CAPSTONE PROJECT 2

PROJECT PLAN DOCUMENT

What should I eat today?

VERSION: 1.0

Mentor : Nguyen Thi Bao Trang
Project Team : 101dogS Team
Team Member : Le Nguyen Hoang Van
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03/08/2020

INTERNATIONAL SCHOOL OF DUYTAN UNIVERSITY

PROJECT INFORMATION

	PROJECT INFORMATION		
Project Acronym	WIET		
Project Title	What should I eat today?		
Start Date	02/12/2020	**End Date**	05/15/2020
Lead Institution	International School, Duy Tan University		
Project Mentor	Nguyen Thi Bao Trang		
Product Owner & Contact Detail	Le Nguyen Hoang Van		
Partner Organization			
Scrum Master	Le Nguyen Hoang Van	lenguyenhoangvan18@gmail.com	0935604934
Team Members	Luong Minh Hieu	minhhieu98@gmail.com	0399870055
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PRODUCT BACKLOG DOCUMENT

	DOCUMENT NAME		
Document Title	Product Backlog Document		
Author(s)	101dogS Team		
Role			
Date	03/08/2020	**File name:**	ProjectPlan-Caps2-101dogS-ver1.0.pdf
URL			
Access	Project and CMU Program		

REVISION HISTORY

Version	Person(s)	Date	Description
1.0	Le Nguyen Hoang Van	03/08/2020	Create Product Backlog Document for project

Document Approval

The following signatures are required for approval of this document

Mentor	Nguyen Thi Bao Trang	**Signature:**	
		Date:	
Product owner	Le Nguyen Hoang Van	**Signature:**	
		Date:	
Scrum master	Le Nguyen Hoang Van	**Signature:**	
		Date:	
Team member(s)	Nguyen Dinh Luu	**Signature:**	
		Date:	
	Tran Quang Khai	**Signature:**	
		Date:	
	Luong Minh Hieu	**Signature:**	
		Date:	

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1. Introduction

1.1. Purpose

- The purpose of this document provides an overview of project, which proposes solutions include resources, technology, the benefits, priority and risks of solution.
- In addition, it is basic document used for discussion and agreement among the stakeholders.

1.2. Scope

- This document provides an overview about product, process, and team in project.
- This is just a general plan then details plan will be updated throughout the life cycle of the project.

1.3. References

No	References	Document Information
1	Proposal-Caps2-101dogS-ver1.0.pdf	Proposal document of the project

1.4. Definition, Acronyms and Abbreviations

No	Term	Definition or Description
1	WIET	What should I eat today?
2	SM	Scrum Master
3	PO	Product Owner

2. Team Organization

2.1. Team Information

Full Name	Email	Phone	Position
Nguyen Thi Bao Trang	nguyenthibaotrang@gmail.com	0915961750	Mentor
Le Nguyen Hoang Van	lenguyenhoangvan18@gmail.com	0935604934	SM, PO
Luong Minh Hieu	minhhieudn98@gmail.com	0399870055	Developer
Nguyen Dinh Luu	dinhluu098@gmail.com	0935883503	Developer
Tran Quang Khai	tquangkhai98@gmail.com	0976308098	Developer

Table 1: Scrum Team Organization.

2.2. Roles and responsibilities

Role	Responsibility	Participant(s)
Mentor	• Guide on the process. • Supporting team management skills, writing, technical and more.	Nguyen Thi Bao Trang
Product Owner	• Providing vision and direction to the Agile development team and stakeholders throughout the project and create requirements • Ensure that the team always has an adequate amount of prior prepared tasks to work on • Define product vision, road-map and growth opportunities • Provide backlog management, iteration planning, and elaboration of the user stories	Le Nguyen Hoang Van
Scrum Master	• Responsible for increasing productivity. • Using the Scrum framework. • Facilitates and coaches the team. • Owns the impediment backlog.	Le Nguyen Hoang Van
Development Team	• Responsible for quality. • Responsible for delivering the potentially shippable product of the application each sprint. • Report progress based on remaining time.	All members

	• Self-organized. • Owns the Sprint backlog.	

