
Group 05 - AlgoRhythm

CANARY MUSIC STREAMING SERVICE
Software Development Plan (Small Project)

Version 1.4

Canary Music Streaming Service	Version: 1.4
Software Development Plan (Small Project)	Date: 14/11/2024

Revision History

Date	Version	Description	Author
27/10/2024	1.0	<ul style="list-style-type: none"> Writing and updating the project introduction and project purpose, scope, and objectives. Drawing organizational structure. Writing the roles and responsibilities of each team member. 	Đoàn Đặng Phương Nam
30/10/2024	1.1	<ul style="list-style-type: none"> Writing and updating project assumptions, constraints, and project deliverables Writing Project Estimation 	Trần Anh Minh
02/11/2024	1.2	<ul style="list-style-type: none"> Writing project monitoring and control 	Đoàn Đặng Phương Nam Khuu Thành Thiện
06/11/2024	1.3	<ul style="list-style-type: none"> Writing Project Plan Add Gantt Chart 	Đoàn Đặng Phương Nam
14/11/2024	1.4	<ul style="list-style-type: none"> Changing and adding the time estimation 	Đoàn Đặng Phương Nam Trần Anh Minh

Canary Music Streaming Service	Version: 1.4
Software Development Plan (Small Project)	Date: 14/11/2024

Table of Contents

1. Introduction	4
<i>1.1 Purpose</i>	<i>4</i>
<i>1.2 Scope</i>	<i>4</i>
<i>1.3 Overview</i>	<i>4</i>
2. Project Overview	4
<i>2.1 Project Purpose, Scope, and Objectives</i>	<i>4</i>
<i>2.2 Assumptions and Constraints</i>	<i>5</i>
<i>2.3 Project Deliverables</i>	<i>5</i>
3. Project Organization	5
<i>3.1 Organizational Structure</i>	<i>5</i>
<i>3.2 Roles and Responsibilities</i>	<i>5</i>
4. Management Process	6
<i>4.1 Project Estimates</i>	<i>6</i>
<i>4.2 Project Plan</i>	<i>7</i>
<i>4.3 Project Monitoring and Control</i>	<i>18</i>
4.3.1 Reporting	18
4.3.2 Risk Management	18
4.3.3 Configuration Management	19

Canary Music Streaming Service	Version: 1.4
Software Development Plan (Small Project)	Date: 14/11/2024

Software Development Plan

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 an overview of this **Software Development Plan**.

*Note: The entire name of the project is **Canary Music Streaming Service**, but we will briefly call it **Canary**.*

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 **Canary** project, including deployment of the product.

The plans 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 Organization** — describes the organizational structure of the project team.
- **Management Process** — provides project estimation, project planning, as well as project monitoring and controlling

2. Project Overview

2.1 Project Purpose, Scope, and Objectives

Purpose: The Canary Music Streaming Service project aims to develop a music streaming platform that delivers a seamless user experience, a wide variety of high-quality music, and personalized playlists.

Scope: The service will be a web application, allowing users to access it from any browser through an Internet connection.

Objectives:

- Build a fully functional streaming platform
- A user-friendly interface
- A library with high-quality audio

Canary Music Streaming Service	Version: 1.4
Software Development Plan (Small Project)	Date: 14/11/2024

2.2 Assumptions and Constraints

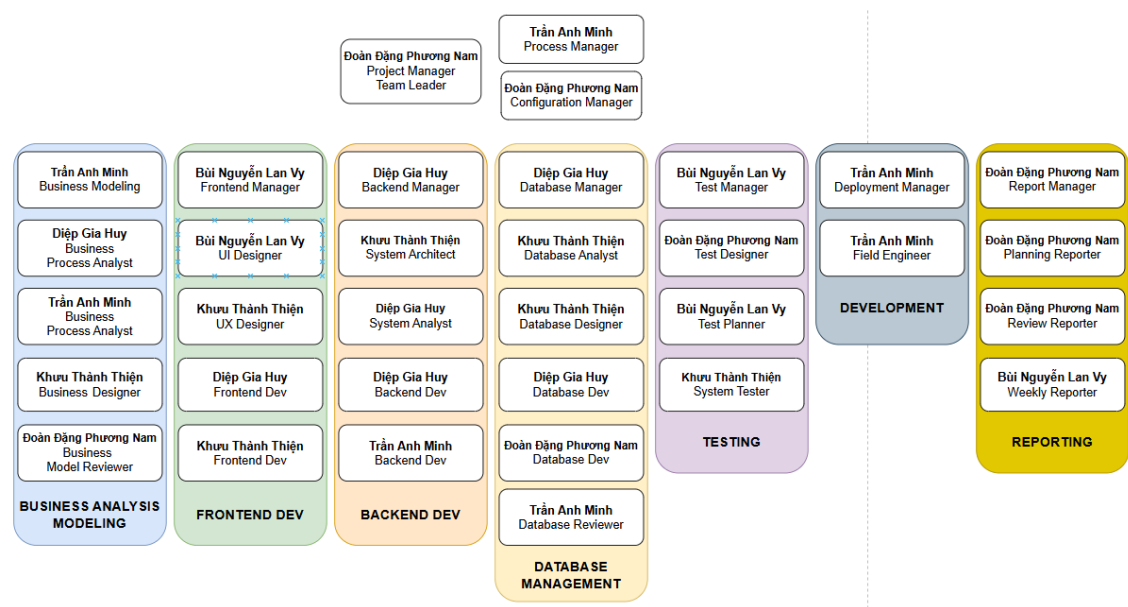
- The development will focus on a **browser-based** application.
- The audio files will be sourced from the **internet** and are **freely shared**.
- **9-week fix schedule**: the project must be completed within 9 weeks.
- The development team consists of **5 people**, and there will be no additional staff.
- **Amateur approach**: none of the members in the development team has prior software engineering experience and has no professional orientation to follow the path of Software Engineering.

