



# First Bite

CMPT 276 Project Proposal - Assignment 1

<https://sites.google.com/view/group-7-project-site>

## Healthy 7 - Group 7

Leon Trieu [thtrieu@sfu.ca](mailto:thtrieu@sfu.ca)

Han Yang [hya53@sfu.ca](mailto:hya53@sfu.ca)

Jeff Wang [jwa220@sfu.ca](mailto:jwa220@sfu.ca)

Winston Ye [winstony@sfu.ca](mailto:winstony@sfu.ca)

Ho Yin Kelvin Lee [hyl30@sfu.ca](mailto:hyl30@sfu.ca)

## Table of Contents

Revision History .....	2
Project Summary .....	3
Project Overview .....	4
Project Planning .....	5
Project Schedule.....	7
Risk Management .....	8
Project Organization and Staffing Plan.....	9
References .....	12
Appendix A.....	13
18/05/16 Meeting Minutes .....	13
18/05/23 Meeting Minutes .....	14
18/05/25 Meeting Minutes .....	15
18/05/30 Meeting Minutes .....	17

## Revision History

<b>Revision</b>	<b>Status</b>	<b>Publication/Revision Date</b>	<b>By</b>
1.0	Created	May 25 <sup>th</sup> , 2018	Leon
2.0	Revised (added) <ul style="list-style-type: none"><li>- Summary</li><li>- Overview</li></ul>	May 27 <sup>th</sup> , 2018	Winston, Kelvin
3.0	Revised (added) <ul style="list-style-type: none"><li>- Project Plan</li><li>- Risk Management</li></ul>	May 29 <sup>th</sup> , 2018	Han
4.0	Revised (added) <ul style="list-style-type: none"><li>- Project Schedule</li><li>- Staffing &amp; Organization</li><li>- Project Website</li><li>- Table of Contents</li><li>- References</li></ul>	May 30 <sup>th</sup> , 2018	Everyone
4.1	Final Revision (updated & edited) <ul style="list-style-type: none"><li>- Formatted</li><li>- Proofread</li><li>- All content</li></ul>	June 1 <sup>st</sup> , 2018	Everyone

## Project Summary

Parents are anxious and distressed when it comes to caring for their new infant. We want to help new parents by providing a tool in keeping track of their newborn's nutrition and their *First Bite*. *First Bite* is an iOS application downloadable from the App Store that will provide four key features to track a baby's nutrition and growth such as: a food diary, a dynamic diet guide, a trends viewer, and the baby profile. With *First Bite*, we will provide personalized information from Dietitians of Canada and the Government of British Columbia. The goal of our product is to help all families in the Lower Mainland and to support the Healthy Families BC campaign in British Columbia.

## Project Overview

First Bite is inspired by Dr. Gerry Kasten, a Public Health Dietitian from the Dietitians of Canada, and by the Healthy Families BC campaign. Gerry Kasten expressed concern when it comes to presenting baby nutrition to parents. It is difficult to convey all the relevant information in the loud environments and time constraints found in drop-in sessions at libraries and community centres. There many dietician hosted parent-infant workshops in the Lower Mainland which demonstrates that there an audience who looking for guidance on baby nutrition. With our application, we want to ensure all parents receive accurate and concise information; following the Healthy Families of BC and the Vancouver Coastal Health guidelines. We also want to provide a quick way for parents to show general and nutritional data regarding their baby to dietitians as well.

First Bite is created for dietitians of BC and all parents who have infants of less than 24 months. The stakeholders in this project are Gerry Kasten, who will decide what key components should be prioritized as it is an application that helps him and other dietitians. Our professor, Dr. Herbert Tsang, is also a key stakeholder who will oversee and guide the project development.

The application has four dynamic features to keep records of their babies:

Firstly, First Bite has a food diary feature that allows parents to input data on their babies' consumption including their breastfeeding, and a baby formula calculator. The food diary will also generate dynamic relevant information based off the data acquired. It can also provide past history data for dietitians or parents to look into in the future.

Secondly, the application has a trends view, which provides more analytical summaries for the professional uses of dietitians. It displays graphs and diagrams based off user-provided data and can compile important statistics and trends that dietitians need.

Thirdly, parent users can access the latest diet guidelines uploaded by licensed dietitians from Vancouver Coastal Health and the Healthy Families of BC. The guidelines are categorized by age and can provide essential data regarding a baby's nutrition. It can also provide the user with informative lessons to help answer common inquiries they may have.

