

MICHIGAN STATE
UNIVERSITY

Project Plan

Sandwich Builder Parts of Speech Guessing Game

The Capstone Experience

Team Learning A-Z

Aarish Medhora

Raunak Shivkumar

Harry Mathon

Sam Zielinski

Yibei Huang

Department of Computer Science and Engineering

Michigan State University

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From Students...
...to Professionals

Functional Specifications

- Teach kids the parts of speech of different words using a web & mobile game
- Students match words to their corresponding part of speech in a piece of the sandwich
- When all parts of the sandwich are matched correctly to a word, the student gets 50 stars
- There will be a bonus round worth 10 stars, where the student will select the word that matches 2 parts of speech

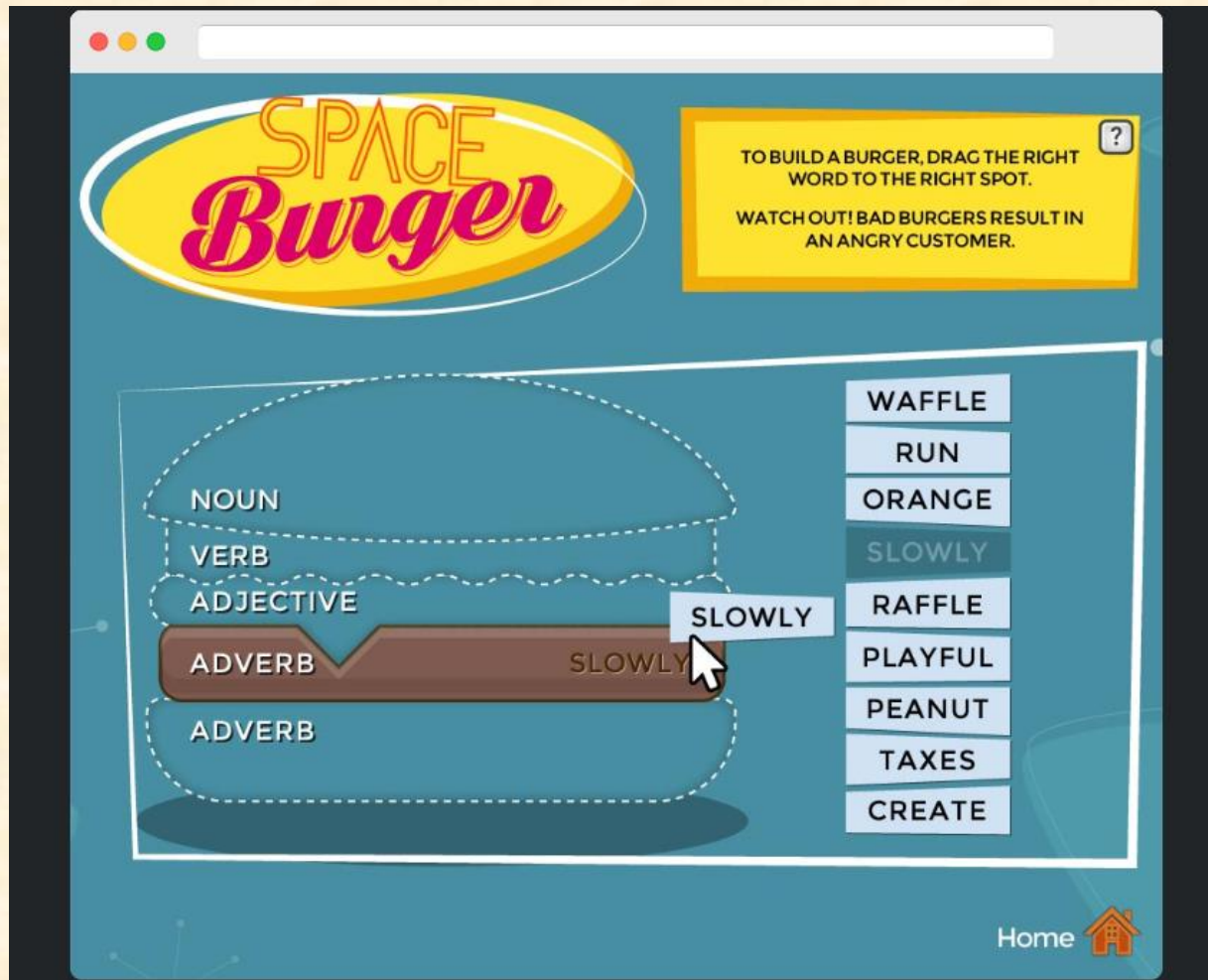


Design Specifications

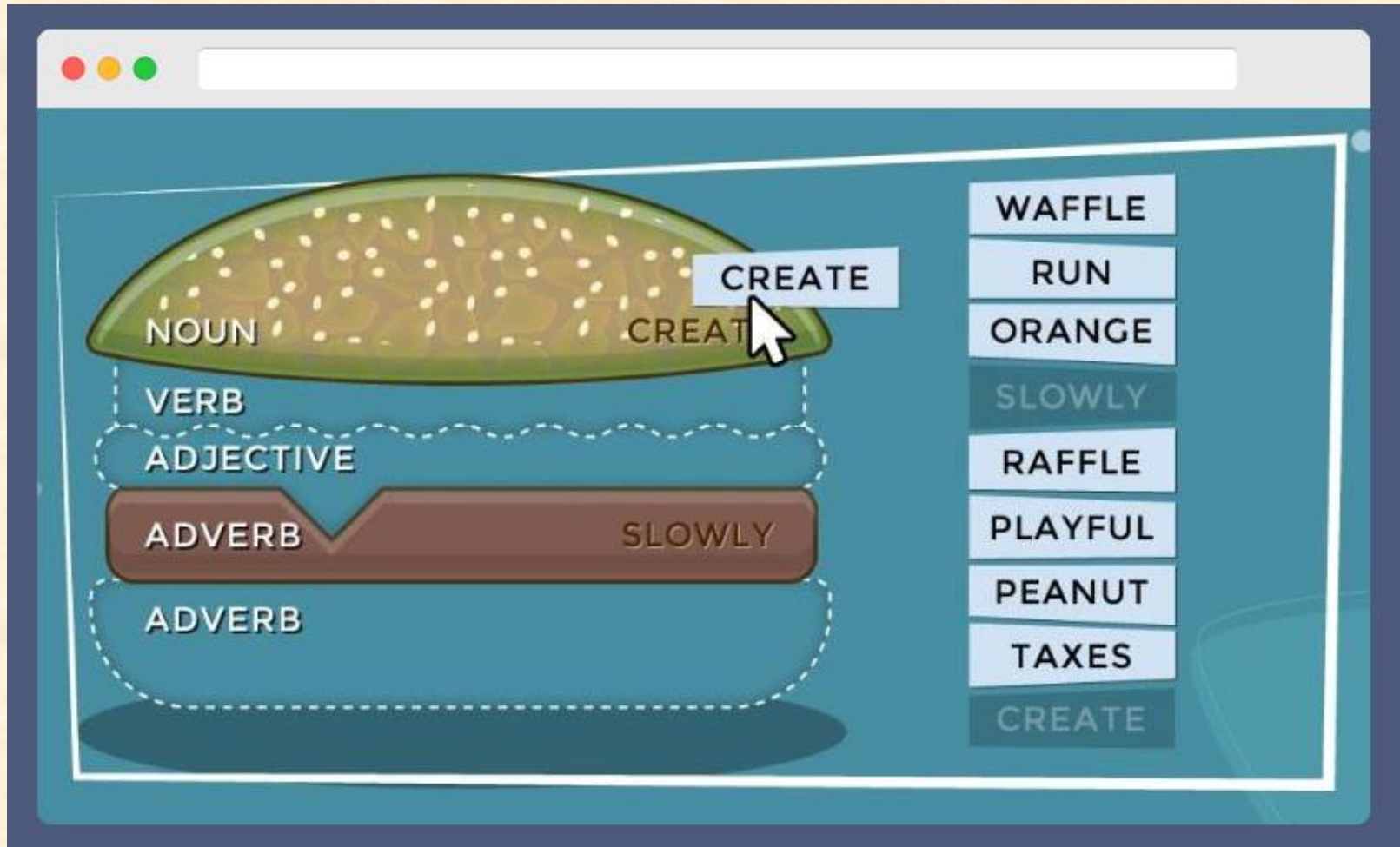
- Starts off with an outline of a burger and list of words
- Students will have to match the words with the Part of Speech
- As students match words, burger will highlight with different colors
- Students can receive hints by clicking on Part of Speech
- Supports a bonus round with another Part of Speech Questions
- 3 levels of difficulty