2.3 Project Deliverables

Deliverables for each project phase are identified in the Development Case. Deliverables are delivered towards the end of the iteration, as specified in Section 4.2 Project Plan.

3. Project Organization

3.1 Organizational Structure



3.2 Roles and Responsibilities

Person	Roles
Trần Anh Minh	Process Manager, Business Modeling, Business Process Analysist, Backend Developer, Database Reviewer, Deployment Manager, Field Engineer
Đoàn Đặng Phương Nam	Project Manager, Team Leader, Configuration Manager, Business Model Reviewer, Database Developer, Test Designer, Report Manager, Planning Reporter, Review Reporter
Khuru Thành Thiện	Business Designer, UX Designer, Frontend

Canary Music Streaming Service	Version: 1.4
Software Development Plan (Small Project)	Date: 14/11/2024

	Developer, System Architect, Database Analyst, Database Designer, System Tester
Bùi Nguyễn Lan Vy	Frontend Manager, UI Designer, Test Manager, Test Planner, Weekly Reporter
Diệp Gia Huy	Business Process Analyst, Frontend Developer, Backend Manager, System Analyst, Backend Developer, Database Manager, Database Developer

4. Management Process

4.1 Project Estimates

- **Time estimation:**
 - Start date: 24/10/2024
 - End date: 26/12/2024
 - Total time: approximately 2 months.
 - Time separation: about 6 weeks of development and 2 weeks of testing
- **Effort estimation (based on the key features):**

Notice: the estimation may need to be re-estimated if any changes occur.

ID	Key features	Sub features	Time (hours)	Contributors (members)
1	User authentication	Sign in, Sign up	30	3
2	Media player	Play music (Play, pause, loop, shuffle, etc.)	20	2
3	-	Search (Search, filter, etc.)	20	3
4	-	Social functionality (reactions, etc.)	15	2
5	Billboards	Top songs, Recent release	15	2
6	Song management	Upload songs	20	4
7	-	Remove songs	20	2
8	-	Star songs, create playlists	15	3
9	Request handling	Resolve report, pending upload songs	25	5
10	Data management	Track data, track database	35	5

- **Cost estimation:**

Notice: The cost below is calculated based on the average salary of US residents and facilities.

Canary Music Streaming Service	Version: 1.4
Software Development Plan (Small Project)	Date: 14/11/2024

<i>ID</i>	<i>Field</i>	<i>Descriptions</i>	<i>Total cost</i>	<i>Renewal</i>
1	Personnel Cost	The total of team members: <i>5 people</i> The total of work days (including development and testing duration): <i>60 days</i> Average daily salary: (assuming) <i>\$200/day</i>	$\$200 * 60 * 5$ $= \$45,000$	One-time
2	Tool Cost	Assume software and tools for the development process and management. Typical cost around <i>\$100/person/month</i> If using any specialized software, an additional license fee may include.	$\$100 * 5$ $= \$ 500$	Monthly
3	Hosting Cost	Storage, databases, servers, domain names, SSL certificate,... The costs may vary along the infrastructure.	$\$500$	Monthly
4	Management Cost	Includes project management, meetings, or coordination,... which can sum up to <i>\$4,000/month</i> . Training cost: staff training on new technology and tools may cost up to <i>\$1,000</i> .	$\$4,000 * 2 + \$1,000$ $= \$9,000$	One-time
5	Maintenance Cost	Once launched, this process of bug fixing, updating, monitoring,... Estimating around 20–30% of the labor cost.	$\$45,000 * 25\%$ $= \$11,250$	Quarterly
Total initial cost		$\$45,000 + \$500 * 2 + \$9,000 = \mathbf{\$55,000}$		
Additional maintenance cost		$\$11,250 + \$500 * 3 + \$500 * 3 = \mathbf{\$14,250 quarterly}$		

4.2 Project Plan

Our team's projects will be planned according to the RUP (Rational Unified Process) and Scrum models. It will have **3 phases (Inception, Elaboration, and Construction)** and **6 main sprints** (each sprint will have 2 weeks, but especially sprint 3 will have only 1 week):

- **Inception:** The inception phase focuses on setting goals and collecting the necessary requirements for software development. This includes estimating costs, identifying potential risks, and defining the project's scope and architecture. A key aspect of this phase is also conducting a feasibility analysis.

