PawGo
Project Plan

Version 2.2

By: Yushun Zeng
Daniel Waldron
Chak Ngai Wan
Panagiotis Bampilis
Kim Thai

Revision History

Date	Version	Description	Author
14-03-2022	1.0	Initialization template	The entire team
17-03-2022	1.1	Integrate old templates	The entire team
22-03-2022	1.2	Updated sections	The entire team
23-03-2022	2.0	Finish the project plan	Yushun Zeng
25-04-2022	2.1	Updated project plan timetable	Yushun Zeng
28-04-2022	2.2	Updated project plan timetable	Panos

Project Plan Instruction

1. Introduction

1.1   Purpose of this document

The purpose of this document is to provide a high-level overview of the **PawGo** project. It introduces the project vision of the team and provides some details on how the team is going to manage the internal organization.
A more detailed description of this document's scope is provided in Section 1.4.

1.2   Document organization

The document is organized as follows:

- Section 1, *Introduction,* describes the purpose, the scope and the contents of this document.
- Section 2, *Background and objectives,* describes PawGo goals and the impact it will have.
- Section 3, *Project group,* describes the composition of our team.
Development process, describes how we are going to manage the development, giving an overview of our SCRUM implementation.
- Section 4, *Organization and Communication*, describes our internal organization and how we are going to communicate and coordinate our work.
- Section 5, *Deliverable,* describes how we plan to deliver the functional requirement for the project.
- Section 6, *Technical Requirement*, describes the equipment we will use for the development, IDE and programming language.
- Section 7, *Project Plan,* shows the action we did in each week, brief summary for each activity.
- Section 8, *Quality Assurance*, describes our plan to guarantee a high quality of the final product.
- Section 9, *Proposed Approach*, highlights risks and more details of how we dealt with the risks.

- Section 10, *Risk Register and Project Risks,* identifies the different risk types and describes the risks that may come out as consequences of the PawGo project or during its development.

1.3   Intended Audience

The intended audience is:
- Project Team
- Project Supervisors
- Customer

1.4   Scope

This document aims to highlight the fundamentals of the **PawGo** project, providing the main objectives of the application and listing the requirements from a high-level perspective. It also describes our project vision, highlighting the future impact of the final product. Moreover, it tries to draw up the team's organization and the development process that the team is going to follow.

Finally, it provides an approximate timeline for the project and our quality assurance plan and also illustrates the possible risks of the project.

Mainly, the document will give a general overview of the project without focusing on specification details.

1.5   Definitions and acronyms

1.5.1   Definitions

Keyword	Definitions
Scrum	Agile framework for the management of the development process of a software product, in an iterative and incremental way.
Sprint	Fixed-time cycles of work on which Scrum structure is based. Typically less than one month in length, placed one after the other.

1.5.2   Acronyms and abbreviations

Acronym or abbreviation	Definitions
NTR	Nothing to Report. There is no information on a specific topic available or necessary.
CI	Continuous Integration
CQ	Continuous Quality

GPS	Global Positioning System
UI	User Interface

1.6   References

2.   Background and objectives (Summary)

2.1   Customer

People who want to meet up and make friends with other dog lovers/owners.

2.2   Project objective

Pawgo is an Android/iOS application. It is a dating app focused for dog lovers/owners. The app's goal is to pair potential couples together with the common interest of dogs. Users can upload photos and information about themselves and their pets.

2.3   Project impact

Pawgo uses dogs as a medium to make dog lovers/owners make friends, it blocks everything related to personal and objective factors that affect making friends.

2.4   High-level requirements

The High-level requirements can be found in the Design Description Document.

3.   Project group

3.1   Group members

Table 1. List of team members

Member	Email
Chak Ngai Wan	C19514293@mytudublin.ie
Yushun Zeng	D18130495@mytudublin.ie
Daniel Waldron	C19411092@mytudublin.ie
Panagiotis Bampilis	C19764485@mytudublin.ie

Kim Thai	C19358373@mytudublin.ie

3.2 Roles and responsibilities

Table 2. Team members' roles and responsibilities.

