Group01

Music Player
Software Development Plan (Small Project)
Version 1.0

Revision History

Date	Version	Description	Author
11/06/2022	1.0	Initial Version	Thiện Tiến, Anh Thư

Table of Contents

Software Development Plan (Small Project)

1. Introduction

The introduction of the **Software Development Plan** provides an overview of the entire document. It includes the purpose, scope, definitions, acronyms, abbreviations, references, and overview of this **Software Development Plan**.

1.1 Purpose

The purpose of the *Software Development Plan* is to gather all information necessary to control the project. It describes the approach to the development of the software and is the top-level plan generated and used by managers to direct the development effort.

The following people use the *Software Development Plan*:

- The **project manager** uses it to plan the project schedule and resource needs, and to track progress against the schedule.

- **Project team members** use it to understand what they need to do, when they need to do it, and what other activities they are dependent upon.

1.2 Scope

This *Software Development Plan* describes the overall plan to be used by the Music Player, including deployment of the product.

The plans as outlined in this document are based upon the product requirements as defined in the *Vision Document*.

1.3 Overview

This *Software Development Plan* contains the following information:

Project Overview — provides a description of the project's purpose, scope, and objectives. It also defines the deliverables that the project is expected to deliver.

Project Organisation — describes the organisational structure of the project team.

2. Project Overview

2.1 Project Purpose, Scope, and Objectives

Music is one of the best ways to relieve pressure in stressful modern society life. Then our idea is to create a music streaming platform using Android like Spotify/SoundCloud or Zing MP3.

Since the application is not commercial in nature, it will be free for users to use. There will be three main types of user:

- Audience: they can stream or download music, create their own playlists and add songs to favourites.
- Artist: they can upload new songs, album to app; view statistic of song, albums
- Admin: they can approve new songs from artists and manage accounts.

Application is developed and given users some buttons for simple operations such as play, stop, continue, repeat, shuffle. In addition, the music player will also add Light or Dark theme mode to enhance the user's experience . Moreover, the application also allows users to share their favourite songs on social networks.

2.2 Assumptions and Constraints

Assumptions:

- Delivery:
    - Project servers arrive configured as expected.
    - Achieve all the users (stakeholder) requirements.
    - Deliver software that meets the customer's expectations.
    - Give users a high learnability application without too many complex features, enhance the interaction between the user and the media control so that the user can have better experience to achieve real pressure relief.
    - is delivered on time and on schedule
- Budget: Estimated cost of the project

    Salary of the project developer:

    - UI Design: 50.000d ($2) for an hour.
    - Front-end: 20.000d ($1) for an hour.
    - Back-end: 50.000d ($2) for an hour.
    - Database: 35.000d (~$1.5) for an hour.

	Function of the project	The performer	Implement Time
1	Login and register accounts (for audience, artist, admin)	UI design	3 hour
	Login and register accounts (for audience, artist, admin)	Front_end	5 hour
	Login and register accounts (for audience, artist, admin)	Back_End	6 hour
2	Audience: stream music, download music	UI design	3 hour
	Audience: stream music, download music	Front_End	5 hour
	Audience: stream music, download music	Back_End	6 hour
3	Audience: create own playlists	UI design	3 hour
	Audience: create own playlists	Front_End	5 hour
	Audience: create own playlists	Back_End	6 hour
4	Audience: add song to favourite	UI design	3 hour
	Audience: add song to favourite	Front_End	5 hour
	Audience: add song to favourite	Back_End	6 hour
5	Artist: upload new songs, albums	UI design	3 hour

