Project Plan

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| Student Name | Francis Roel L. Abarca |
| Student ID | BDSE-0922-113 |
| Centre Name | Lithan EduClaas |
| Mentor | Arvinder Kaur |
| Date | 9/4/2023 |
| Qualification Name | Applied Degree in Software Engineering  Higher Diploma in Software Engineering |
| Milestone | Project Plan |
| Module Name (BDSE) | Capstone Project – Application Development |
| Project Title | Improving Customer Experience in Retail Chains through AI Chatbots |

1. **Introduction**

**2.0 Scope**

The scope of this project includes the following:

• The benefits and challenges of utilizing AI chatbots for retail customer service such as reducing costs, increasing efficiency, personalizing interactions, and building trust.

• The design and implementation of an AI chatbot prototype for Jumpstart, using LLaMA 2 to integrate with their REST API and provide information about stock and product description.

• The evaluation and testing of the AI chatbot prototype with real users, and the analysis of the feedback and metrics to measure customer satisfaction, engagement, and loyalty.

• The best practices and examples of successful AI chatbots in retail, such as those utilized by H&M, Tommy Hilfiger and the like on how they use AI to provide advice to users, helpful comparisons and product recommendations.

**3.0 Objectives**

The objectives of this project are as follows:

• Conduct a literature review on the existing research and applications of AI chatbots in retail customer experience.

• Identify the key features and functionalities that an AI chatbot should have to meet the needs and expectations of retail customers.

• Develop an AI chatbot prototype for Jumpstart using LLaMA 2 and test its performance and usability with real users.

• Provide recommendations and suggestions for improving the AI chatbot prototype and its integration with Jumpstart’s systems.

**4.0 Milestones /WBS/Gant Chart**

The following milestones will be achieved during this project:

| **Milestone** | **Target Date** | **Deliverable** |
| --- | --- | --- |
| Research Proposal Submission |  |  |
| Feasibility Report Submission |  |  |
| Project Plan Submission |  |  |
| Proof of Concept (Prototype) Submission |  |  |
| Midterm Project Submission |  |  |
| Sales Pitch Submission |  |  |
| Final – Project Report |  |  |
| Final – Project Presentation |  |  |
| Final – Project Source Code |  |  |

**5.0 Budget**

The following is the budget for this project:

|  | | **Item** |
| --- | --- | --- |
| Software | | * Meta’s LLaMA 2 AI * Spring Boot * ReactJS * Flask * MySQL Server   = $0 USD |
| Hardware | * AMD Ryzen 7 5800H Mini-PC * 16GB of DDR4 RAM * 512GB PCIe Gen3 NVMe SSD   = $300 USD | |
| Training | | * Inventory Management Training * AI Management * Systems Training   = $100 USD |
| Data migration | |  |
| Maintenance and upgrades | | * IT Tech Support * Pulseway Monitoring * DWService * Windows Admin Center   = $0 USD |
| Total | |  |

**6.0 Risk**

| **Risk** | **Impact** | **Likelihood** | **Mitigation Strategy** |
| --- | --- | --- | --- |
| Data loss during migration | High | Low | Backup data before migration and test migration process |
| User resistance to new system | Medium | Medium | Provide thorough training and support to users |
| Software compatibility issues | High | Medium | Test software thoroughly before implementation and have a contingency plan in place |

**Testing Plan**

Type of test, Total no of test cases. Etc

Functional Testing

Test Case: Unit Testing

|  |  |  |  |
| --- | --- | --- | --- |
| Requirements | Test Scenario ID | Test Scenario | # of Test |
| Unit Testing | TS001 | User asks the AI for the latest products. | 1 |
| TS002 | User asks AI according to a specific product and how it fits their needs. | 1 |
| TS003 | User asks Ai on comparing multiple products. | 1 |
| **Test Case:** |
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Database Design

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Description automatically generated with medium confidence

Storyboard