

MICHIGAN STATE
UNIVERSITY

Beta Presentation

Prompt Assistant: Mastering the Art of
Prompt Engineering

The Capstone Experience

Team HAP

Snigdha Akula

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*From Students...
...to Professionals*

Fall 2025

Project Overview

- Solves the problem of vague, ineffective AI prompts
- Guides users to build and test strong prompts through a web application
- Boosts output quality, productivity, and engagement through gamification

Team Member's Technical Tasks

Technical Tasks Assigned

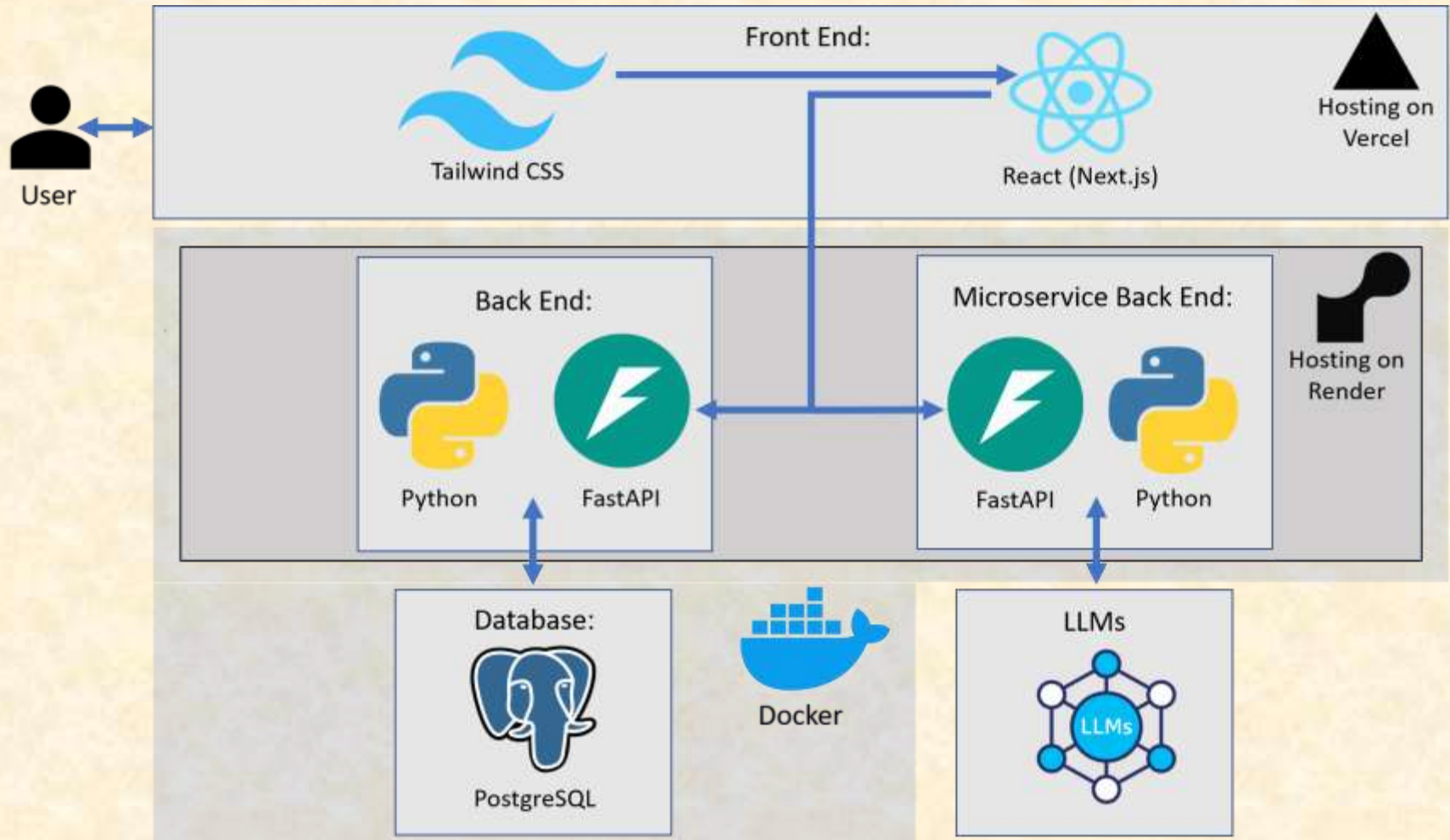
- De'Janae Williams
 - Implement the full AI Microservice and connection within entire application
 - Create backend logic for chat area workflow prompts, suggestion buttons and supporting features buttons and for LLM Arena responses, scoring and evaluation.
 - Creation of Chrome Extension
 - Establish CI/CD Pipeline for Entire Application and Render Hosting
- Snigdha Akula
 - Build and manage Supabase database schema and tables
 - Connect Supabase to back end and front end
 - Populate the tables by establishing database connections
- Praseedha Vinukonda
 - Implement state management with chat workflow and arena page
 - Establish API Service layer to communicate with back-end layer
 - Establish Vercel hosting for front-end implementation
 - Implement user authentication and functionality for the prompt history selection page
- Anthony Greig
 - Set up frontend architecture
 - Create NavBar, InputBox, and ScoreCard on home page
 - Create Arena Page and Arena components
 - Create Feedback section
- Aditi Viswanatha
 - Build Prompt Builder Page with completed chat flow and template questions
 - Connect the front end to back end for Prompt Builder Page and all its features
 - Implement full Prompt Wizard Functionality including message editing
 - Develop authentication for the Trophy system to enhance gamification
- James Chen
 - Implemented trophy feature and real-time server records
 - Implemented badge popup and toast message
 - Implemented prompt history and session management
 - Implemented theme feature with customization ability