Canary Music Streaming Service	Version: 1.4
Software Development Plan (Small Project)	Date: 14/11/2024

Sprint 0 (10/10/2024 - 24/10/2024)

Tasks		Task Owner(s)	Estimated Working Time (Hours)	Output
Type	Description			
Report	[PA0 - Project Proposal] <ul style="list-style-type: none"> Write a brief introduction for the proposal of the project List all target users and environments of the project List all key features and categorize into each specific target user 	Bùi Nguyễn Lan Vy Trần Anh Minh	10 hours (about 1 hour/day)	Project Proposal
	[Planning Report] <ul style="list-style-type: none"> Review and select user stories or a part of use-case Identify and prioritize tasks Assign tasks to team members 	Đoàn Đặng Phương Nam	2 hours (about 40 minutes/day)	Planning Meeting Report
	[Weekly Report] <ul style="list-style-type: none"> Work done in the last week Issues or obstacles of each member Goals in the next week 	Bùi Nguyễn Lan Vy	1 hours (about 30 minutes/day)	Weekly Meeting Report
	[Review Report] <ul style="list-style-type: none"> Evaluate the completion status of each task in the sprint Identify the problems of each task and their reasons Discuss solution for each problem and lessons for team 	Đoàn Đặng Phương Nam	1 hours (about 30 minutes/day)	Review Meeting Report
	[Configuration Management] <ul style="list-style-type: none"> Create and set up the Google Drive Folder Create and set up a repository on Github Create and set up Discord Create and set up a site on Jira 	Đoàn Đặng Phương Nam	8 hours (about 2 hours/task)	x

Canary Music Streaming Service	Version: 1.4
Software Development Plan (Small Project)	Date: 14/11/2024

							Week 1							Week 2						
							10/10/2024	11/10/2024	12/10/2024	13/10/2024	14/10/2024	15/10/2024	16/10/2024	17/10/2024	18/10/2024	19/10/2024	20/10/2024	21/10/2024	22/10/2024	23/10/2024
Type	Tr	Activity	Priority	Start	End	Status	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed
Report	[PA0 - Project Proposal]	Write PA0 (Project Proposal)	Very High	10/10/2024	24/10/2024	Completed														
Report	[Planning Report]	Write Planning Meeting Report #0	Medium	10/10/2024	12/10/2024	Completed														
Report	[Weekly Report]	Write Weekly Meeting Report #01	Medium	16/10/2024	17/10/2024	Completed														
Report	[Weekly Report]	Write Weekly Meeting Report #02	Medium	22/10/2024	24/10/2024	Completed														
Report	[Review Report]	Write Review Meeting Report #0	Medium	22/10/2024	24/10/2024	Completed														
Report	[Configuration Management]	Create and set up the Google Drive Folder	High	10/10/2024	17/10/2024	Completed														
Report	[Configuration Management]	Create and set up a repository on Github	High	10/10/2024	17/10/2024	Completed														
Report	[Configuration Management]	Create and set up Discord	Low	10/10/2024	12/10/2024	Completed														
Report	[Configuration Management]	Create and set up a site on Jira	High	13/10/2024	20/10/2024	Completed														

Sprint 1 (24/10/2024 - 07/11/2024)

Tasks		Task Owner(s)	Estimated Working Time (Hours)	Output
Type	Description			
Training	[Frontend & Backend] <ul style="list-style-type: none"> Learn HTML/CSS/JavaScript (Since team will utilize Wix to create a low-code web app, we only need to learn listed languages to adapt or modify the web app.) Learn how to create and modify a web app on Wix 	All members	60 hours (about 4 hours/day for both tasks)	x
	[UI Design] <ul style="list-style-type: none"> Learn how to use Figma to design UI Prototype 	Bùi Nguyễn Lan Vy Khuu Thành Thiện	12 hours (about 4 hours/day)	x
	[Database Design] <ul style="list-style-type: none"> Learn how to draw ERD Learn how to convert from ERD to Relational Model 	Diệp Gia Huy Khuu Thành Thiện	30 hours (about 2 hours/day, 1 hour/day for each task)	x
	[Use-case model] <ul style="list-style-type: none"> Learn how to draw use-case diagrams 	Trần Anh Minh	7 hours (about 1 hour/day)	x
Design	[UI Design] Guest <ul style="list-style-type: none"> Main page: <i>where anything locates.</i> 	Bùi Nguyễn Lan Vy Khuu Thành Thiện	60 hours (about 5 hours/day)	UI Prototype

Canary Music Streaming Service	Version: 1.4
Software Development Plan (Small Project)	Date: 14/11/2024

	<ul style="list-style-type: none"> • Sign in/Sign up: <i>where allows users to authenticate themselves.</i> • Search Results: <i>the search results.</i> • Media player: <i>the bar to control music.</i> • Billboards: <i>the recent release, top 'visit' songs and albums.</i> • List of songs in a playlist: <i>songs in a playlist.</i> • Song's information: <i>the side panel showing the song's metadata.</i> • User profile (Viewer role): <i>the information of the other users.</i> • About us: <i>the information of 'US'</i> • Terms of Usage: <i>the policy when using the application.</i> <p>Member (inherits from Guest)</p> <ul style="list-style-type: none"> • Personal Profile: <i>the user's profile showing information and uploaded songs.</i> • Update Profile: <i>the interface when changing profile information.</i> • Library: <i>where the starred songs and albums locate.</i> • Upload: <i>where to upload the song file and write down its metadata.</i> • Report: <i>a quick, small popup to report a violation.</i> <p>Admin (inherits from Member)</p> <ul style="list-style-type: none"> • Upload and Report Approvement: <i>where admins can validate the requests.</i> • Song Management: <i>accessing the song database.</i> • Account Management: <i>accessing the account database.</i> • Data Tracking: <i>to view the website usage data.</i> 			
Report	<p>[PA1 - Vision Document]</p> <ul style="list-style-type: none"> • Provide a problem statement • Provide product position statement • Provide stakeholder and user descriptions 	Bùi Nguyễn Lan Vy Trần Anh Minh	30 hours (about 2 hours 30 minutes/day)	Vision Document

