

MICHIGAN STATE

UNIVERSITY

Project Plan Presentation
Crowd-Sourcing Intuitions of Vowel
Classification
The Capstone Experience

Team Michigan State University Linguistics

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Spring 2025



From Students...
...to Professionals

Project Sponsor Overview

- Betsy Sneller
 - Assistant Professor of Linguistics
 - Michigan State University
 - Helps lead the MI Diary project that makes an open infrastructure so anyone can make a remote recording app
- Joey Stanley
 - Assistant Professor of Linguistics
 - Brigham Young University
 - Presented at a major conference of Ukraine's language attitudes shifting due to conflict
- Monica Nesbitt
 - Assistant Professor of Linguistics
 - Indiana University
 - Economic shifts in Lansing, MI shaping the way people speak



Project Functional Specifications

- Assist in updating North American dialect atlas
- Reveal linguistic tendencies through different regions
- With vowel classifications of over 1000+ words
- Utilizing a web application
- Future iterations will gather data from the general population

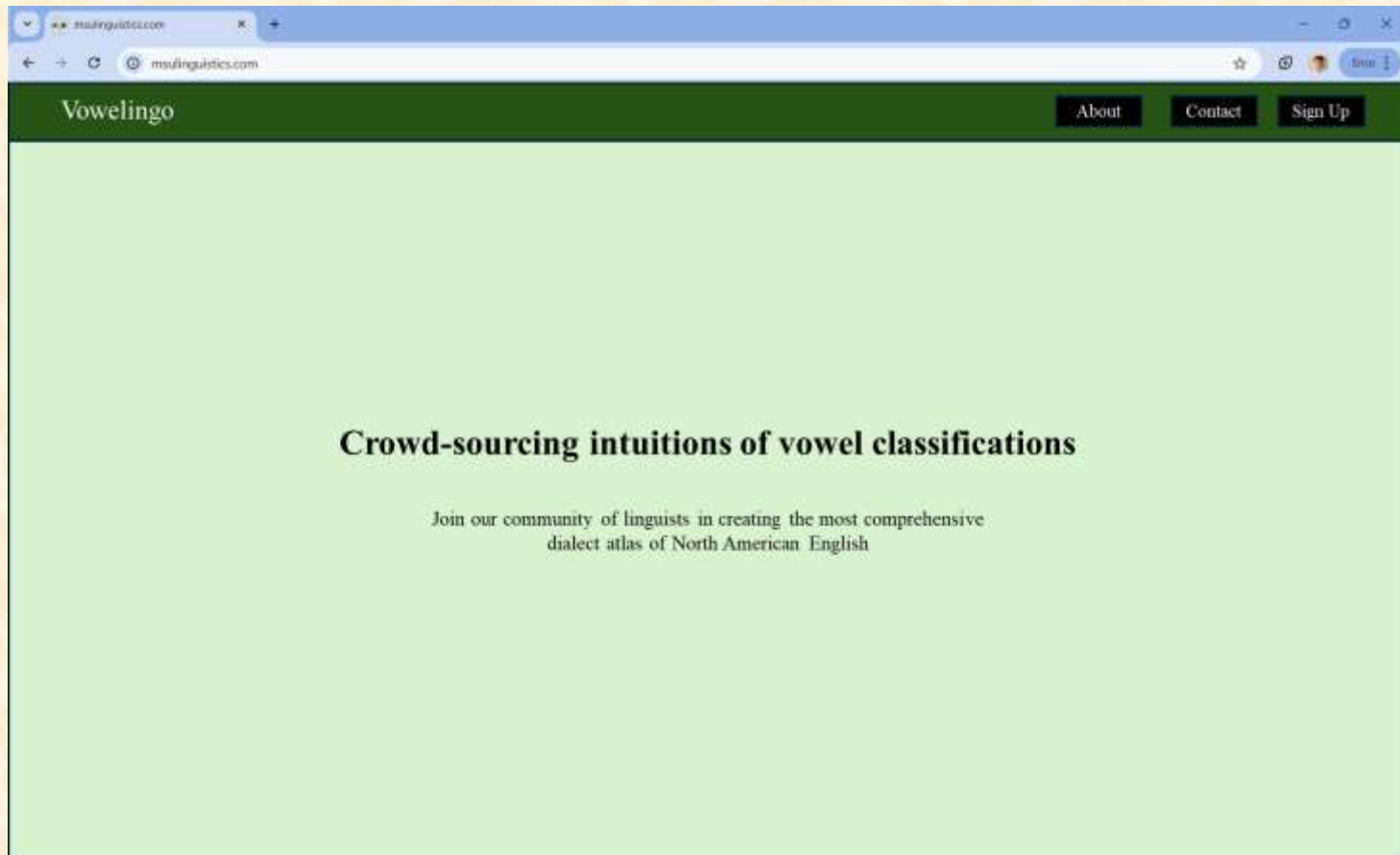


Project Design Specifications

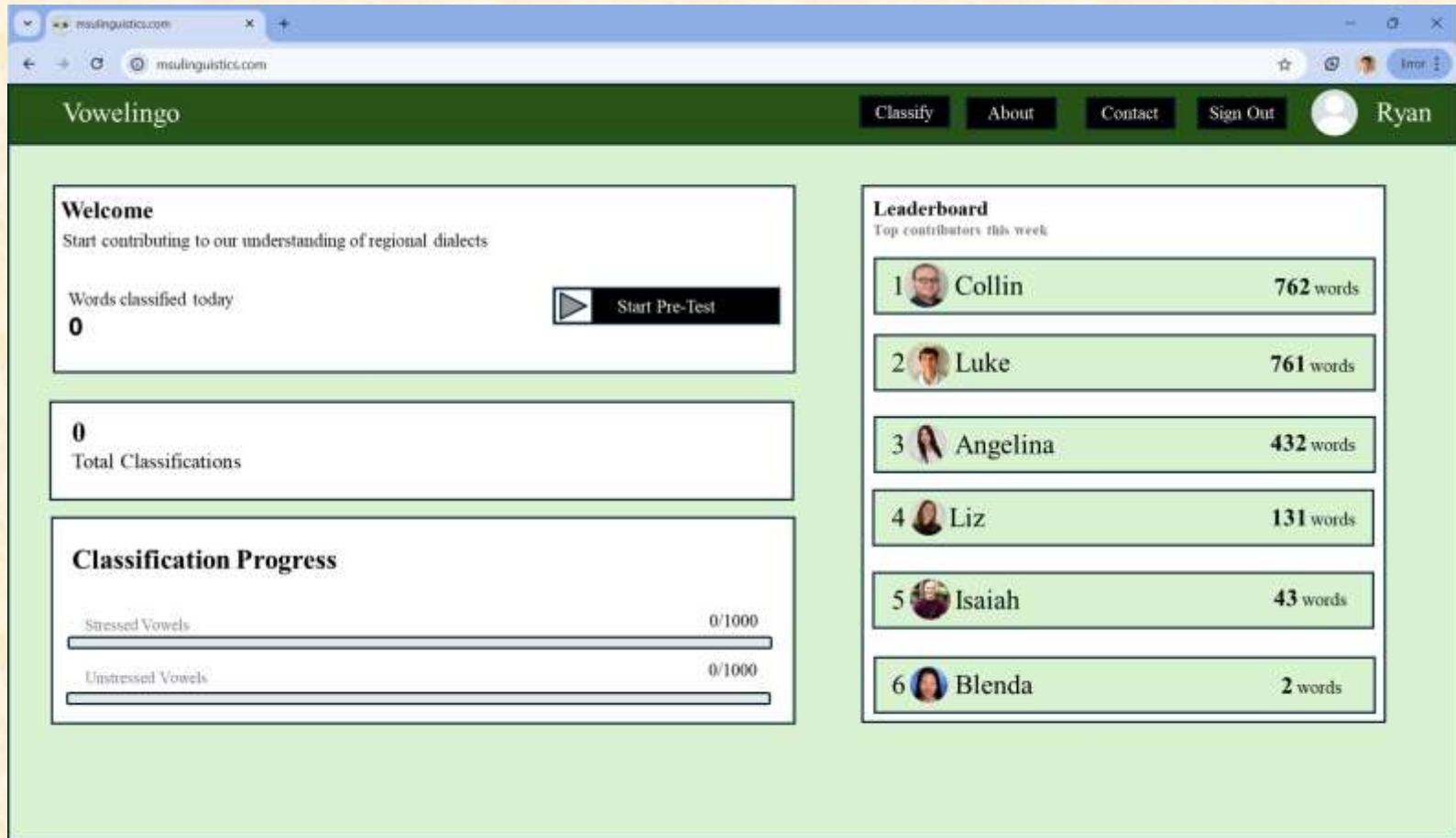
- App is standalone web application
- Tailor quizzes to individuals with users pre-test
- Incorporate different levels of granularity
- Leaderboard to show status with competition
- An intuitive user interface