3. Project Overview

3.1. Project Name

The project's name is: **What should I eat today?**

3.2. Project Duration

- Project will be started on: 02/12/2020.
- Project will be finished on: 05/15/2020.

3.3. Project Goal

In this project, we provide users a solution to decided which dishes they want to eat today:

- Decided dishes easier.
- Recommend base on favorite, vegetarian, allergy, other uses.
- Recommend full meals, and weather.
- Find a restaurant easier
- Detail food information
- Booking with Now and Grab

3.4. Project Vision

Creating an application helps users decide which dishes they want to eat easier and effectively.

3.5. Project Scope

- Consists these functions:
    - Authentication
    - Get user’s information (date of birth, vegetarian, allergy)
    - Survey
    - Recommendation for today
    - Recommendation for meals, weather
    - Search dishes
    - Comment on the dishes
    - Location of restaurant
    - Food information
    - Redirect to Now and Grab for booking
- Duration: 98 days

3.6. Project Process

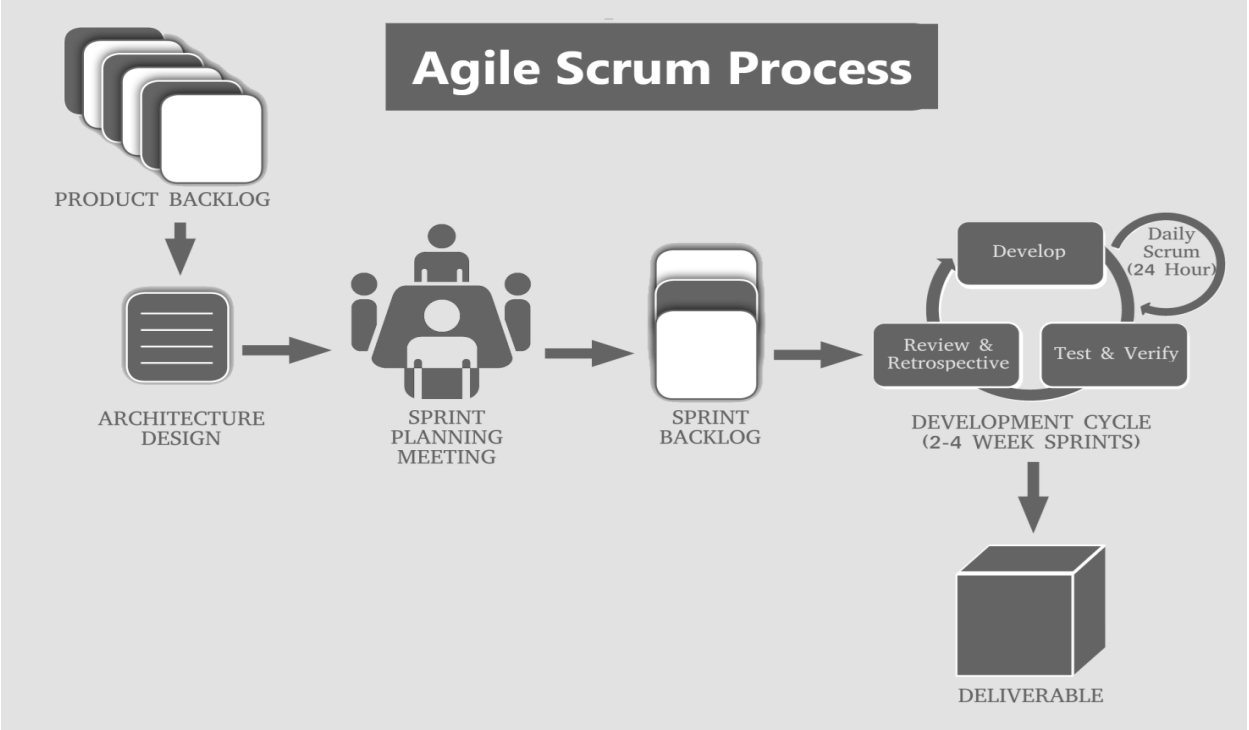


Figure 1: Scrum process overview

3.6.1. Reasons for selecting process

We use Scrum to do the project **Swimming Go** because Scrum is a process suitable for small and medium software, implementation time short and easy change request Scrum is a process popular in present with the advantages and benefits such as: Timeline Flexibility - can later or earlier than originally planned; good product quality and reduce production risk; low cost; interoperability between clients and developers among team members are set to high; the growth rate faster; saving time and errors detected earlier.

