)	1h10min	Unit Test
Step	**Step Description**	**Anticipated Results**	**Actual Results**			**Time**	**Status**
1	Load the navigation page	navigation page is well loaded	Home page is well loaded			5min	Pass
2	Click "start journey" on the navigation page	Home page will be shown smoothly	Home page is shown successfully			5min	Pass
3	Scan all the information and pictures in the home page, and users must scroll down.	All the pictures and information will be shown without delay, and users can scroll down smoothly	The pictures and information are shown fast and correct, and can scroll down smoothly			10min	Pass
4	Click on "Sugar Intake" bottom	Page will show five categories tab, and all of the items pictures and information will be shown. Sugar calculation area will also be shown on the right-hand side.	All the information and pictures can be shown quickly			5min	Pass
5	Input the quantity of the items and click "add" bottom.	The items will be displayed in "My Item List" with the amount and sugar quantity of the item. The result will be shown.	The calculation is correct, and well displayed of all the items entered.			20min	Pass
6	Click search bar to add an item manually	Items which are available will be displayed, otherwise, it can be added manually or the link below will give the nutrients of that item on the open foodfacts.org and can be added manually.	Available item is shown correctly or a new web page will open for items which are not available			15min	Pass
7	Click on the "result" bottom	The amount of 15g-sugar scoop and 10cm-cube sugar will be displayed. Also, how many hours activity should be done	Page well loaded with recommendation, and amount of sugar intake displayed			10min	Pass
Test Results	**Pass**				**Review and Acceptance (Initials)**		
☒ Results Satisfactory – Pass and Accept				☐	☐ __		
☐ Results Partially Satisfactory – Reject and Retest					☐ __		
☐ Results Unsatisfactory – Reject and Retest					☐ __		
☐ Description of failures, errors, or rejections:					☐ __		

5.2 User Experience Testing

Link: https://mahara.infotech.monash.edu.au/mahara/view/view.php?id=20947