MICHIGAN STATE UNIVERSITY

Beta Presentation

AI System Testing Framework

The Capstone Experience

Team Ally

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From Students…
…to Professionals

Project Overview

- GenAI Models Behave Unpredictably
- Testing Framework To Evaluate LLM Performance
- Uses a “Solution-First” Comparison
- Helps Identify Good/Poor Use Cases

Team Member's Technical Tasks

Technical Tasks Assigned

- Andrew Dagher
  - Added ability to select different models for evaluation
  - Develop configure metrics feature
  - Develop AI generated reference feature
- Michael Plante
  - Multiple conversations and multiple references
  - Uploads and downloads throughout application
  - Benchmarking and conversation analysis pages
- Ethan Gomez
  - Developed Coherence, Fluency, and Conciseness metrics
  - Developed Redundancy and merged into Coherence
  - Created metric API and Documentation
- Amit Wagh
  - Improve accuracy metric
  - Create relevancy and bertscore metrics
  - Implement AI analysis
- Gabe Moraru
  - Create frontend for most pages (chat, evaluation, etc)
  - Develop integration UI and backend
  - Implement admin/login features using database
- Vu Ho
  - Implemented completeness and Rouge-N metrics
  - Implemented AI reference dropdown menu
  - Added OpenAI and Mistral models