3.6.2. Description Scrum

Principle and different stages

The SCRUM methodology relies on the incremental development of a software application while maintaining a completely transparent list of upgrade or correction demands to be implemented (backlog). It involves frequent deliveries, usually every four weeks, and the client receives a perfectly operational application that includes more and more features every time.

This method requires four types of meetings:

- Daily meetings: the entire team meets for approximately 15 minutes every day in order to answer the following three questions, usually while standing: what did I do yesterday? What am I going to do today? Is there a cumbersome impediment today?
- Planning meetings: the entire team gathers to decide on the features that will make up the following sprint
- Work review meetings: during this meeting, every member presents what he has done during the sprint. They organize a demonstration of the new features or a presentation

of the architecture. This is an informal meeting lasting for approximately 2 hours which is attended by the entire team.

- Retrospective meetings: at the end of each sprint, the team analyzes both successful and unsuccessful elements of their activity. During this meeting lasting between 15 and 30 minutes where everyone is invited and speaks on their own behalf, a vote of confidence is organized in order to decide on the improvements to be made.

Scrum Organization

The SCRUM methodology involves the following three main players:

- Product owner: In most projects, the product owner is the leader of the client's project team. He is the one who will define and prioritize the product features and choose the date and content of each sprint based on values (workloads) that the team communicates to him.
- Scrum Master: He is a genuine facilitator on the project as he makes sure that everyone works at their full potential by eliminating impediments and protecting the team from exterior interferences. Moreover, he pays particular attention to the respect of the different SCRUM phases.
- Development team: a team is typically made up of 3-9 people and groups together all the IT specialists who are necessary on a project. The team is self-organizing and remains unchanged during an entire sprint.

Scrum Advantages

Scrum differs from other development methods through its advantages which turn it into a pragmatic response to product owners' current needs:

- Iterative and incremental method: this allows to avoid the "tunnel effect", i.e. the fact of seeing the result only at the final delivery, and nothing or almost nothing during the entire development phase, which is so frequent with V-cycle developments.
- Maximum adaptability for product and application development: the sequential composition of the sprint content allows to add a modification or a feature which was not initially planned. This is precisely what renders this method "agile".
- Participatory method: every team member is asked to express his opinions and can contribute to all the decisions taken on the project. He is therefore more involved and motivated.
- Enhancing communication: by working in the same development room or being connected through different communication means, the team can easily communicate and exchange opinions on the impediments in order to eliminate them as early as possible.
- Maximizing cooperation: daily communication between the client and the team enables them to collaborate more closely.
- Increasing productivity: as it removes certain "constraints" of the classical methods, such as documentation or exaggerated formalization, SCRUM allows to increase team productivity. By adding to this the qualification of each module which allows to determine an estimation, everyone can compare their performance to the average team productivity.

➔ Our team apply Scrum process to the project because it fit with our project. Fit with the size of our team and the scope of the project, moreover the project duration is less than 3 months that why we use Scrum to maximize the work performances.

