MICHIGAN STATE UNIVERSITY

Project Plan Presentation
Healthcare Payer Price Transparency

The Capstone Experience

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Fall 2024

From Students…
…to Professionals

Project Sponsor Overview

- Non-profit health insurer that allocates 90% of premium revenue to healthcare services.
- Subsidiary of Henry Ford Medical Services.
- Annually recognized industry leader since 1993.
- Provider network that serves 430,000 members across Michigan.

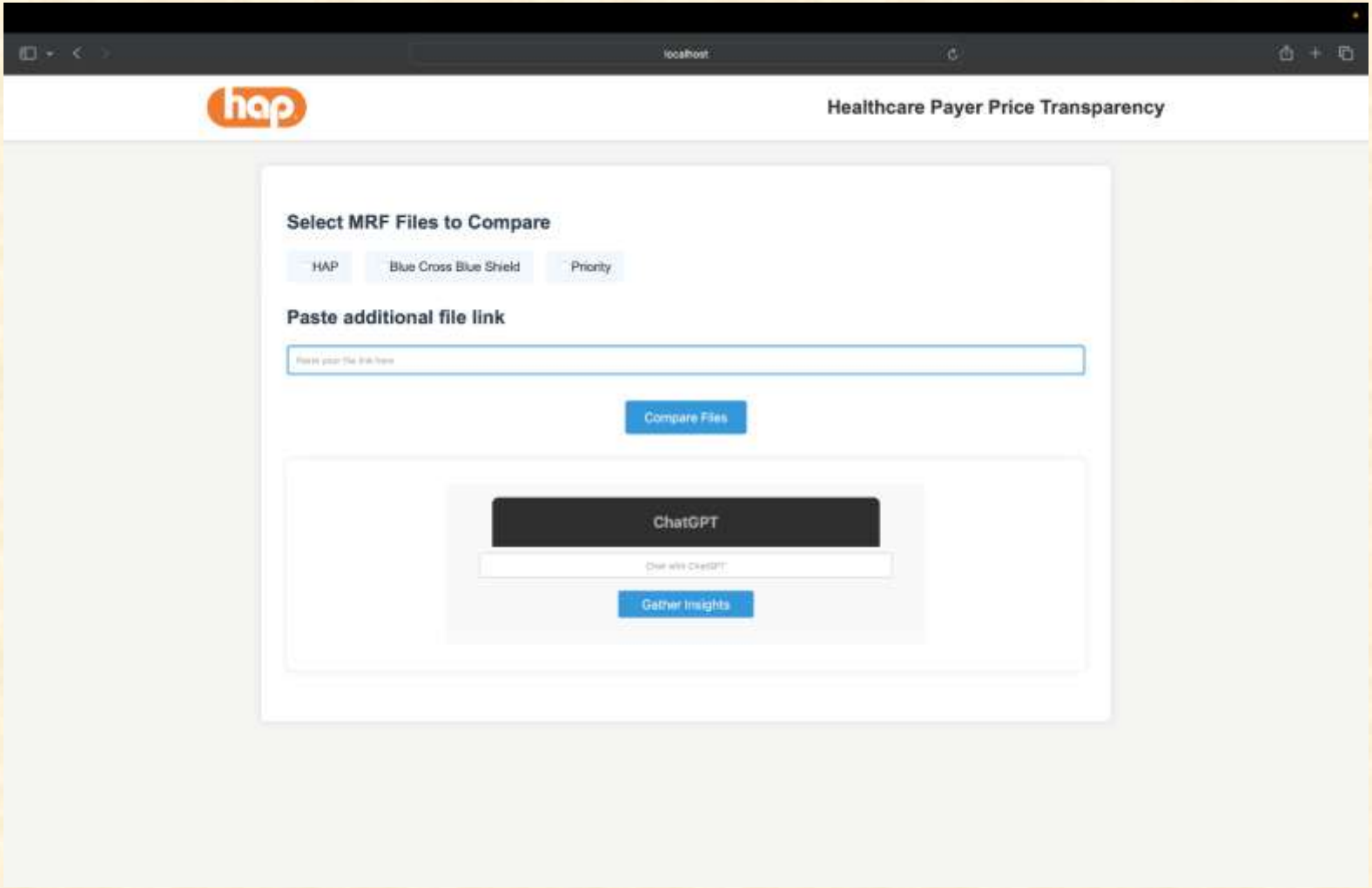
Project Functional Specifications

- Read standardized machine-readable files provided by health insurers and hospitals.
- Extract all relevant data from the machine-readable files.
- Use generative AI to analyze the extracted data and provide important insights to the user.