Lastly, First Bite can provide parents with a profile to keep track of their infants' age, heights, genders and weights. With this personalized information, users will not only receive personalized information, they will also be able to export and share the data they have inputted. Parents will also have the ability to find local Parent-Infant drop-in sessions within community centres and libraries, based off their location.

First Bite will use a combination of internal storage and server storage. The user will be able to use the application without an internet connection. A backup of the profile data can be created if an internet access is provided. The user can also share and export the profile data via Bluetooth. The application will also use location data from the user to find local drop-in sessions.

## Project Planning

Our team will be documenting the meeting minutes on our project website. The meeting minutes would include all the group discussions during our weekly face-to-face meetings. Besides the weekly meeting, our team members share the document repository on Google Drive and Google Doc. Files and the documents will be updated regularly based on the project progress.

Communication services such as Facebook Messenger and Discord (video conferencing) will be used in efforts to promote daily communication and more accessible ways to have discussions and updates.

As a group, it is decided that the weekly face to face meetings will be held on Friday evenings at Simon Fraser University. School resources such as the CSIL labs, conference rooms, and so on will be utilized towards the project. Further meetings can be scheduled based on availability and urgency at the current point of the project.

The team website was built using Google Site. Team members' contact information and technical biography are posted on the website. We also share the Github version control repository link in the team website.

At the starting phase of the application development, the communications would remain among Herbert (instructor), Gerry (Dietitian) and our group members. After the prototype of our application is ready, we may conduct user acceptance test with potential users and ask for their feedback regarding user experience.

For internal communication, most of the important topics should be covered in weekly face to face meetings. Documents or files will be added to the document repository so that multiple group members can contribute or comment on the same document.

The Github will serve the purpose of being the version control system in our project. Our team members will contribute their coding work to nodes/branches. Github is the repository for coding blocks such as individual Swift/Objective C classes and functions. By using Github, we also ensure that version changes made by one of the team members would not interfere with the base code shared with the entire group.

Xcode is the primary software that we will use to develop our application for the iOS system. With Xcode being the official app development tool for iOS systems, it is designed to optimize the app development process and support the latest iOS features. System building will be completed in Xcode. Codes in Xcode are collected and reused from the project's Github repository.

+

Change management is usually mandatory for large software systems. Since this project has a relatively smaller scope, feature changes should be handled immediately during or after the development phase. The release management should be handled automatically by App Store. If our team decides to maintain the software after the class, we will release major and minor versions update regularly.

From the student perspective, we would not have any funding. For the learning purpose, our main cost would be time. From the business perspective, the budget would be around \$8,000 (\$10,000 overall income with 20% profit margin). Given we have 5 members working on this project, we don't need to hire more staff. Our team members divides the project into small pieces such as project plan, application design, application development, quality control, etc. Team members will work closely to make sure everyone is up to speed.

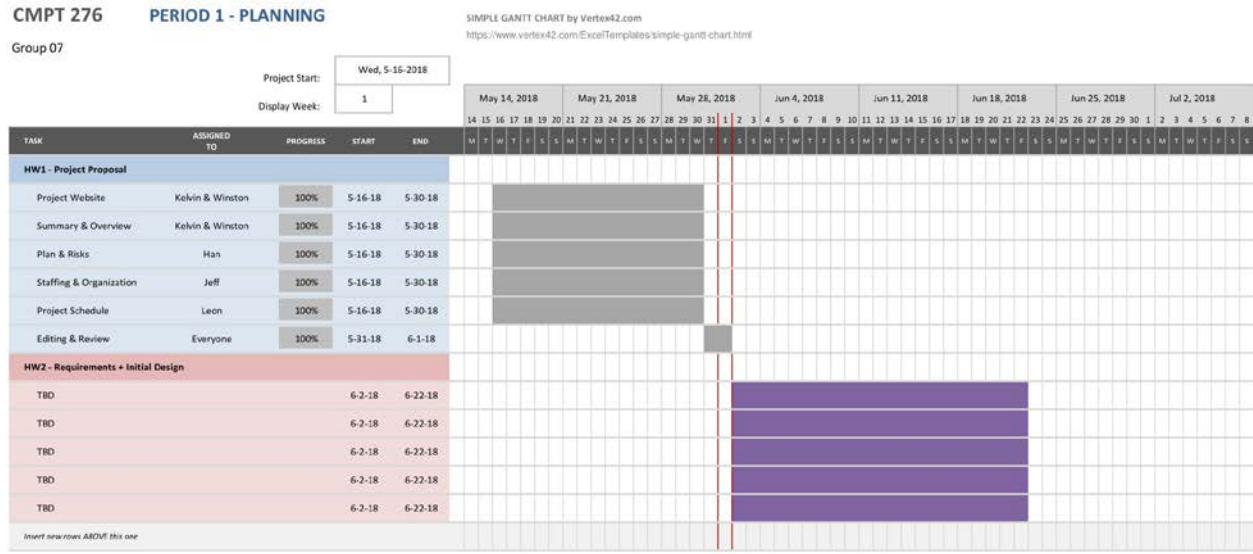
The majority of expense goes to the effort cost. The effort cost is for covering the work-hour payments to project managers and software engineers/developers. As team members requires systems and tools for application development, hardware/software and the corresponding maintenance/support cost is generated. Other costs such as traveling cost would occur if face to face project meeting is required.