Member	Role
Chak Ngai Wan	Team Leader / Developer
Yushun Zeng	Backend Lead / Developer
Daniel Waldron	Backend Developer
Panagiotis Bampilis	Frontend Lead / Developer
Kim Thai	Frontend Developer

Development Process

4. Organization and communication

During this project, the team will communicate using various tools, depending on the tone and formality of the communication needed. (More detail can be found in the Team Charter)

4.1 Planned Meetings

Meeting Plan:

Saturday - Afternoon
Monday - Afternoon
Thursday - Afternoon

Rule:
Communicated at least 2 days in advance. At least 3 members need to be present.

4.2 Formal Communication Tools

- **Email**: a critical tool that our Product Owner uses to engage with customers or schedule meetings with them.

- **Zoom**: a video conference tool used for official meetings with the supervisors and the customer. With Zoom, attendants can easily join recurrent events using a pre-generated link and share their screen in order to present their work.

4.3 Informal Communication Tools

- **Whatsapp**: a crucial tool for immediate messaging between group members in order to discuss any issue at any time or schedule meetings. It is simple and quick to use on practically any device.

- **Discord:** a tool that provides chat functionality and persistent live audio and video channels each user can join and leave whenever he wants, without the need to schedule meetings. It is used as an informal communication tool, mainly for asking quick questions to each other, for unplanned meetings, for discussing different topics or simply for working together.

4.4   Storage

- **Git**: a tool that provides version control of the project and ensures that all the material is backed up online on Github and always available.

- **Google Drive:** a distributed storage system to have all files and documents safely stored in the cloud, that anyone in the team can access and update. GoogleDrive is also fully linked with the GSuite document editing services, allowing several users to work on the same shared document at the same time online, without having to download any additional tools.

5.   Deliverables

The deliverables functional requirements of the project are described in **Table 3**, based on each function:

Table 3. List of the functional requirements for the project

Code	Name	Priority	Description
1	Log-in system	Base	A fully functioning log-in system that requires the user's username and password. This system also includes the account's creation. Users can only access the app's content if they are logged in.
2	User Profile	Base	Users will have a profile that will be shown to other users. This profile includes their name, age, location, occupation and photos of themselves. This system also includes the dog profile system, which includes the dog's name, breed, age and photos of the dog.
3	Account Security	Base	Account Security entails proper storage and encryption of users' passwords and privacy. Privacy includes user locations, access to user device's data (photos).

4	Support Page	Base	This page will be used for users to get into contact with us to solve issues/bugs and answer questions. The support page will also have a Frequently Asked Questions (FAQ) page where common questions will be answered.
5	Search/Matchmaking System	Base	The Search System is a system where users can search for other users and view their profiles. Users can input another user's name to see that user's profile or similar profiles. The matchmaking system will pair users with similar interests such as similar age group, close proximity in location or common interest.
6	Location Tracking	Stretch	Location tracking will show the user on the app's map. They can be seen by other users with a pointer on their current location. Clicking on the pointer will show that user's profile.
7	Chat Feature	Stretch	The chat feature can be used by users to initiate communication to other users. Users can write to each other through texts.
8	Events System	Next Version	The events system will show public events that are close to the user's location. This system is to suggest users events they may be interested in.

6. Technical Requirements

Operating Systems:
Android 9.0+
iOS 9.4.1+

Software:
IDE: Android Studio, Visual Studio Code
Data visualization tool: MongoDBCompass
Version control: Git, GitHub

Programming Language:
Front-end: Dart
Back-end: Javascript

7. Project Plan

The project plan Gantt Chart are described in **Figure 1 and Figure 2**, based on weekly process:

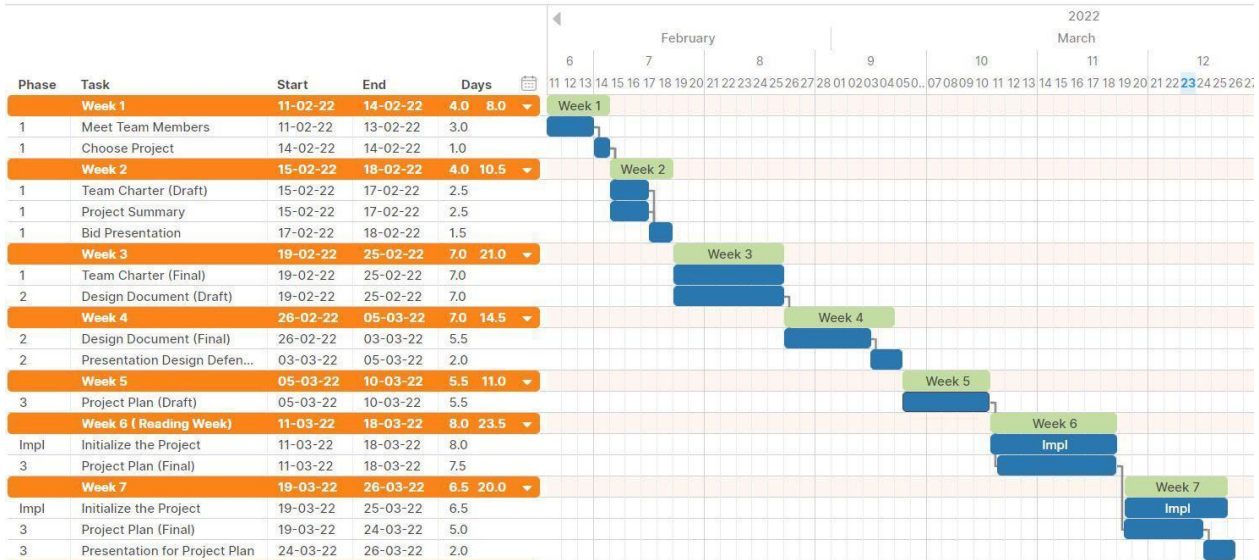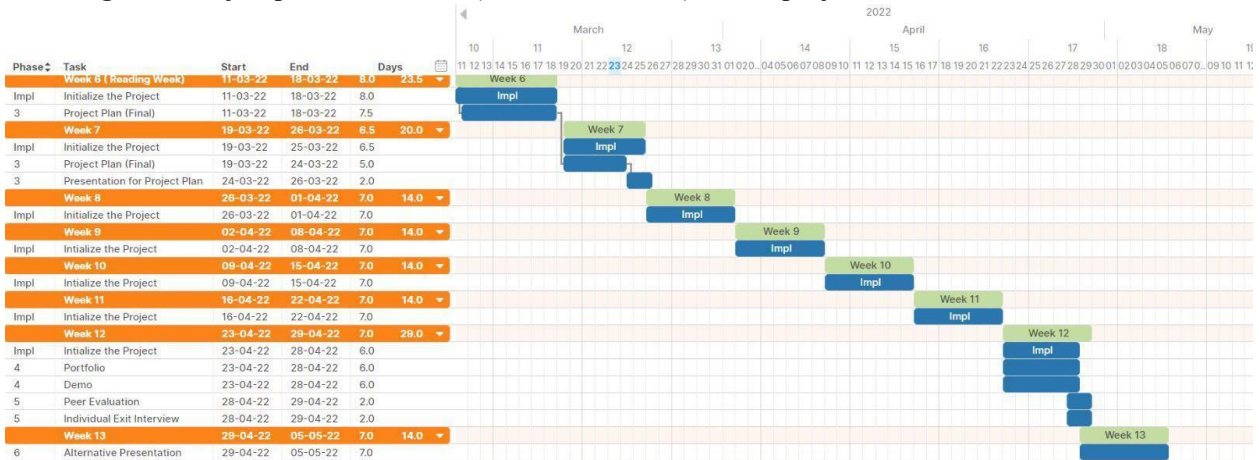## Figure 1. Project plan Gantt Chart(Week 1 - Week 7) for the project

