ONLY GUYS

Only Chat
Software Development Plan
Version 1.0

Revision History

Date	Version	Description	Author
7/11/2024	1.0	The first version	Trần Tường Vĩ, Nguyễn Quốc Anh

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Software Development Plan

1.   Introduction

This software development plan's goal is to outline the purpose, scope, and objectives of developing an AI chatbot, including the assumptions and constraints of the project. It also details the deliverables expected throughout the development process, ensuring a clear understanding of the project's goals and milestones. The AI chatbot aims to enhance user interaction by providing intelligent, responsive, and context-aware communication, ultimately improving user experience and satisfaction.

2.   Project Overview

2.1   Project Purpose, Scope, and Objectives

2.1.1. Purpose:

The purpose of this project is to develop an AI chatbot that enhances user interaction by providing intelligent, responsive, and context-aware communication.

2.1.2. Scope:

The scope of the project includes designing, developing, testing, and deploying the AI chatbot across various platforms.

2.1.3. Objectives:

The objectives are to improve user experience and satisfaction, reduce response time, and provide accurate and relevant information to users. The project will also focus on ensuring the chatbot can handle a wide range of queries and integrate seamlessly with existing systems.

2.2   Assumptions and Constraints

Assumptions

- Project has a fixed schedule of 5 weeks
- Zero-budget project
- Project has 5 people, there will be no more people added during the project
- All team members have and are ready to learn the necessary skills and experience to complete their tasks
- The necessary hardware and software resources are available.
- Stakeholders will be available for regular meetings and feedback sessions.
- The project will follow the agreed-upon timeline and milestones.
- The development environment is stable and reliable.
- All external dependencies (e.g., third-party APIs, libraries) will be available and stable.
- The project will be tested thoroughly before deployment.

Constraints

- The project must be delivered by the specified deadline.
- The project must comply with all relevant legal and regulatory requirements.
- The project must be compatible with existing systems and infrastructure.
- The project must meet the performance and scalability requirements.
- The project must be maintainable and well-documented.
- The project must be user-friendly and accessible.

2.3   Project Deliverables

- Requirements Specification Document - A detailed document outlining the functional and
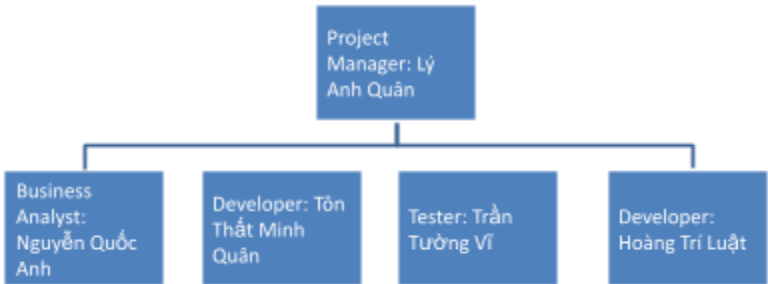
non-functional requirements of the AI chatbot. Target delivery date: Week 2.
- Design Document - A comprehensive design document that includes architecture diagrams, data flow diagrams, and detailed design specifications. Target delivery date: Week 4.
- Prototype - An initial prototype of the AI chatbot demonstrating core functionalities. Target delivery date: Week 6.
- Implementation - The fully developed AI chatbot with all specified features and functionalities. Target delivery date: Week 10.
- Testing Report - A report detailing the testing process, test cases, and results. Target delivery date: Week 11.
- User Manual - A user manual providing instructions on how to use the AI chatbot. Target delivery date: Week 12.
- Final Presentation - A presentation summarizing the project, its outcomes, and future recommendations. Target delivery date: Week 12.

3. Project Organization

3.1 Organizational Structure

3.2 Roles and Responsibilities

Person	Role	Responsibility
Lý Anh Quân	Team leader	Oversee timeline adherence, budget and milestone achievement,update stakeholders on progress
Nguyễn Quốc Anh	Business Analyst	Define business goals, project objectives,clarify business needs and translate them into technical requirements.
Trần Tường Vĩ	Tester	Develop and execute test cases to evaluate functionality and usability.
Tôn Thất Minh Quân	Designer	Create architecture diagrams, data flow diagrams, and technical specifications.
Hoàng Trí Luật	Developer	Develop chatbot functionality and integrate required APIs and libraries.

