Healthcare Prior Authorization System

Technical Overview of the Backend API addressing core problems and solutions for efficient healthcare authorization processes.

Challenges in the Review Process

Key issues affecting healthcare authorization efficiency

- Slow reviews lead to delayed patient care
- Complex workflows hinder timely decisions
- Lack of transparency causes frustration among stakeholders
- Data silos restrict information sharing and access

Proposed Solution

Integrating Members, Providers, and Payers for seamless interactions.

01

The **Flask Backend API** simplifies communication between all stakeholders.

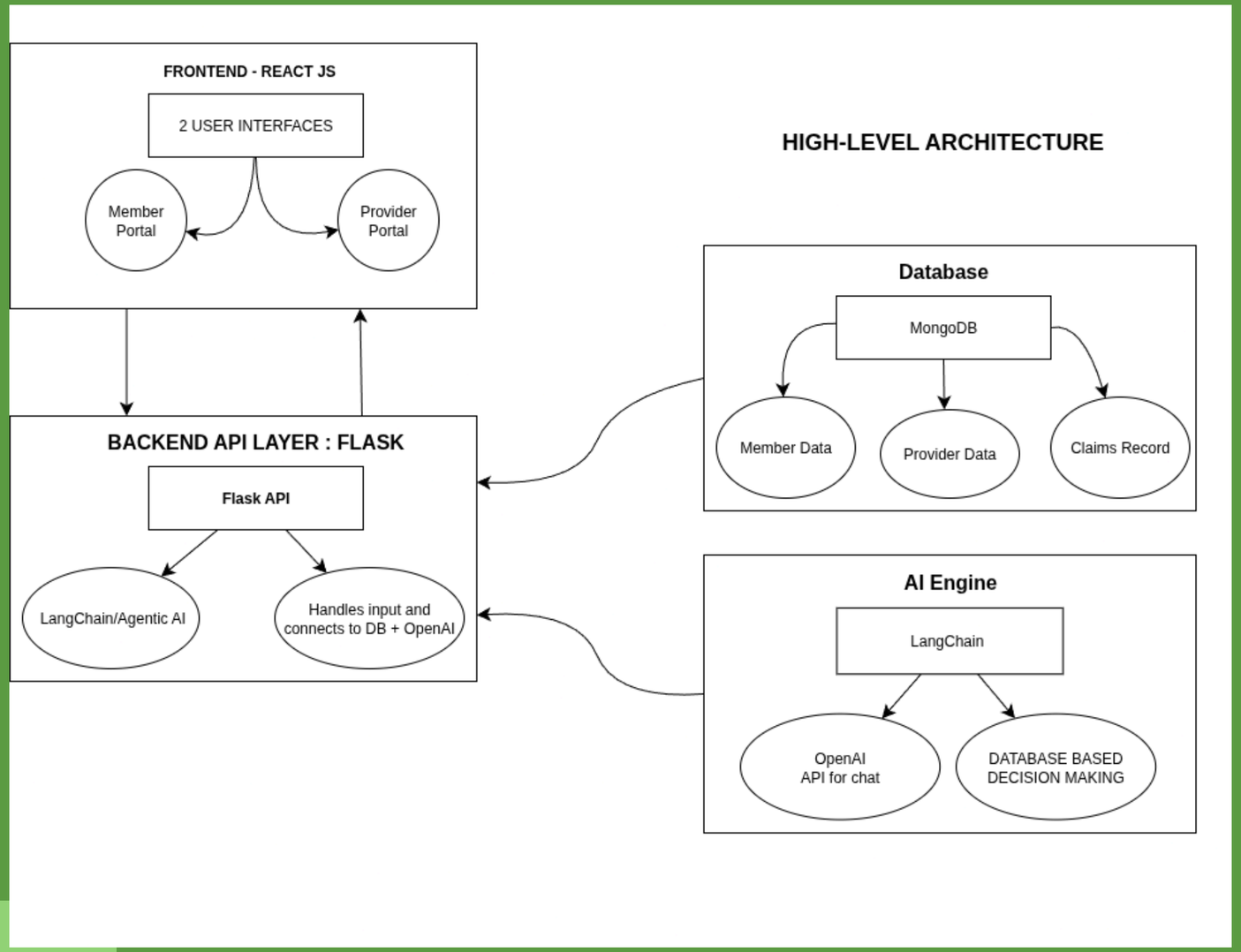
02

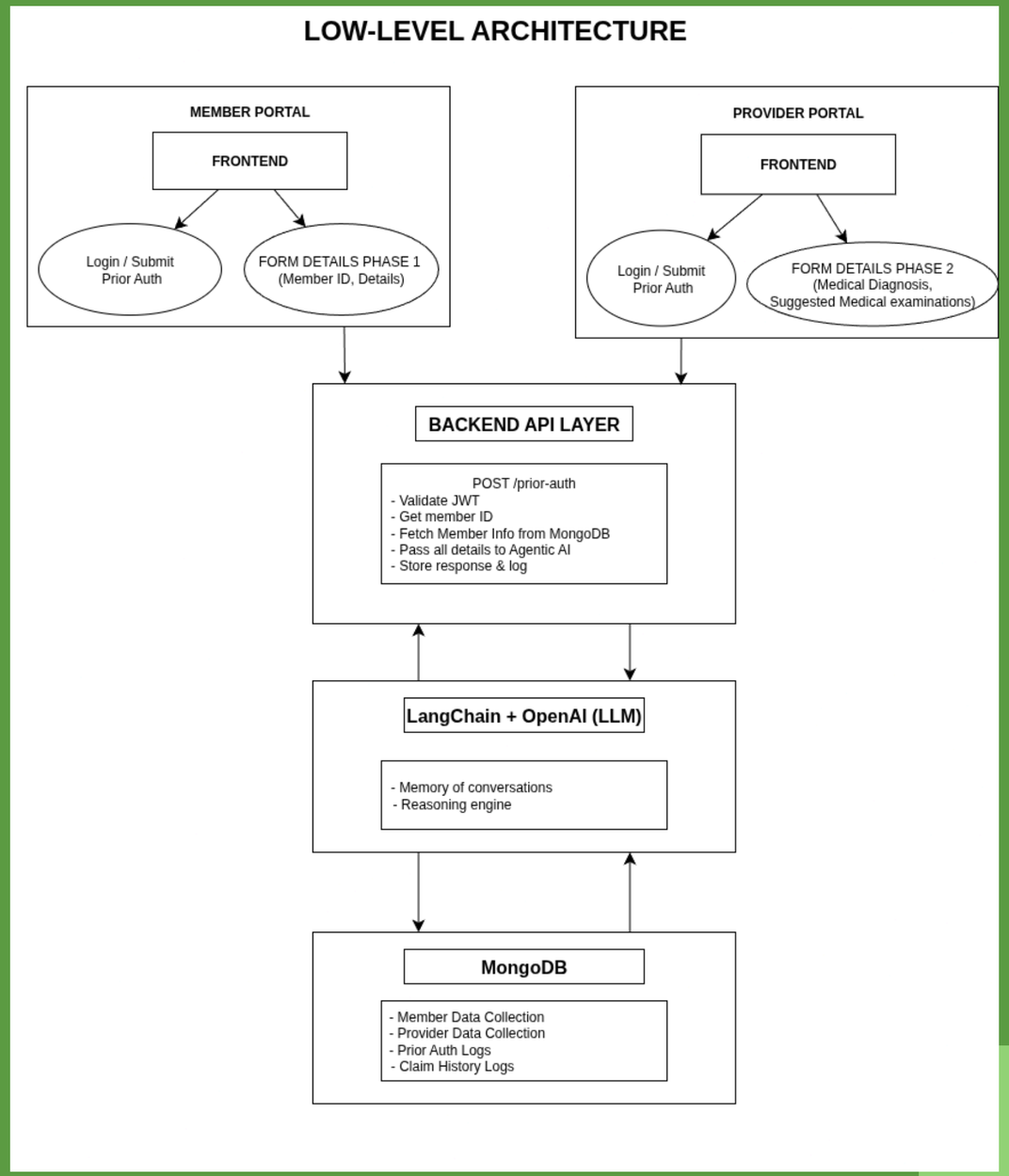
An **Agentic AI Engine** optimizes processing times for prior authorization requests.

03

Utilizing **MongoDB** ensures efficient data management and access across the system.

Project Architecture





AI Auto-Review Process

Member Posts Claim Request

A member submits a **request for claim** approval and reimbursement.

Agentic AI-Driven **HealthBuddy App** & **Automatic Completion** for Request Details During Entry

Provider Reviews member request

Provider reviews requests made by member and can either **approve** it and forward to Payer or **reject** it

The provider gets an **automated claim analysis** via Agentic AI and can use **autocomplete** features for claims review and note-taking.

Payer Approves or Rejects claim

Payers have the choice to either **approve**, reject, or recommend a more **cost-effective** alternative for a claim request.

Payers can leverage Agentic AI-driven **automated reviews** to verify claims and streamline the **approval process**.