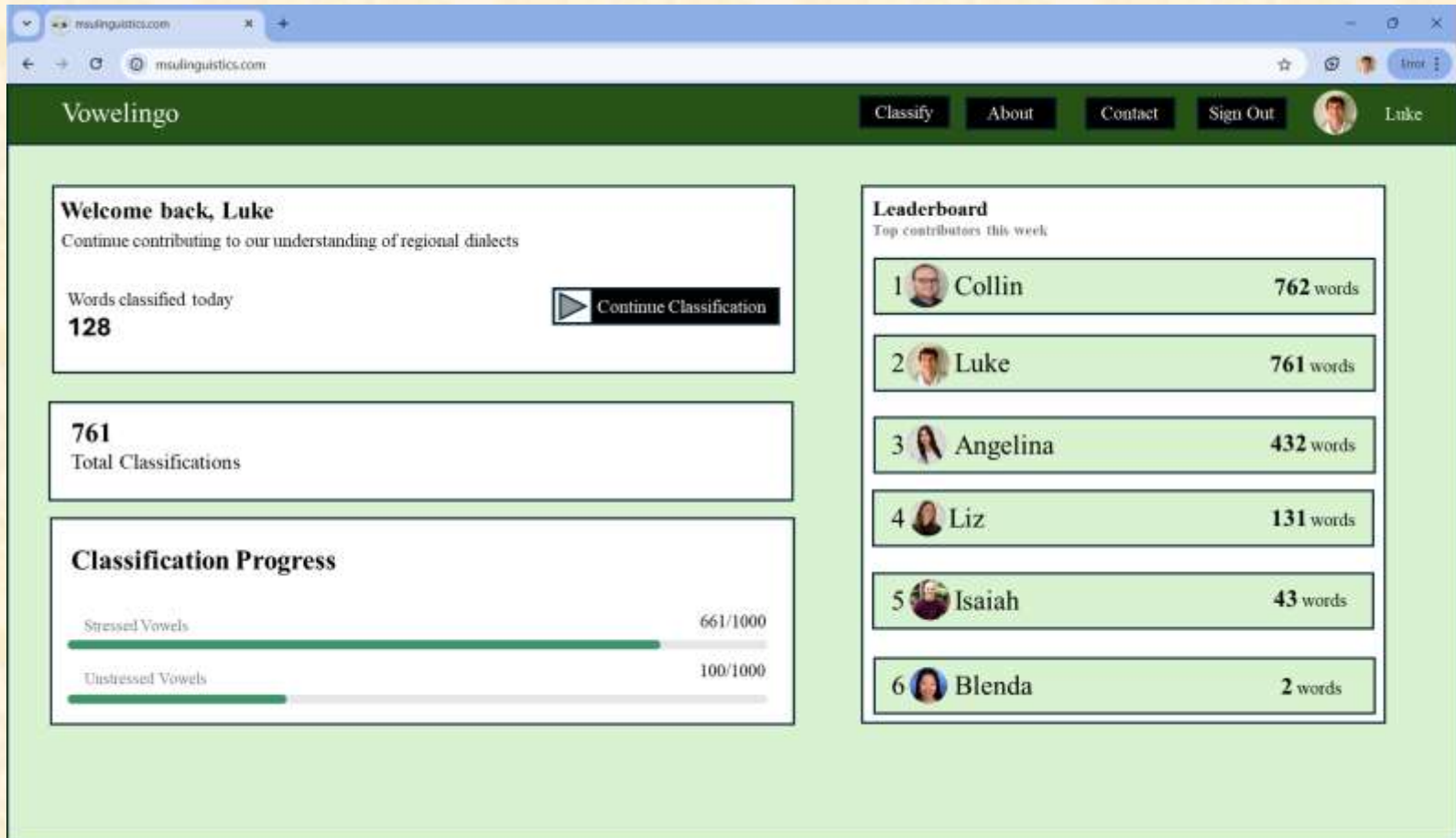
Screen Mockup: Home Page New User




Screen Mockup: Home Page New Account



Screen Mockup: Home Page



Vowelingo [Classify](#) [About](#) [Contact](#) [Sign Out](#)  Luke

Welcome back, Luke

Continue contributing to our understanding of regional dialects

Words classified today
128

[▶ Continue Classification](#)

