

**VIETNAM NATIONAL UNIVERSITY - HO CHI MINH CITY**

**UNIVERSITY OF SCIENCE**

Faculty of Information Technology



# **CHAT BOT - PA1**

## **SOFTWARE DEVELOPMENT PLAN**

by

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Chat Bot	Version <1.0>
Software Development Plan	13/11/2024

## Revision History

Date	Version	Description	Author

Chat Bot	Version <1.0>
Software Development Plan	13/11/2024

## Table Content

<b>Revision History</b>	<b>1</b>
<b>Table Content</b>	<b>2</b>
<b>1. Introduction</b>	<b>4</b>
<b>2. Project overview</b>	<b>4</b>
<b>2.1. Project Purpose, Scope, and Objectives</b>	<b>4</b>
2.2. Assumptions and Constraints	4
2.3. Project Deliverables	5
<b>3. Project organization</b>	<b>6</b>
3.1. Organizational structure	6
3.2. Roles and Responsibilities	6
<b>4. Management Process</b>	<b>9</b>
<b>4.1. Project Estimates</b>	<b>9</b>
4.2. Project Plan	9
4.2.1. Phase and Iteration Plan	9
The following outlines the schedule for the various phases of the project, detailing key milestones and the specific timeframes associated with each phase.	9
4.2.2. Release	11
4.2.3. Project Schedule	11
Schedule for PA1 and PA2 :	11
4.3. Project Monitoring and Control	11
4.3.1. Reporting	11
4.3.2. Risk Management	11
4.3.3. Configuration Management	11

Chat Bot	Version <1.0>
Software Development Plan	13/11/2024

## 1. Introduction

- This document describes the processes, methodologies, and essential elements needed to develop a software product. This plan is crucial for helping the development team understand the necessary steps, distribute tasks, and ensure the project meets the set requirements within the allowed time and budget.
- This document includes:
  - **Project Goals and Scope:** Defines objectives, customer requirements, and key features.
  - **Project Schedule:** Lists major milestones, deadlines, and tasks for each project phase.
  - **Resource Requirements:** Specifies necessary human resources, budget, hardware, and software.
  - **Project Management and Monitoring:** Explains how progress will be tracked and updated.
  - **Risk Management:** Identifies potential risks and mitigation strategies.

## 2. Project overview

### 2.1. Project Purpose, Scope, and Objectives

- The purpose of this project is to develop an artificial intelligence application that supports users across various tasks, including user account management, communication via chat, and the creation and management of AI bots and knowledge datasets. The goal is to optimize user workflows by integrating essential tools such as AI chat, knowledge dataset creation, and prompt handling...
- The **project scope** encompasses all the features required to build a fully functional and effective application. Key features include:
  - **User Authentication:** Registration, login, authorization, password recovery, and logout.
  - **AI Chat:** Chat with AI bots, chat history, and switching between AI agents.
  - **AI Bot Management:** Create, manage, and interact with AI bots.
  - **Knowledge Datasets:** Add, search, and upload knowledge data from various sources.
  - **Prompts:** Create, search, and use prompts in chat.
  - **Monetization:** Account upgrades to Pro and integration of ads.
  - **Email with AI:** Integration of email services with AI.
  - **Advanced Features:** Publishing the app on stores, analytics tracking, and setting up CI/CD pipelines.
- **Project Objectives :** Deliver a powerful AI assistant platform with robust chat and bot features, create a user-friendly and secure experience with intuitive UI/UX and reliable authentication, enable revenue streams through ads and account upgrades.

### 2.2. Assumptions and Constraints

#### Assumptions:

- **Resource Availability:** All necessary development tools, APIs, and cloud services will be available and functional throughout the project.
- **User Access to Internet:** Users will have reliable internet connections, necessary for real-time features like AI chat and updates.
- **Consistent Feedback:** Project stakeholders and users will provide timely feedback at each phase to ensure alignment with project objectives.

#### Constraints:

Chat Bot	Version <1.0>
Software Development Plan	13/11/2024

- Project Duration: The project will follow a fixed schedule of 8 weeks.
- Zero-budget project.
- Project has 5 people, there will be no more people added during the project
- Platform Compatibility: The project needs to ensure compatibility across multiple platforms (e.g., web, iOS, Android), which may limit design flexibility and feature complexity.
- Server Load: Server infrastructure should be optimized to handle expected traffic, which may limit features requiring intensive real-time processing.