Technical Tasks Completed

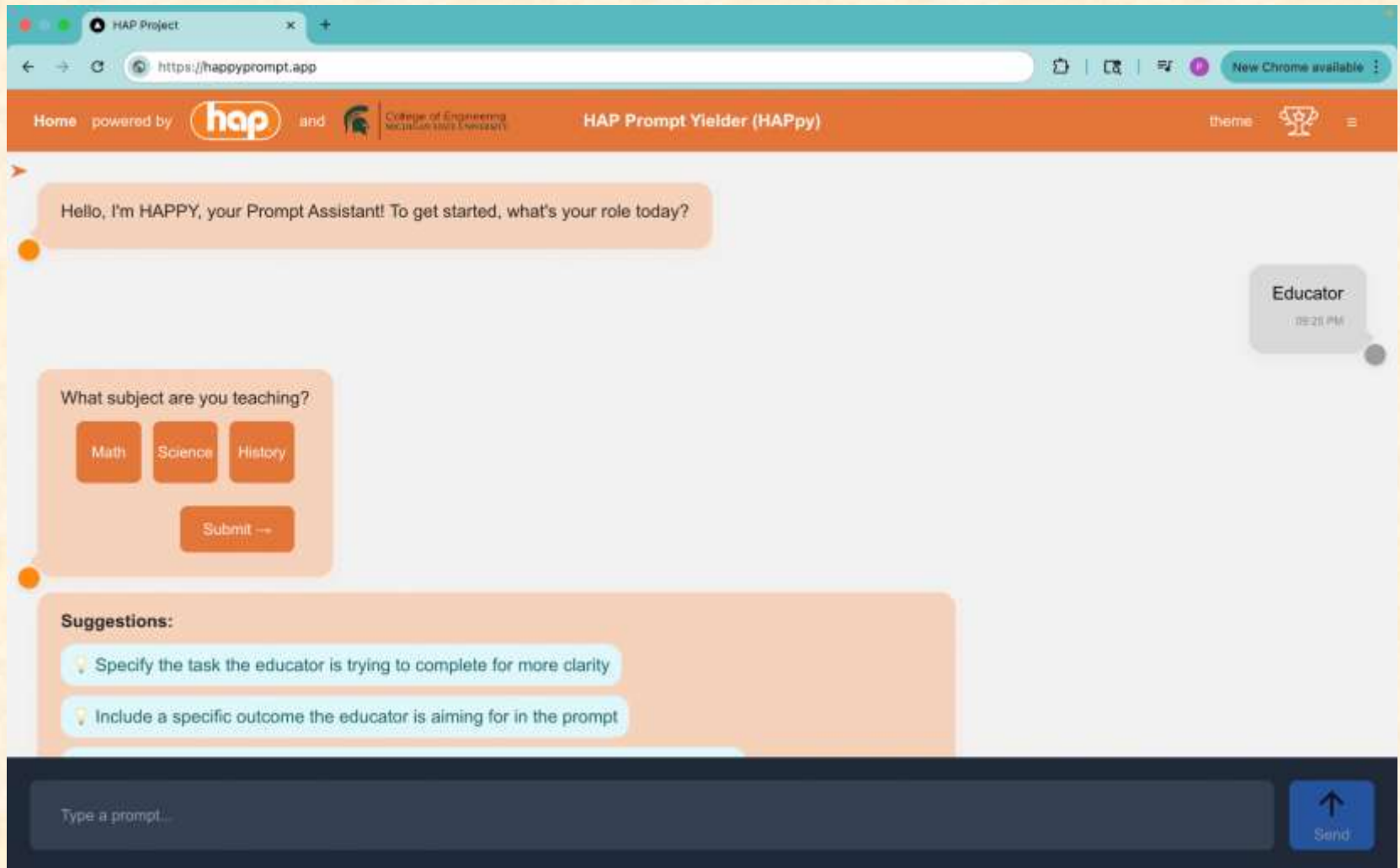
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System Architecture



Home Page



Score Card and Badges

The screenshot shows a web browser window titled "HAP Project" with the URL "https://happyprompt.app". The main chat area contains a prompt "Who is your audience?" and a response "What outcome should the LLM produce and in what format?" with buttons for "Lesson plan", "Assessment rubric", "Slides", and "Submit". Below the response are "Suggestions" for improving the prompt.