Phase	Task	Start	End	Days	
	Week 1	11-02-22	14-02-22	4.0	8.0
1	Meet Team Members	11-02-22	13-02-22	3.0	
1	Choose Project	14-02-22	14-02-22	1.0	
	Week 2	15-02-22	18-02-22	4.0	10.5
1	Team Charter (Draft)	15-02-22	17-02-22	2.5	
1	Project Summary	15-02-22	17-02-22	2.5	
1	Bid Presentation	17-02-22	18-02-22	1.5	
	Week 3	19-02-22	25-02-22	7.0	21.0
1	Team Charter (Final)	19-02-22	25-02-22	7.0	
2	Design Document (Draft)	19-02-22	25-02-22	7.0	
	Week 4	26-02-22	05-03-22	7.0	14.5
2	Design Document (Final)	26-02-22	03-03-22	5.5	
2	Presentation Design Defen...	03-03-22	05-03-22	2.0	
	Week 5	05-03-22	10-03-22	5.5	11.0
3	Project Plan (Draft)	05-03-22	10-03-22	5.5	
	Week 6 (Reading Week)	11-03-22	18-03-22	8.0	23.5
Impl	Initialize the Project	11-03-22	18-03-22	8.0	
3	Project Plan (Final)	11-03-22	18-03-22	7.5	
	Week 7	19-03-22	26-03-22	6.5	20.0
Impl	Initialize the Project	19-03-22	25-03-22	6.5	
3	Project Plan (Final)	19-03-22	24-03-22	5.0	
3	Presentation for Project Plan	24-03-22	26-03-22	2.0	

Figure 2. Project plan Gantt Chart(Week 8 - Week 13) for the project

Phase	Task	Start	End	Days	
	Week 6 (Reading Week)	11-03-22	18-03-22	8.0	23.5
Impl	Initialize the Project	11-03-22	18-03-22	8.0	
3	Project Plan (Final)	11-03-22	18-03-22	7.5	
	Week 7	19-03-22	26-03-22	6.5	20.0
Impl	Initialize the Project	19-03-22	25-03-22	6.5	
3	Project Plan (Final)	19-03-22	24-03-22	5.0	
3	Presentation for Project Plan	24-03-22	26-03-22	2.0	
	Week 8	26-03-22	01-04-22	7.0	14.0
Impl	Initialize the Project	26-03-22	01-04-22	7.0	
	Week 9	02-04-22	08-04-22	7.0	14.0
Impl	Intialize the Project	02-04-22	08-04-22	7.0	
	Week 10	09-04-22	15-04-22	7.0	14.0
Impl	Intialize the Project	09-04-22	15-04-22	7.0	
	Week 11	16-04-22	22-04-22	7.0	14.0
Impl	Intialize the Project	16-04-22	22-04-22	7.0	
	Week 12	23-04-22	29-04-22	7.0	29.0
Impl	Intialize the Project	23-04-22	28-04-22	6.0	
4	Portfolio	23-04-22	28-04-22	6.0	
4	Demo	23-04-22	28-04-22	6.0	
5	Peer Evaluation	28-04-22	29-04-22	2.0	
5	Individual Exit Interview	28-04-22	29-04-22	2.0	
	Week 13	29-04-22	05-05-22	7.0	14.0
6	Alternative Presentation	29-04-22	05-05-22	7.0	

The project plan are described in **Table 4**, based on weekly process:

Table 4. Project plan weekly timetable for the project

Week 1:

Conclusion:

Phase	Task	Priority	Name	Description
1	Choose project	High	Entire	Choose the project for the project list
1	Meet team members	Medium	Entire	Meet team members

Detail:

Phase	Task	Priority	Name	Description
1	Choose project	High	Entire	Choose the project for the project list
1	Meet team members	Medium	Entire	Meet team members

Week 2(Panos joined us in the later of this week):

Conclusion:

Phase	Task	Priority	Name	Description
1	Team Charter (Draft)	High	Entire	Start work on the team charter and determine the basic information of the group
1	Project summary	High	Entire	Initial plan for the project.
1	Bid presentation	High	Entire	Bid presentation to compete for a project.

Detail:

Phase	Task	Priority	Name	Description
1	Team Charter (Draft)	High	Justin	Edit up the Team Charter with other team members' opinions.
1	Team Charter (Draft)	High	Yushun	Design the login for our team.
1	Project summary	High	Yushun	Set up the Project Summary template.
1	Project summary	High	Entire	Edit and finish the Project Summary.
1	Bid presentation	High	Entire	Make the presentation.
1	Bid presentation	High	Entire	Bid presentation to compete for a project.