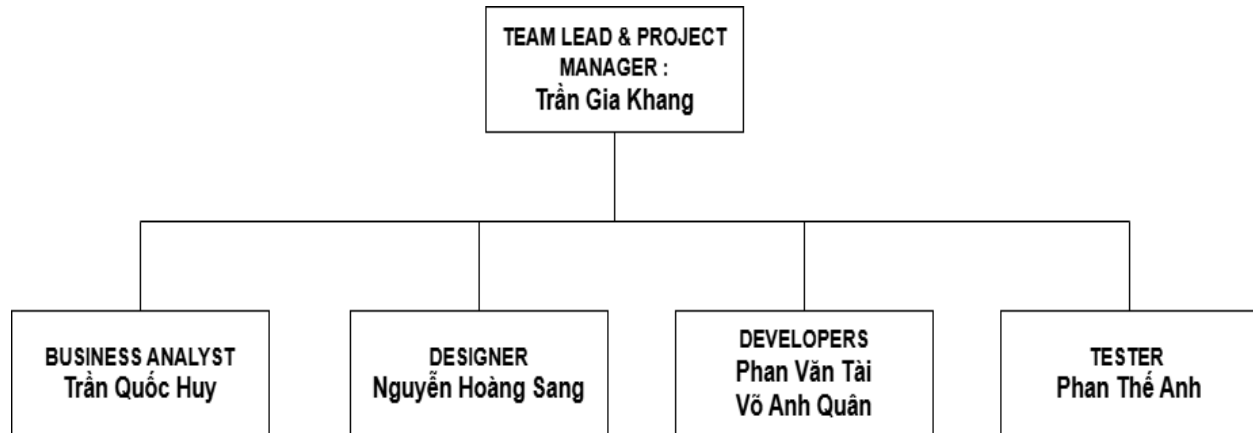
## 2.3. Project Deliverables

Artifact	Description	Target delivery date
UI/UX DESIGN	Complete and user-friendly design, including final design prototypes and UX documentation.	1/12
Application Architecture	Documentation of application structure, including code organization, component hierarchy, services, and data flow.	1/12
User Authentication	Functional user registration, login, Google sign-in, and account management, including password reset and logout.	19/12
AI Chat Module	Real-time AI chatbot with features like chat history, thread creation, and support for multiple agents.	19/12
Bot Creation and Management	Bot management tools allow users to create, update, delete, and deploy AI bots to platforms (e.g., Slack, Telegram).	19/12
Knowledge Base and Prompt Management	Knowledge base creation and management (file, URL, Google Drive sources) and prompt management, including search, favorites, and integration in chats.	19/12
Image Interaction and Pro Account Features	Image upload for Q&A and Pro account upgrade with token management and ad monetization options.	19/12
Demo Video and Documentation	A demo video showcasing main functionalities and detailed documentation including user guide, API references, and developer resources.	1/12
Source Control and CI/CD Setup	Version-controlled source code on Git, with CI/CD pipeline for automated testing and deployment.	19/12

Chat Bot	Version <1.0>
Software Development Plan	13/11/2024

### 3. Project organization

#### 3.1. Organizational structure



#### 3.2. Roles and Responsibilities

Member	Role	Responsibilities
<b>Trần Gia Khang</b>	Team lead	<ul style="list-style-type: none"> <li>- Task Assignment</li> <li>- Progress Monitoring</li> <li>- Risk Management</li> <li>- Stakeholder Communication</li> <li>- Quality Assurance</li> <li>- Team Support</li> <li>- Resource Management</li> <li>- Decision-Making</li> </ul>
<b>Trần Quốc Huy</b>	Business analyst	<ul style="list-style-type: none"> <li>- Requirements Gathering</li> <li>- Process Analysis</li> <li>- Requirement Validation</li> <li>- Communication with Development Team</li> <li>- Functional Specifications</li> <li>- Change Management</li> <li>- Support in Testing</li> <li>- Documentation</li> </ul>

