Format for Project Report

A PROJECT REPORT

ON

AI POWERED CHATBOT

Submittedby

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POJECT ID: BT4….

Under the guidance of

[MR.FAIZAN SIR]

inpartialfulfillmentfortheawardofthedegreeof

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IN

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GALGOTIAS UNIVERSITY

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TITLEOFPROJECTREPORT

APROJECTREPORT

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Galgotias University

Oct20XX

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INTERNALEXAMINER

EXTERNALEXAMINER

TABLE OF CONTENTS

List of Figures

List of Tables

List of Standards (Mandatory For Engineering Programs)

Standard	Publishing Agency	About the standard	Page no
IEEE 802.11	IEEE	IEEE 802.11 is part of the IEEE 802 set of local area network (LAN) technical standards and specifies the set of media access control (MAC) and physical layer (PHY) protocols for implementing wireless local area network (WLAN) computer communication.	Mention page nowhere standard is used

Note: Text in Red is presented as an example (replace with relevant information)

ABSTRACT

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GRAPHICALABSTRACT

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ABBREVIATIONS

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SYMBOLS

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INTRODUCTION

1.1. Identification of Client /Need / Relevant Contemporary issue

- **Client Identification**

- **Client: A mid-sized e-commerce company (e.g., fashion retailer or electronics store)**

- **Industry: Retail E-commerce**
  Target Audience: Online shoppers across various age groups and regions

Client Need

- **The client needs a solution to improve customer support availability, efficiency, and personalization. Current challenges include:**

- **High volume of repetitive customer inquiries (order status, return policy, product info)**

- **Delays in response time during peak hours**

- **Limited customer support coverage outside business hours**

- **Desire to improve customer satisfaction and reduce support team workload**

- **The client is seeking an AI-powered chatbot that can:**

- **Provide 24/7 instant support for common queries**

- **Handle multilingual conversations**

- **Integrate with CRM and order tracking systems**

Contemporary Issue

- **Issue: Bias, privacy, and transparency in AI-powered customer interactions**
- **As AI-powered chatbots become mainstream, companies face growing concerns such as:**
- **Bias in responses: Chatbots trained on biased data may provide unfair or inappropriate replies**
- **Data privacy: Handling sensitive customer information raises compliance issues (e.g., GDPR, CCPA)**
- **Lack of transparency: Customers may not realize they're talking to a bot or how their data is used**
- **Implications:**
- **Potential reputational damage**
- **Legal risks and customer mistrust**
- **Need for ethical AI design, transparency, and explainability in chatbot systems**
- ## Identification of Problem

- **While AI-powered chatbots offer numerous benefits like 24/7 availability, cost efficiency, and faster response times, they also come with critical challenges that hinder their full effectiveness and acceptance. The key problems include:**
- **Limited Understanding of Context and Emotion**
- **AI chatbots often struggle to understand complex, nuanced, or emotional conversations.**
- **They may misinterpret sarcasm, humor, or customer frustration, leading to unsatisfactory or irrelevant responses.**

- **Inadequate Personalization**
- **Many chatbots fail to deliver context-aware or personalized responses, especially without integration with customer history or preferences.**
- **This results in generic answers that do not meet user expectations.**
- **Bias and Ethical Concerns**
- **Chatbots can reflect biased or inappropriate responses if trained on skewed data.**
- **This can damage the company's reputation and customer trust.**
- **Data Privacy and Security Risks**
- **Chatbots handle sensitive user information (names, addresses, purchase history, etc.).**
- **Inadequate data handling policies can lead to violations of privacy laws (e.g., GDPR, CCPA) and data breaches.**
- **Over-Reliance and Lack of Human Escalation**
- **Users can get frustrated when chatbots can't escalate issues to a human agent.**
- **A lack of seamless handoff to human support can negatively affect customer satisfaction.**
- **Language and Cultural Barriers**
- **Many AI chatbots lack proficiency in multiple languages or dialects, which limits their accessibility to global users.**
- **Maintenance and Training Complexity**
- **AI chatbots require regular updates, retraining, and monitoring to stay accurate and relevant.**

