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PROJECT PROPOSAL
SUGAR BATTLE

Team Name: Super Ninja

Team Number: TA342

Team Members:

Lu Chen

Songnan Lin

Jizhou Wang

Ram Purmessur

PART A: EXECUTIVE OVERVIEW

This project proposal purposes to help obesity or overweight kids to lose weight and be healthy in Australia. This project includes a website where parents of those kids will input the data of their kids and a recommendation will be generated to follow and maintain a healthy habit.

Currently obesity is one of the top 5 diseases in Australia and around the world. Australia is one of the worlds with largest number of fat people where one third of Australian are now obese or overweight. According to the Australian Institute of Health and Welfare (AIHW), 26 per cent or 1.2 million kids have a BMI or higher. From the analysis of World Health Organisation (WHO), being obesity will increase the risk of other diseases such as high blood pressure, cardiovascular disease, stroke, gout, musculoskeletal problems and back pain. Before these diseases become a problem for a kid the project will aim at remedying the situation and make a healthy and happy Australia.

The project will help in maintaining a healthy lifestyle along with activities which will help the kids to remain fit. The website will provide the calories of commonly consumed products and weight its calories, adding up the calories intake and then calculate how much calories need to be decrease. Moreover, some activities will be recommended to be physical. However, the challenge is whether the target audience who are the parents will be willing to use the website and benefit from it. The following is a Lean Canvas which shows how we approach out topic.

For more information, please visit the following Mahara Link:
https://mahara.infotech.monash.edu.au/mahara/view/view.php?id=20948

<table>
<tr>
<td rowspan="2">Problem / Need

1. Increasing number of obesity childrens in Australia.

2. About 25% of children are obesity or overweight in Australia.</td>
<td>Solution

- Provide a health tracking website for parents of obesity or overweight children.</td>
<td rowspan="2">Unique Value Proposition

1. Parents 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 on the website and help their children lose weight.</td>
<td>Competitive Advantage</td>
<td rowspan="2">Customer Segments

Parents of obesity or overweight children</td>
</tr>
<tr>
<td>Key Metrics

Using a network traffic calculator to count how much time the website have been visited</td>
<td>Channels (Marketing and Communication)

Website over the Internet</td>
</tr>
<tr>
<td colspan="2">Cost Structure</td>
<td colspan="3">Revenue Streams</td>
</tr>
</table>

Lean Canvas

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PART B: TEAM DESCRIPTION

SUPER NINJA

Ram Purmessur

Master of data science.

Skills: good at processing data, including data cleaning, data collection, and data analyze. Take the responsibility for processing data in the whole project

Jizhou Wang

Master of information system

Skills: good at software development, programming, such as java, python, R. Take the responsibility for programming during the project.

Lu Chen

Master of business information system

Skills: user interface design and business analyze. Take the responsibility for writing and user interface design.

Songnan Lin

master of network security

Skills: user interface design, system security maintain, some programming knowledge. Take responsibility for user interface design and supporting programming.

PART C: PROJECT DESCRIPTION

1. THE PROJECT DESCRIPTION

Technology are growing fast and changing our lives in many good ways but with having so many services at our fingertip we tend to be lazy. In the past without society media platforms e.g. Facebook, Twitter or Instagram, PlayStation or iPad kids had more physical games like running in the parks, mount climbing, hide & Seek and those days kids were more active and very rarely were overweight let alone obese. According to health direct Obesity is caused by eating too much and moving too little. One in four kids are overweight or obese which will be a problem for the next decade workforce if no action is taken. Helping the kids at the early stage will help in maintain a health population.

The main factors that will lead to obesity are as follows according to BetterHealth:

1. Food choices – these include choosing high fat and sugary foods instead of healthier options.
2. Lack of physical activity – Australian children are less active than they were in the past.
3. Spending a lot of time on sedentary pursuits – Australian children watch, on average, around 2½ hours of television a day, as well as spending time using computers and other electronic games. It seems that these pastimes are replacing active ones.
4. Overweight parents – a family's eating patterns can have a major influence on whether a child maintains a healthy weight. Some overweight parents may be less concerned about their children also being overweight than parents who have a healthy weight.
5. Genetics – some rare gene disorders cause severe childhood obesity. In many other people, particular genes acting together probably make some children more susceptible to obesity. If there is a family tendency to become overweight, parents need to be even more aware of making healthy food choices for the whole family.

A PACT Analysis is used to in designing the website so that it will be useful for the users and help in achieving the desired outcome.