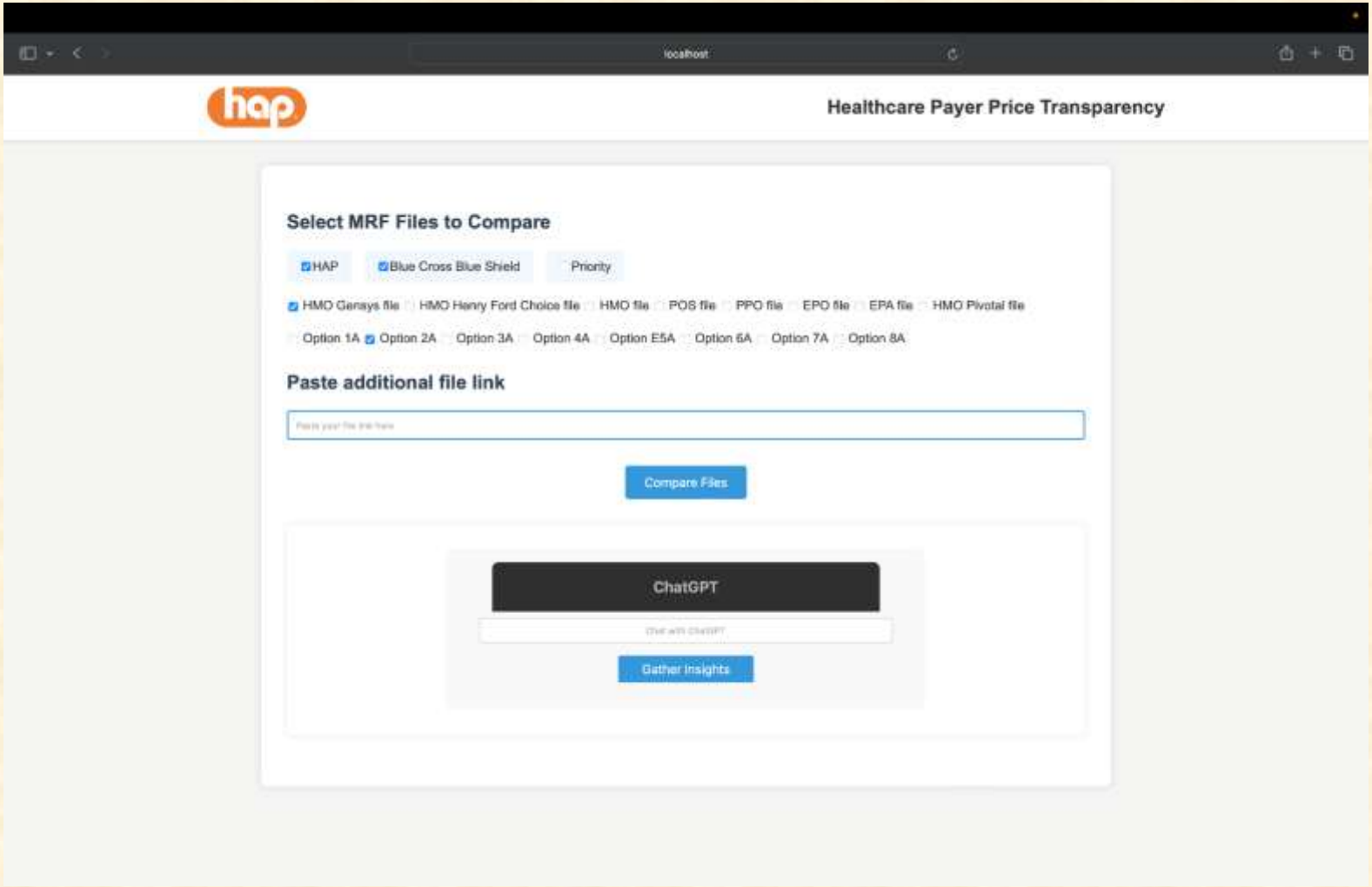
Project Design Specifications

- Our chosen UI is a web application
- Simple check-box selection
- Visualizations and Graphs to improve health plan insights
- AI generated summaries