- **This can be resource-intensive for companies without dedicated AI teams.**

1.2. Identification of Tasks

- **An AI-powered chatbot is designed to automate and enhance user interactions. Its core tasks include:**
- **1. Customer Support Automation**
- **Answer frequently asked questions (FAQs)**
- **Provide instant help with order tracking, returns, and refunds**
- **Troubleshoot basic technical issues**
- **Lead Generation and Sales Assistance**
- **Greet website visitors and qualify leads**
- **Recommend products based on customer queries and preferences**
- **Assist in completing purchases or bookings**
- **3. Information Retrieval**
- **Retrieve and present structured data from databases (e.g., account details, product specs)**
- **Guide users through processes (e.g., how to reset a password or apply for a loan)**
- **4. Appointment and Reservation Scheduling**
- **Book, reschedule, or cancel appointments**
- **Send reminders and confirmations via chat**
- **5. Feedback Collection**

- **Conduct post-interaction surveys or reviews**
- **Collect user suggestions to improve services**
- **Multilingual and Multi-Channel Support**
- **Communicate in multiple languages**
- **Operate across different platforms (websites, mobile apps, WhatsApp, Messenger, etc.)**
- **Sentiment and Intent Analysis**
- **Detect user emotions and intent to tailor responses**
- **Escalate complex or sensitive issues to human agents**
- **Personalized User Engagement**
- **Use past data and preferences to offer personalized suggestions or services**
- **Maintain continuity in conversations across sessions**
- **Internal Business Support (for employees)**
- **Answer HR or IT-related queries**
- **Help with onboarding, policy lookups, or system access**
- **Data Collection and Reporting**
- **Log conversation data for analytics**
- **Provide insights into user behavior, popular queries, and service gaps**

1.3. Timeline

1.4. Organization of the Report

Give a brief what should be expected in each of the chapters.

CHAPTER 2.
LITERATURE REVIEW/BACKGROUND STUDY

2.1. Timeline of the reported problem

As investigated throughout the world, when was the problem identified, documentary proof of the incidents.

2.2. Existing solutions

Brief of the earlier proposed solutions

2.3. Bibliometric analysis

Analysis based on (key features, effectiveness and drawback)

2.4. Review Summary

Link findings of literature review with the project at hand.

2.5. Problem Definition

Define the problem at hand including what is to be done, how it is to be done and what not to be done.

2.6. Goals/Objectives

Statements setting the milestones during the course of project work.
Keeping in mind

- Narrow, specific statements about what is to be learned and performed.
- Precise intentions
- Tangible
- Concrete
- Can be validated or measure

CHAPTER 3.
DESIGN FLOW/PROCESS

3.1. Evaluation & Selection of Specifications/Features

Critically evaluate the features identified in the literature and prepare the list of features ideally required in the solution.

3.2. Design Constraints

1.1.1. Standards:

Regulations/Economic/Environmental/Health/manufacturability/Safety/Professional/ Ethical/Social & Political Issues/Cost considered in the design.

3.3. Analysis of Features and finalization subject to constraints

Remove, modify and add features in light of the constraints.

3.4. Design Flow

At least 2 alternative designs/processes/flow to make the solution/complete the project.

3.5. Design selection

Analyze the above designs and select the best design based supported with comparison and reason.

3.6. Implementation plan/methodology

Flowchart/algorithm/ detailed block diagram

CHAPTER 4.
RESULTS ANALYSIS AND VALIDATION

4.1. Implementation of solution

Use modern tools in:

- analysis,
- design drawings/schematics/ solid models,
- report preparation,
- project management, and communication,
- Testing/characterization/interpretation/data validation.

CHAPTER 5.
CONCLUSION AND FUTURE WORK

5.1. Conclusion

Should include expected results/ outcome, deviation from expected results and reason for the same.

5.2. Future work

Should include the Way ahead (required modifications in the solution, change in approach, suggestions for extending the solution.

REFERENCES

APPENDIX

1. Plagiarism Report

2. Design Checklist

USER MANUAL

(Complete step by step instructions along with pictures necessary to run the project)