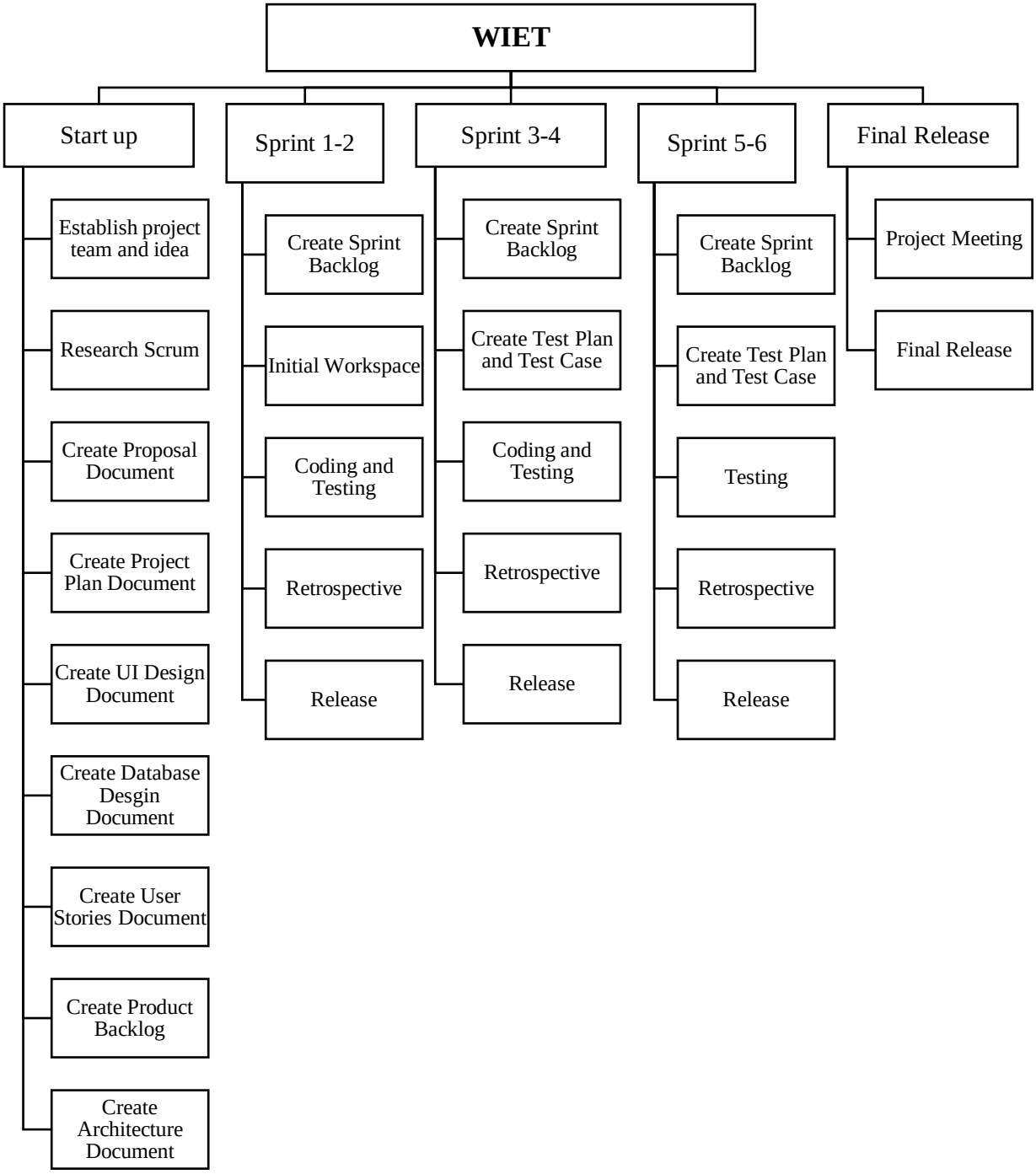
3.7. System Development Environment

Component	Development Environment
Operating system	Mobile Android Operation
Database	PostgreSQL – Google Cloud Platform
Server	Compute Engine – Google Cloud Platform
Framework/Libraries	Flask
Programming Languages	Java Android, Python
Version Control System	GitLab, Trello

Table 3: System development environment

4. Schedule/Time Management

4.1. Work Breakdown Structure


WIET
Start up
Establish project team and idea
Research Scrum
Create Proposal Document
Create Project Plan Document
Create UI Design Document
Create Database Desgin Document
Create User Stories Document
Create Product Backlog
Create Architecture Document
Sprint 1-2
Create Sprint Backlog
Initial Workspace
Coding and Testing
Retrospective
Release
Sprint 3-4
Create Sprint Backlog
Create Test Plan and Test Case
Coding and Testing
Retrospective
Release
Sprint 5-6
Create Sprint Backlog
Create Test Plan and Test Case
Testing
Retrospective
Release
Final Release
Project Meeting
Final Release