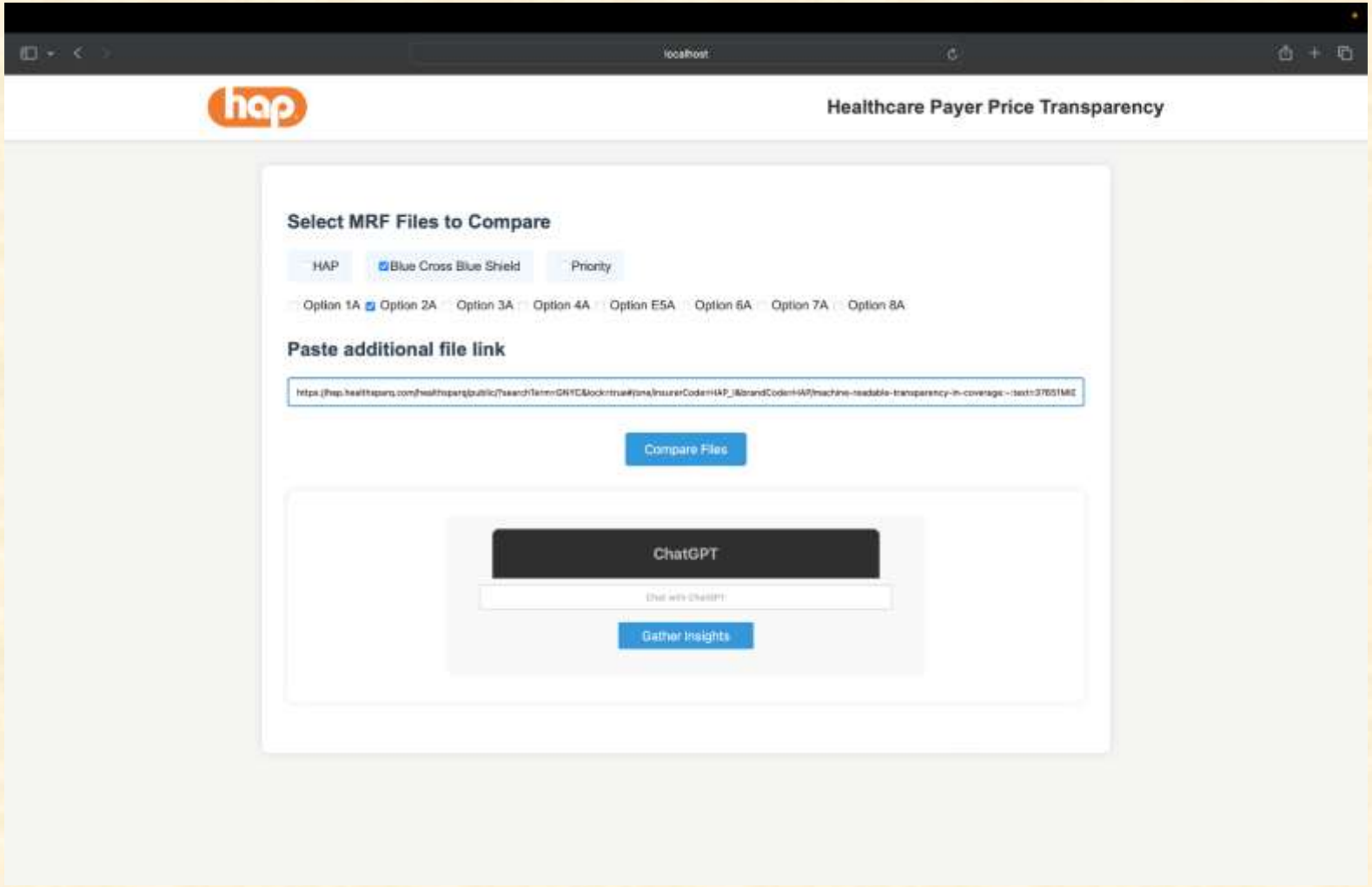
Screen Mockup: Initial Home Screen



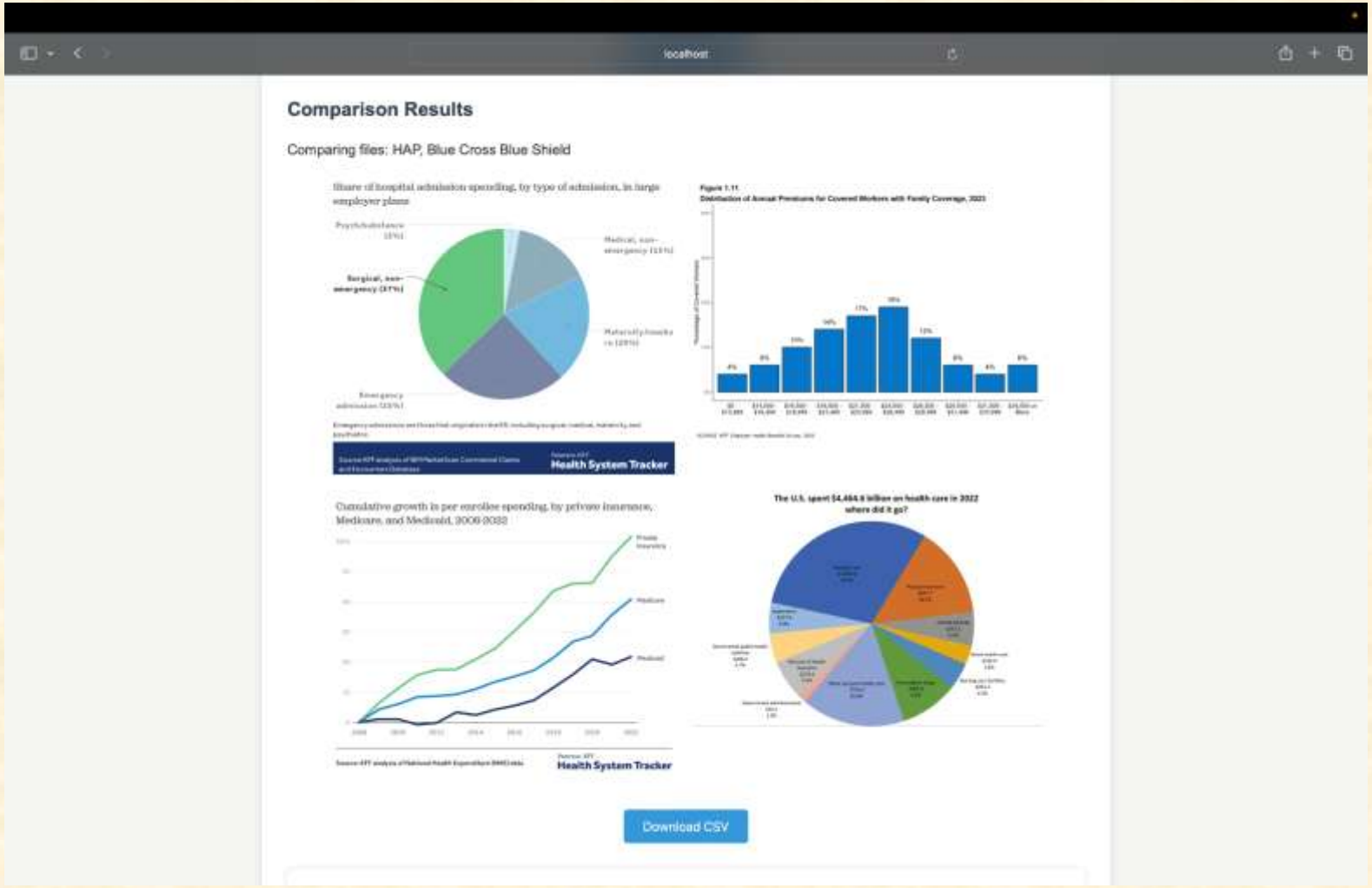
Screen Mockup: File Selection