	Artist: upload new songs, albums	Front_End	5 hour
	Artist: upload new songs, albums	Back_End	6 hour
6	Artist: view statistics of songs, albums	UI design	3 hour
	Artist: view statistics of songs, albums	Front_End	5 hour
	Artist: view statistics of songs, albums	Back_End	6 hour
7	Admin : approve songs	UI design	3 hour
	Admin : approve songs	Front_End	5 hour
	Admin : approve songs	Back_End	6 hour
8	Admin: manage account	UI design	3 hour
	Admin: manage account	Front_End	5 hour
	Admin: manage account	Back_End	6 hour
9	Others function when stream music (play, pause, repeat, shuffle)	UI design	3 hour
	Others function when stream music (play, pause, repeat, shuffle)	Front_End	5 hour
	Others function when stream music (play, pause, repeat, shuffle)	Back_End	6 hour
10	Search	UI design	3 hour
	Search	Front_End	5 hour
	Search	Back_End	6 hour
11	Share	UI design	3 hour
	Share	Front_End	5 hour
	Share	Back_End	6 hour
12	Save information of user account on system	Database	20 hour
13	Save music on system	Database	60 hour

Cost of the project estimate = The Performance Salary * Implement Time * 2

UI Design Cost = 50.000* 33 (hours) = 1.650.000d

Front_End Cost = 20.000* 55 (hours) =1.100.000d

Back_End Cost = 50.000 *66 (hours) = 3.300.000d

Database Cost = 35.000 *80(hours)=2.800.000d

—---

Project Cost: 8.850.000d*2 =17.700.000d

- ● Schedule:
  - ○ Each meeting occur at the beginning of weeks to assign jobs and occur at the end of weeks to assess jobs
  - ○ Each member does at least 3 tasks a week.
  - ○ The unexpected always happens. Always allow contingency in planning. If there is a delay, it is necessary to step up the work to catch up with the project progress soon.
  - ○ Estimating the difficulty of problems and hence the cost of developing a solution is hard.
- ● Staff:
  - ○ Keep the members' spirits upbeat
  - ○ Happy, sociable communication between each member.
  - ○ Take care of other staff's health.
  - ○ Information must be exchanged on the status of work, design decisions and changes to previous decisions.