User Ecosystem Overview

Members

Members interact seamlessly with the system to manage their healthcare needs efficiently.

Providers

Providers can easily access patient information and submit prior authorization requests.

Payers

Payers monitor claims and ensure compliance through real-time data reporting capabilities.

Data Model

Overview of MongoDB Collections and Relationships

01

The data model leverages **MongoDB collections** for efficient storage and retrieval.

02

Relationships among collections ensure **integrity** and accessibility of healthcare data.

03

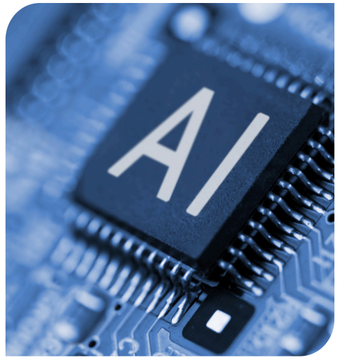
This structure supports rapid **development** and scalability for the Backend API.

MongoDB Database

NoSQL document storage

Flask Framework

Python web framework



AI Engine

Intelligent processing system

Robust Security Measures for Healthcare

Our system ensures **endpoint protection** and **data integrity**, safeguarding sensitive healthcare information at every step.

JWT Tokens are extensively used for high level security

Conclusion & Next Steps

Summary of the project and outline of future actions.

01

The **Healthcare Prior Authorization** System is crucial for enhancing operational efficiency and improving **member accessibility** on our platform.

02

Integrating **Agentic AI** more extensively with the support of a paid AI subscriptions like the **OpenAI-Agents** API

03

Enhancing Inclusivity in Insurance Companies by focusing on **training and testing** a deeper understanding for agentic models to improve **context** based on previous responses.