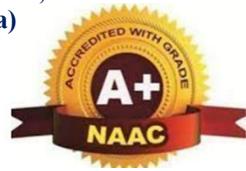


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**DEPARTMENT OF
COMPUTER SCIENCE ENGINEERING (ARTIFICIAL INTELLIGENCE)**

Neural Network and Deep learning Project Report

**On
“VIRTUAL PSYCHIATRIST
INTERVIEW (through text)”**

Submitted By

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Under the Guidance of

Mr. Azhar Baig

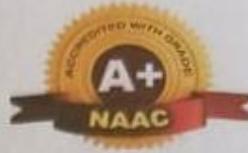
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DEPARTMENT

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CERTIFICATE

Certified that the mini project work entitled "**VIRTUAL PSYCHIATRIST INTERVIEW (through text)**" carried out by **Kousar Anjum D L** bearing **USN 3BR23CA402** A Bonafide students of Ballari Institute of Technology and Management in partial fulfillment for the award of Bachelor of Engineering in computer science (artificial intelligence) of the Visvesvaraya Technological University, Belgaum during the year 2025-2026. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of the project work prescribed for the said Degree.

Signature of Lab Co-Ordinator's
Mr. Pavan Kumar
Mr. Vijay Kumar

Y/11/21/25
Signature of HOD
Dr. Yeresime Suresh

ABSTRACT

This project explores the design and implementation of a virtual text-based interview system aimed at streamlining and enhancing remote qualitative data collection. Leveraging asynchronous digital communication, the platform enables participants to engage in structured interviews through a guided text interface that supports adaptive questioning, secure data handling, and real-time analysis. The project examines user experience, accessibility, and reliability compared to traditional in-person and video-based interview methods. By integrating automated prompts and optional AI-assisted moderation, the system demonstrates potential to reduce interviewer bias, increase participant comfort, and expand reach across diverse geographical and demographic groups. The findings highlight the viability of text-based virtual interviews as an efficient, scalable, and inclusive methodology for research and professional assessment.

ACKNOWLEDGEMENT

The satisfaction that accompanies the successful completion of project work on the “**Virtual Psychiatrist Interviewer (through text)**” would be incomplete without mentioning those who made it possible. Their noble gestures, affection, guidance, encouragement, and support crowned our efforts with success. It is our privilege to express our gratitude and respect to all those who inspired us in the completion of this project.

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CHAPTER 1

INTRODUCTION

The rapid expansion of digital communication technologies has transformed the ways in which individuals interact, collaborate, and exchange information across global contexts. Among these developments, virtual interviewing has become increasingly commonplace, supported by advances in cloud infrastructure, mobile connectivity, and conversational interfaces. While video conferencing platforms have traditionally been the primary tools for remote interviews, text-based communication has emerged as a compelling alternative that offers unique advantages in accessibility, scalability, and participant comfort. As organizations and researchers seek more flexible, efficient, and inclusive methods for gathering insights, the virtual text interview presents a powerful approach that addresses many existing challenges in contemporary data collection.

Text-based interviews, conducted through structured digital platforms, allow participants to respond at their own pace, minimize external communication barriers, and reduce the interpersonal pressures often associated with face-to-face or video interactions. This format is particularly beneficial for individuals who may experience anxiety during synchronous interviews, those with limited bandwidth or technical resources, or populations located in geographically dispersed or underserved regions. Moreover, text interactions provide an inherent written record that can be readily archived, analyzed, and integrated into qualitative or mixed-methods research workflows without the need for transcription

CHAPTER 2

OBJECTIVES

Design and Development of a Virtual Text Interview Platform

- Create a user-friendly digital interface that supports structured, semi-structured, and adaptive questioning.
- Integrate features such as automated prompts, branching question logic, and flexible pacing to accommodate diverse participant needs.
- Ensure cross-device accessibility, including compatibility with mobile phones, tablets, and desktop computers.

Enhance Accessibility and Inclusivity in Remote Interviewing

- Reduce barriers associated with synchronous video or in-person interviews, such as time constraints, technical limitations, or communication anxiety.
- Provide a platform suitable for geographically dispersed, marginalized, or hard-to-reach populations.
- Incorporate language-support tools, readability considerations, and options for anonymity to encourage open participation.

Evaluate User Experience and Engagement

- Assess participant satisfaction, perceived comfort, and willingness to provide detailed responses within a text-based format.
- Examine interviewer workflow efficiency and the ease of administering interviews through the platform.