Screen Mockup: Link File Selection



Screen Mockup: Graphical Analysis

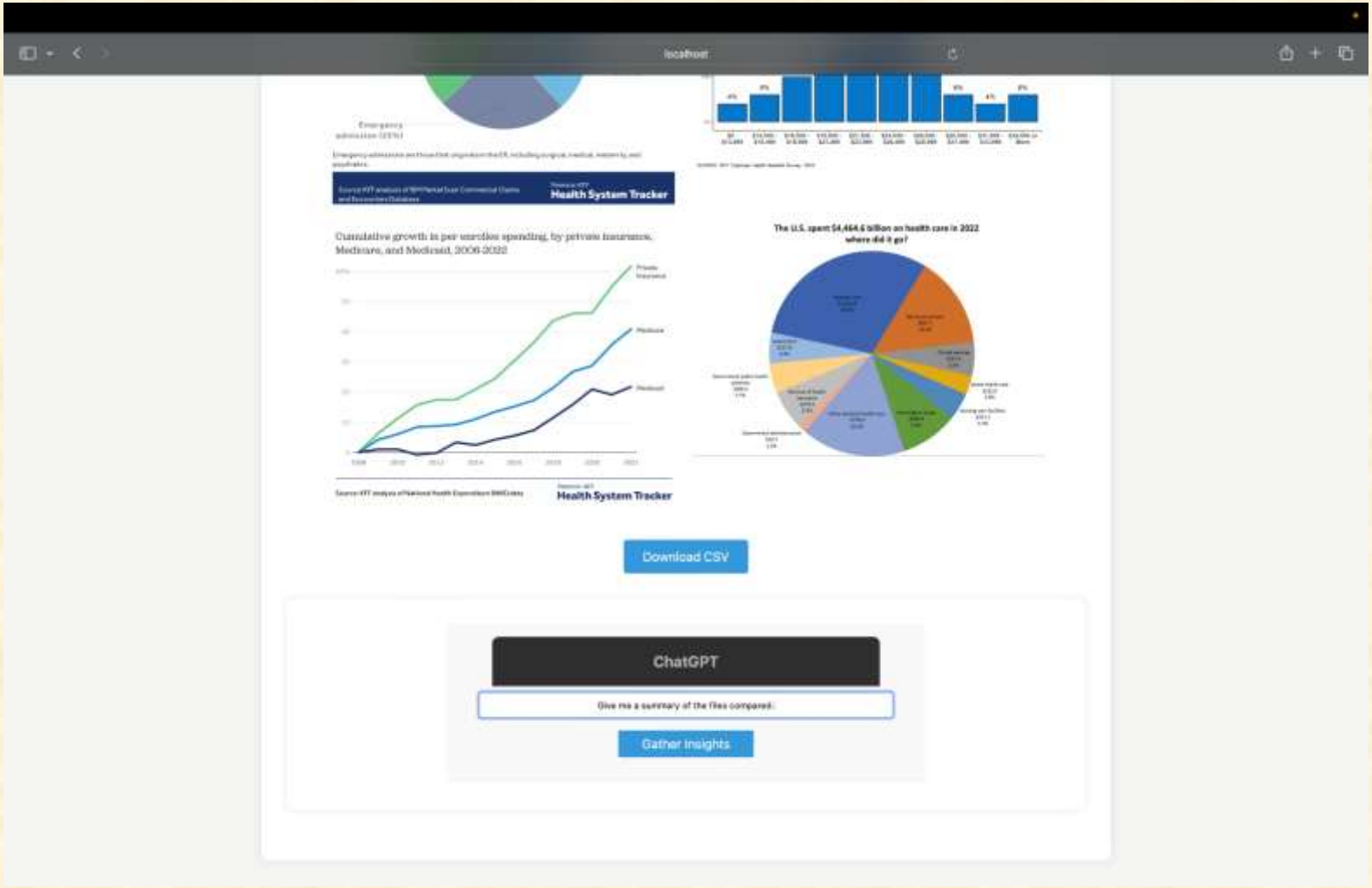


Screen Mockup: CSV Download

text.csv

```
Billing code: 434, provider: 34, type: per diem, rate: 25.00
Billing code: 435, provider: 78, type: per diem, rate: 45.99
Billing code: 436, provider: 86, type: negotiated, rate: 50.00
```

