

MICHIGAN STATE

UNIVERSITY

Project Plan Learning A-Z

The Capstone Experience

Team Learning A-Z

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

Functional Specifications

- Vocabulary word-definition game
- Easily accessible web application
- Helps PreK-6 students learn new words
- Available to any student with internet access

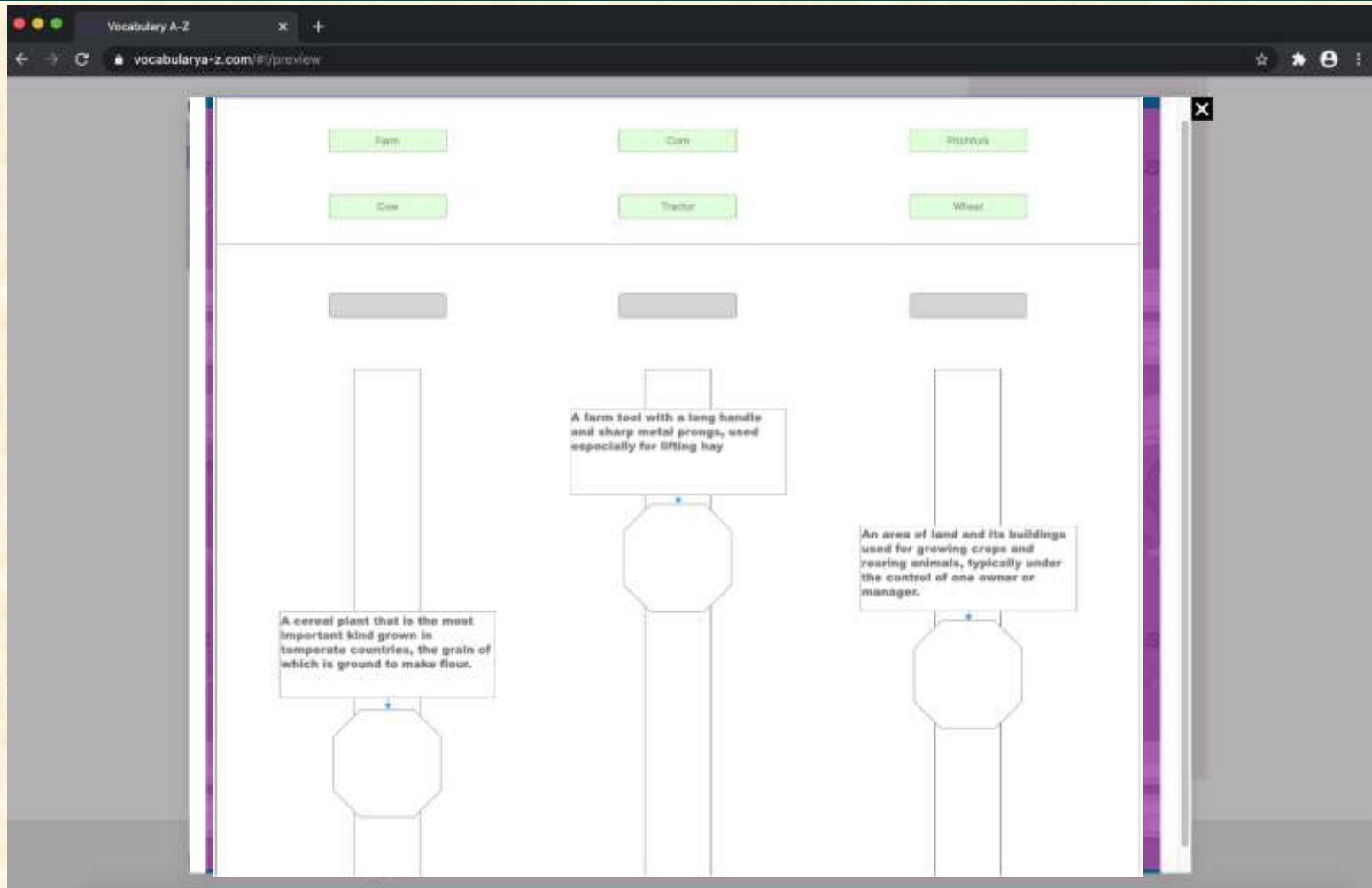