Constraints:
- ● Time: The time constraint refers to the project's schedule for completion, including the deadline for each phase of the project and the date for rollout of the final deliverable.
- ● Scope: specific goals, deliverables, features, functions.
- ● Risks: Assess the risks that may affect project, monitor these risks and take action when problems arise.
- ● Staff: establish ways of working that lead to effective team performance
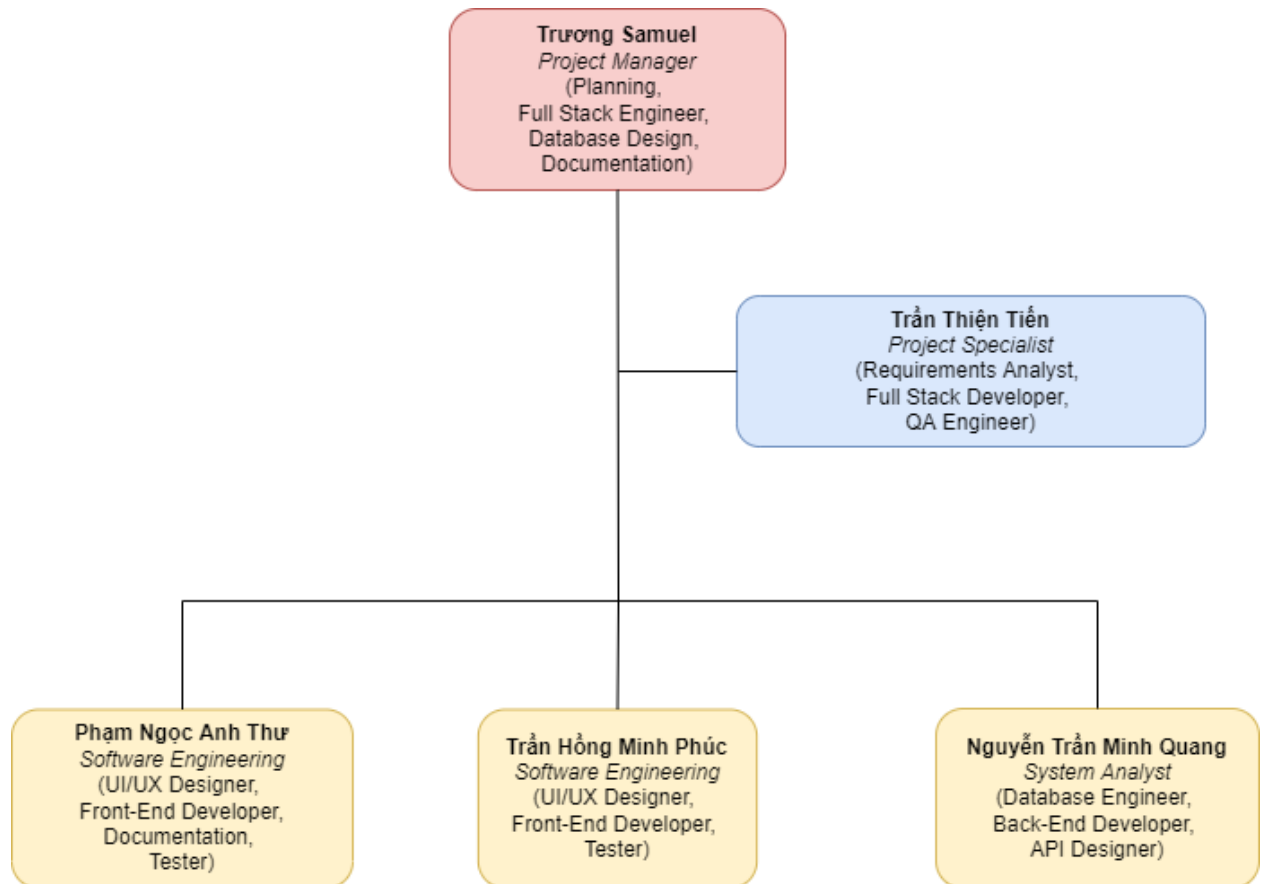
2.3   Project Deliverables

Deliveries for each project phase are identified in the Development Case. Deliverables are deliverables are delivered towards the end of the iteration, as specified in section 4.2 at every Sprint.

3. Project Organization

3.1 Organizational Structure

Trương Samuel
Project Manager
(Planning,
Full Stack Engineer,
Database Design,
Documentation)

Trần Thiện Tiến
Project Specialist
(Requirements Analyst,
Full Stack Developer,
QA Engineer)

Phạm Ngọc Anh Thư
Software Engineering
(UI/UX Designer,
Front-End Developer,
Documentation,
Tester)

Trần Hồng Minh Phúc
Software Engineering
(UI/UX Designer,
Front-End Developer,
Tester)

Nguyễn Trần Minh Quang
System Analyst
(Database Engineer,
Back-End Developer,
API Designer)

3.2 Roles and Responsibilities

Member	Role
Trương Samuel, Project Manager	Planning, Full Stack Engineer, Database Design, Documentation
Thiện Tiến, Project Specialist	Requirements Analyst, Full Stack Engineer, QA Engineer
Anh Thư, Software Engineering	UI/UX Designer, Front-End Developer, Documentation, Tester
Minh Phúc, Software Engineering	UI/UX Designer, Front-End Developer, Tester
Minh Quang, System Analyst	Database Engineer, Back-End Developer, API Designer

