Graphic Era Hill University
DEHRADUN • BHIMTAL • HALDWANI

PROJECT AND TEAM INFORMATION

Project Title

DocBot: AI-Powered Medical Assistance Chatbot

Student/Team Information

Team Name: Tech Resolutions	**Tech Resolutions**
Tanmay Chauhan (Team Lead) student ID: 23011566 email: chauhantanmay253@gmail.com	
Abhay Kanojia student ID: 230115137 email: abhaykanojia51@gmail.com	
Ayush Chand student ID: 230112536 email: ayushchand862@gmail.com	

PROJECT PROGRESS DESCRIPTION

Project Abstract

Doc-Bot is an AI-powered medical chatbot designed to assist users by providing medical advice and preliminary guidance on common health issues. The chatbot can analyze user symptoms, provide basic recommendations, and offer relevant information on diseases. It supports both text-based interaction and image-based diagnosis through vector image processing. Doc-Bot aims to assist patients and medical students by improving healthcare accessibility and understanding.

Updated Project Approach and Architecture

The Doc-Bot system is built using a modular architecture with the following components:

- **Frontend**: Developed using HTML/CSS/JavaScript (React or basic UI).
- **Backend**: Python-based Flask/Django server.
- **ML/NLP**: Chatbot core trained using cleaned and labeled medical datasets. NLP preprocessing includes tokenization, noise removal, and whitespace handling.
- **Image Processing Module**: Converts medical images to vectors for analysis.
- **Database**: To be integrated for storing chat logs and medical info.
  Libraries include TensorFlow, NLTK, OpenCV, and Pandas.

Tasks Completed

Task Completed	Team Member
1.) Dataset Preprocessing (tokenization, cleaning)	⇨ **Tanmay Chauhan**
2.) Data Collection & Labeling, Image to Vector Conversion.	⇨ **Abhay Kanojia**
3.) Chatbot UI & Front Page Design	⇨ **Ayush Chand**

Challenges/Roadblocks

- Integration of image processing with chatbot logic is challenging due to noise and patch interference in medical images.
- UI adjustments are pending for responsiveness and better interaction.
- Database connection setup is in progress, requiring configuration for real-time chat storage.

Plans:

- Use noise filtering techniques in OpenCV for clean image vectors.
- Modularize UI for dynamic responsiveness.
- Use SQLite/PostgreSQL for secure backend data storage.

Tasks Pending

Task Pending	Team Member (to complete the task)
1.) Database setup and integration	⇨ Tanmay Chauhan
2.) Image preprocessing and denoising	⇨ Abhay Kanojia
3.) UI modification and enhancement	⇨ Ayush Chand

Project Outcome/Deliverables

- Functional chatbot interface (web-based).
- Trained NLP model for text-based diagnosis.
- Image-to-vector processing for medical image input.
- User data storage and retrieval system.
- Final project report and documentation.

Progress Overview

Approximately 65% of the project is complete. Data collection, preprocessing, and initial chatbot UI are done. Backend database and image refinement are pending but actively in progress. Project is on track for timely completion.

Codebase Information

Repository:
Branch: main
Important Commits:

- Initial UI setup
- NLP model training
- Image vectorization module

Testing and Validation Status

Test Type	Status (Pass/Fail)	Notes
UI Testing NLP Accuracy Check Image Vector Validation	Pass In Progress In Progress	Basic layout verified Ongoing model tuning Preprocessing noise removal pending.

Deliverables Progress

Deliverable	**Status**
Chatbot UI	Completed
Text-based Chat Model	Completed
Image Processing Pipeline	In Progress
Database Integration	Pending
Final Documentation	Pending