Week 3:
Conclusion:

Phase	Task	Priority	Name	Description
1	Team Charter (Final)	High	Entire	Finish the Team Charter
2	Design Document (Draft)	High	Entire	Start work on the Design Document

Detail:

Phase	Task	Priority	Name	Description
1	Team Charter (Final)	High	Entire	Finish the Team Charter.
2	Liz meeting	High	Panos	Make the mock-up.
2	Liz meeting	High	Yushun	Make the mock-up.
2	Liz meeting	High	Kim	Make the mock-up.
2	Liz meeting	High	Justin	Make the mock-up.
2	Liz meeting	High	Justin	Make the presentation to show our mock-up.
2	Design Document (Draft)	High	Kim	Created the app name, PawGo
2	Design Document (Draft)	High	Entire	Work on the Summary, Application requirements, and Assumptions & Dependencies.
2	Design Document (Draft)	High	Yushun	Work on the Development Method, High Level System Architecture, and Detailed System Design.

Week 4:

Conclusion:

Phase	Task	Priority	Name	Description
2	Design Document (Final)	High	Entire	Finish the Design Document
2	Presentation for Design process and related field	High	Entire	Presentation to show the initial function, design method, diagrams and related field

Detail:

Phase	Task	Priority	Name	Description
2	Design Document (Final)	High	Panos	Initial more detailed Design Document includes all the sections from the old template, and edit up Introduction, Requirement, High Level System Architecture and Software Architecture and Design section.
2	Design Document (Final)	High	Yushun	Edit up High-level system design section with use case diagram, sequence diagram, class diagram and database design, also edit up Development Method, and Software Architecture and Design section.
2	Design Document (Final)	High	Kim	Edit up Assumptions & Dependencies and Graphical User Interface section.
2	Design Document (Final)	High	Justin	Edit up High-level system design section with information architecture(Web sitemap).
2	Design Document (Final)	High	Daniel	Edit up High-level system design section with a sequence diagram.
2	Presentation for Design process and related field	High	Entire	Make the presentation.
2	Presentation for Design process and related field	High	Entire	Presentation to show the initial function, design method, diagrams and related field

Week 5:
Conclusion:

Phase	Task	Priority	Name	Description
3	Project Plan(Draft)	High	Entire	Start work on the Project Plan

Detail:

Phase	Task	Priority	Name	Description
3	Project Plan(Draft)	High	Justin	Edit up summary and deliverables section for the Project Plan draft.
3	Project Plan(Draft)	High	Yushun	Edit up Proposed Approach, Project Plan and Risk Register section for Project Plan draft.

Week 6(Reading week):
Conclusion:

Phase	Task	Priority	Name	Description
3	Project Plan(Final)	High	Entire	Working on the Project Plan final version
Impl	Initialize the project	High		Start build the project

Detail:

Phase	Task	Priority	Name	Description
3	Project Plan(Final)	High	Panos	Set up the final Project Plan template, and initialize the final Project Plan document.
Impl	Design and mock-up	High	Kim	Design the mock-up and application logo.
Impl	Initialize the project	High	Panos	Initialize the GitHub account and push the first version of the project code.
Impl	Initialize the project	High	Yushun	Initialize and discuss with Panos for the first version of the project code.
Impl	Login	High	Yushun	Working with the app function which uses Firebase for Google login.

Week 7:
Conclusion:

Phase	Task	Priority	Name	Description
3	Project Plan(Final)	High	Entire	Finish the Project Plan
3	Presentation for Project Plan	High	Entire	Presentation to show the Project Plan
Impl	Initialize the project	High		Working on the login and router
Test	Test login, logout and router logic	High		Test the logic of each function

Detail:

Phase	Task	Priority	Name	Description
3	Project Plan(Final)	High	Panos	Update the final Project Plan document with layout, instruction section, and some sections which are related to the project and team information.
3	Project Plan(Final)	High	Yushun	Edit the final Project Plan document with the old template section, fill in and modify most of the section.
3	Project Plan(Final)	High	Kim	Created the Gantt Chart for Project Plan Table.
Impl	Login	High	Panos	Work on the login page of the application with Google login using Firebase.
Impl	Login	High	Yushun	Work on the login page of the application with Google login using Firebase.
Impl	Set up environment	High	Panos	Set up the project environment in the Firebase.
Impl	Set up environment	High	Yushun	Set up the Firebase access permission and config the Firebase information and Google login information.
Impl	Logout	High	Yushun	Work on the logout function of the application.
Test	Test login, logout and router logic	High	Yushun Panos	Test the process of login and logout, test the redirects between different pages.
3	Presentation for Project Plan	High	Yushun Kim Daniel	Make and prepare the presentation for Project Plan.
3	Presentation for Project Plan	High	Yushun Kim Daniel	Give the presentation for our Project Plan and some details for what we have done and what we will do.