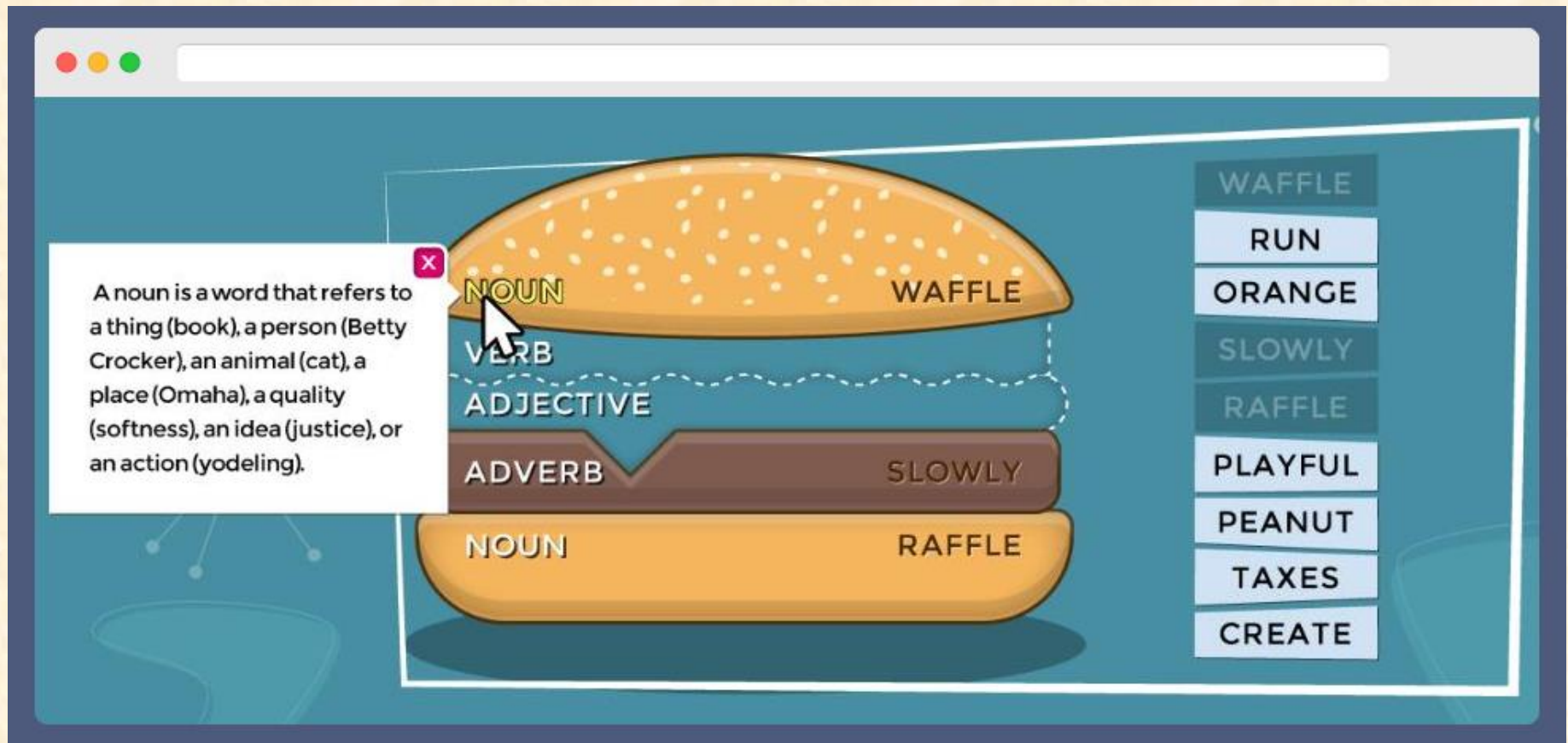
Screen Mockup: Start of Game



Screen Mockup: Bad Match



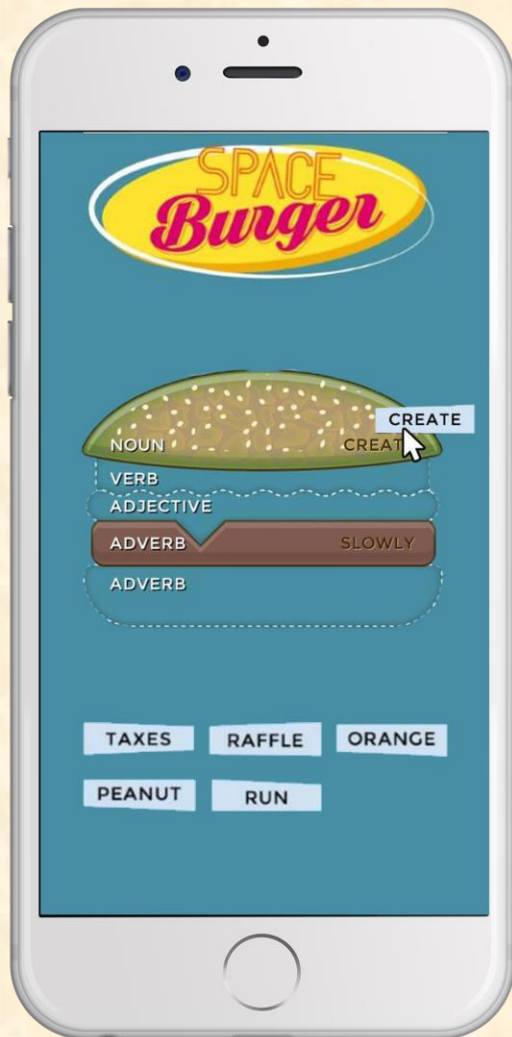
Screen Mockup: Definitions



Screen Mockup: Bonus Round



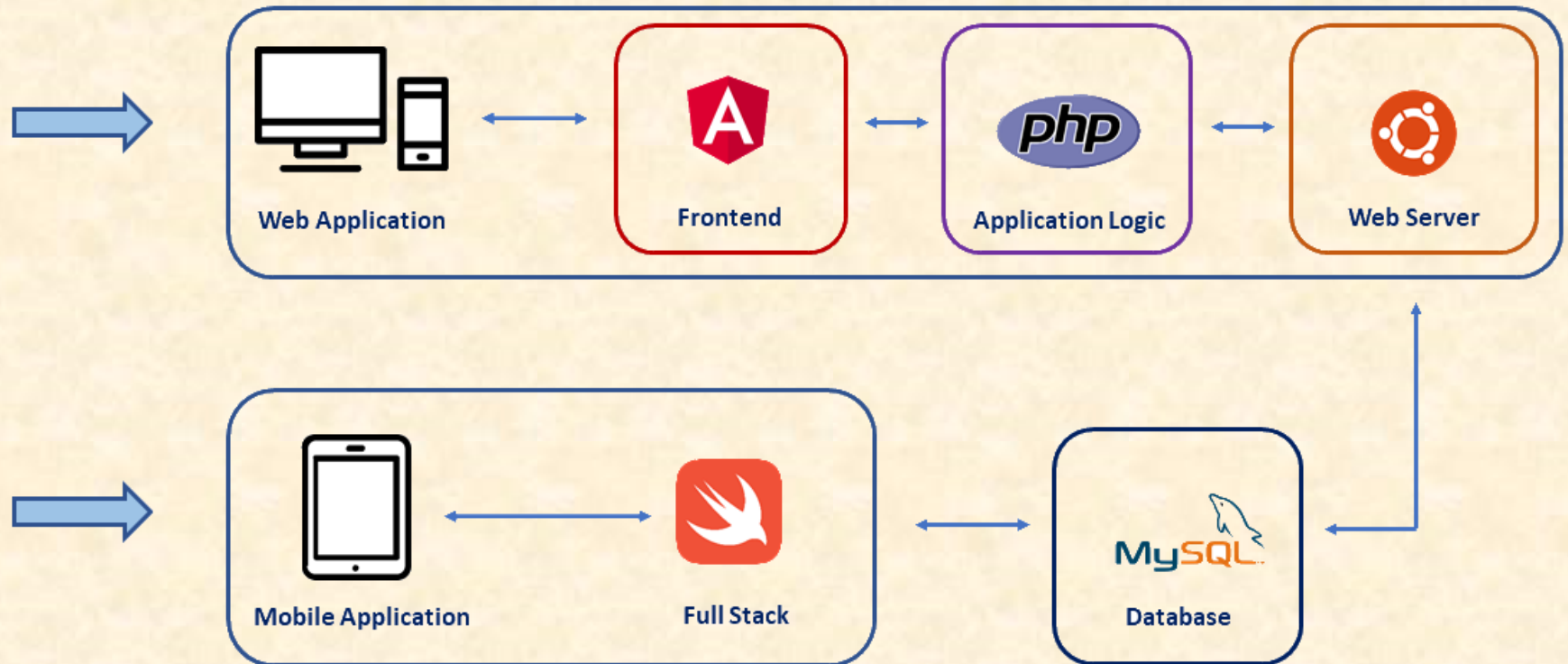
Screen Mockup: Mobile



Technical Specifications

- Web Application
 - Angular JS - Frontend
 - PHP - Backend
 - Apache Web Server - Ubuntu
- iOS Mobile Application
 - Swift
- Database
 - MySQL - Ubuntu

System Architecture



System Components

- Hardware Platforms
 - Rack Mounted Server
- Software Platforms / Technologies
 - PhpStorm
 - Xcode
 - LAMP Stack (Linux, Apache, MySQL, PHP)



Risks

- Migration of our application from Web Development to iOS Mobile Development
 - Some things that we code in web won't migrate to mobile cleanly
 - Begin iOS development early in the semester and testing them on different generations of iPads, as well as different IOS software updates
- Scalability
 - The application must be able to handle multiple students making database calls
 - Test with multiple iPads or open browsers, as well as writing efficient queries
- Web Server Configuration
 - Our web server is down on rare occasion and we cannot access the website or our server outside of the MSU WiFi
 - Write efficient queries to access the database



Questions?

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