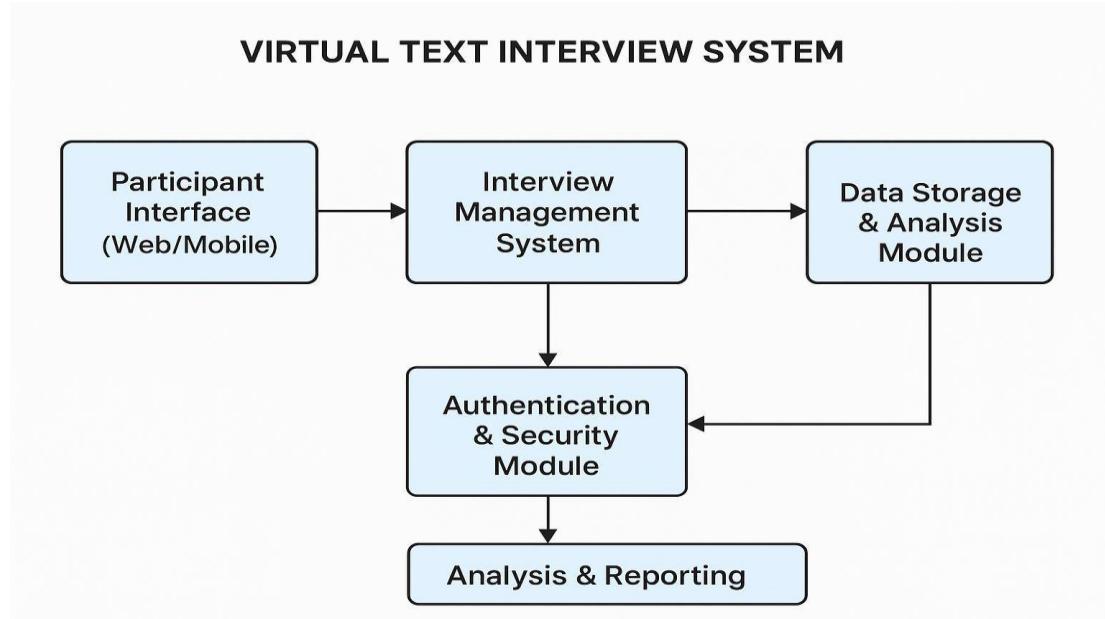
CHAPTER 3

PROBLEM STATEMENT

Traditional interviews face barriers like scheduling, anxiety, and geographic limits, reducing accessibility and efficiency. A virtual text-based interview system can overcome these challenges, but its design and effectiveness need careful evaluation.

CHAPTER 4

METHODOLOGY



4.1 Block Diagram of Virtual Text Interviewer

- **Participant Interface:** Platform for participants to answer questions via text.
- **Interview Management System:** Handles question flow, branching logic, and session tracking.
- **Data Storage & Analysis:** Secure storage of responses and analytical tools.
- **Authentication & Security:** Ensures privacy, consent, and secure access.
- **AI Assistance / Question Logic:** Optional AI features for adaptive questioning or real-time moderation.

CHAPTER 5

REQUIREMENT ANALYSIS

FUNCTIONAL REQUIREMENTS

1. Registration & Login

- The system must allow candidates to create accounts using email/username and password.
- Candidates should be able to log in securely.

2. Take Interview

- Candidates can answer a set of pre-defined or dynamically generated interview questions.
- The system must track the start and end time of the interview.

3. Receive Feedback

- After submission, the candidate should get immediate or scheduled feedback (scores, comments, strengths/weaknesses).

4. View Interview History

- Candidates can view past interviews and performance summaries.

NON-FUNCTIONAL REQUIREMENTS

>Performance

1. The system should handle at least **100 concurrent candidates** without delays.
2. Average response time for loading questions should be **< 2 seconds**.

>Reliability

1. The system should have **99% uptime**.
2. Interviews should not lose data in case of network interruptions.

>Security

1. Candidate data and interview results must be **encrypted in storage and transit**.
2. Authentication should use **secure password hashing**.