Technical Tasks Completed

- Andrew Dagher
  - Added ability to select different models for evaluation
  - Develop configure metrics feature
  - Develop AI generated reference feature
- Michael Plante
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  - Implemented AI analysis
- Gabe Moraru
  - Created frontend/JavaScript for most pages
  - Developed integration for UI and backend
  - Implemented admin/login features using database
- Vu Ho
  - Implemented completeness and Rouge-N metrics
  - Implemented AI reference dropdown menu
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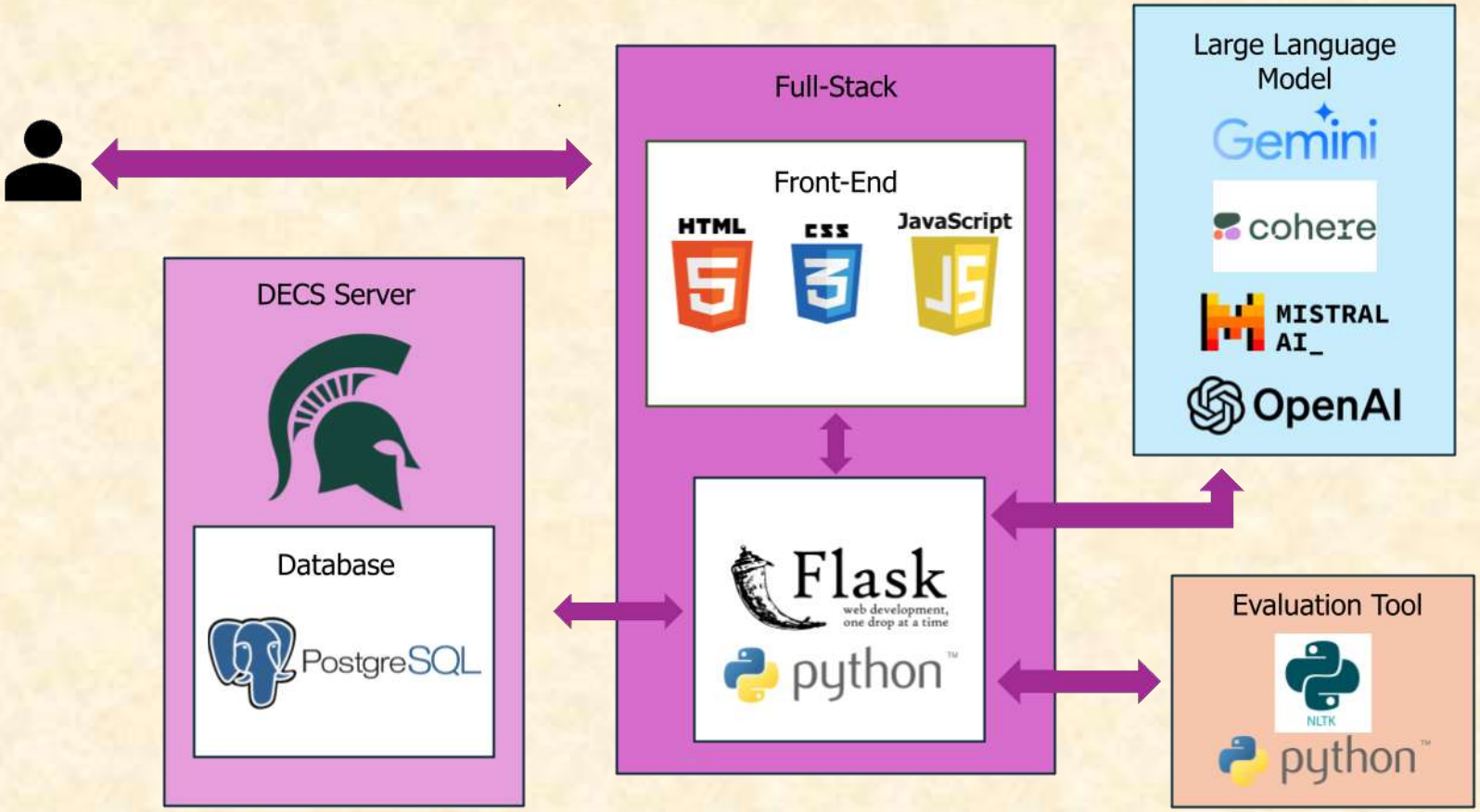
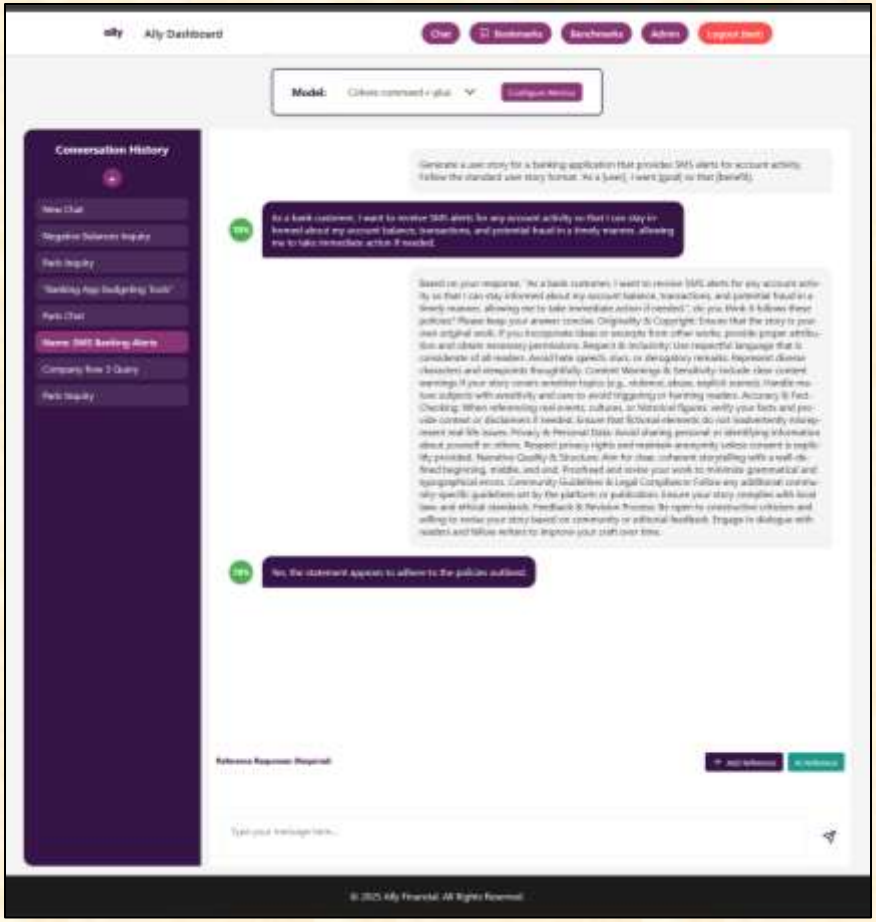
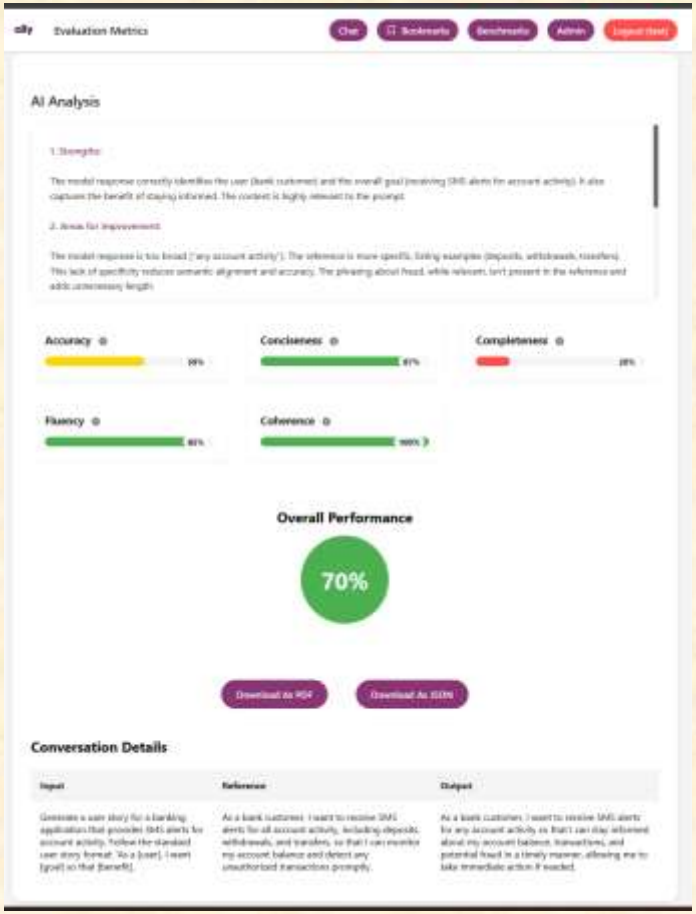
System Architecture