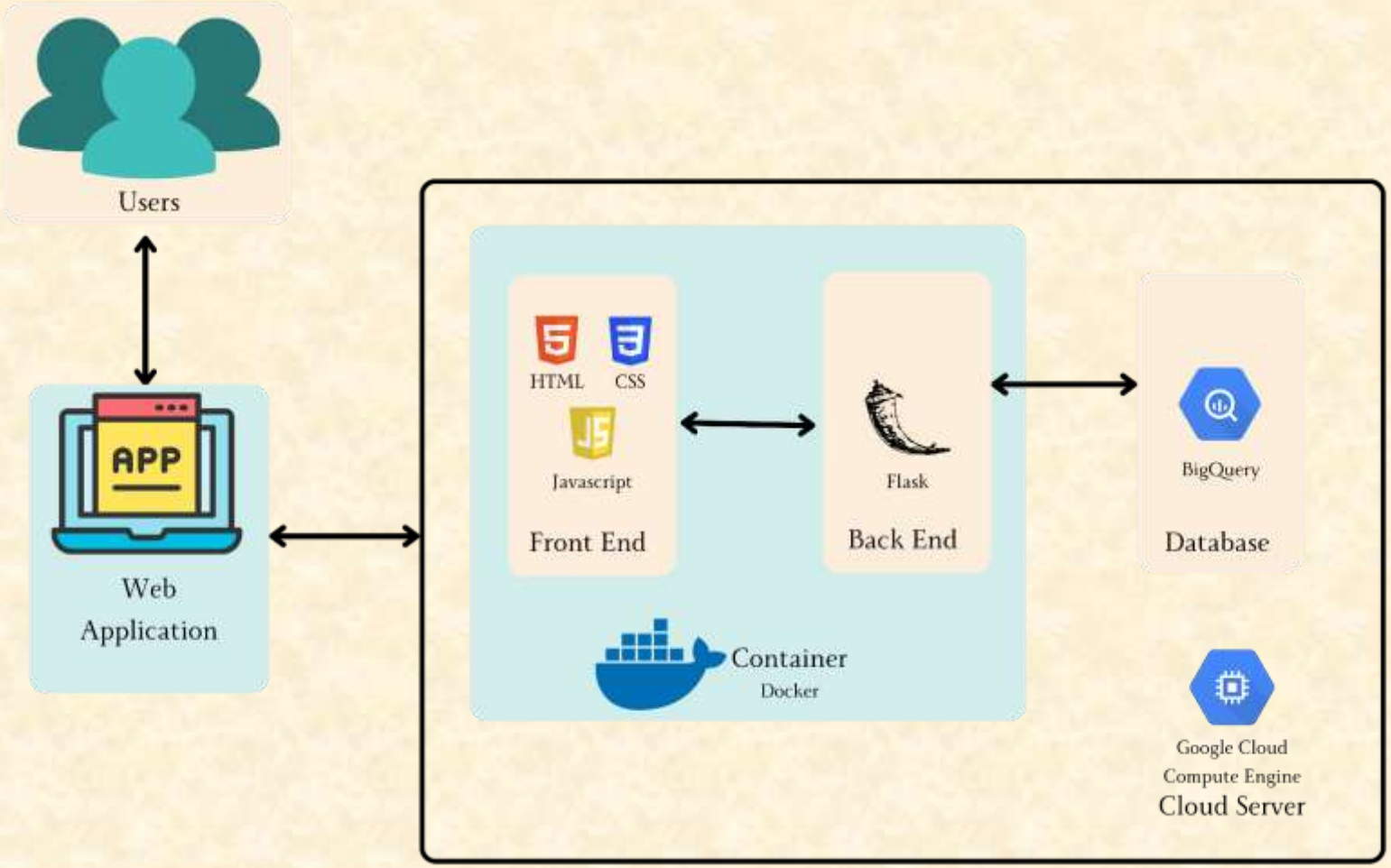
Screen Mockup: AI Summary



Project Technical Specifications

- Google Cloud Platform
- File Ingestion Service
- SDK or REST API to handle files in cloud
- Google BigQuery
- Data processing

Project System Architecture



Project System Components

- Hardware Platforms
  - Google Cloud Compute Engine
- Software Platforms / Technologies
  - HTML/CSS/Js
  - Flask
  - Docker
  - BigQuery

Project Risks

- Parsing JSON files
  - Large files require attention to runtime and storage.
  - Use cloud databases to process and store the files.
- Overcoming LLM input limits
  - We can’t input as much data as we would like.
  - Pass smaller amounts of data that is of higher quality.
- Expense
  - Cloud computing and other needs could be very expensive.
  - Convert to using smaller files that can be stored in the cloud to minimize BigQuery utilization

Questions?