761
Total Classifications







Classification Progress

Stressed Vowels 661/1000

Unstressed Vowels 100/1000

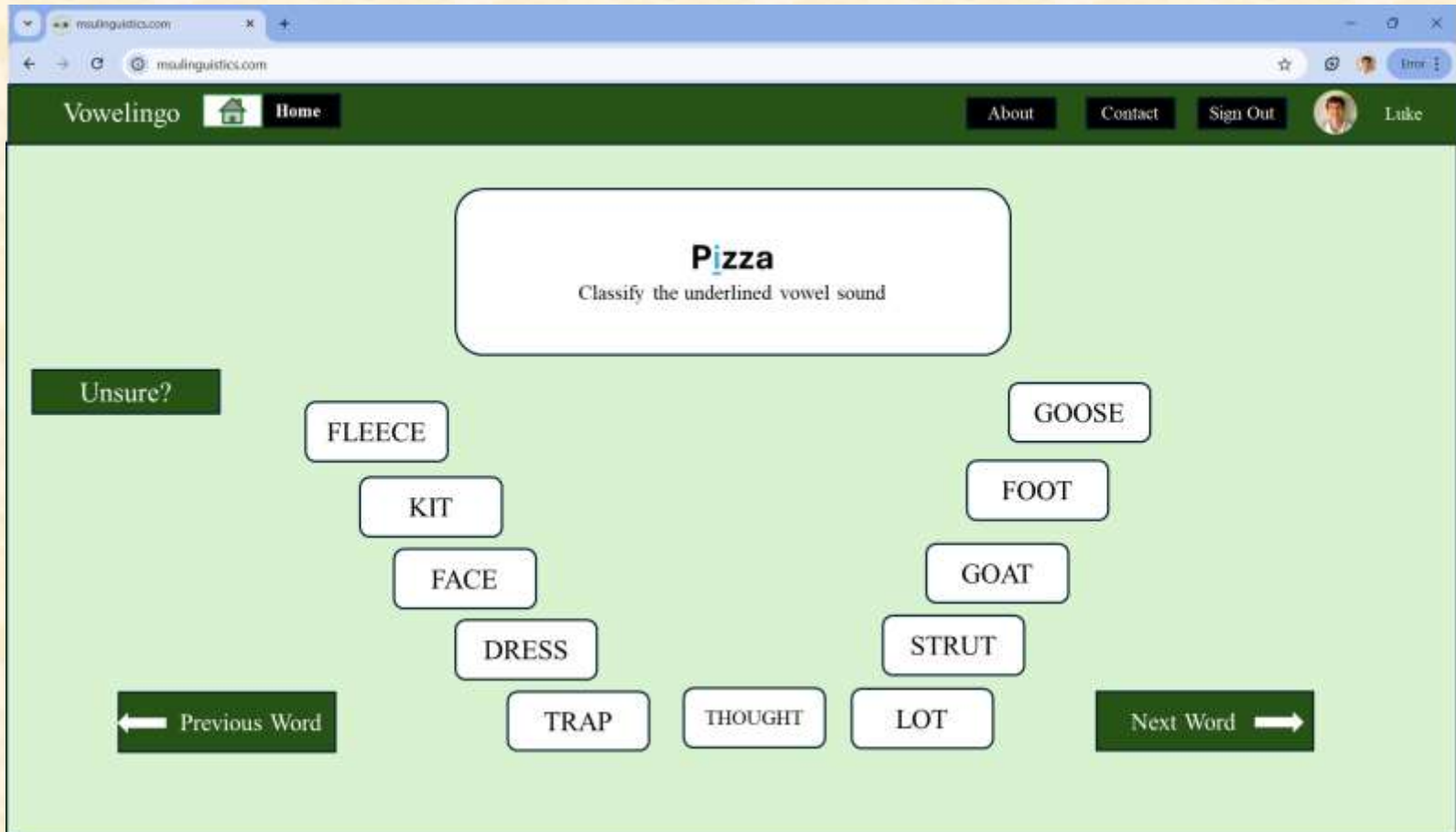
Leaderboard

Top contributors this week

1	 Collin	762 words
2	 Luke	761 words
3	 Angelina	432 words
4	 Liz	131 words
5	 Isaiah	43 words
6	 Blenda	2 words



Screen Mockup: Classification Page



Screen Mockup: Certainty Level


The screenshot shows a web browser window with the URL `mslinguistics.com`. The page header includes the logo "Vowelingo" and navigation links for "Home", "About", "Contact", and "Sign Out". A user profile for "Luke" is visible in the top right corner. The main content area features a large white box with the word "Pizza" and the instruction "Classify the underlined vowel sound". Below this, a grid of 14 vowel sound options is displayed in white boxes: FLEECE, KIT, FACE, DRESS, TRAP, THOUGHT, LOT, GOOSE, FOOT, GOAT, and STRUT. On the left side, there is a "Certainty Level" section with two radio buttons: "Low" (selected) and "Moderate". Above this is an "Unsure?" button. At the bottom, there are two dark green buttons: "Previous Word" with a left-pointing arrow and "Next Word" with a right-pointing arrow.




Screen Mockup: Contact Page

mslinguistics.com

mslinguistics.com

Vowelingo  Home

Classify About Sign Out  Luke

Get in Touch

Have questions about the dialect study? Send us a message!

First Name

Last Name

Email

Subject

Message



Screen Mockup: About Page

msulinguistics.com

Vowelingo Home

Classify Contact Sign Out Luke

Dialect Atlas Project

Mapping North American dialects

Our Mission

We're putting together a new dialect atlas that maps out the current regional dialect boundaries across North America.

Research Goals

- Update understanding of regional dialect boundaries
- Create comprehensive dataset of lexical variations

Development Team

Blenda Yan Collin Heavner
Angelina Daoud Luke Norvid
Elizabeth Hier Isaiah Fatka

Sponsors

Dr. Betsy Sneller is an assistant professor of linguistics at Michigan State University.
Dr. Joey Stanley is an assistant professor of linguistics at Brigham Young University.
Dr. Monica Nesbitt is an assistant professor of linguistics at Indiana University.