Canary Music Streaming Service	Version: 1.4
Software Development Plan (Small Project)	Date: 14/11/2024

	<ul style="list-style-type: none"> • Research strengths and weaknesses of competitors • List and briefly describe the product features • Provide non-functional requirements 			
	[PA1 - Project Plan] <ul style="list-style-type: none"> • Provide an overview of group's project plan • State a brief description of the purpose, scope and objectives of group's project • List all assumptions and constraints • List all artifacts • Draw the project organization • Assign roles and responsibilities for each member • Provide a plan including tasks, task owner and the releases for each sprint • Draw Gantt charts for visualizing the project scheduling • Identify approaches to reporting project status • Identify tools for configuration management 	Đoàn Đặng Phương Nam Trần Anh Minh Diệp Gia Huy	90 hours (about 6 hours/day)	Project Plan
	[Planning Report] <ul style="list-style-type: none"> • Review and select user stories or a part of use-case • Identify and prioritize tasks • Assign tasks to team members 	Đoàn Đặng Phương Nam	2 hours (about 40 minutes/day)	Planning Meeting Report
	[Weekly Report] <ul style="list-style-type: none"> • Work done in the last week • Issues or obstacles of each member • Goals in the next week 	Bùi Nguyễn Lan Vy	1 hours (about 30 minutes/day)	Weekly Meeting Report
	[Review Report] <ul style="list-style-type: none"> • Evaluate the completion status of each task in the sprint • Identify the problems of each task and their reasons • Discuss solution for each problem and 	Đoàn Đặng Phương Nam	1 hours (about 30 minutes/day)	Review Meeting Report

Canary Music Streaming Service	Version: 1.4
Software Development Plan (Small Project)	Date: 14/11/2024

	lessons for team			
--	------------------	--	--	--

							Week 3							Week 4						
							24/10/2024	25/10/2024	26/10/2024	27/10/2024	28/10/2024	29/10/2024	30/10/2024	31/10/2024	01/11/2024	02/11/2024	03/11/2024	04/11/2024	05/11/2024	06/11/2024
Type	Tr	Activity	Priority	Start	End	Status	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed
Training		[Frontend & Backend] Learn HTML/CSS/JavaScript	Medium	24/10/2024	07/11/2024	Completed														
Training		[Frontend & Backend] Learn how to create and modify a web app on Wix	Medium	24/10/2024	07/11/2024	Completed														
Training		[UI Design] Learn how to use Figma to design UI Prototype	High	24/10/2024	26/10/2024	Completed														
Training		[Database Design] Learn how to draw ERD	Medium	24/10/2024	07/11/2024	Completed														
Training		[Database Design] Learn how to convert from ERD to Relational Model	Medium	26/10/2024	07/11/2024	Completed														
Training		[Use-case model] Learn how to draw use-case diagrams	Medium	31/10/2024	07/11/2024	Completed														
Design		[UI Design] Design UI Prototype for all pages	High	26/10/2024	07/11/2024	In Progress														
Report		[PA1 - Vision Document] Write Vision Document	Very High	24/10/2024	04/11/2024	Completed														
Report		[PA1 - Project Plan] Write Project Plan	Very High	24/10/2024	05/11/2024	Completed														
Report		[Planning Report] Write Planning Meeting Report #1	Very High	24/10/2024	26/10/2024	Completed														
Report		[Weekly Report] Write Weekly Meeting Report #03	Very High	30/10/2024	31/10/2024	Completed														
Report		[Weekly Report] Write Weekly Meeting Report #04	Very High	05/11/2024	07/11/2024	Completed														
Report		[Review Report] Write Review Meeting Report #1	Very High	05/11/2024	07/11/2024	Completed														

- Elaboration:** The elaboration phase focuses on thorough analysis and refining the architecture and infrastructure. During this stage, we enhance the efficiency of the architecture, examine use cases and software diagrams, and work to minimize risks. Besides, an initial user module is developed in this phase.