Chat Bot	Version <1.0>
Software Development Plan	13/11/2024

<b>Nguyễn Hoàng Sang</b>	Designer	<ul style="list-style-type: none"> <li>- <b>UI/UX Design:</b> Create intuitive, visually appealing, and user-friendly interfaces based on project requirements and user needs.</li> <li>- <b>Wireframes and Prototypes:</b> Develop wireframes and interactive prototypes to visualize and refine layouts, workflows, and functionality.</li> <li>- <b>Brand Consistency:</b> Ensure design elements align with branding guidelines for a cohesive look and feel.</li> <li>- <b>Collaboration with Developers:</b> Work closely with developers to implement designs accurately and maintain design integrity.</li> <li>- <b>User Feedback and Iteration:</b> Incorporate user feedback and testing results to refine and improve the design.</li> <li>- <b>Final Asset Preparation:</b> Provide final design assets and documentation for seamless integration into the development phase.</li> </ul>
<b>Phan Văn Tài</b>	Developer	<ul style="list-style-type: none"> <li>- <b>Module Design:</b> Lead the design of specific project modules, ensuring they align with technical requirements and project goals.</li> <li>- <b>Documentation:</b> Create detailed documentation for module code, covering functionality and any technical specifications for future maintenance.</li> <li>- <b>Frontend Development:</b> Focus on the user interface aspects of the project, developing responsive and accessible frontend components.</li> <li>- <b>User Experience Optimization:</b> Ensure smooth and user-friendly interactions within the project interface, implementing feedback from the Business Analyst and stakeholders.</li> <li>- <b>API Integration:</b> Handle the integration of APIs with frontend components to ensure data flow and connectivity with backend services.</li> <li>- <b>Coding and Implementation:</b> Write, test, and implement code for assigned modules, focusing on high-quality, efficient solutions.</li> <li>- <b>Testing and Debugging:</b> Conduct unit testing and debugging to identify and resolve frontend issues, maintaining the stability of the user interface.</li> </ul>
<b>Võ Anh Quân</b>	Developer	<ul style="list-style-type: none"> <li>- <b>Backend Development:</b> Focus on the core backend services, setting up server-side components and ensuring security and scalability.</li> <li>- <b>Database Integration:</b> Work on database connections, queries, and optimizations to ensure seamless data interactions within the module.</li> <li>- <b>System Integration:</b> Work on integrating backend services with third-party systems or internal modules, enabling seamless data exchange.</li> <li>- <b>Performance Optimization:</b> Optimize backend code for performance, identifying bottlenecks, and enhancing system responsiveness.</li> <li>- <b>Code Review and Collaboration:</b> Participate in peer code reviews, provide feedback, and ensure that all code aligns with project standards.</li> </ul>

Chat Bot	Version <1.0>
Software Development Plan	13/11/2024

<b>Phan Thế Anh</b>	Tester	<ul style="list-style-type: none"> <li>- <b>Test Planning:</b> Develop a test plan, define test cases, and prepare scripts to cover project functionalities.</li> <li>- <b>Testing Execution:</b> Perform manual and automated testing, covering functional and UI aspects.</li> <li>- <b>Bug Reporting:</b> Identify, document, and prioritize bugs; track fixes and retest issues.</li> <li>- <b>Performance Testing:</b> Run performance and load tests to ensure system stability under high traffic.</li> <li>- <b>Collaboration:</b> Communicate with Business Analysts and developers to clarify issues and ensure quality.</li> <li>- <b>Quality Assurance:</b> Enforce testing standards, provide feedback on usability, and suggest improvements.</li> <li>- <b>Final Validation:</b> Conduct final checks and prepare a report to confirm the project is ready for release.</li> </ul>
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Chat Bot	Version <1.0>
Software Development Plan	13/11/2024

## 4. Management Process

### 4.1. Project Estimates

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### 4.2. Project Plan

#### 4.2.1. Phase and Iteration Plan

The following outlines the schedule for the various phases of the project, detailing key milestones and the specific timeframes associated with each phase.

#### Inception Phase

- The Inception phase focuses on defining the project goals, gathering initial requirements, and preparing the initial project plan. This phase will establish the foundational understanding of the project and provide a roadmap for its execution.
- Key Activities: Define project goals, gather initial requirements, prepare initial planning.
- Milestones:

PA0: 24th October – 2nd November

PA1: 3th November - 13th November

#### Elaboration Phase

- The Elaboration phase involves refining the initial requirements and defining the system architecture. This phase is crucial for ensuring a more detailed and accurate project blueprint before moving into the construction phase.
- Key Activities: Refine requirements, define system architecture.
- Milestones:

PA2: 14th November - 21nd November

PA3: 22th November - 28th November

#### Construction Phase

- During the Construction phase, the primary focus will be on building and testing the system based on the refined requirements and architecture from the previous phase. This is where the actual development of the system takes place.
- Key Activities: Build system components, perform testing.