Week 8:

Conclusion:

Phase	Task	Priority	Name	Description
Impl	User profile edit page	High	Panos	Implement the user profile edit page
Impl	Dog profile edit page	High	Kim	Implement the dog profile edit page
Impl	MongoDB connection	High	Yushun	Make sure the connection with MongoDB
Impl	Confirm data communication	High	Yushun	Confirm the data can communicate between MongoDB and flutter
Test	Test the tasks we done	High	Entire	Test the user and dog profile edit function, data communication with MongoDB, Api for CRUD operations. Test all the functions, with unit test and white-box test.

Detail:

Phase	Task	Priority	Name	Description
Impl	User profile edit page UI design	High	Panos	Implement the user profile edit page layout and UI design.
Impl	User profile edit page function	High	Panos	Implement the user profile edit page data display function and edit function.
Impl	Dog profile edit page UI design	High	Kim	Implement the dog profile edit page layout and UI design.
Impl	Dog profile edit page function	High	Panos	Implement the dog profile edit page data display function and edit function.
Impl	MongoDB connection	High	Yushun	Set up the connection with the MongoDB
Imple	User and Dog model design	High	Yushun	Design and specify the data in the User and Dog module created in the MongoDB.
Test	Confirm data communication	High	Yushun	Confirm the connection and communication between front-end and back-end.
Imple	Api for the User and Dog search, insert, update and delete	High	Yushun	Create the Api for User and Dog basic CRUD operation.
Test	Test the functions	High	Panos Yushun	Test the user and dog profile edit function, data communication with MongoDB, Api for CRUD operations.

Week 9(The GPS function is quite new for us and are important to our system, so we plan spend more time on it):

Conclusion:

Phase	Task	Priority	Name	Description
Impl	Location GPS function	High	Panos	Implement the location function for the dog owner search
Impl	Profile page	High	Panos Yushun Kim	Implement the profile page

Detail:

Phase	Task	Priority	Name	Description
Impl	Map display	High	Panos	Implement the map function that can display on the screen.
Impl	GPS function	High	Panos	Implementing the GPS function can work on the map.
Impl	Update dog profile function.	High	Yushun	Design the model and Api to find the data needed for display on the GPS.
Impl	Display dog list	High	Panos Yushun	Display the dog list on the profile page.
Impl	Remove dog function	High	Yushun	Remove the dog from user.
Impl	Integrate all the function of profile	High	Yushun	Integrate all the function of profile.
Test	Test the functions	High	Panos Yushun	Test the search dog function and if GPS can work properly.

Week 10():
Conclusion:

Phase	Task	Priority	Name	Description
Impl	Chat feature	High	Kim	Chat function for the dog owner
Impl	Matchmaking system	High	Panos Yushun	Matchmaking system for the dog owner
Impl	Users liked	High	Yushun	Check the user you like from matchmaking system

Detail:

Phase	Task	Priority	Name	Description
Impl	Chat feature Design and layout	High	Kim	Design for the chat feature and implement that can display on the screen.
Impl	Chat feature implement(send)	High	Kim	Chat feature can send the message.
Impl	Chat feature implement(receive)	High	Kim	Chat feature can receive the message.
Imple	Api design to support matchmaking system	High	Yushun	Design the Api and support the data for the matchmaking system.
Impl	UI design for users liked page	High	Yushun	Design the UI for users liked page.
Impl	Api design to support users liked page	High	Yushun	Design the Api and support the data for the users liked page.
Impl	Matchmaking system UI design	High	Panos	Design the UI for a matchmaking system.
Impl	Api design to support Matchmaking system	High	Yushun	Design the Api to support the matchmaking system.