Sprint 2 (07/11/2024 - 21/11/2024)

Tasks		Task Owner(s)	Estimated Working Time (Hours)	Output
Type	Description			
Training	[Backend] <ul style="list-style-type: none"> Learn about the MVC model and software architecture 	Diệp Gia Huy Khuru Thành Thiện	12 hours (about 2 hours/day)	x
	[Frontend] <ul style="list-style-type: none"> Learn about frontend architecture 	Đoàn Đặng Phương Nam	12 hours (about 2 hours/day)	x
	[Database] <ul style="list-style-type: none"> Learn how to deploy the database to use 	Trần Anh Minh	6 hours (about 30 minutes/day)	x
Design	[UI Design] <ul style="list-style-type: none"> Continue to design remaining pages Create links among pages following Use-cases Specification 	Bùi Nguyễn Lan Vy Khuru Thành Thiện	45 hours (about 3 hours/day)	UI Prototype
	[Database Design] <ul style="list-style-type: none"> Database Analysis + Business Analysis 	Diệp Gia Huy Khuru Thành Thiện	30 hours (2 hours/day)	ERD +

Canary Music Streaming Service	Version: 1.4
Software Development Plan (Small Project)	Date: 14/11/2024

	<ul style="list-style-type: none"> • Draw ERD • Draw Relational Model 			Database Schema
Implementation and Testing	[Frontend] <ul style="list-style-type: none"> • Create all pages as listed in [UI Design] of Sprint 1 on team's web app (just create the UI for each page following team's UI Prototype) 	Diệp Gia Huy Trần Anh Minh Đoàn Đặng Phương Nam	45 hours (about 3 hours/day)	Code in Github
Report	[PA2 - Revised project plan] <ul style="list-style-type: none"> • Update group's project plan based on TA's feedbacks 	Đoàn Đặng Phương Nam	2 hours	Revised Project Plan
	[PA2 - Detailed vision document] <ul style="list-style-type: none"> • Detail product functional and non-functional requirements • Detail alternatives and competitors, user environments 	Trần Anh Minh	2 hours	Revised Vision Document
	[PA2 - Use-case model] <ul style="list-style-type: none"> • Model use-cases of the system in forms of use-case diagrams (one or several diagrams) 	Trần Anh Minh	4 hours (about 1 hour 30 minutes/day)	Use-case diagrams
	[PA2 - Use-case specification] <ul style="list-style-type: none"> • Put an image of the use-case diagram modeling all use-cases • List all use-cases and state a brief description for each of them • Analyzing the basic flow and alternative flows of each use-case • Analyzing pre-conditions and post-conditions of each use-case 	Trần Anh Minh	12 hours (about 2 hours/day)	Use-case specification
	[PA2 - PA3 - Planning Report] <ul style="list-style-type: none"> • Review and select user stories or a part of use-case • Identify and prioritize tasks • Assign tasks to team members 	Đoàn Đặng Phương Nam	2 hours (about 40 minutes/day)	Planning Meeting Report
	[PA2 - PA3 - Weekly Report] <ul style="list-style-type: none"> • Work done in the last week 	Bùi Nguyễn Lan Vy	1 hours (about 30 minutes/day)	Weekly Meeting

Canary Music Streaming Service	Version: 1.4
Software Development Plan (Small Project)	Date: 14/11/2024

	<ul style="list-style-type: none"> Issues or obstacles of each member Goals in the next week 			Report
	[PA2 - PA3 - Review Report] <ul style="list-style-type: none"> Evaluate the completion status of each task in the sprint Identify the problems of each task and their reasons Discuss solution for each problem and lessons for team 	Đoàn Đặng Phương Nam	1 hours (about 30 minutes/day)	Review Meeting Report
	[PA3 - Revised Use-case specification] <ul style="list-style-type: none"> Revise and detail the use-case model and specifications according to the feedback from TA's 	Đoàn Đặng Phương Nam	3 hours (about 1 hour/day)	Revised Use-case specification
	[PA3 - Define SAD] <ul style="list-style-type: none"> Provide an introduction of the purpose, scope and the overview of the Software Architecture Document (SAD). Define architectural goals and constraints Put the use-case model Describe components of the architecture and their relationships Include class diagrams for each component Explain key classes 	Diệp Gia Huy Khuru Thành Thiện	12 hours (about 2 hours/day)	Software Architecture Document

Canary Music Streaming Service	Version: 1.4
Software Development Plan (Small Project)	Date: 14/11/2024

							Week 5							Week 6						
							07/11/2024	08/11/2024	09/11/2024	10/11/2024	11/11/2024	12/11/2024	13/11/2024	14/11/2024	15/11/2024	16/11/2024	17/11/2024	18/11/2024	19/11/2024	20/11/2024
Type	Tr	Activity	Priority	Start	End	Status	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed
Training	[Backend]	Learn about the MVC model and software architecture	Very High	07/11/2024	12/11/2024	Yet Started														
Training	[Frontend]	Learn about frontend architecture	Very High	07/11/2024	12/11/2024	Yet Started														
Training	[Database]	Learn how to deploy the database to use	High	07/11/2024	21/11/2024	Yet Started														
Design	[UI Design]	Continue to design remaining pages	Very High	07/11/2024	18/11/2024	In Progress														
Design	[UI Design]	Create links among pages following Use-cases Specification	High	10/11/2024	21/11/2024	Yet Started														
Design	[Database Design]	Database Analysis + Business Analysis	High	07/11/2024	09/11/2024	Yet Started														
Design	[Database Design]	Draw ERD	High	09/11/2024	16/11/2024	Yet Started														
Design	[Database Design]	Draw Relational Model	High	16/11/2024	21/11/2024	Yet Started														
Implement...	[Frontend]	Create the UI of all pages following the UI Prototype	High	10/11/2024	21/11/2024	Yet Started														
Report	[PA2 - Revised project plan]	Update group's project plan based on TA's feedbacks	Very High	07/11/2024	14/11/2024	In Progress														
Report	[PA2 - Detailed vision document]	Update group's vision document based on TA's feedbacks	Very High	07/11/2024	14/11/2024	In Progress														
Report	[PA2 - Use-case model]	Model use-cases of the system in forms of use-case diagrams	Very High	07/11/2024	09/11/2024	Yet Started														
Report	[PA2 - Use-case specification]	Write Use-cases Specification	Very High	08/11/2024	14/11/2024	Yet Started														
Report	[PA2 - PA3 - Planning Report]	Write Planning Meeting Report #2	Very High	07/11/2024	09/11/2024	Yet Started														
Report	[PA2 - PA3 - Weekly Report]	Write Weekly Meeting Report #05	Very High	13/11/2024	14/11/2024	Yet Started														
Report	[PA2 - PA3 - Weekly Report]	Write Weekly Meeting Report #06	Very High	19/11/2024	21/11/2024	Yet Started														
Report	[PA2 - PA3 - Review Report]	Write Review Meeting Report #2	Very High	19/11/2024	21/11/2024	Yet Started														
Report	[PA3 - Revised Use-case specification]	Revise and detail the use-case model and specifications	Very High	14/11/2024	16/11/2024	Yet Started														
Report	[PA3 - Define SAD]	Write Software Architecture Document	Very High	14/11/2024	21/11/2024	Yet Started														