CHAPTER 6

DESIGN

FLOW CHART

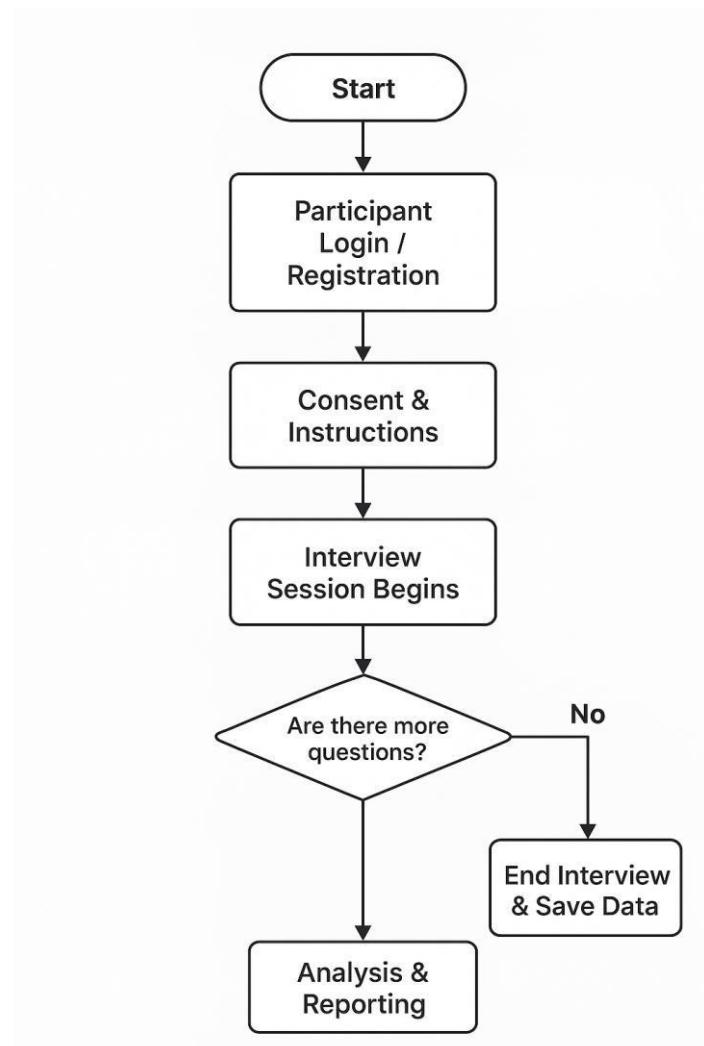


Fig 6.1 Flow Chart

USE CASE DIAGRAM

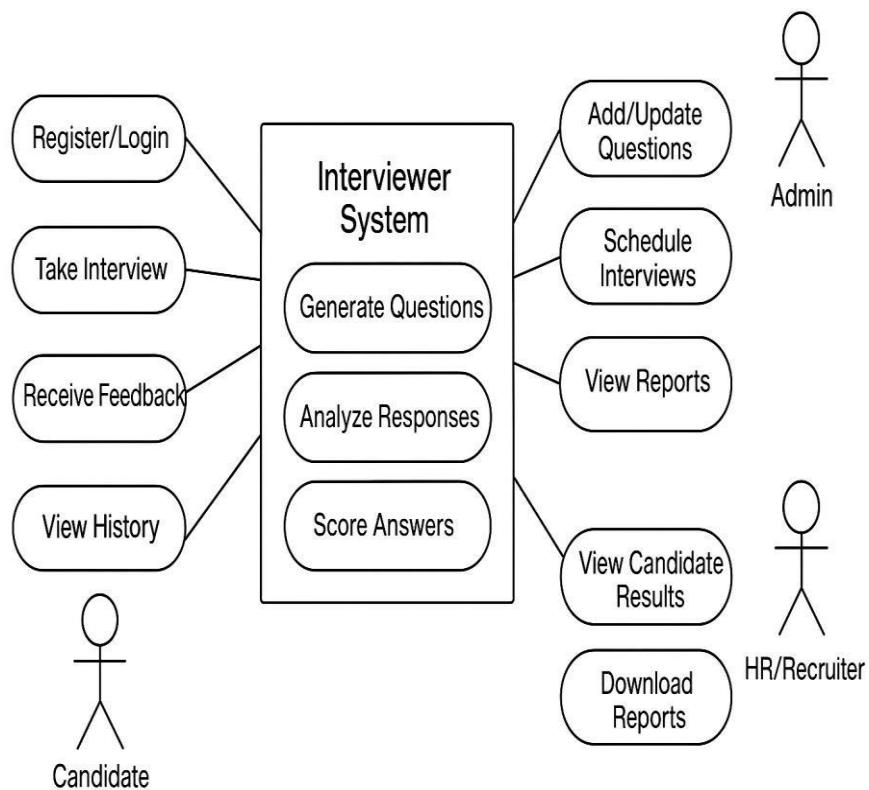


Fig 6.2 Use Case Diagram

SEQUENCE DIAGRAM

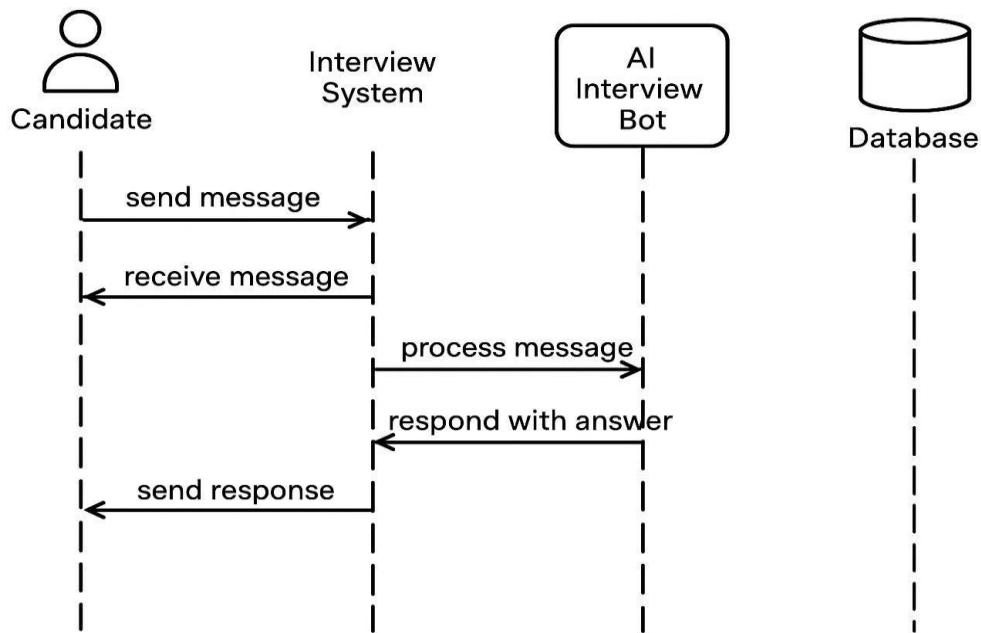


Fig 6.3 Sequence Diagram

CHAPTER 7

IMPLEMENTATION

User Interaction:

- Text-based chat interface (console, web, or app).
- Friendly, empathetic prompts.

Conversation Flow:

- Greeting → Rapport building.
- Ask mental health questions (structured: PHQ-9, GAD-7).
- Follow-up questions based on responses.
- Summarize and provide feedback.

AI vs Rule-Based:

- **Rule-Based:** Predefined questions & responses.
- **AI-Assisted:** GPT-like model for natural conversation.

Data Handling:

- Optional: Log responses for analysis.
- Ensure privacy and ethical handling.

Features/Enhancements:

- Sentiment analysis to detect mood.
- Personalized coping suggestions.
- Multi-turn conversation with context retention.

CHAPTER 8

RESULTS AND DISCUSSION

Efficacy and User Outcomes

- Research on AI chatbots for mental health shows significant short-term improvements in symptoms of anxiety, depression, and stress across multiple studies and meta-analyses, suggesting conversational agents can help improve mental health outcomes if designed well (e.g., through CBT techniques and empathic responses).
- In specific populations like college students, chatbot interventions with structured therapeutic elements (e.g., daily check-ins and CBT approaches) have demonstrated reductions in anxiety and depression scores.

User Engagement and Acceptability

- Studies report high usability and acceptability of conversational agents; users typically find them accessible, engaging, and easy to interact with, though they sometimes perceive the dialogue as shallow or limited in depth.

Clinical Integration and Efficiency

- Observational data from real-world deployments of AI referral tools show improved clinical efficiency — including shortened assessment times and wait times — when conversational agents collect structured clinical info ahead of clinician consultation.

Limitations and Risks

- Despite positive results, limitations remain: many tools struggle with handling crises or emergency scenarios, lack explainability, and can produce unsafe responses if not properly constrained.

CHAPTER 9

CONCLUSION

A **virtual psychiatrist interviewer** leveraging conversational AI shows potential to support mental health evaluation and basic therapeutic interaction, especially when grounded in structured, evidence-based methods like CBT and frequent engagement patterns. Empirical findings demonstrate positive effects on symptom relief, user engagement, and clinical workflow efficiency. However, challenges around safety, ethical use, explainability, and crisis management persist. Future systems must integrate robust safety protocols, transparency, and clinician oversight to ensure responsible deployment. Overall, such systems can **complement traditional care**, offering scalable and accessible mental health support, but should not replace professional human care due to current limitations and ethical considerations.

CHAPTER 10

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