In terms of cost estimation of this project, given the budget is \$8,000, the effort cost should be roughly \$7,200 quarterly (90% of our budget); the hardware/software cost might be around \$560 (7% of our budget); the travel cost could be \$240 (3% of the budget).

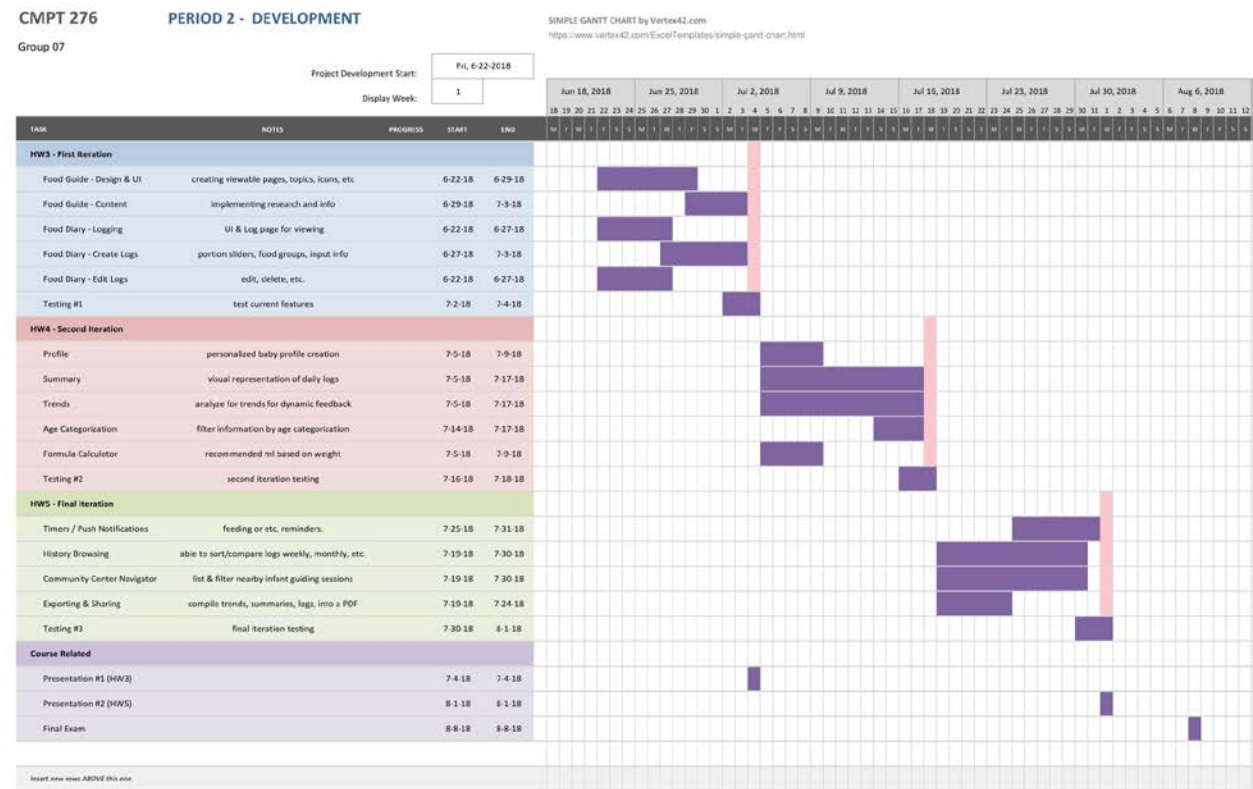
## Project Schedule

The project was divided into two periods; the planning period and the development period. Gantt charts were created using a Microsoft excel template.

The planning period encompasses the project proposal, initial requirements and design.