Sprint 3 (21/11/2024 - 28/11/2024)

Tasks		Task Owner(s)	Estimated Working Time (Hours)	Output
Type	Description			
Implementation and Testing	[Frontend] <ul style="list-style-type: none"> Continue to create the UI of remaining pages following the team's UI Prototype Create the links among all created pages 	Diệp Gia Huy Trần Anh Minh Đoàn Đặng Phương Nam	20 hours (about 3 hours/day)	UI Prototype + Code in Github
Report	[PA4 - Revised SAD] <ul style="list-style-type: none"> Update Sections 1-4 based on the feedback for PA3 Draw deployment diagram(s) using UML and describe briefly Provide structures for folders storing code and supporting files 	Diệp Gia Huy Khuu Thành Thiện	7 hours	Software Architecture Document
	[PA4 - UI Prototype] <ul style="list-style-type: none"> Design all pages of group's product For each screen, describe its purpose, what it shows and how users can use it 	Bùi Nguyễn Lan Vy Khuu Thành Thiện	5 hours	UI Prototype Report
	[PA4 - Planning Report]	Đoàn Đặng Phương Nam	2 hours (about 40)	Planning

Canary Music Streaming Service	Version: 1.4
Software Development Plan (Small Project)	Date: 14/11/2024

	<ul style="list-style-type: none"> Review and select user stories or a part of use-case Identify and prioritize tasks Assign tasks to team members 		minutes/day)	Meeting Report
	[PA4 - Weekly Report] <ul style="list-style-type: none"> Work done in the last week Issues or obstacles of each member Goals in the next week 	Bùi Nguyễn Lan Vy	1 hours (about 30 minutes/day)	Weekly Meeting Report
	[PA4 - Review Report] <ul style="list-style-type: none"> Evaluate the completion status of each task in the sprint Identify the problems of each task and their reasons Discuss solution for each problem and lessons for team 	Đoàn Đặng Phương Nam	1 hours (about 30 minutes/day)	Review Meeting Report

							Week 7						
							21/11/2024	22/11/2024	23/11/2024	24/11/2024	25/11/2024	26/11/2024	27/11/2024
Type	Tr	Activity	Priority	Start	End	Status	Thu	Fri	Sat	Sun	Mon	Tue	Wed
Implement...		[Frontend] Continue to create the UI of remaining pages	Very High	21/11/2024	23/11/2024	Yet Started							
Implement...		[Frontend] Create the links among all created pages	High	23/11/2024	28/11/2024	Yet Started							
Report		[PA4 - Revised SAD] Update and complete remaining sections of SAD	Very High	21/11/2024	28/11/2024	Yet Started							
Report		[PA4 - UI Prototype] Prepare a UI Prototype Report	Very High	21/11/2024	28/11/2024	Yet Started							
Report		[PA4 - Planning Report] Write Planning Meeting Report #3	Very High	21/11/2024	23/11/2024	Yet Started							
Report		[PA4 - Weekly Report] Write Weekly Meeting Report #07	Very High	26/11/2024	28/11/2024	Yet Started							
Report		[PA4 - Review Report] Write Review Meeting Report #3	Very High	26/11/2024	28/11/2024	Yet Started							

- Construction:** The construction phase involves implementing the software, aiming to reduce and eliminate risks. During this phase, all features and components are integrated into a unified application. Rigorous testing and process optimization are conducted to lower development costs and enhance efficiency. The primary focus of the construction phase is on software implementation and testing.