Design Specifications

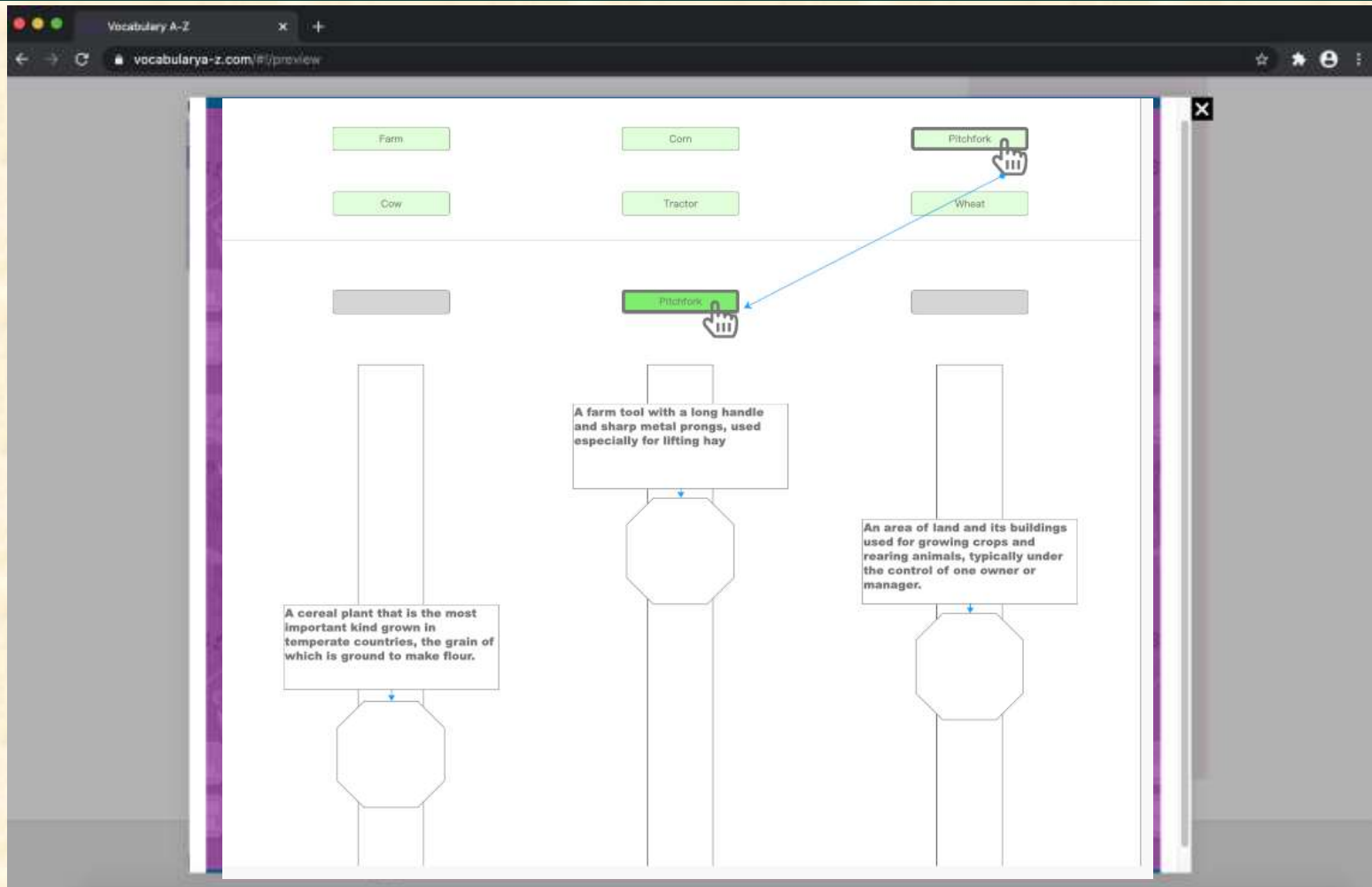
- Web-based UI
- Draggable words at the top
- "Enemies" with definition along some number of columns
- Match words with the correct definition for a new "enemy"
- Game is over once all words are matched with correct definition or an enemy reaches the top of the column
- End screen gives the student stars based on performance.