4.2. Milestone and Deliverables

No	Phase	Iteration	Start	Finish
1	Initial	INI	02/14/2020	02/14/2020
2	Start Up	SUP	02/17/2020	02/17/2020
2	Development	SPR1	02/18/2020	03/03/2020
		SPR2	03/03/2020	03/17/2020
		SPR3	03/17/2020	03/31/2020
		SPR4	03/31/2020	04/14/2020
		SPR5	04/14/2020	04/28/2020
		SPR6	04/28/2020	05/12/2020
3	Final Submission	FSU	05/13/2020	05/15/2020
4	Final Release	FRE	05/15/2020	05/15/2020

Table 4: Milestone and Deliverables

4.3. Project Schedule

No.	Task	Duration	Starting Day	Ending Day	Assign to
1	**Initial**	**1 day**	**02/14/2020**	**02/14/2020**	
1.1	Project's Kick-off Meeting	1 day	02/14/2020	02/14/2020	Team
2	**Start Up**	**1 day**	**02/17/2020**	**02/17/2020**	
2.1	Create Proposal Document	1 day	02/17/2020	02/17/2020	Team
3	**Development**	**60 days**	**02/18/2020**	**05/12/2020**	
3.1	**Sprint 1**	**10 days**	**02/18/2020**	**03/03/2020**	
3.1.1	Create GitLab repository	0.5 days	02/20/2020	02/20/2020	Team
3.1.2	Adjust backlog	0.5 days	02/20/2020	02/20/2020	Team
3.1.3	Move the tickets to the TODO status	0.5 days	02/20/2020	02/21/2020	Team
3.1.4	Config Firebase Mobile	0.5 days	02/21/2020	02/21/2020	Team
3.1.5	Config GCP	0.5 days	02/24/2020	02/24/2020	Team
3.1.6	Config Firebase Back-end	0.5 days	02/24/2020	02/24/2020	Team
3.1.7	Firebase authentication	1 day	02/24/2020	02/25/2020	Team

3.1.8	Authentication Facebook	1 day	02/25/2020	02/26/2020	Team
3.1.9	Authentication Google	1 day	02/26/2020	02/27/2020	Team
3.1.10	Create prototype	1 day	02/27/2020	02/28/2020	Team
3.1.11	Create workflow	1 day	02/28/2020	03/01/2020	Team
3.1.12	API document	1 day	03/01/2020	03/02/2020	Team
3.1.13	Build UI Login Screen	1 day	02/02/2020	03/03/2020	Team
3.2	**Sprint 2**	**10 days**	**03/03/2020**	**03/17/2020**	
3.2.1	Create TAG	0.5 days	03/03/2020	03/03/2020	Team
3.2.2	Create META-TAG	0.5 days	03/03/2020	03/03/2020	Team
3.2.3	Create SUPER-META-TAG	0.5 days	03/04/2020	03/04/2020	Team
3.2.4	User information	1 day	03/04/2020	04/04/2020	Team
3.2.5	Survey	2 days	03/04/2020	03/06/2020	Team
3.2.6	Recommendation	5 days	03/06/2020	03/16/2020	Team
3.2.7	Release	0.5 days	03/16/2020	03/17/2020	Team
3.3	**Sprint 3**	**10 days**	**03/17/2020**	**03/31/2020**	
2.3.1	Sprint Plan Meeting	1 day	03/17/2020	03/17/2020	Team
2.3.2	Create Sprint Backlog	1 day	03/17/2020	03/18/2020	Team
2.3.3	Coding/ testing	7 days	03/18/2020	03/30/2020	Team
2.3.4	Release Sprint 2	1 day	03/30/2020	03/31/2020	Team
2.4	**Sprint 4**	**10 days**	**03/31/2020**	**04/14/2020**	
2.4.1	Sprint Plan Meeting	1 day	03/31/2020	03/31/2020	Team
2.4.2	Create Sprint Backlog	1 day	03/31/2020	01/04/2020	Team
2.4.3	Coding/ testing	7 days	01/04/2020	04/13/2020	Team
2.4.4	Release	1 day	04/13/2020	04/14/2020	Team
2.5	**Sprint 5**	**10 days**	**04/14/2020**	**04/28/2020**	
2.5.1	Sprint Plan Meeting	1 day	04/14/2020	04/14/2020	Team
2.5.2	Create Sprint Backlog	1 day	04/14/2020	04/15/2020	Team
2.5.3	Coding/ testing	7 days	04/15/2020	04/27/2020	Team