In the second period, it includes each iteration phase of the project and the project's ideal timeline for its deliverables and milestones.





## Risk Management

<b>Risk</b>	<b>Potential Impact Scale</b>	<b>Likelihood of occurrence</b>	<b>Impact Area</b>	<b>Mitigation Strategy</b>
<b>&lt;Estimation Risk&gt;</b>				
Underestimate required development time	Significant	Moderate	Project delay	Investigate buying-in components, shift efforts into key features
<b>&lt;Organizational Risk&gt;</b>				
The course is cancelled	Severe	Very Low	Project cancellation	Model the application parts to be reused in new project.
<b>&lt;People Risk&gt;</b>				
Team member turnover/absent	Significant	Low-Moderate	Project delay	Reorganize team with overlap of work so the vacancy can be covered by other members.
Team member unable to meet deadlines	Significant	Low-Moderate	Project delay	Communicate consistently with members, and provide additional help to those as needed
<b>&lt;Requirements Risk&gt;</b>				
Project requirement is changed	Severe	Low	Project rework	Keep statistics to assess requirement change impact. Adjust project design early and accordingly.
<b>&lt;Technology Risk&gt;</b>				
Database underperformed	Minor	Moderate	Financial burden/ Potential project delay	Switch to a high performance database
<b>&lt;Tools Risk&gt;</b>				
Rented Mac equipments has to be repaired	Minor	Low	Financial burden/ Potential project delay	Invest in alternate equipments.
Limited CSIL lab access	Moderate	Low	Project delay	Access at lower-peak times, i.e. arrive earlier or later. Invest into personal-use equipment.

## Project Organization and Staffing Plan

**Leon Trieu – Project manager –** [thtrieu@sfu.ca](mailto:thtrieu@sfu.ca)



### **Role and Responsibilities:**

Leon Trieu is the project manager for First Bite, a baby tracking app to help parents of newborns. The project manager is responsible for project planning which consists of estimating and scheduling the project development. He needs to assign the appropriate tasks to the team members with the proper assets. This also includes monitoring that development is carried out at the required standard, in addition to the time and budget constraints. Leon is also in charge of analyzing what risks that may affect the project and act accordingly under such circumstances. This responsibility also carries over to managing the team, where he must understand and communicate with the team in a way that maximizes efficiency and performance. This communication includes reporting to the customers and ensuring that customer requirements are met. It may be presented in the

form of regular progress reviews or a detailed project proposal. As the project manager of First Bite, it is his job to ensure that the development team overcomes these constraints and deliver high quality software to the customer.

### **Skills and Background:**

Leon is a third year Computing Science student at Simon Fraser University. He has previous experience of working on projects involving Java, C++, C#, GO and other languages. He shows diligence and interest into the work he does and is eager to take on challenging projects. Leon hopes to take away valued experience and knowledge over this summer. He has interests in music, software development, and cooking in his spare time.

**Han Yang – Lead Developer – [hya53@sfu.ca](mailto:hya53@sfu.ca)**



**Role and Responsibilities:**

As the lead developer, Han Yang is the bridge between the programming team and the management team. His responsibilities include familiarizing himself with the technologies and requirements of the project. He must also design the architectural framework for the application, which includes setting the coding standards for the development team. He needs to research proper technologies that can be implemented into the system and ensure that the code is organized and well documented. As the lead developer it is Han's responsibility to ensure that the project meets all the software requirements set out by the customer.

**Skills and Background:**

Han Yang is currently working as a LMS and web integration specialist in the Centre for Education Technology department at Douglas College and has been since year 2014. Han was also involved in building and maintaining web systems for several family practices and specialist institutions between year 2016 and 2017. Han graduated with a diploma in computing science from Douglas College in year 2014.

**Jeff Wang – Test Analyst – [jwa220@sfu.ca](mailto:jwa220@sfu.ca)**



**Role and Responsibilities:**

Being the test analyst for the team, Jeff Wang is responsible for thoroughly understanding the application and identifying elements that need to be targeted in testing. Based on this information, he must draw up the test coverage and create appropriate test cases to evaluate the project. He is responsible for gathering and properly managing the test data to present it to the project manager and lead developer. In addition he must maintain regular regression testing with the creation of new functions implemented by developers. Being the test analyst, it is his job to ensure that the application runs smoothly, efficiently and bug free.