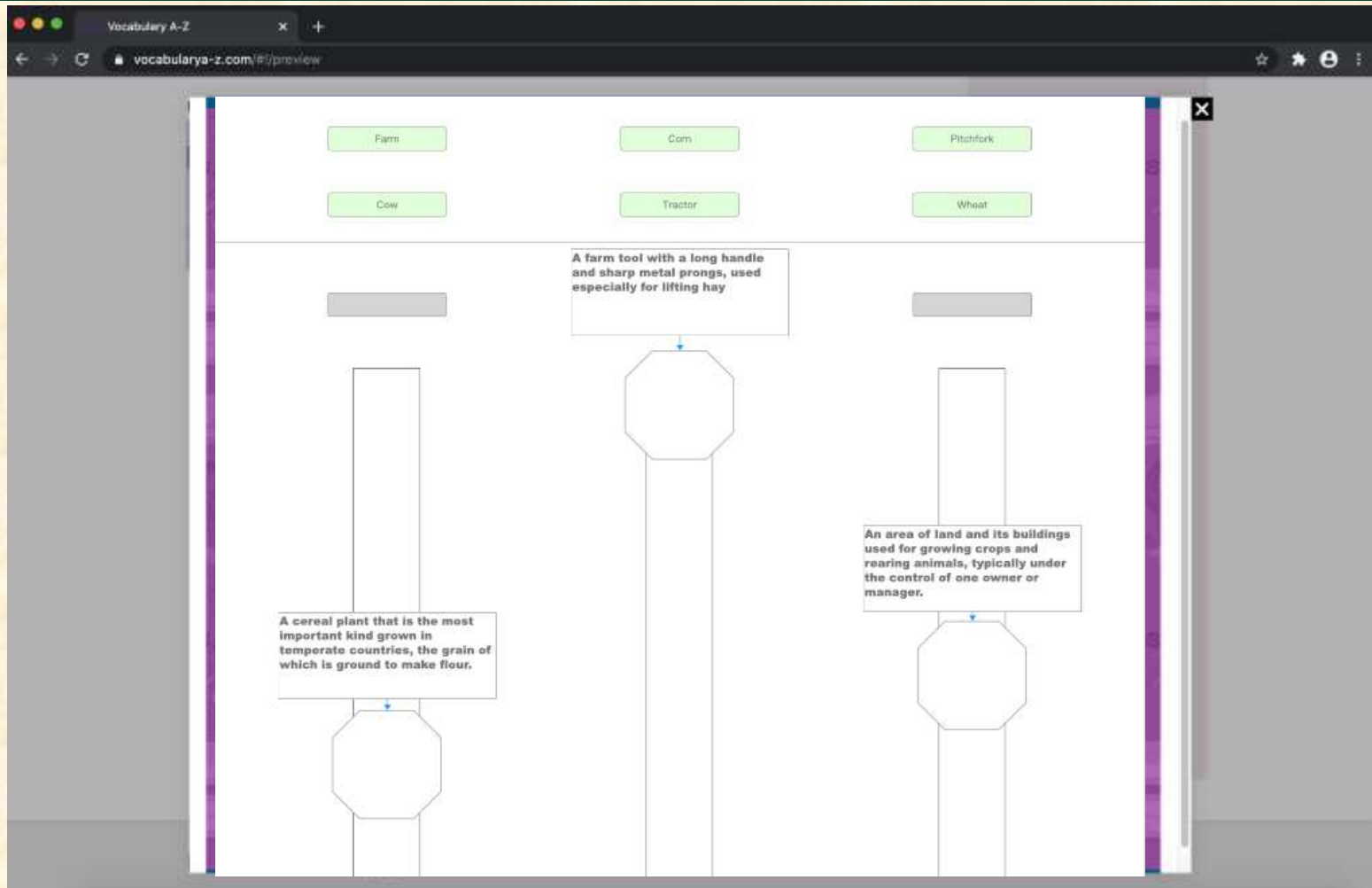
Screen Mockup: Game State



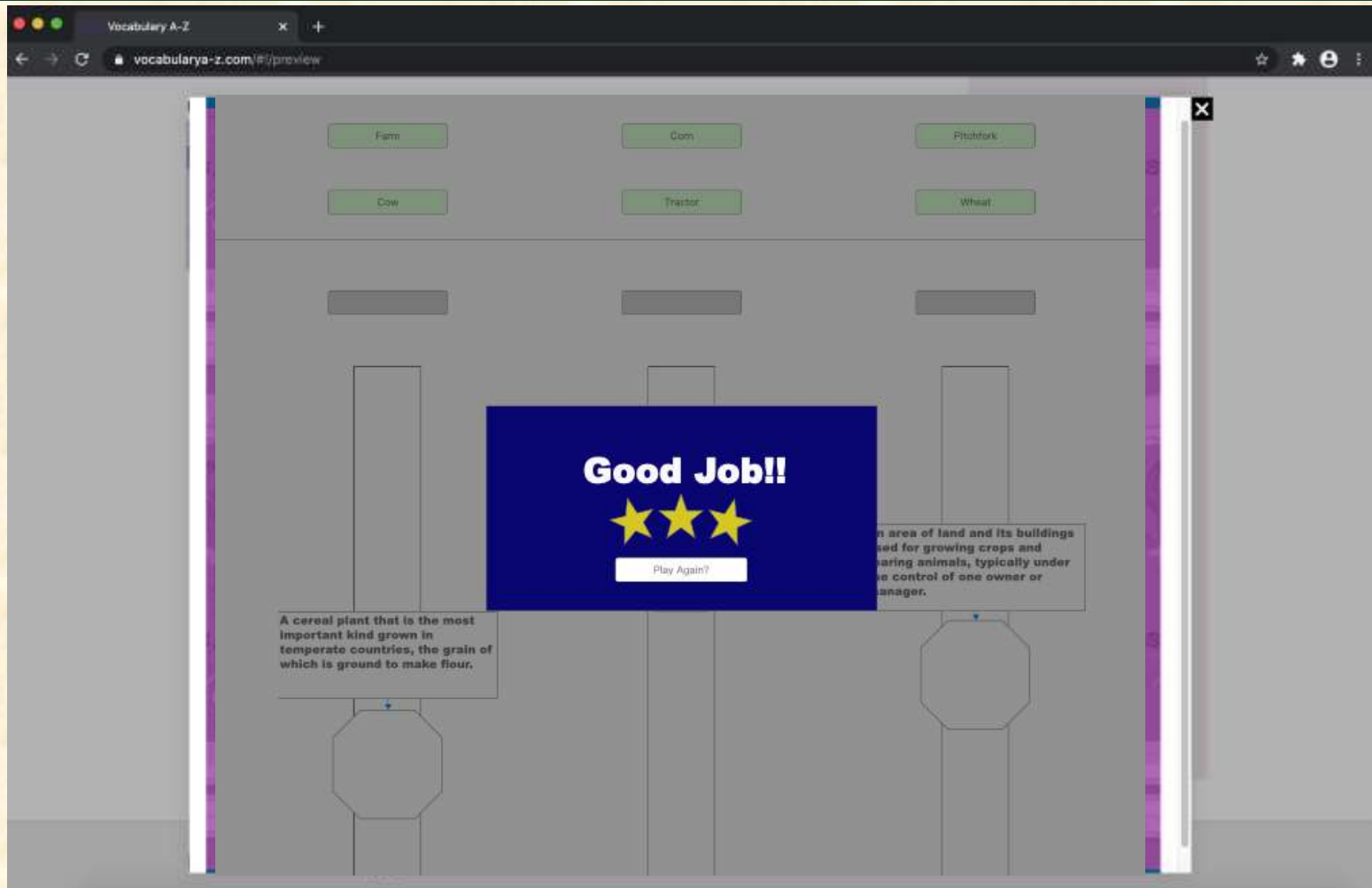
Screen Mockup: Game Over Condition



Screen Mockup: Dragging to Correct Slot



Screen Mockup: Game Over Screen

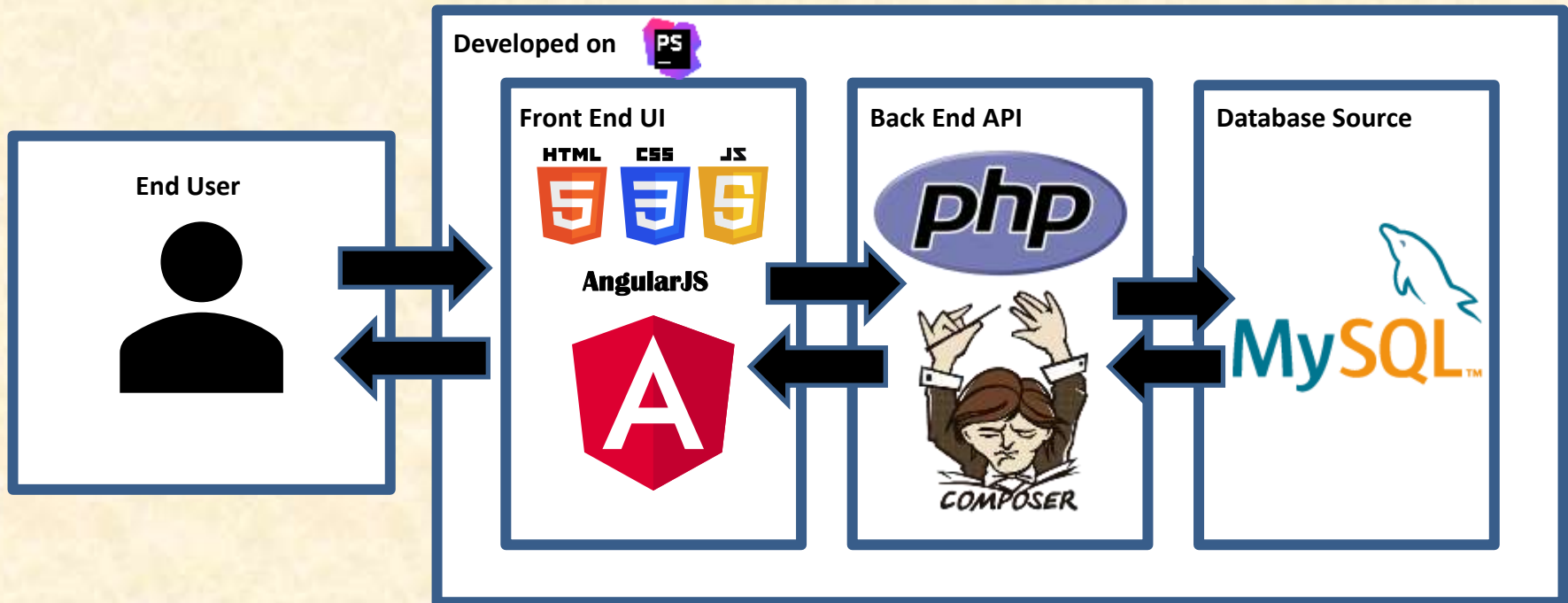


Technical Specifications

- Development environment is PHPStorm by JetBrains
- Using HTML/CSS and AngularJS to create our front-end UI
- Using PHP to make requests to MySQL database
- Composer to manage PHP dependencies
- MySQL stores the word-definition pairs



System Architecture



System Components

- Hardware Platforms
 - Our personal computers running...
 - phpMyAdmin
 - PhpStorm
 - GitHub
- Software Platforms / Technologies
 - PHP
 - AngularJS
 - MySQL
 - HTML/CSS
 - Composer



Risks

- Application Interaction with Browser Functions
 - How does our application interact with the refresh button, the back button, or closing button?
 - Look into caching to resume application from where user has left off.
- Designing Scalable UI Elements
 - Making sure UI elements can fit a variety of screens, for more accessibility.
 - Design UI elements to dynamically adapt to screen size, to a minimum.
- Moving Elements Without Refreshing Page
 - How to graphically show the word moving in response to being clicked and then dragged.
 - Using AngularJS to respond to elements moving in the background without user seeing.
- Integrating Database with UI
 - Pulling a certain number of word-definition pairs from the database and telling the user when they have won.
 - Using PHP to pull word-definition pairs into a separate table that we can check to tell if the user has won.



Questions?

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