Chat Bot	Version <1.0>
Software Development Plan	13/11/2024

- Milestones:

PA4: 28th November - 8nd December

PA5: 9nd December - 19th December

Phase / Milestone	Start Date	End Date	Duration	Note
<b>Inception Phase</b>				
<b>PA0</b>	24/10	2/11	10 days	Proposal
<b>PA1</b>	3/11	13/11	11 days	
<b>Elaboration Phase</b>				
<b>PA2</b>	14/11	21/11	8 days	
<b>PA3</b>	22/11	28/11	7 days	
<b>Construction Phase</b>				
<b>PA4</b>	28/11	8/12	11 days	UI Prototype
<b>PA5</b>	9/12	19/12	10 days	Product

## 4.2.2. Release

Two major releases will be produced: one for a **UI prototype** and one for the **final product**.

### 4.2.2.1. UI Prototype Release

Chat Bot	Version <1.0>
Software Development Plan	13/11/2024

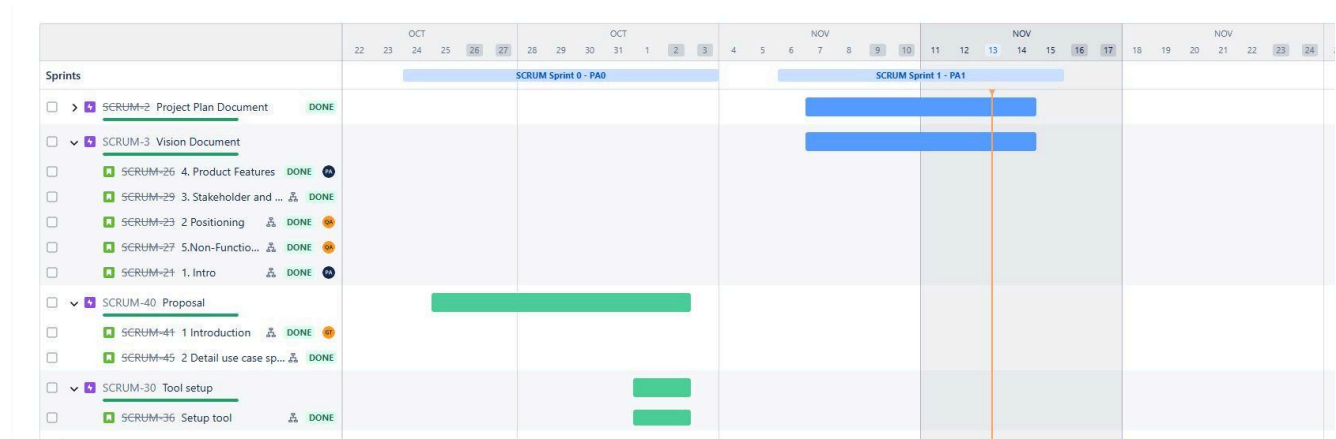
- The UI prototype is an early version of the software focused on demonstrating the design and functionality of the user interface (UI). This release will provide stakeholders with a visual and interactive mock-up
- **Release Date:** PA4 (~1<sup>st</sup> December)

#### 4.2.2.2. Final Product:

- The final will be a fully functional version of the software, having all the features outlined in the requirements.
- **Release Date:** PA5 (~19<sup>th</sup> December)

### 4.2.3. Project Schedule

- Schedule for PA1 and PA2 :



## 4.3. Project Monitoring and Control

### 4.3.1. Reporting

- Planning meeting report: [Planning Meeting](#)
- Review meeting report: [Review Meeting](#)
- All weekly report: [All Weekly Report](#)


### 4.3.2. Risk Management

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### 4.3.3. Configuration Management

- GitHub Repository: [GitHub](#)
- Drive Folder: [Drive](#)

Chat Bot	Version <1.0>
Software Development Plan	13/11/2024

 **HCMUS-ISE-ChatBot** Private

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Code

About

 **vtai2834** update PA0

5de4122 · last week 4 Commits

docs	first commit	2 weeks ago
pa/PA0	update PA0	last week
README.md	first commit	2 weeks ago

README

## HCMUS-ISE-ChatBot

### Folder Structure

The following folders should be in your repository (make sure it is set to private mode):

- **/src**: used to store source code
- **/docs**: used to store documentation, with the following subfolders:
  - **management**: storing planning documents, reports (e.g., weekly reports, project status reports)
  - **requirements**: storing all requirements, including vision document and use cases
  - **analysis and design**: storing all analysis and design-related documents, including the software architecture document, UML models, and UI designs
  - **test**: storing all test documents such as test plans, test cases, and test reports
- **/pa**: includes subfolders to store submissions. Each subfolder contains one PA submission.

No description, website, or topics provided.

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