

PROJECT TITLE:

HealthAI: Intelligent Healthcare Assistant Using IBM Granite

TEAM NAME:

- NAVEENA KANNATI (22K61A0563)
- ALLANKI AVINASH(22K61A04I3)
- DADI BHAVANI (22K61A6114)
- JAYASRI LAKSHMI(22K61A04I5)
- BREETHI (22K61A04F6)

PHASE-1: BRAINSTORMING & IDEATION

OBJECTIVE:

- Identify the problem statement.
- Define the purpose and impact of the project.

KEY POINTS:

- PROBLEM STATEMENT:

Access to accurate and timely medical information is a major challenge for the public, leading to confusion, delays in treatment, and unnecessary panic.

- PROPOSED SOLUTION:

HealthAI is an intelligent healthcare assistant powered by IBM Granite and Watson AI. It provides real-time medical insights, symptom-based disease prediction, treatment suggestions, and user-friendly interaction through a chat interface.

- TARGET USERS:

General public, especially people without easy access to professional healthcare guidance.

- EXPECTED OUTCOME:

A web platform that delivers reliable, AI-powered medical assistance to users, enhancing health awareness and early self-assessment.

PHASE-2: REQUIREMENT ANALYSIS

OBJECTIVE:

- Define technical and functional requirements.

KEY POINTS:

1. TECHNICAL REQUIREMENTS:

- Languages: TypeScript, JavaScript
- Frameworks: Vite, Tailwind CSS
- Tools: IBM Watson, IBM Granite API, Node.js

2. FUNCTIONAL REQUIREMENTS:

- Patient symptom chat interface
- Disease prediction module
- Treatment suggestions
- Responsive UI/UX for accessibility

3. CONSTRAINTS & CHALLENGES:

- Dependence on external APIs (IBM Watson)
- Handling user data securely and ethically
- Ensuring accuracy of predictions

PHASE-3: PROJECT DESIGN

OBJECTIVE:

- Create the architecture and user flow.

KEY POINTS:

1. SYSTEM ARCHITECTURE DIAGRAM:

- Client-side UI (React/HTML)
- Backend API integration with IBM Watson
- Output response rendering to user

2. USER FLOW:

- User inputs symptoms → Chat interface sends data → Watson AI processes → Prediction/Advice shown

3. UI/UX CONSIDERATIONS:

- Simple, clean layout using Tailwind
- Mobile-friendly design
- Intuitive chat interaction

PHASE-4: PROJECT PLANNING (AGILE METHODOLOGIES)

OBJECTIVE:

- Break down the tasks using Agile methodologies.

KEY POINTS:

1. SPRINT PLANNING:

- Sprint 1: UI design and chat flow
- Sprint 2: Watson integration and disease prediction
- Sprint 3: Testing and final adjustments

2. TASK ALLOCATION:

- UI Design: Amrutha Varshini
- Backend & API: Prasad
- Testing: Sharon Kumar
- Documentation: Pavan Kumar

3. TIMELINE & MILESTONES:

- Week 1: Interface design
- Week 2: Backend setup and Watson API integration
- Week 3: Bug fixes and deployment

PHASE-5: PROJECT DEVELOPMENT

OBJECTIVE:

- Code the project and integrate components.

KEY POINTS:

1. TECHNOLOGY STACK USED:

- HTML, TypeScript, Tailwind CSS, IBM Watson API, Vite

2. DEVELOPMENT PROCESS:

- UI created with Vite and Tailwind
- API endpoints integrated to handle health queries

- Responses generated using IBM Granite and Watson models

3. CHALLENGES & FIXES:

- Issue: Watson output delay → Fix: Added loading states
- Issue: UI responsiveness → Fix: Tailwind CSS optimizations

PHASE-6: FUNCTIONAL & PERFORMANCE TESTING

OBJECTIVE:

- Ensure the project works as expected.

KEY POINTS:

- Functional Testing: Verified symptom inputs generate correct Watson responses
- Performance Testing: Checked load time and API response speed
- Bug Fixes: Resolved form validation and mobile layout issues