- **People:**

Since people differs in many ways the website will cater their computer literacy knowledge, cognitive abilities and physical abilities. The website will be simple to use which will not be a struggle for any level of user. In addition to that the website will be of easy use with inputting data(digit) and click and continue so that people of low cognitive skills will be taken care of and lastly some people have physical abilities issues like colour blindness or sight difficulties the website will have colours which will not affect those type of users and also have a magnifier for people for low vision impaired people. Lastly images and easy understandable charts like line graph, histogram or bar charts will be shown to show progress of the users.

- **Activities:**

The activities to consider will be how frequent the user will log in the website and how many times they must input the details of the kid and the colours on the website and the size and font used in the website. In addition, the website will include hotspots for easy navigation and links to useful information and the user will see their progress and can plan. Lastly if the user wrongly input the login details for more than two times then he or she will need to reset the account without the losing their data.

- **Contexts**

Regarding the contexts the website can be access in any device with internet connectivity and track the progress of the kid performance. In addition, the language used in the website will be basic and simple to read English so that it will not be difficult for users to read and use the service.

- **Technologies**

The technology used can be any windows with a web browser with access to internet and will help if there is an antivirus installed on the device. The details of the users and progress should be shown once a secured login is attempt.

1.1 SOLUTION:

The solution which is proposed in the project is a website where parents will input the kids details and a calories intake will be produced and match with the recommended intake. Based on the difference a recommendation plan will be developed where the parent will need to follow. The following is an idea on how the solution will be as per the website.

1. The parent will need to create an account will be the starting point
2. The first step a Body Mass Index (BMI) will be calculated which will decide whether the kid is obesity, overweight or underweight.
3. Based on the BMI an ideal calories intake will be given
4. The recommendation will be given on how many calories to deduct and include some activities for the kids
5. In addition, a substitute of healthy snack will be provided in case the kid is hungry
6. Lastly a leader board will be generated among users based on the update they give fortnightly on the weight or sugar intake has been decreased.

1.2 POTENTIAL STAKEHOLDERS:

Parents with obese kids: the main stakeholders (users) of the application are parents who tend to care about their fat kids and find a reasonable and effective way to control the obese tendency of their kids by the application. This is also the platform for them to teach their kids on the harmful substances such as sugar which would lead to the obesity.

Kids aging from 2 to 17: another potential stakeholder are kids themselves ranging from 2 to 17 because they are facing the most significant time of growth. Some of them who encounters the problem of obesity would like to find a solution to lose weight and keep fit in the application.

1.3 POTENTIAL SPONSORS:

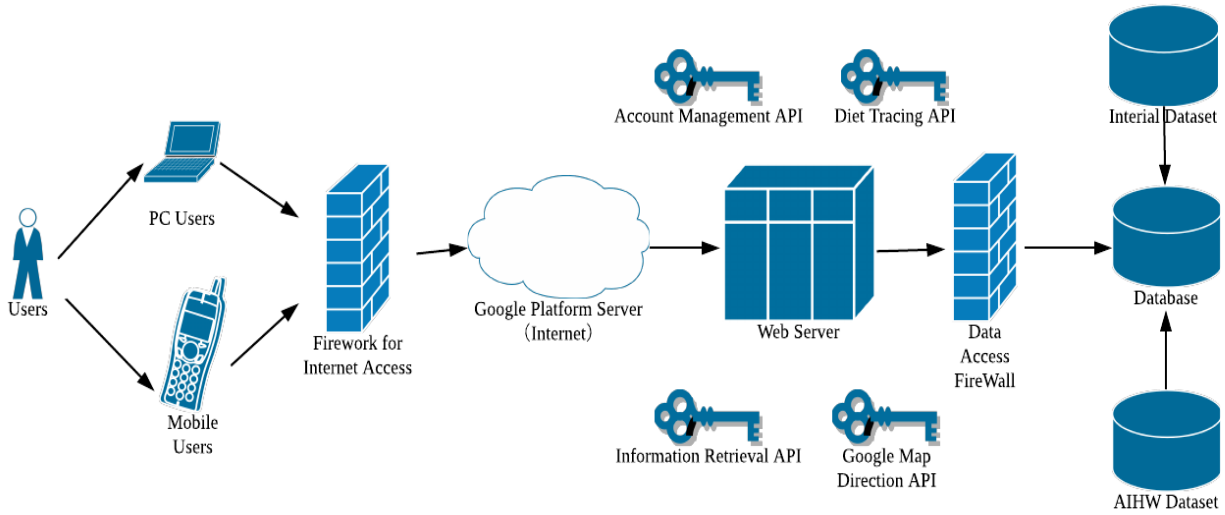
Kids Health Care Organization: the application would help this kind of organizations easily disseminate their concepts and implement their strategy. A large of time and money could be saved at the time.