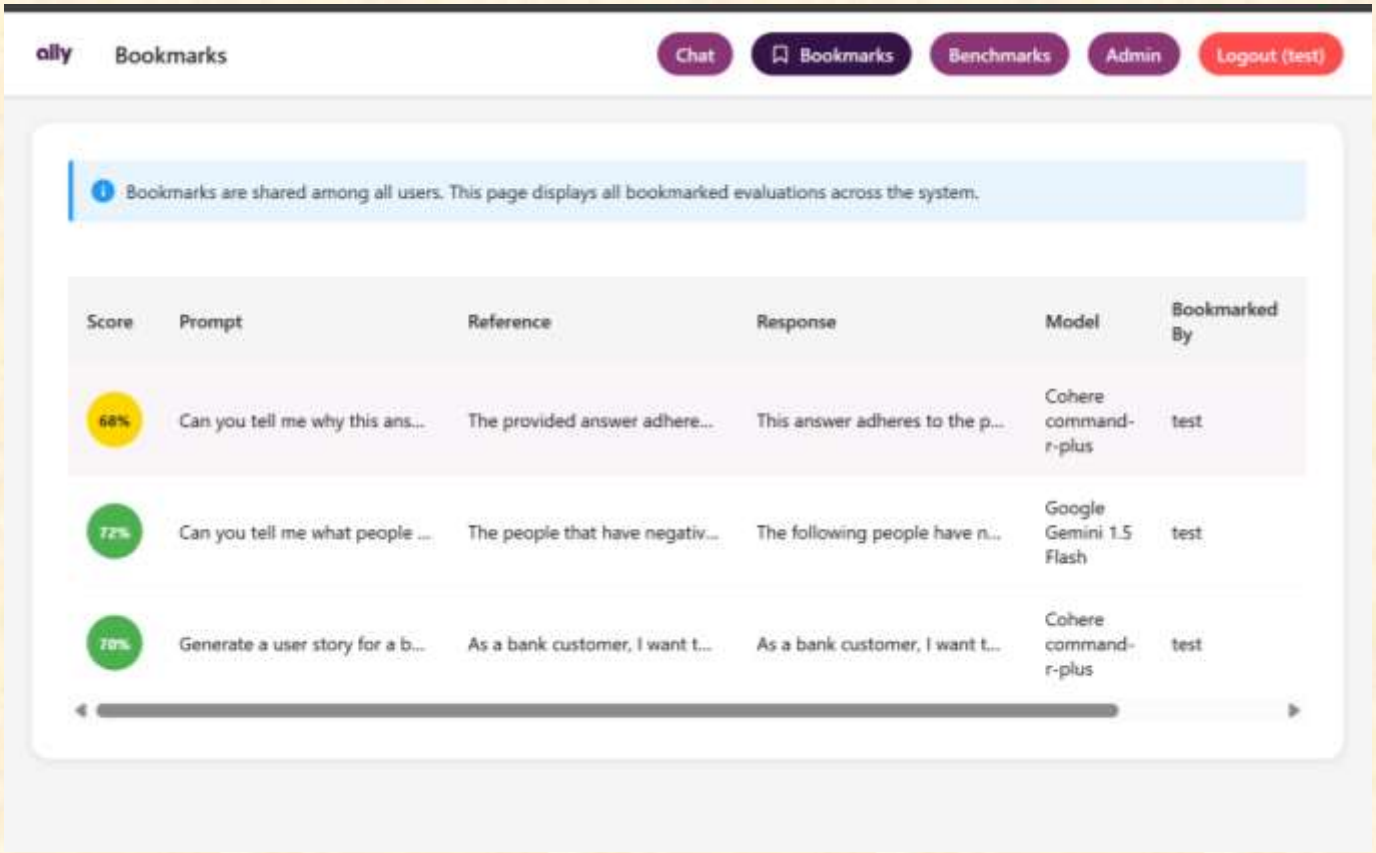
Chat Dashboard



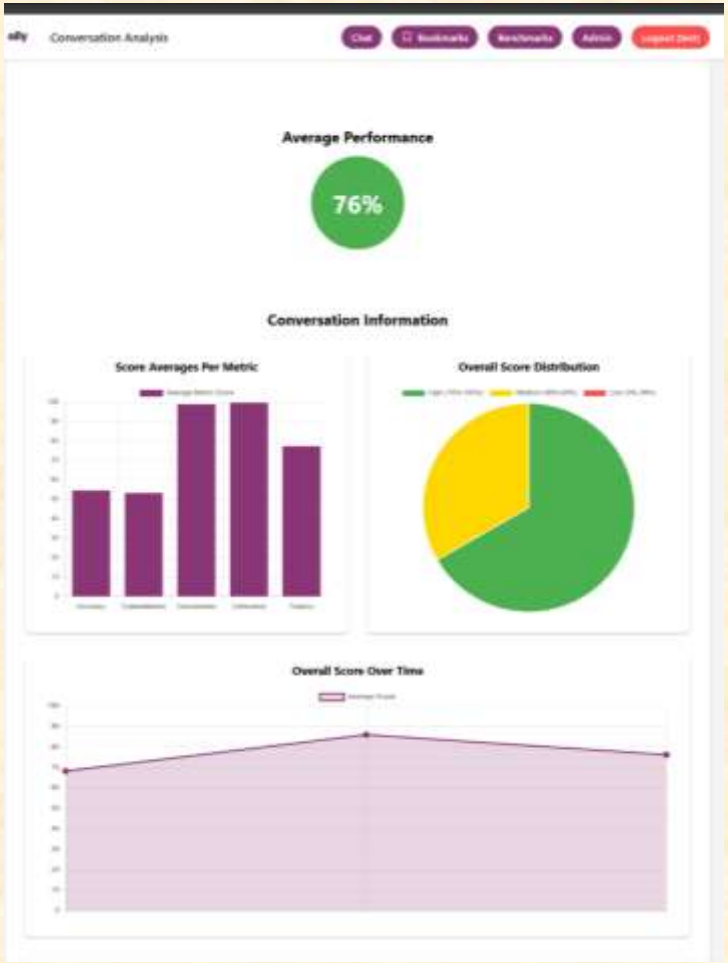
Evaluation Dashboard



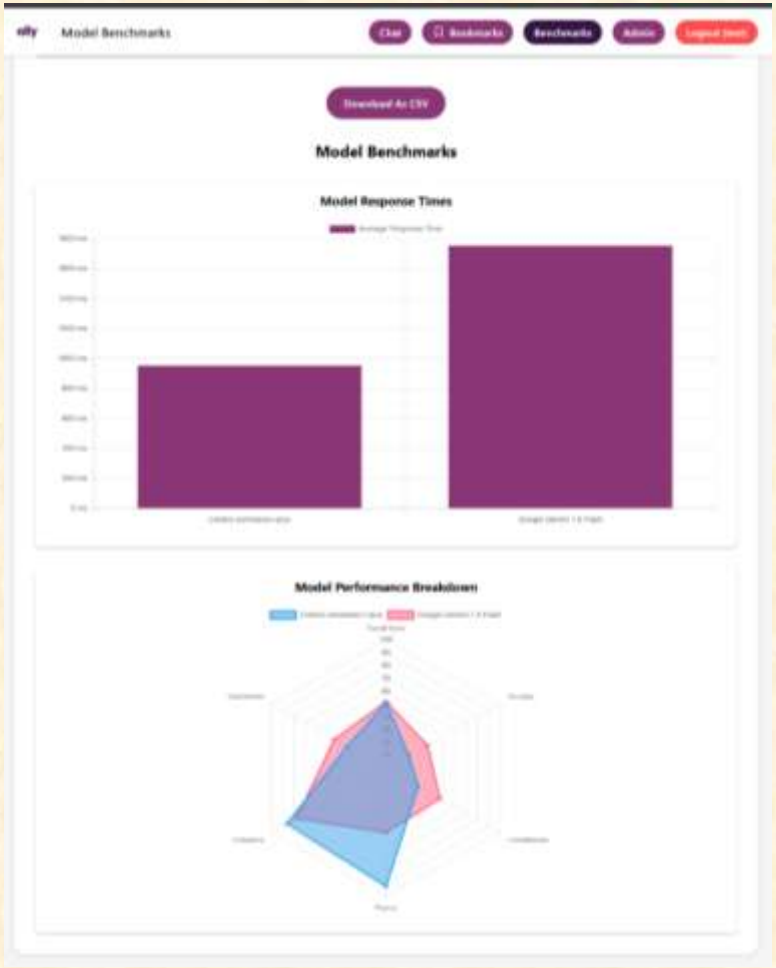
Bookmarks Page



Conversation Analysis Page



Benchmarks Page



What's left to do?

- Features
- Stretch Goals
  - Expand API for Project
- Other Tasks
  - Stylistic Changes
  - Optimization
  - Bug Fixes
  - Improve Documentation & Add ReadMe

Questions?