Week 11():
Conclusion:

Phase	Task	Priority	Name	Description
Impl	Work on the features we have not achieved.	High	Panos Yushun	Work on the features we have not achieved in the past few weeks or improve them.
Impl	Seek for support	High	Panos	Seek for the support function
Impl	Search dog function	High	Panos	Search dog by dog breed

			Yushun	
Impl	Bug fix and some adjustment	Medium	Panos Yushun	Fix some bug and make final adjustment
Impl	Project promotional video	Medium	Panos	Project promotional video

Detail:

Phase	Task	Priority	Name	Description
Impl	Work on the features we have not achieved.	High	Panos Yushun	Work on the features we have not achieved in the past few weeks or improve them.
Impl	Seek for support	High	Panos	Seek for the support function
Impl	Search dog function UI design	High	Panos	Search dog by dog breed function UI design.
Impl	Api design to support Search dog function	High	Yushun	Design the Api to support the Search dog function.
Impl	Bug fix and some adjustment	Medium	Panos Yushun	Fix some bug and make final adjustment
Impl	Project promotional video	Medium	Panos	Project promotional video

```
Week 12:
```
Conclusion:

Phase	Task	Priority	Name	Description
Impl	Final integration	High	Panos Yushun	Integrate and test whole system
4	Portfolio	High	Entire	Finalize our documentation
4	Demo	High	Entire	Prepare the presentation and demo

Detail:

Phase	Task	Priority	Name	Description
Impl	Final integration	High	Panos Yushun	Integrate and test whole system, fix bug and final adjustment
4	Portfolio	High	Entire	Finalize our documentation
4	Demo	High	Entire	Prepare the presentation and demo

Risk Management

8.   Quality Assurance

In order for the project to run as smoothly as possible, it must be ensured that the quality requirements are met before each delivery is submitted. To do so these different activities will be carried out throughout the project:

- **Document revisions** - to assure the quality of all the documents that have to be handed in, at least one person besides the SCRUM Master will always help to revise every document before its deadline.

- **Testing activities** - after every finished sprint or whenever a new functionality for the application is ready, the new feature(s) will be tested amongst the team members to ensure that it works as intended.

- **Alpha and Beta prototype testing** - final prototype testing that could be done using one of the CI/CQ tools chosen by the team will be performed as soon as almost ready prototypes are available. The debugging process has to be done continuously to assure a working prototype.
  During this testing phase, team members, their friends and our supervisors could evaluate the user experience by trying out the application using it in a real-life setting.

- **Acceptance testing** - to verify the final version of a product an acceptance deep and complete

tests will be planned and performed with the customer.

9.   Proposed Approach

9.1 Overall approach:
Development method:
We follow the Agile development method principles to develop the application:
- Customer satisfaction by rapid, continuous delivery of useful software
- Working software is delivered frequently (weeks rather than months)
- Working software is the principal measure of progress
- Even late changes in requirements are welcomed
- Close, daily cooperation between business people and developers
- Face-to-face conversation is the best form of communication (Co-location)
- Projects are built around motivated individuals, who should be trusted
- Continuous attention to technical excellence and good design
- Simplicity
- Regular adaptation to changing circumstances

Overall view of Agile development method phase consideration(Agile Unified Process AUP):
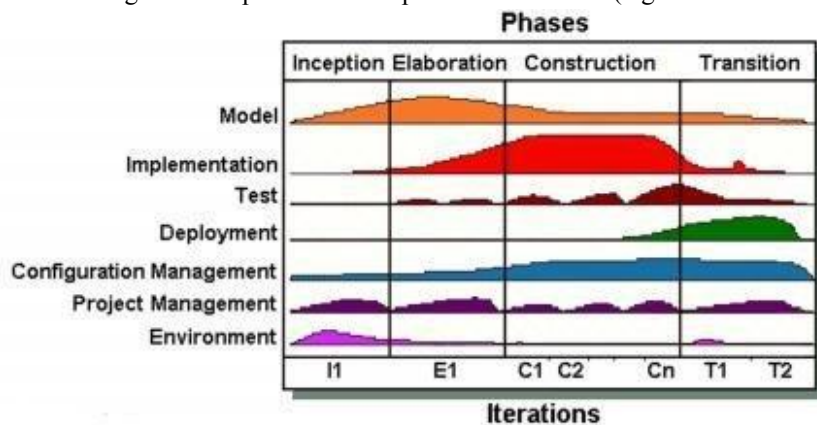
9.2 Requirements Phase:
Requirements gathering:

We are willing to accept all the reasonable requirement during the whole Project Management Phase(Image above)

Risk:
The customer requirement we understand and develop may cause misunderstandings with the customer, if we don't fully comprehend the needs of the customer.
Deal:
Communicate frequently with customers, repeatedly confirm customer requirements, and let customers see whether our solution is what she needs through whole development phase demonstrations.
Start date: End date:
11/2/2022   29/4/2022

9.3 Design Phase:
Design methodology:

We are willing to accept all the reasonable requirement and base on the requirement to design the application during the whole Project Management Phase(Image above)

Risk:

The design for each requirement may not satisfy the customers.
Deal:
Communicate frequently with customers, show over mock-up and project design which we may have during the development.
Start date: **End date:**
11/2/2022   29/4/2022

9.4 Implementation Phase:
Programming language:

We will compare different programming languages and choose the most suitable technology for the project.

Risk:
The programming languages and technology we chose may not be familiar to everyone, learning costs and project costs will be greatly increased.
Deal:
Team members help each other to get familiar with the technology used in the project as soon as possible.
Start date: **End date:**
25/2/2022   4/3/2022

Platform:

The Platform will be decided with project technology.

Risk:
The Platform may not 100% suit our project during the development.
Deal:
Update our project structure or update platform.
Start date: **End date:**
25/2/2022   29/4/2022

Backup strategy:

Problems in different situations will arise during the development process. We will first make a backup plan when we formulate the development plan, but we will also make a temporary backup plan according to some problems in the development process.

Risk:
The backup plan may still not work for the occurred problem.
Deal:
Making a temporary backup plan according to some problems in the development process.
Start date: **End date:**
25/2/2022   29/4/2022

Versioning:

We will record all the versions through the GitHub, probability with the version number x.x.x.

Risk:
We may misdefinited the version.
Deal:
Manually modify the version.
Start date: **End date:**
14/3/2022   29/4/2022

9.5 Testing Phase:
Approach of testing and testing methods:

We will follow the V module to apply our test plan for this project:
Component Testing -> Integration Testing -> System Testing -> Acceptance Testing
In each testing process we may use unit tests, black-box tests and white-box tests for more accurate test results.

Risk:
Some testing processes we may not fully complete as the time is limited.
Deal:
More focus on the System Testing with White-box test techniques.
Start date: **End date:**
14/3/2022   29/4/2022

10.   Risk Register and Project Risks

The potential risks that could occur during the current project are described in **Table 5 and Table 6**, based on three different categories:

Internal risks - the problems that might arise during the development process and teamwork itself:

Technical issues - issues with tools during the development process:

Table 5. List of risk type during the project work

Risk Register				
Risk ID	Risk Title	Probability	Impact	Action
1	Design Risks	High	High	Discuss and redesign
2	External Risks	Medium	Medium	According to different situations to develop solution

3	Organizational Risks	Medium	Medium	Discuss, communicate and reorganize
4	Project Management Risks	Low	Low	Coordinate and communicate
5	Requirements gathering Risks	Low	Low	Communicate and gather the requirement
6	Technical, Quality, or Performance Risks	High	High	Discuss and implement

Table 6. List of possible risks during the project work

RISK	IMPACT	MITIGATION
Internal risks		
Unclear definitions for some requirements.	HIGH	Have a clear discussion with the customer for more detailed specifications.
Lack of punctuality in deadlines.	MEDIUM	Make sure that all team members are aware of when the deadlines are at all times.
Poor collaboration in the team in case of any kind of disagreement.	MEDIUM	Extra meetings focused on correct communication and collaboration between team members.
Possible misunderstandings in communication between team members.	MEDIUM	Regular meetings to discuss the arising problems.
Technical issues		
Difficulties with new tools and with the SCRUM framework.	HIGH	Take time to familiarize with the tools and their documentation pages. Sharing the knowledge between team members.
Difficulties with tool integration.	HIGH	Choose the tools and services known to be easily integrated.
Accuracy issues with the GPS.	MEDIUM	Choose reliable APIs for this feature.
Unnecessary battery drainage while using the app.	MEDIUM	Optimize the implementation of the application as much as possible.