4.   Management Process
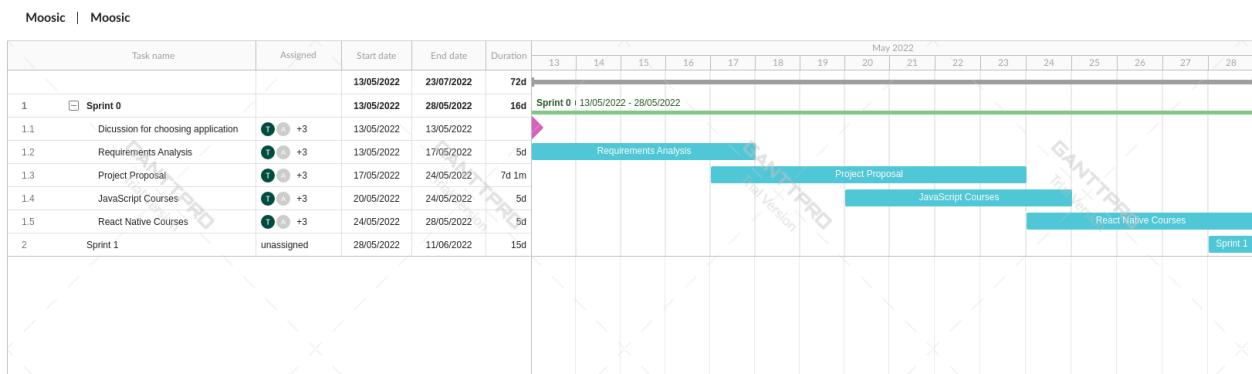
4.1   Project Estimates

None

4.2   Project Plan

Sprint 0:
- *Start Date:* 13/05/2022
- *End Date:* 28/05/2022
- *Deliverables:* A proposal - document that describes the project overview and key features.
- Tasks:

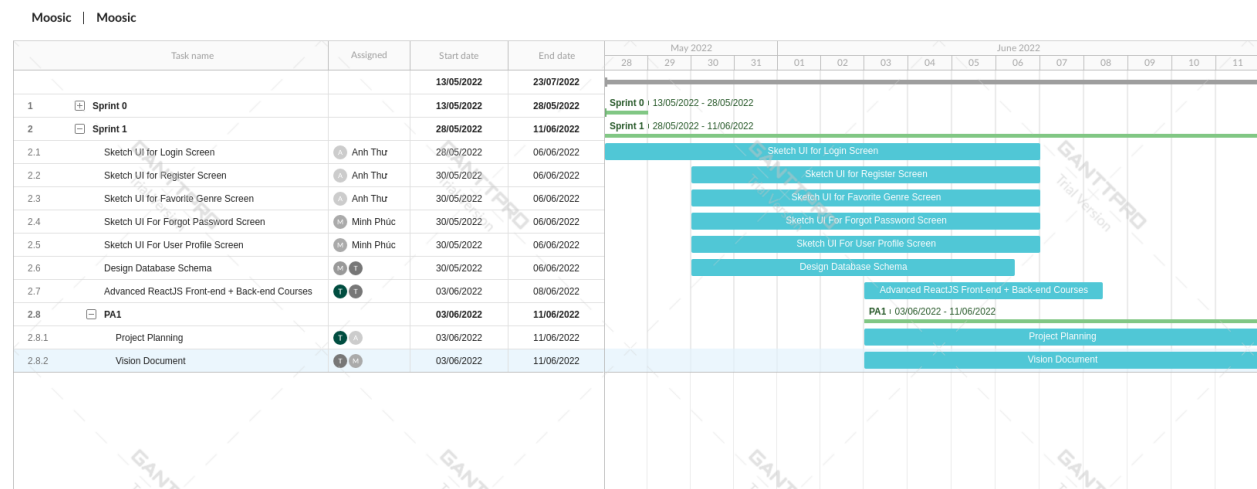| #	Task name	Purpose	Assigned	Start Date	Duration
1	Discussion for choosing application	Understand the application will be developed in the course	All members	13/05/2022	2 days
2	Requirement Analysis	Find out what popular apps are already on the market such as Spotify, ZingMP3 to list important requirements and features	All members	15/05/2022	2 days
3	Project Proposal (PA0)	Introduction, Target User and Environments, Key features of application	All members	17/05/2022	7 days
4	JavaScript Courses	Practice with the existing projects to get ideas when applying to group project	All members	24/05/2022	4 days
5	React Native Courses		All members	20/05/2022	4 days

