Improving Customer Experience in Retail Chains through AI Chatbots

SUBMITTED BY:

**ABARCA, FRANCIS ROEL L.**

**ABSTRACT**

**ACKNOWLEDGEMENT**

I might like to take advantage of this opportunity to express my gratitude to my family for continuing to support me when I departed for this training session. The people that were challenged had prior familiarity with it. was fueled by their unwavering assistance in seeing that I completed my tasks.

I might like to thank Mrs. Arvinder Kaur and Mrs. Nupur Dongariya for clarity and the guidance over the topic of my thesis. I observed the tools, the lively personality, and the liberal soul, and I understood that my success in completing this project depends much on your help.

I would also want to thank the supervisors, teachers, friends, GitHub contributors and the other staff who helped in a variety of ways with their time and assistance. These tools and contributions have largely helped how this project came to fruition.

**TABLE OF CONTENTS**

**RESEARCH PART (PART I)**

1. Introduction
   1. Background

Customer service has emerged as one of the most important elements in building trust and loyalty in the continually changing retail industry. Artificial intelligence (AI) chatbots are replacing conventional means of client connection because they are more effective and affordable. These AI chatbots have the power to completely change how businesses connect with their customers by delivering individualized experiences, cutting expenses, and boosting productivity.

AI chatbots have been effectively incorporated into retail operations by companies like H&M and Tommy Hilfiger, creating a standard for other companies to follow. However, a lot of these solutions rely on external APIs, which might limit system control and provide security threats.

* 1. Purpose

The purpose of this study is to create and deploy a self-hosted AI chatbot prototype for Jumpstart, a retailer. The chatbot will be created using the AI model LLaMA 2, and it will assist customers in their shopping experience by giving them advice in terms of available products and making up their minds as to picking the best product for them.

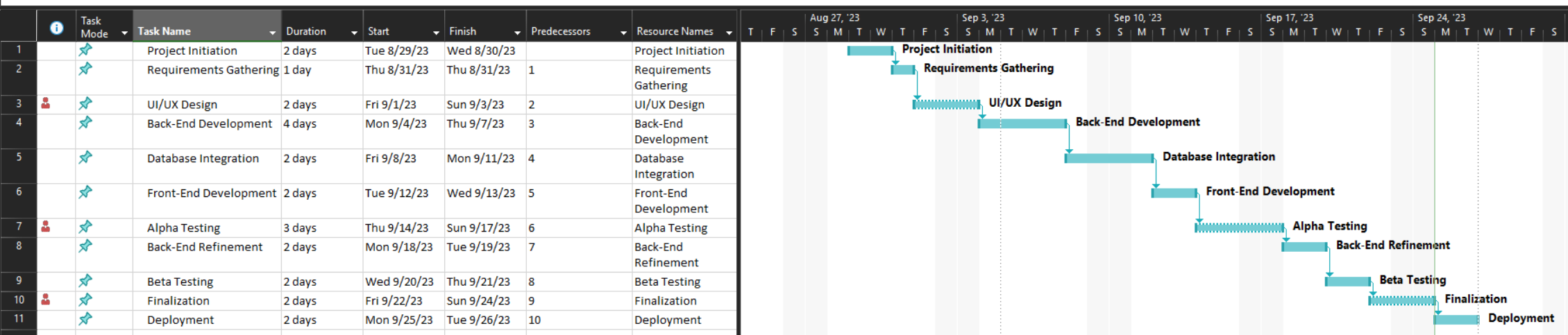
This initiative has two objectives. It first seeks to improve customer service by offering a tailored and effective form of engagement. Second, it self-hosts the chatbot to restrict access to only those participating in the project, to guarantee higher security, trust, control, dependability, and system lockdown.

Through user testing, the efficacy of the chatbot will be assessed, and feedback and analytics will be examined to gauge consumer happiness, engagement, and loyalty. This study has the potential to alter how Jumpstart communicates.

1. Literature Review
2. Research Plan
   1. Research
   2. Philosophy
   3. Gantt Chart and Work Breakdown Structures (WBS)
      1. Gantt Chart

A screenshot of a computer

Description automatically generated



1. Research Methodologies

Research techniques are the foundation of any scientific investigation because they offer a methodical means of addressing research issues. They are essential to the planning of a research project and include a range of methodologies and strategies for data gathering and analysis.

Here are some of the Research Methodologies performed during this study:

a. Survey

1. Research Approaches
   1. Qualitative Research
      1. Definition

Qualitative Research involves collecting and analyzing non-numerical data (e.g. text, video, or audio) to understand main concepts, opinions, and experiences.

* + 1. Techniques

Common approaches for Qualitative Research include grounded theory, ethnography, action research, phenomenological research, and narrative research.

* + 1. Examples
       - * How does social media shape body image in teenagers?
         * How do children and adults interpret healthy eating in the UK?
    2. Merits

Qualitative Research provides in-depth insights and helps to understand the context and captures human experiences.

* + 1. Demerits

Qualitative Research can be time consuming, subjective, and difficult to replicate.

* 1. Quantitative Research
     1. Definition

Quantitative Research is the process of collecting and analyzing numerical data. It can be used to find patterns and averages, make predictions, test causal relationships, and generalize results to wider populations.

* + 1. Techniques

Common techniques for Quantitative Research include experiments, surveys, and systematic observations.

* + 1. Examples
       - * What is the demographic makeup of Singapore in 2020?
         * How has the average temperature changed globally over the last century?
    2. Merits

Quantitative research provides measurable and numerical data, allows for statistical analysis, and resources can be generalized.

* + 1. Demerits

Quantitative research lacks deaf and context and may not capture the full complexity of human experiences.

* 1. Mixed Research Approach
     1. Definition

Mixed methods research combines elements of quantitative research and qualitative research to answer your research question. It integrates benefits of both methods.

* + 1. Techniques

Mixed research involves collecting, analyzing, interpreting, and reporting both qualitative and quantitative data.

* + 1. Examples
       - * To what extent does the frequency of traffic accidents (quantitative) reflect cyclist perceptions of road safety (qualitative) in Amsterdam?
    2. Merits

Mixed research provides a more complete understanding, allows for triangulation, and can provide richer detail.

* + 1. Demerits

Mixed research can be time consuming, complex the design and implement, and requires expertise in both qualitative and quantitative research.

1. Research Design
2. Research Conduct and Analysis