**Skills and Background:**

As an experienced junior developer, Jeff's background in computer science help keep him highly organized. He has managed multiple databases, some which contained medical records for patients and allow efficient data collection within the ADT class. For this he analyzed the proper test scope, in order to create the appropriate test cases, and finally debug using the test data. Having experience working as a team leader for McDonalds Canada, Jeff is very observant and attentive to detail in a team environment. He is able to break

down tasks into smaller more manageable portions and thoroughly complete them in an orderly fashion. During his free time Jeff enjoys building android apps and developing websites for his peers.

**Winston Ye – User Interface Developer – [winstony@sfu.ca](mailto:winstony@sfu.ca)**



**Role and Responsibilities:**

As the user interface developer, Winston Ye is responsible for the front end design and behavior of the application. This mean he is overseeing the functionality and the aesthetics of the interface. In addition he is responsible for the overall user satisfaction. This means he must ensure that the user's needs are met in a convenient and accessible manner. To do this he would create visual representations and designs that enhances the user experience. As the user interface developer, Winston is responsible for overcoming these constraints while staying consistent to the customer requirements.

**Skills and Background:**

Winston Ye is a second year Computing Science student at Simon Fraser University. He is currently working as an Instructor at Under The GUI where he teaches game development in Unity.

Winston enjoys creating interactive websites, tinkering with his computer, and playing basketball in his spare time.

**Ho Yin Kelvin Lee – Senior Developer – [hyl30@sfu.ca](mailto:hyl30@sfu.ca)**



**Role and Responsibilities:**

As the Senior Developer, Kelvin Lee is responsible for overseeing the junior developers on the project. During the development process he must communicate with the development team and ensure that the code of the team meets the project requirements. He must also properly distribute the work between other developers, and communicate with the team to ensure team efficiency.

**Skills and Background:**

Kelvin Lee is a second year Computing Science international student at Simon Fraser University. Before coming into Canada, he was a website and mobile game developer. Kevin enjoys taking portrait photographs in his spare time and posting his works on his personal website [www.hykelvinlee.com](http://www.hykelvinlee.com)

## References

### Print References

Sommerville, I. (2016). Software engineering. 10th ed. Boston: Pearson.

### Electronic References

#### Books

Toddler's First Steps. (2018). 2nd ed. [ebook] Victoria: Ministry of Health. Available at: <https://www.health.gov.bc.ca/library/publications/year/2017/ToddlersFirstSteps-Sept2017.pdf> [Accessed 31 May 2018].

#### World Wide Web

News.gov.bc.ca. (2011). Premier Clark launches strategy for healthy families. [online] Available at: <https://news.gov.bc.ca/stories/premier-clark-launches-strategy-for-healthy-families> [Accessed 31 May 2018].

Kivi, R. (2014). The Importance of Nutrition During Infancy and Toddlerhood to Prevent Developmental Delays. [online] Bright Hub Education. Available at: <https://www.brighthubeducation.com/infant-development-learning/123353-nutrition-for-infants-and-toddlers/> [Accessed 1 Jun. 2018].

Canada.ca. (2014). Infant nutrition - Canada.ca. [online] Available at: <https://www.canada.ca/en/health-canada/services/infant-care/infant-nutrition.html> [Accessed 1 Jun. 2018].

## Appendix A

### 18/05/16 Meeting Minutes

<b>Meeting:</b>	[CMPT 276] Group 7 Team Meeting Minutes
<b>Date:</b>	May 18, 2018 at 4:23 PM

<b>Group 7</b> (absent)	<b>Discussion Items</b>
Jeff Wang Kelvin Lee Leon Trieu Winston Ye	1. Introductions/ Contacts information 2. Scheduling/ Availability

### Discussions

#### **Discussion #1** **Introductions**

Introduced ourselves and talked a little about our backgrounds and skill level. Shared contact information for easier communication.

---

#### **Action Items:**

- Everyone - add each other on facebook
- Jeff - create facebook group

#### **Discussion #2** **Scheduling/ Availability**

Discussed our schedule and availability for future meetings and time to work on assignment.

---

#### **Action Items:**

- Lean - Makes a doodle and schedule team availability

<b>Minutes By:</b>	Jeff Wang
<b>Closure:</b>	Meeting Adjourned at: <b>5:19PM</b>

## 18/05/23 Meeting Minutes

<b>Meeting:</b>	[CMPT 276] Group 7 Team Meeting Minutes
<b>Date:</b>	May 23, 2018 at 8:15 PM

<b>Group 7 (absent)</b>	<b>Discussion Items</b>
Han Yang Jeff Wang Kelvin Lee Leon Trieu Winston Ye	1. Scheduling 2. Project Proposals and Brainstorming 3. iOS Development

### Discussions

#### Discussion #1 Scheduling

The group discussed their schedules. We have utilized Doodle to figure out appropriate times to meet up to work on our project.

