

Project Proposal – Phase I: Idea Submission

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Project Title: AI-Powered Medical Chatbot using IBM Watson Assistant

1. Problem Statement

In today's fast-paced healthcare environment, patients often struggle to get timely answers to basic medical queries, appointment-related questions, and general health advice. Traditional helpdesk models are often overwhelmed, unavailable 24/7, or inconsistent in responses. There is a strong need for an intelligent, always-available medical assistant that can guide users, provide general information, and escalate complex cases to human professionals when necessary.

2. Project Idea Overview

The project aims to develop a **Conversational AI Medical Chatbot** using **IBM Watson Assistant**, integrated into a hospital or health-focused website. The chatbot will provide users with general medical information, answer frequently asked health-related questions, assist in booking appointments, collect feedback, and escalate serious or ambiguous queries to human healthcare providers. It will leverage IBM Watsonx's advanced NLP capabilities for accurate and context-aware interactions.

3. Objectives

- Build a scalable AI-powered **medical chatbot** using IBM Watson Assistant.
- Integrate the chatbot into a sample or real medical services website frontend.
- Design **contextual, intent-based dialog flows** for healthcare scenarios.
- Use **Watsonx Assistant** to understand and process natural language queries.
- Optionally enhance with backend integration (appointment forms, email alerts).
- Offer **instant 24/7 assistance** to users needing basic medical guidance.

4. Tools and Technologies

- IBM Watson Assistant (Watsonx Assistant)
 - IBM Watsonx.ai (*optional for advanced NLP tasks*)
 - IBM Cloud
 - Python + Flask (*for backend and API integration*)
 - HTML/CSS/JavaScript (*for the website frontend*)
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5. Phase-Wise Execution

Phase	Description
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Phase I	Project proposal and ideation (Current Phase)
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Phase II	Dialog flow design, intent/entity creation in Watson Assistant
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Phase III	Backend integration using Flask and Python
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Phase IV	Frontend UI development and chatbot integration
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Phase V	Deployment on IBM Cloud and end-to-end testing
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Phase VI	Report generation and final project demonstration
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