4. Management Process

4.1 Project Estimates

This is a zero-budget project so the primary cost is time. Each team member's time commitment will be estimated based on their assigned tasks, along with a contingency buffer for unforeseen delays. The project is scheduled for 5 weeks, with the following approach for re-estimation:

Re-estimation points: At the end of each phase, assess progress, workload, and any obstacles that may impact the timeline.

Circumstances for re-estimation: If a milestone is missed or a significant technical issue arises, adjust the timeline within the overall 5-week limit.

4.2 Project Plan

4.2.1 Phase and Iteration Plan

The project has four main phases, each with specific objectives and deliverables:

★ **Phase 1: Requirements Gathering and Analysis**
  ● **Duration**: 5 days
  ● Starting date: 4/11/2024
  ● Ending date: 9/11/2024
  ● **Iteration 1 - Initial Requirements Collection**
    ➢ **Objective**: Meet with stakeholders to gather initial requirements and document key functional and non-functional expectations.
    ➢ **Deliverables**: Draft of initial requirements.
    ➢ **Feedback**: Gather input from stakeholders to validate or adjust initial requirements.
  ● **Iteration 2 - Requirements Validation and Prioritization**
    ➢ **Objective: Refine and prioritize requirements, aligning them with business goals and technical feasibility.**
    ➢ **Deliverables: Final Requirements Specification Document.**
    ➢ **Feedback: Review document with stakeholders to confirm all requirements are aligned with project objectives.**
★ **Phase 2: Design and Prototyping**
  ● **Duration:** 9 days
  ● **Starting date**: 10/11/2024
  ● **Ending date**: 19/11/2024
  ● **Iteration 1 - Architecture and Use Cases Design**
    ➢ **Objective**: Develop initial architecture,use cases diagram, data flow diagrams, and determine integration points with existing systems.
    ➢ **Deliverables**: Draft architectural and data flow diagrams.
    ➢ **Feedback**: Present draft to technical and business stakeholders for input on design feasibility.
  ● **Iteration 2 - User Interface (UI) and User Experience (UX) Design**
    ➢ **Objective**: Create a prototype UI/UX design focusing on user interaction flows.
    ➢ **Deliverables**: Low-fidelity wireframes or clickable UI mock-ups.
    ➢ **Feedback**: Gather feedback from stakeholders on user experience and adjust designs as needed.
  ● **Iteration 3 - Core Functionality Prototype**
    ➢ **Objective**: Develop a working prototype of the chatbot's core features, such as basic conversation flows.
    ➢ **Deliverables**: Prototype with core functionalities.
    ➢ **Feedback**: Test with selected stakeholders to evaluate basic functionality and user experience, refining as needed.
★ **Phase 3: Implementation and Development**
  ● **Duration**: 9 days
  ● Starting date: 20/11/2024
  ● Ending date: 29/11/2024
  ● **Iteration 1 - Core Feature Development**

- ➢ **Objective**: Begin development on the chatbot's core conversational abilities, including message handling and basic response generation.
- ➢ **Deliverables**: Chatbot with initial conversation capabilities.
- ➢ **Feedback**: Test core functions with the internal team to ensure reliability and accuracy.
  - ● **Iteration 2 - Advanced Feature Integration**
    - ➢ **Objective**: Add advanced functionalities, such as natural language processing (NLP) improvements, contextual awareness, and system integrations (APIs).
    - ➢ **Deliverables**: Enhanced chatbot with advanced features.
    - ➢ **Feedback**: Test features with internal stakeholders and refine for accuracy and stability.
  - ● **Iteration 3 - Usability and Interaction Improvements**
    - ➢ **Objective**: Refine interaction flow, improve response times, and ensure feature completeness.
    - ➢ **Deliverables**: Completed chatbot with all functionalities.
    - ➢ **Feedback**: Run internal user testing to identify any final tweaks or improvements.
- ★ **Phase 4: Testing, Documentation, and Final Presentation**.
  - ● **Duration**: 1 week
  - ● Starting date: 30/11/2024
  - ● Ending date: 7/12/2024
  - ● **Iteration 1 - Functional and Performance Testing**
    - ➢ **Objective**: Conduct comprehensive functional and performance testing to identify any issues with features or speed.
    - ➢ **Deliverables**: Testing Report covering functional test results.
    - ➢ **Feedback**: Based on test results, address critical issues and update documentation accordingly.
  - ● **Iteration 2 - Usability Testing and Documentation**
    - ➢ **Objective**: Conduct usability testing and finalize the User Manual.
    - ➢ **Deliverables**: Usability test report and finalized User Manual.
    - ➢ **Feedback**: Adjust chatbot usability if needed and make final adjustments to documentation.
  - ● **Iteration 3 - Final Presentation and Project Handoff (Week 12)**
    - ➢ **Objective**: Prepare and deliver a final presentation, summarizing the project's outcomes, successes, and recommendations for future improvements.
    - ➢ **Deliverables**: Final presentation and project handoff.
    - ➢ **Feedback**: Collect feedback from stakeholders on project outcomes and suggestions for potential enhancements.