Live Grading
You are being graded on your responses. These scores relate to what you input in the chat.

Clarity
65% ★

Accuracy
65% 📄

Consistency
65% 🔄

Trophies

Trophy	Score	Target
🏆	3 / 35	0 / 50
🏆	13 / 20	3 / 35
🏆	13 / 20	3 / 35
🏆	265 / 1000	265 / 2250
🏆	265 / 2250	265 / 3600

Server Records

Clarity	Accuracy
100	100
Consistency: 100	Cumulative: 857

Type a prompt... Send



LLM Arena

The screenshot shows the HAP Prompt Yelder (HAPpy) web application. The browser address bar shows <https://happyprompt.app>. The page header includes the HAP logo, the text "powered by", and the College of Engineering at Michigan State University. The main title is "HAP Prompt Yelder (HAPpy)".

On the left side, there is a sidebar with three sections: "ROLE" (Educator), "PROBLEM" (History), and "OUTCOME" (Create a prompt for designing an activity for 8th grade students about the bill of rights). Below these is a "FEEDBACK" button.

The main content area displays three LLM models: OpenAI, Gemini, and Claude. Each model has a "Justification" section and a "Try" button.

Model	Justification	Star Rating	Checkmark Rating	Refresh Rating	Try Button
OpenAI	The response effectively fulfills the user's prompt by creating a detailed and engaging activity for 8th graders about the Bill of Rights. It includes creativity and interactive learning by having	95	90	82	Try ChatGPT
Gemini	Gemini's response provides a well-structured and comprehensive classroom activity design, suitable for an LLM. It includes all necessary components such as learning objectives, a	95	90	91	Try Gemini
Claude	Claude's response offers a robust educational activity centered on the historical context, provisions, real-world applications, and personal reflection about the Bill of Rights. It encourages	85	90	89	Try Claude



Feedback Pop-Up

The screenshot shows a web browser window with the URL <https://happyprompt.app>. The page header includes "Home powered by hop and The Capstone Experience" and "HAP Prompt Yielder (HAPpy)". A feedback pop-up is centered on the screen, asking "How satisfied were you with the LLM's response quality?". The pop-up has five radio button options: "Very Satisfied", "Satisfied" (selected), "Neutral", "Unsatisfied", and "Very Unsatisfied". Below the options are "Next" and "Cancel" buttons. The background interface shows a sidebar with "ROLE" (Educator), "PROBLEM" (History), and "OUTCOME" (Create a prompt for designing an activity for 8th grade students about the bill of rights). The main content area displays a response from "Claude" for a prompt about the Bill of Rights, with a "Justification" section. At the bottom, there are three columns of diamond-shaped score indicators (95, 90, 82 for ChatGPT; 95, 90, 91 for Gemini; 85, 90, 89 for Claude) and buttons to "Try ChatGPT", "Try Gemini", and "Try Claude".

Home powered by hop and The Capstone Experience HAP Prompt Yielder (HAPpy) theme

Back to History

ROLE
Educator

PROBLEM
History

OUTCOME
Create a prompt for designing an activity for 8th grade students about the bill of rights.

FEEDBACK

How satisfied were you with the LLM's response quality?

☐ Very Satisfied

☒ Satisfied

☐ Neutral

☐ Unsatisfied

☐ Very Unsatisfied

Next Cancel

Claude

Prompt: Designing an Activity for 8th Grade Students on the Bill of Rights in this activity, students will explore the Bill of Rights, the first ten amendments to the U.S. Constitution, and their significance in protecting the rights and freedoms of American citizens. The goal is to help students

Justification

Claude's response offers a robust educational activity centered on the historical context, provisions, real-world applications, and personal reflection about the Bill of Rights. It encourages

95 90 82 95 90 91 85 90 89

Try ChatGPT Try Gemini Try Claude



What's left to do?

- Stretch Goals
 - Adding scoring breakdown to Chrome Extension
 - PDF Download of Arena Page
 - Tutorial/About tab
- Other Tasks
 - Format LLM responses to be more readable

Questions?

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End of slide show, click to exit.

HAP Prompt Yielder (HAPpy) Evaluation Data

HAPpy Evaluation Data:

- Sample Size: 30
- 96.7% were satisfied/highly satisfied with the prompt given by our tool
- 93.3% were satisfied/highly satisfied with the outcome given by the LLM
- 100% felt their prompt engineering skills improved after using our tool