Canary Music Streaming Service	Version: 1.4
Software Development Plan (Small Project)	Date: 14/11/2024

Sprint 4 (28/11/2024 - 12/12/2024)

Tasks		Task Owner(s)	Estimated Working Time (Hours)	Output
Type	Description			
Implementation and Testing	[Frontend & Backend] <ul style="list-style-type: none"> Based on the frontend, backend architecture and the use-cases specification, implement use cases related to such pages: Guest <ul style="list-style-type: none"> Main page Sign in/Sign up Search Results Media player Billboards. List of songs in a playlist Song's information User profile (Viewer role) About us Terms of Usage Member (inherits from Guest) <ul style="list-style-type: none"> Personal Profile Update Profile Library Upload Report 	Diệp Gia Huy Trần Anh Minh Khuru Thành Thiện	120 hours (about 8 hours/day)	Code in Github
	[Database] <ul style="list-style-type: none"> Account CRUD Song CRUD Playlist CRUD Request (Upload, Report) CRUD 	Đoàn Đặng Phương Nam	45 hours (about 6 hours/day)	Code in Github
Report	[PA5 - Test plan and test cases] <ul style="list-style-type: none"> Provide an overview of the test plan document. List software items for testing List hardware requirements, software elements and support tools used in testing 	Bùi Nguyễn Lan Vy Đoàn Đặng Phương Nam	60 hours (about 4 hours/day)	Test case, Test plan, Test report

Canary Music Streaming Service	Version: 1.4
Software Development Plan (Small Project)	Date: 14/11/2024

	<ul style="list-style-type: none"> Responsibilities and roles of members Generate a test report listing all defects found 			
	[PA5 - Project Presentation] <ul style="list-style-type: none"> Preparing slides (about 20-25 slides) for project presentation 	All members	2 hours	Slide
	[Planning Report] <ul style="list-style-type: none"> Review and select user stories or a part of use-case Identify and prioritize tasks Assign tasks to team members 	Đoàn Đặng Phương Nam	2 hours (about 40 minutes/day)	Planning Meeting Report
	[Weekly Report] <ul style="list-style-type: none"> Work done in the last week Issues or obstacles of each member Goals in the next week 	Bùi Nguyễn Lan Vy	1 hours (about 30 minutes/day)	Weekly Meeting Report
	[Review Report] <ul style="list-style-type: none"> Evaluate the completion status of each task in the sprint Identify the problems of each task and their reasons Discuss solution for each problem and lessons for team 	Đoàn Đặng Phương Nam	1 hours (about 30 minutes/day)	Review Meeting Report

							Week 8							Week 9						
							28/11/2024	29/11/2024	30/11/2024	01/12/2024	02/12/2024	03/12/2024	04/12/2024	05/12/2024	06/12/2024	07/12/2024	08/12/2024	09/12/2024	10/12/2024	11/12/2024
Type	Tr	Activity	Priority	Start	End	Status	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed
Implement...		[Frontend & Backend] implement use cases related to pages of Guest and Member	High	28/11/2024	12/12/2024	Yet Started														
Implement...		[Database] Account, Song, Playlist, Request CRUD	Very High	28/11/2024	05/12/2024	Yet Started														
Report		[PA5 - Test plan and test cases] Create test plan, test cases and test report	Very High	28/11/2024	10/12/2024	Yet Started														
Report		[PA5 - Project Presentation] Preparing slides for project presentation	Very High	10/12/2024	12/12/2024	Yet Started														
Report		[Planning Report] Write Planning Meeting Report #4	Medium	28/11/2024	30/11/2024	Yet Started														
Report		[Weekly Report] Write Weekly Meeting Report #08	Medium	04/12/2024	05/12/2024	Yet Started														
Report		[Weekly Report] Write Weekly Meeting Report #09	Medium	10/12/2024	12/12/2024	Yet Started														
Report		[Review Report] Write Review Meeting Report #4	Medium	10/12/2024	12/12/2024	Yet Started														

Canary Music Streaming Service	Version: 1.4
Software Development Plan (Small Project)	Date: 14/11/2024

Sprint 5 (12/12/2024 - 26/12/2024)

Tasks		Task Owner(s)		Output
Type	Description			
Implementat ion and Testing	[Frontend & Backend] <ul style="list-style-type: none"> Continue to complete use cases of listed pages in Sprint 4 Based on the frontend, backend architecture and the use-cases specification, continue to implement use cases related to remaining pages, including: Admin (inherits from Member) <ul style="list-style-type: none"> Upload and Report Approvement: <i>where admins can validate the requests.</i> Song Management: <i>accessing the song database.</i> Account Management: <i>accessing the account database.</i> Data Tracking: <i>to view the website usage data.</i> 	Diệp Gia Huy Trần Anh Minh Khuru Thành Thiện	45 hours (about 3 hours/day)	Code in Github
	[Planning Report] <ul style="list-style-type: none"> Review and select user stories or a part of use-case Identify and prioritize tasks Assign tasks to team members 	Đoàn Đặng Phương Nam	2 hours (about 40 minutes/day)	Planning Meeting Report
	[Weekly Report] <ul style="list-style-type: none"> Work done in the last week Issues or obstacles of each member Goals in the next week 	Bùi Nguyễn Lan Vy	1 hours (about 30 minutes/day)	Weekly Meeting Report
	[Review Report] <ul style="list-style-type: none"> Evaluate the completion status of each task in the sprint Identify the problems of each task and their reasons Discuss solution for each problem and lessons for team 	Đoàn Đặng Phương Nam	1 hours (about 30 minutes/day)	Review Meeting Report

Canary Music Streaming Service	Version: 1.4
Software Development Plan (Small Project)	Date: 14/11/2024