Australian Government: the government could also educate children of the country with the help of the application.

1.4 WHY IT IS IMPORTANT

It is from the statistics that about 26 percent kids in Australia who are stuck in the obesity problem. It is necessary to do something to control this kind of catastrophic situation. Parents with their fat kids need to find an effective procedure to keep health without getting trouble knowing which harmful substances contribute more to the problem. If they could tracking their healthy diets every day, it would save a lot of money used for controlling obesity such as having the operation or going to gyms.

2. SYSTEM ARCHITECTURE



The diagram above is a simple system architecture of the application. In terms of its structure, user could access the website through computers and mobile devices. A firework is building in front of cloud server platform to evaluate the user's access before user can connect to the internet and cloud server. Inside the web server, users have access to different functionalities including mapping, information retrieval, account management and diet tracking. Information as well as statistics is supported by datasets in Australia such as Australian Government Open dataset.

3. USER STORY

The implementation process of the project will be divided into 3 iterations. Each iteration will contain various functionalities of the system.

3.1 PERSONA

The followings are some personas of the project:

Name	Mary Li
Occupation	Teacher
Demographics	• 30 years old • Mother of 1 child • Married • With Bachelor of education degree
Goals and Tasks	Want to get some information about the disadvantage of over sugar intake, and educate her kid to eat less sugar in daily life.

Name	Jack
Occupation	Software Engineering
Demographics	• 40 years old • Divorced • Father of 2 child (one of the kids is overweight) • With master of Information technology degree
Goals and Tasks	Wants to track how much sugar his kid have eaten in daily diet, and also wants to control every day's sugar level of his child. Wants to know the BMI of his overweight child and solve the obese problem.

Name	Vivian
Occupation	House wife (No job)
Demographics	• 35 years old • Mother of two overweight girls • Married
Goals and Tasks	Wants to look for some place for her children to exercise or entertainment near her home, and wants to know how other children lose weight as well as how much weight they lost.

3.2 ITERATION 1

The first iteration will focus on the basic functionalities of the website. Information include how much children are overweight or obesity, health problem of over sugar intake, sugar level of some foods will be provided. BMI calculation will be provided to users as well as diet suggestion related to the target's BMI. Base on user's input, location of playgrounds of parks will be provided.

User Stories:

1. As a mother, I want to know the BMI of my children so that I know whether I should control the diet of my children.
2. As a father who has busy business, I want to know some diet suggestion for my overweight child so that I do not need to take too much time looking for what to cook for my children.
3. As a mother of two obese children, I want to know where I can take my children to go for playing and doing exercise so that I can help them lose weight.
4. As a mother and a teacher, I want to know the sugar level of different types of food or soft drink and the disadvantage of over sugar intake so that I can educate my child not to consume too much sugar.

3.3 ITERATION 2

More functionalities will be implemented in the second iteration. Register and login functions will be implemented in this process. User with an account can make a plan and track the effort he/she has

worked so far. Users are allowed to manage their profiles. Users can calculate how much sugar or calorie their children consume every day and look for substitute for high sugar level or high calorie food.

User Stories:

1. As a mother, I want to select some food and know how much sugar and calories my children have eaten every day, so that I can know whether my children eat sugar in a normal range.
2. As a mother, I want to add and edit my children's personal information, so that I can keep my children's information on track.
3. As a father, I want to set plans as well as goals for my children based on the suggestion of the website, so that my children can have appropriate schedules to help them lose weight.
4. As a father, I want to search some healthy foods to substitute high sugar/calorie foods, so that I can give healthy food to my children and control their level of sugar intake.

3.4 ITERATION 3

In the last iteration, we will focus on the function of leader board and user online discussion. Users can view their ranking in many aspects, including their weight, the days they insist, and the weight they have lost. Users can also share their experience and outcomes online with other users. They can also post their problems online and discuss with other users. In order to discuss online, users have to register an account first and login the website. We will implement all of these functions in the third iteration.

User Stories:

1. As a father, I want to view how many days my children have insisted in cutting out the sugar, so that I can encourage my children to stick on eating less sugar.
2. As a mother, I want to have to have a platform to communicate with other parents who are helping kids to cut out sugar in their daily life, so that I can learn more useful information and experience from others
3. As a mother, I want to post my problems online, so that many other users who have the same problem can share their idea with me and we can discuss with each other.
4. As a father, I want to have an account and collect some useful information within the account, so that I can view the information conveniently.