2.5.4	Release Sprint 4	1 day	04/27/2020	04/28/2020	Team
2.6	**Sprint 6**	**10 days**	**04/28/2020**	**05/12/2020**	
2.6.1	Sprint Plan Meeting	1 day	04/28/2020	04/28/2020	Team
2.6.2	Create Sprint Backlog	1 day	04/28/2020	04/29/2020	Team
2.6.3	Coding/ testing	7 days	04/29/2020	05/11/2020	Team
2.6.4	Release Sprint 5	1 day	05/11/2020	05/12/2020	Team
3	**Final Submission**	**1 day**	**05/13/2020**	**05/15/2020**	Team
4	**Final release**	**1 day**	**05/15/2020**	**05/15/2020**	Team

Table 5: Schedule

5. Cost/Budget Management

Category	Detailed	Description
Start date	02/12/2020	Start up the project.
End date	05/15/2020	The end date of project.
Duration	98 days	Total days of project.
Working days (1)	65 days	Total working days of the project
Working time (2)	8 hours/day	In one day and for one member.
Total effort (3) = (1) * (2) * 5	960 hours	For five team members and entire project.
Labor cost (4) = (3) * 1	$960	For five team members and entire project ($1/hour/member)
Equipment	$1740	4 laptops
Other cost	$1000	Internet, foods, drinks, meetings, fuel…
Total cost	**USD $3700**	

Table 6: Estimated cost of the project.

6. Communications Management

- We hold a meeting every week to assign task to each member.
- We will be meeting face to face on Thursday weekly to discuss about the issues, as well as make plan for next week.
- In addition, we also use Gmail, Facebook, Slack and Trello in order to connect stakeholder's project together.

- All meeting must be documented.
- We use Bitbucket to manage the source code

Audience/Attendees	Topic/Deliverable	Frequency	Method
Scrum Master Product owner Development team	Daily Meeting	Daily	Direct meeting
Scrum Master Product owner Development team	Sprint Planning Meeting	When start each sprint	Direct meeting
Scrum Master Product owner Development team	Sprint Review Meeting	When finish each sprint	Direct meeting
Scrum Master Product owner Development team	Sprint Retrospective Meeting	Once Sprint Review Meeting is finished.	Direct meeting
Scrum Master Product owner Development team Mentor	Work report	One day of a week	Direct meeting

Table 7: Communication Management

7. Risk Management

In this part of document, it contains several risks that could happen to development team in the future. It also includes probability, severity and mitigation strategy for each risk.

Rating For Probability		Rating For Severity	
L	Rarely happened.	**L**	Low damaged
M	Sometime happened	**M**	Medium damaged
H	Usually happened	**H**	Serious damaged

Table 8: Rating for likelihood and seriousness for each risk.

Risk	Definition	Probability	Severity	Mitigation Strategy

Lack of coding experiences	A few team members haven't worked with this programming language before.	H	M	Spend more time for learning and training to each other.
Member conflict	All member can conflict with each other while working together.	H	H	All members must calm down, explain the ideals again from beginning, asked a mentor for solution.
No unified	The idea of the members is not approved by everyone.	H	M	Together analyze, exchange and unify the idea.
Schedule not unified	Each member has different schedule	H	M	Schedule an available day of the week to meet mentor and working together at night.
Incorrect requirement	Developing the product which does not meet requirements of the customer.	H	H	We need to sit together, discuss, review and come up with a remedial direction.
Behind schedule	During the develop, members leave the project or have a trouble leading to project is delayed	R	H	Ask to the help of other capstone teams. Increase our working hours or reduce workload by prioritizing important tasks.

Table 9: Project Risk.