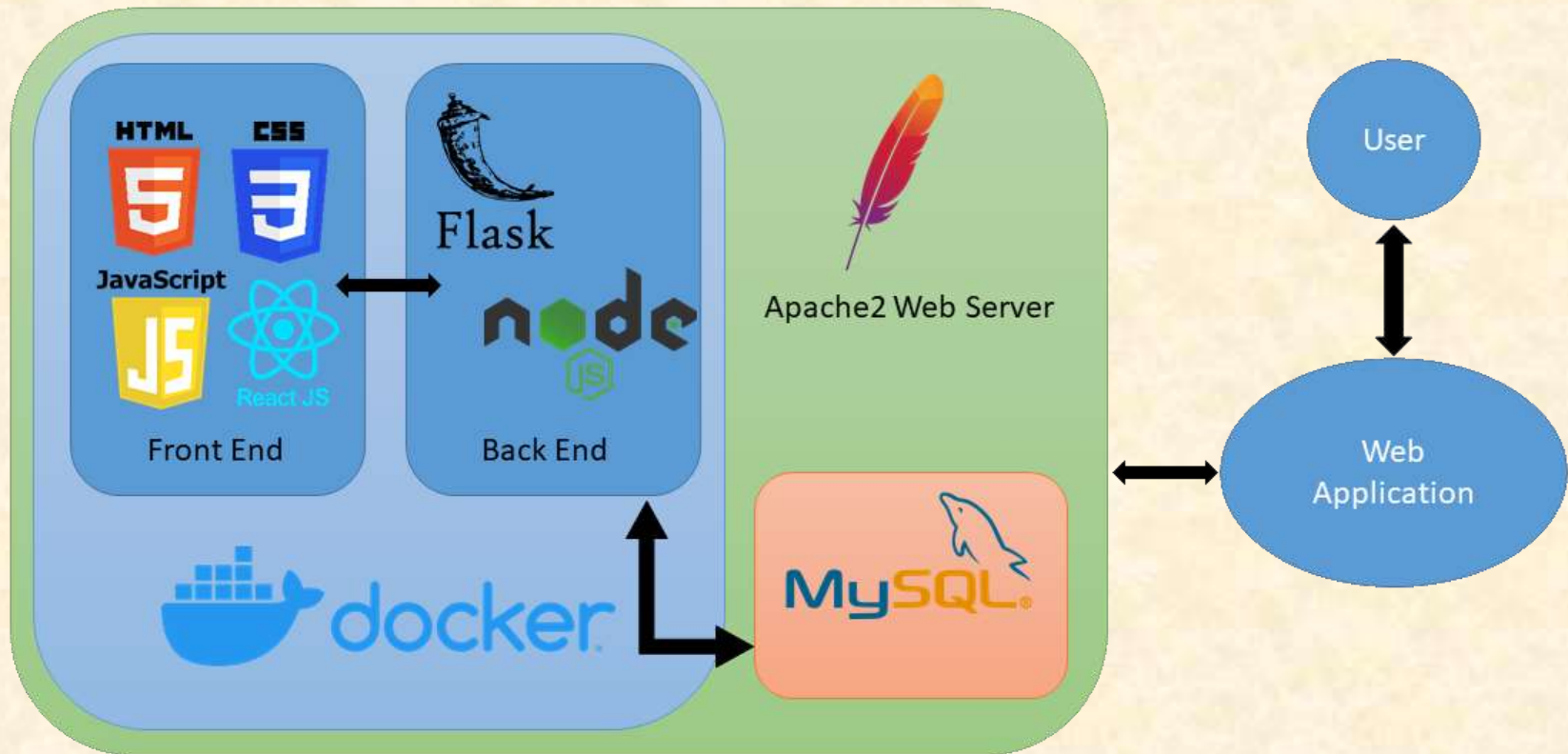


Project Technical Specifications

- Front End
 - HTML
 - CSS
 - JavaScript
- Back End
 - Flask
 - Node.js
 - Docker
 - Apache2 Web Server
 - MySQL Database



Project System Architecture



Project System Components

- Hardware Platforms
 - Apache Web Server – host application and manage database
- Software Platforms / Technologies
 - React.js – UI
 - HTML, CSS, JavaScript – styling web application
 - Flask framework – Authentication, API requests, database
 - Node.js – runtime environment for JavaScript
 - MySQL – database system
 - Docker – Isolated environment to deploy web application – consistency across development systems



Project Risks

- Risk 1
 - Highlighting the correct vowel when there are multiple words like “Santa”
 - Mitigation: Look at resources provided by sponsors that classify the stress on each vowel and write a prototype to use that
- Risk 2
 - Handling profile picture uploads without security or storage issues
 - Mitigation: Implement an alternative method for user profile pictures such as a pre-set avatar selection system
- Risk 3
 - Allowing sponsors to upload new word sets to the database without learning all of the underlying code
 - Mitigation: Create a standalone prototype where we can drag and drop csv, json, and xml files and automatically update the database
- Risk 4
 - Optimizing the speed of the web application
 - Mitigation: Preload multiple words at a time so the next words are ready instantly, reducing wait times between classification



Questions?

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