							Week 10							Week 11						
							12/12/2024	13/12/2024	14/12/2024	15/12/2024	16/12/2024	17/12/2024	18/12/2024	19/12/2024	20/12/2024	21/12/2024	22/12/2024	23/12/2024	24/12/2024	25/12/2024
Type	Tr	Activity	Priority	Start	End	Status	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed
Implement...		[Frontend & Backend] Continue to complete use cases of listed pages in Sprint 4	Very High	12/12/2024	26/12/2024	Yet Started														
Implement...		[Frontend & Backend] Implement use cases related to pages of Admin	Very High	12/12/2024	26/12/2024	Yet Started														
Report		[Planning Report] Write Planning Meeting Report #5	Low	12/12/2024	14/12/2024	Yet Started														
Report		[Weekly Report] Write Weekly Meeting Report #10	Low	18/12/2024	19/12/2024	Yet Started														
Report		[Weekly Report] Write Weekly Meeting Report #11	Low	24/12/2024	26/12/2024	Yet Started														
Report		[Review Report] Write Review Meeting Report #5	Low	24/12/2024	26/12/2024	Yet Started														

However, we estimate that our plan will have 3 release versions (after being reviewed and revised after some milestones):

- **Alpha version:** our team will list all general tasks for this project, and our plan will adjust slowly.
- **Belta version:** this is the detailed project plan with all the detailed tasks for each team member.
- **Final version:** this is the final version after correcting all errors.

About this project version, our team will release 2 versions:

- **Demo version:** All the main features of the web application. This version will be released at the end of sprint 04.
- **Final version:** Feature-complete version for some external user testing. We will run a demo so that all users can use it, and from there we can analyze the market and update errors. This version will be released at the end of sprint 05.

4.3 Project Monitoring and Control

4.3.1 Reporting

To ensure effective project status reporting, a blend of structured and informal approaches can keep all team members informed and aligned on progress. Three common approaches are weekly meetings, weekly status reports, and informal chats, each with its own unique advantages and use cases.

- **Weekly Meeting:** A weekly meeting provides a dedicated time for the project team to come together and discuss ongoing progress, review milestones, and address any blockers. This interactive format allows team members to raise concerns and provides an opportunity for collaborative problem-solving. Weekly meetings are also useful for recalibrating goals based on the week's achievements and shifting priorities, ensuring everyone is on the same page.
- **Weekly Status Report:** A weekly status report is a written summary of project updates that can be shared with team members and stakeholders alike. This report typically includes key achievements, pending tasks, upcoming deadlines, and any risks that need to be monitored. By providing a record of progress, the weekly status report ensures that all team members have a reference point, which is especially useful for stakeholders who cannot attend meetings but still need to stay informed.
- **Informal Chats:** Informal chats provide a flexible and quick way for team members to exchange updates, ask questions, and clarify minor issues as they arise. These interactions help maintain momentum between more formal reporting structures and foster a collaborative environment. Informal chats are particularly helpful in fast-paced projects, where immediate answers and feedback can prevent small issues from escalating into larger obstacles.

Canary Music Streaming Service	Version: 1.4
Software Development Plan (Small Project)	Date: 14/11/2024

4.3.2 Risk Management

ID	Description	Probability	Loss	Impact	RE	Priority	Mitigation Strategy
1	Copyright infringement	60%	200	Legal issues and fines, damaging reputation, and possibly losing access to content.	120	High ▾	Adding term & /policies
2	Data leak	30%	200	Exposed user data, resulting in loss of trust & potential fines.	60	High ▾	Encrypt user data
3	Security attacks.	30%	200	Disrupts app access and compromises data.	60	High ▾	Enhanced security
4	Inconsistent listening experience	70%	70	Buffering or audio issues lead to user frustration.	50	High ▾	Download song before listening
5	Inferior database design	40%	130	Slows down the app and increases maintenance issues.	50	High ▾	Thorough database design
6	Accessing Overhead	80%	50	Slow data retrieval leading to delayed song loading.	40	Moderate ▾	Queueing accesses
7	Bugs & glitches	30%	130	Interrupted user experience	40	Moderate ▾	Solve by releasing patch

Canary Music Streaming Service	Version: 1.4
Software Development Plan (Small Project)	Date: 14/11/2024

8	<i>Insufficient server processing power</i>	60%	50	Downtime or slow performance during high traffic.	30	Moderate ▾	<i>Upgrading on-premise facilities or considering cloud solutions (AWS, Microsoft Azure, Google Cloud, etc.)</i>
9	<i>Duplicated data</i>	20%	100	Inconsistencies and inefficiencies, confusing users and wasting storage.	20	Low ▾	<i>Remove duplicates</i>

4.3.3 Configuration Management

For this project, our team uses tools as follows:

- **Github:** After being structured following TA's requirements, our project repository will be a storage of our implementation and testing, besides required documents throughout the project (most of them will be **PDF files**)
- **Google Drive:** The aim of storing in **Google Drive** is similar to **Github**, but to ensure the collaboration among team members, we will use **Google Drive** to store **Google Docs** or **Google Spreadsheets** which are typically types of shared documents.
- **Jira:** **Jira** is a reasonable option for us to manage each sprint in this project. With a combination of components such as **Board, List, Backlog,...**, this tool will be essential to help us to track the project progress.