Gantt Chart:

ID	Task Name	Start	End	Duration	November and December, 2024

					4	5	6	…	9	10	…	19	20	21	…	29	30	…	7
1	**Requirements Gathering and Analysis**	**4/11/2024**	**9/11/2024**	**5 days**		Quốc Anh													
2	**Design and Prototyping**	**10/11/2024**	**19/11/2024**	**9 days**						Minh Quân, Anh Quân									
3	**Implementation and Development**	**20/11/2024**	**29/11/2024**	**9 days**									Trí Luật						
4	**Testing**	**30/11/2024**	**7/12/2024**	**7 days**													Tường Vĩ, Anh Quân		

Major Milestones:

- **End of Week 1**: Completion of Requirements Specification Document.
- **End of Week 2**: Design Document.
- **End of Week 3**: Prototype ready.
- **End of Week 4**: Implementation complete.
- **End of Week 5**: Final testing, documentation, and presentation.

4.2.2   Releases

Prototype Release: Demonstrates core features and interaction capabilities.

Beta Release: Fully functional chatbot, available for testing and feedback.

Final Release: Complete chatbot ready for deployment.

4.2.3   Project Schedule

The colors specify the team responsible for the taks:

Task	Start	End
Initial Requirements Collection	4/11/2024	6/11/2024
Requirements Validation and Prioritization	6/11/2024	9/11/2024
Architecture and Data Flow Design	10/11/2024	12/11/2024
Use Cases Design	12/11/2024	14/11/2024
User Interface (UI) and User Experience (UX) Design	14/11/2024	16/11/2024
Core Functionality Prototype	16/11/2024	19/11/2024
Core Feature Development	20/11/2024	24/11/2024
Advanced Feature Integration	24/11/2024	26/11/2024
Usability and Interaction Improvements	26/11/2024	29/11/2024
Functional and Performance Testing	30/11/2024	3/12/2024
Usability Testing and Documentation	3/12/2024	6/12/2024
Final Presentation and Project Handoff	6/12/2024	7/12/2024

*: Tasks can happen concurrently.

PHASE AND ITERATION PLAN

PHASE SPRINT	INCEPTION			CONSTRUCTION			COMPLETION
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7
PA0							
PA1							
PA2							
PA3							
PA4							
PA5							

4.3   Project Monitoring and Control

4.3.1   Reporting

- Weekly meeting reports: Meet and share current progress of the project as well as knowledge that learned in the past 1 week
- Weekly status report
- Informal chats: communicating through messenger and exchange via text
- Jira backlogs: to update current task's status
- Github: Synchronize code between members

4.3.2   Risk Management

Risk ID	Risk Description	Probability	Impact	Risk Exposure = prob * impact	Priority	Mitigation Strategy or Contingency Plan
1	Incompetency in programming of the leader and group members	Medium	Very high	High	High	Organize training in meeting minutes.
2	Group members not being familiar	High	High	Very high	High	Testing group members in the use of Git and training.

	with source control and web programming language					Or use an alternative method such as sending code to the leader to merge manually.
3	UI, UX bug	High	Medium	Medium	Medium	Stick to the base UI on Figma, avoid following personal options

4.3.3   Configuration Management

- Google drive: To store and share documents and files.

- Git, Github: To managing source code and related files