PART D: ASSUMPTIONS(RISKS)

There are some risks may happen in the project:

1.Confused Sugar-intake Information Display
Description: the application would illustrate the information of harmful sugar-intake information for parents and their kids. However, it would be risky measuring right amounts of sugar intake for different kids in terms of their weight, height and other situations. It is necessary to research enough on this kind of statistics.

2. Lack of Returning Customers
Description: For the section of Game in the application, it is hard to acquire returning customers. After the game is played once, the kids would not like to play the same at the second time. It is necessary to consider the variability of the game section.

3. Effectiveness of leading kids to right diets

Description: although the application would possess the section of game for knowing which food or drinks are full of sugar, it is difficult to control their diets because what they could still get cokes or sweets from their Parents.

4. Privacy Problem on Map Section
Description: according the ideas, our website would own the functionality of register and log in, which would record the information of users' address. It is risky to store such personal information and parents might worried about the safety of them and their children.

5. Difficulty of Tracking Kids' diets
Description: in terms of the tracing kids' diets section in the application, it would be risky to expect their parents to check the system in the application frequently and they might abandon the plans the application designed for their kids.

PART E: SECURITY ASPECTS

A website on the Internet exists various security issues, the following security issues should be covered for the website:

1. The website requires users to register and login. The password setting by users should be at least 8 characteristics that contains numbers and letters. Otherwise, the password could be easily cracked, and user information will be leaked.

2. Cloud server is required for the construction of the website. Therefore, a trustworthy could server platform like Google, Baidu, Microsoft should be chosen. A good server platform can best prevent user data from leakage.

3. SSL should be utilized to encrypt the communication channel between user and the web server. A communication channel without encryption can be easily exploited by attackers and attacker can eavesdrop user information from the open channel.

4. The website should prevent SQL injection. If a SQL injection is working in the website, anyone can have access to user data and that is not secure.

5. The website should also prevent cross site scripting (XSS). User are not allowed to store script on the website. Otherwise, the script may be executed on other users' web browser and it can hijack victims' session or redirect user to malicious website.

PART F: OPEN DATA DETAILS

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. In addition, the dataset shows which cities across Australian are affected and the percentage of the population with obesity kids.

PART G: APPENDICES

1 MINUTES OF INDUSTRY METOR MEETING

FIT5120 - Meeting Minutes

Team Name: SUPER NINJA

Friday August 10th 2018	
12:50 pm – 13:10 pm	
Monash Building T1.34	
Chair Industry Mentors	
Present Lu Chen (Minate take); JiZhou Wang; SongNan Lin, Ram Purmessur	
Agenda	**Presenter**
1.0 Meeting Opening 2.0 Introduced the agenda to industry mentors 3.0 Team members self-introduction to industry mentors 4.0 Briefly illustrated on the ideas of the project topic 5.0 Explain the functions which involve in the website 6.0 Asking for the feedback from industry mentors	Ram Purmessur; Lu Chen; JiZhou Wang; SongNan Lin
Outcome: After the meeting, our team get some feedback about our project from industry mentors: 1. Our idea is making a website about sugar for parents with overweight kids, and industry mentors agreed with the idea of the project. 2. For some ideas which they think are unfeasible, they provided some feedback: 2.1. The project scope is large, and we need to narrow down the scope. 2.2. There are many functions in the website, which is hard for us to achieve in the following weeks. 2.3. The functions for target audience may not attract their interests, and they may forget this website when after they look for it. According to their feedback, our team accepts the advices and decided to improve our ideas and functions in the website.	

Next meeting time: August 13th 2018.

2 REFERENCES

Australian Institute of Health and Welfare: Data from the Australian government on the tendency of people's obesity and overweight
https://sydney.edu.au/medicine/research/units/boden/ANPHA%20Obesity%20Prevalence%20Trends.pdf

Better Health Children (2018). Retrieved from
https://www.betterhealth.vic.gov.au/health/healthyliving/obesity-in-children-causes

Obesity doubles in a decade and two-thirds of us are fat, report claims (2018). Retrieved from
https://www.news.com.au/lifestyle/health/health-problems/obesity-doubles-in-a-decade-and-twothirds-of-us-are-fat-report-claims/news-story/e6573d6cde9d8435577a5b6c8646b428

Obesity (2018). Retrieved from
https://www.betterhealth.vic.gov.au/health/healthyliving/obesity

Obesity (2018). Retrieved from
http://www.who.int/topics/obesity/en/

Obesity in children causes (2018). Retrieved from
https://www.betterhealth.vic.gov.au/health/healthyliving/obesity-in-children-causes

System architecture(2018). Retrieved from
https://www.mitre.org/publications/systems-engineering-guide/se-lifecycle-building-blocks/system-architecture