# Brainstorm & Idea Prioritization – HealthAI Ideation Phase

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Team ID: LTVIP2025TMID34578

Project Name: HealthAI

Maximum Marks: 4

## Step 1: Team Collaboration & Problem Selection

Our team gathered virtually on June 19, 2025, to discuss the major pain points in healthcare accessibility and personalized health guidance. We identified two primary problems that HealthAI aims to solve:  
  
• Difficulty accessing timely, personalized symptom analysis and general medical information.  
• Lack of actionable insights from personal health data for proactive health management.  
  
Based on these, we chose to focus our solution design on an AI-powered conversational healthcare assistant, combining multiple intelligent functionalities into a single, intuitive platform.

## Step 2: Brainstorming – Idea Listing & Grouping

We utilized collaborative tools (like Miro boards and sticky notes) to brainstorm a wide range of potential features for HealthAI. Below is a categorized summary of the brainstormed ideas:

### Group A: Conversational AI & Chatbot Features (Core Interaction)

• AI assistant that answers medical queries 24/7.

• Symptom-based query interpretation using a language model.

• (Future) Voice-based question input for accessibility.

• Context-aware replies (e.g., follow-up questions based on previous interactions).

• Empathetic and clear communication style.

### Group B: Disease Prediction & Diagnosis Support

• Symptom input → probable conditions with likelihood.

• Condition likelihood scoring using patient profile and reported data.

• (Future) Early alert system for high-risk symptoms.

• (Future) Integration with recognized medical databases (e.g., WHO/CDC).

### Group C: Personalized Treatment & Guidance

• AI-generated care recommendations post-diagnosis.

• Support for lifestyle modifications and home remedies.

• Output customization by patient profile (age, existing conditions, etc.).

• (Future) Downloadable reports for doctor reviews.

### Group D: Health Analytics & Dashboard

• Visualization of key vitals: heart rate, blood pressure, blood glucose.

• Time series comparison of health metrics.

• Visualization of symptom frequency.

• AI-generated insights and recommendations based on data trends.

• (Future) Export logs for personal health records.

### Group E: System & UI Enhancements

• Streamlit UI: Intuitive tabbed navigation for different features.

• Secure API Access: Token-based access for AI models.

• Session State Management: Preserve user chat and profile data within a session.

• Responsive design for mobile and web access.

• (Future) Data persistence via a database.

## Step 3: Idea Prioritization

We used a Value vs. Effort Matrix to assess and rank the brainstormed ideas, prioritizing features that offer high user impact with feasible development effort for the initial prototype.

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| --- | --- | --- |
| Priority | Feature | Reason |
| High | Patient Chat (with Gemini API simulation) | Core conversational utility, immediate user value for Q&A and initial guidance. |
| High | Disease Prediction (with Gemini API simulation) | Essential feature for preliminary symptom assessment and decision support. |
| High | Personalized Treatment Plans (with Gemini API simulation) | Delivers actionable steps, highly valuable for self-management. |
| High | Health Analytics Dashboard (with Plotly) | Provides data-driven insights and enhances user engagement through visualization. |
| High | Patient Profile Management & Session State | Crucial for personalization and a continuous user experience within a session. |
| Medium | AI-Generated Health Insights | Adds deeper value to analytics, enhances proactive health management. |
| Low | Voice Input | Enhances inclusivity, but can be added in future iterations. |
| Low | Data Export/Download Reports | Useful for sharing, but secondary to core AI functions and can be added later. |
| Low | Direct IBM Granite Integration (PoC) | A critical future step, but initial development focuses on functional prototype with Gemini. |

## Final Thoughts

This brainstorming and prioritization exercise was instrumental in translating broad solution goals into concrete, categorized, and actionable feature ideas for HealthAI. It allowed us to establish a clear development roadmap, focusing on core functionalities that offer maximum user value in the initial prototype.  
  
The HealthAI concept emerged with a strong focus on:  
  
• Conversational Accessibility: Easy, natural interaction for health inquiries.  
• Personalized Prediction: Tailored insights based on individual data.  
• Data-Driven Self-Care: Empowering users with visualized health trends and AI recommendations.  
  
This foundation supports our mission to improve everyday healthcare decisions through intelligent AI assistance.