---

#### Action Items:

- The group will meet up on May 25, 2018 at 6PM at SFU to work on Assignment 1
- [Doodle Link](#)
- Leon - set up google doc

#### Discussion #2 Project Proposals and Brainstorming

The group proposed several ideas and decided on:

1. Community Garden Pickup + Volunteering
  - Allow community to meet up to gather surplus food (allow taking + uploading photos)
  - Break up Lower Mainland into several sections/Google Maps API
  - Members can be either volunteers or providers (or both?)
  - Sign up via social media
2. Portion Calculator
  - Distribute and calculate portions based on bowl dimensions
  - Promotes “Healthy Plate” concepts and displays in a user friendly format

- Suggest food options and additional information according to portion

**Action Items:**

- The group will strengthen these ideas or brainstorm more ideas for Friday

**Discussion #2**  
**iOS Development**

The group figured out what to do for iOS development and will work on getting either VMWare/Cloud or finding appropriate times to use the Macs at SFU

**Action Items:**

- Get an appropriate developing platform for everyone except Kelvin

<b>Minutes By:</b>	Winston Ye
<b>Closure:</b>	Meeting Adjourned at: <b>8:57PM</b>

**18/05/25 Meeting Minutes**

<b>Meeting:</b>	[CMPT 276] Group 7 Team Meeting Minutes
<b>Date:</b>	May 25, 2018 at 5:37 PM

<b>Group 7 (absent)</b>	<b>Discussion Items</b>
Han Yang Jeff Wang Kelvin Lee Leon Trieu Winston Ye	1. Finalize project proposal 2. Distribute assignment 1 workload and start 3. Brainstorm new project proposal

**Discussions**

**Discussion #1**  
**Finalize project proposal**



Agreed upon idea that the group is passionate about. To create a community with the accessibility and ability of encompassing a marketplace into a singular app that our audience can have in their handheld devices. Wrote up a proposal and outline to send to professor for feedback

---

**Action Items:**

- Leon - Sends proposal to professor for feedback

**Discussion #2**

**Distribute assignment 1 workload and start**

Allocated a portion of the assignment for each member to work on and complete before next class.

---

**Action Items:**

- Everyone - complete their assigned tasks in the task list in google docs

**Discussion #3**

**Brainstorm new project proposal**

Professor suggested that we keep thinking about our app idea, similar features can already be implemented via a facebook page. Currently we are think about idea #4. Scheduling and baby tracking app for parents of newborns. Tracks and informs parent as the baby ages and slowly progress/ introduce newborns to solids.

---

**Action Items:**

- Everyone - add to the ideas bucket page if they think of something to share

<b>Minutes By:</b>	Jeff Wang
<b>Closure:</b>	Meeting Adjourned at: <b>9:21PM</b>

## 18/05/30 Meeting Minutes

<b>Meeting:</b>	[CMPT 276] Group 7 Team Meeting Minutes
<b>Date:</b>	May 25, 2018 at 7:22 PM

<b>Group 7 (absent)</b>	<b>Discussion Items</b>
Leon Trieu Han Yang Jeff Wang Kelvin Lee Winston Ye	1. New project proposal 2. Set up 3. Brainstorm other potential ideas

### Discussions

#### Discussion #1

##### New project proposal

We want to help new parents by providing a tool in keeping track of their newborn's nutrition. Provides 4 key features to track a baby's nutrition and growth such as: a Food Diary, a dynamic Diet Guide, a Trends viewer, and a Baby Profile. Provide personalized information from Dietitians of Canada and the Government of British Columbia.

---

##### Action Items:

- Everyone - Brainstorm other important functions to help newborn parent

#### Discussion #2

##### Set up

Set up out Github, group website, Gantt charts for schedule, Xcode for iOS development

---

##### Action Items:

- Leon - Set up Github and create Gantt charts
- Kelvin - group website
- Han - Setup and familiarize with Xcode

#### Discussion #3

**Brainstorm other potential idea**

Project idea is still is subject to change. Think about a revolutionary idea that can change the dietrian world so we can be the next Mark Zuckerberg. Idea should have multiple functions to ensure a five member team workload.

---

**Action Items:**

- Everyone - add to the ideas bucket page if they think of something new

<b>Minutes By:</b>	Jeff Wang
<b>Closure:</b>	Meeting Adjourned at: <b>8:37PM</b>