- *Gantt Chart for Sprint 0:*

Sprint 1:
- *Start Date:* 28/05/2022
- *End date:* 11/06/2022
- *Deliverables:* A project plan what describes the requirements that will be implemented in the project and a vision document defines the high-level scope and purpose of project.
- Tasks:

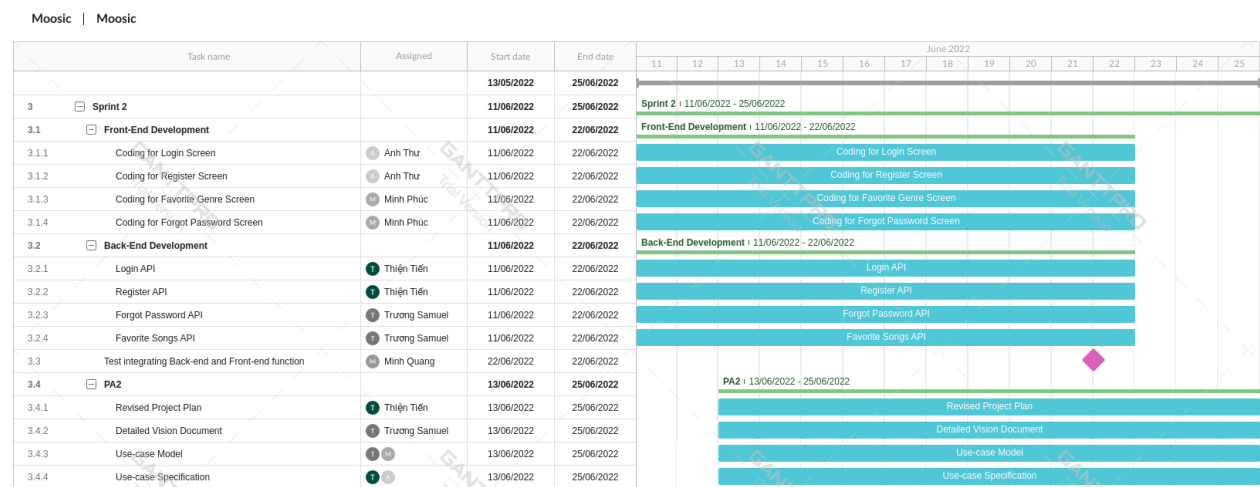| #	Task name	Purpose	Assigned	Start Date	Duration
1	**Sketch UI for:** Login Screen Register Screen Favorite Genre Screen	Understand the color tone as well as the location of the appropriate buttons for the user to manipulate	Anh Thư	30/05/2022	7 days
2	**Sketch UI for:** Forgot Password Screen User Profile Screen		Minh Phúc	30/05/2022	7 days
3	Create Database Schema	Understand organization of data and the relationships between tables	Trương Samuel Minh Quang	30/05/2022	7 days
4	Advanced ReactJS Front-end + Back-end Courses	Understand how to interact between front-end and back-end	Trương Samuel Thiện Tiến	03/06/2022	5 days
5	Project Planning	PA1	Thiện Tiến Anh Thư	03/06/2022	7 days
6	Vision Document		Trương Samuel Minh Phúc	03/06/2022	7 days

- *Gantt Chart for Sprint 1:*

Sprint 2:
- *Start Date:* 11/06/2022
- *End Date:* 25/06/2022
- *Deliverables:* The document will bring reader the processes that occur within the system and more detail product functional and non-functional requirements, alternatives and competitors, user environments.
- Tasks:

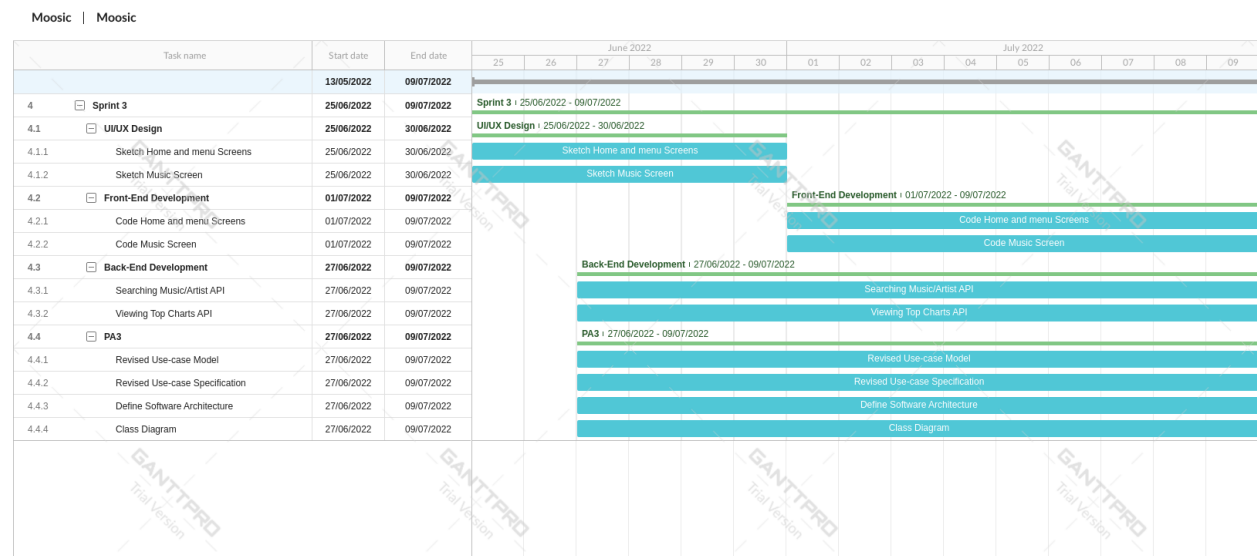| #	Task name	Purpose	Assigned	Start Date	Duration
1	Coding for Login, Register Screen	Convert from sketching to coding	Anh Thư	11/06/2022	11 days
2	Coding for Favorite Songs, Forgot Password Screen		Minh Phúc	11/06/2022	11 days
3	Login, Register API	Check user information with Database	Thiện Tiến	11/06/2022	11 days
4	Forgot Password, Favourite Songs API		Trương Samuel	11/06/2022	11 days
5	Integrating Back-End and Front-End function	*Milestone: Combining Front-end and Back-end functionality for the first time*	Minh Quang	22/06/2022	4 days
6	Revised Project Plan	PA2	Thiện Tiến	13/06/2022	12 days
7	Detailed Vision Document		Trương Samuel	13/06/2022	12 days
8	Use-case Model		Trương Samuel Minh Phúc	13/06/2022	12 days
9	Use-case Specification		Thiện Tiến Anh Thư	13/06/2022	12 days

- *Gantt Chart for Sprint 2:*

Sprint 3:

- *Start Date:* 25/06/2022
- *End Date:* 09/07/2022
- *Deliverables:* the document is the deliverable container for the core architectural artifacts created during a project and for important related information. The class diagram includes classes, their main attributes, operations and relationships of the key components defined in the architecture.
- Tasks:

#	Task name	Purpose	Assigned	Start Date	Duration
1	Sketch Home and menu Screens	Convert from sketching to coding	To be determined at Sprint Planning 2	25/06/2022	5 days
2	Sketch Music Screen			25/06/2022	5 days
3	Code Home and menu Screens			01/07/2022	8 days
4	Code Music Screen			01/07/2022	8 days
5	Searching Music/Artist API	1. The returned data includes metadata and album art. 2. Stats like play count and unique listener count		27/06/2022	12 days
6	Viewing Top Charts API			27/06/2022	12 days
7	Revised Use-case Model	PA3		27/06/2022	12 days
8	Revised Use-case Specification			27/06/2022	12 days
9	Define Software Architecture			27/06/2022	12 days
10	Class Diagram			27/06/2022	12 days

- *Gantt Chart for Sprint 3:*

Sprint 4:

- *Start Date:* 09/07/2022
- *End Date:* 23/07/2022
- *Deliverables:* The document describes sketching the user interface of the designing system for the main screen and 2 anothers for the key scenarios described in the use-case specifications. Besides, we also deliveried the beta version of the application to collect user reviews.
- Tasks:

#	Task name	Purpose	Assigned	Start Date	Duration
1	Revise SAD	PA4	To be determined at Sprint Planning 3	11/07/2022	12 days
2	UI Prototype			11/07/2022	12 days
4	Some tasks before first application release	To be determined at Sprint Planning 3		To be determined at Sprint Planning 3	
3	Application (version Beta) Release	For the instructor to evaluate and team will improve after receiving the comments from the lecturer before releasing the final product			

- *Gantt Chart for Sprint 4:* Will be added after Sprint Planning 2.

Sprint 5:
- *Start Date:* 23/07/2022
- *End Date:* To be announced later
- *Deliverables:* The final product that meets all listed requirements.
- Tasks:

#	Task name	Purpose	Assigned	Start Date	End Date
1	Test Plan	PA6	To be determined at Sprint Planning 4	13/07/2022	To be determined
2	Test Cases			13/07/2022	
4	Test Report			13/07/2022	
3	Project Presentation			13/07/2022	
4	Application Final Release	Products for presentations		13/07/2022	Before 3 days at the end of Sprint 5

- *Gantt Chart for Sprint 5:* Will be added after Sprint Planning 3.

4.3 **Project Monitoring and Control**

4.3.1 Requirements Management

The requirements for this system are captured in the Vision document. Requested changes to requirements are captured in Change Requests, and are approved as part of the Configuration Management process.

4.3.2 Reporting and Measurement

None

4.3.3 Risk Management

Risks will be identified in the Inception Phase using the steps identified in the RUP for Small Projects activity "Identify and Assess Risks". Project risk is evaluated at least once per iteration and documented in this table. The risks of the greatest magnitude are listed first in the table.

Risk Ranking (High, Medium, Low)	Risk Description and Impact	Mitigation Strategy and/or Contingency Plan
Catastrophic (High)	Capability of team members is not equal, hard for the team leader divides the work unevenly and does not match each person's ability.	Accept the risk, each member has to be responsible for their own given tasks. Each member actively searches for information and helps each other to complete the task on time. Regularly monitor the progress of weak team members
Serious (High)	Don't have experience making software systems before.	Each members need to proactive in finding information, improving skills
Catastrophic (Low)	There is no general consensus among members	Resolve conflicts by voting and taking by the number
Tolerable (Low)	A member cant does anything due to health condition (paralyzed, comatose because of traffic accidents)	The supervisor knows the status of the staff to make choices: assign less tasks, tasks can be done later, put more people on that part .. to ensure the work does not stall when problems arise. health issue among members
Tolerable (Moderate)	Programming environment inconsistency.	According to the majority, those in the minority have to try to find a way to fix it, download support software, suitable working environment, use available tools, support websites, ..
Tolerable (High)	Weak time management, wait until the deadline is close to start focusing on work.	Supervisors must know how to remind, closely check and urge projects, people, and help to prevent further delays.
Tolerable (High)	The size of the software is underestimated.	Check the previous versions of the project, those available on the market for the most objective

		and comprehensive assessment, thereby reducing project underestimation
Serious (very low)	PC/laptop specs doesn't meet the requirements for the specific programs	Searching for optimal, flexible alternatives using available software and programs

4.3.4 Configuration Management

None