Project Plan Presentations Today
September 30, Anthony 1279

• Team Learning A-Z
• Team Accenture
• Team Michigan State University ITS
• Team GM
Project Plan
Robot Builder Word Guessing Game

The Capstone Experience
Team Learning A-Z

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Fall 2019
Functional Specifications

• Give kids an individualized learning experience for grammar education. Educational game for vocabulary learning.

• Hangman game with dynamic difficulty, as you guess the correct letters in the word you build your robot piece by piece.

• Building on existing infrastructure aimed at grades K through 5

• Able to generate statistics for users
Design Specifications

• Two main components, a Screen and a Robot
• Screen Component Contains:
  ▪ Title of the game
  ▪ Status bar that indicates how many incorrect guesses they have used
  ▪ Word view that shows the current word they are guessing
  ▪ Keyboard used for guessing the letters in the word
• Robot Component:
  ▪ Shows the robot pieces as the game progresses and correct letters are guessed
Screen Mockup: Game Screen
Screen Mockup: Win Screen
Screen Mockup: Bonus Round Screen
Screen Mockup: iOS Application
Technical Specifications

• Web App
  ▪ Front-end
    o Angular: for the front-end development
    o HTML/CSS: for the design and template
  ▪ Back-end
    o MySQL Database
    o PHP: for MySQL contact

• iOS
  ▪ Swift (Front-end)
  ▪ PHP (Back-end)
System Architecture
System Components

- **Hardware Platforms**
  - iPhone
  - iPad
  - Dell Server Rack
  - Any internet accessible computer

- **Software Platforms / Technologies**
  - MySQL Workbench
  - PHP Storm
  - Visual Studio Code
  - Ubuntu Server
  - XCode
Risks

- Connecting Angular to a MySQL Server
  - Problem: Never pulled information from a MySQL Server to an Angular based application. We need to pull data for words and images for game play.
  - Mitigation: Dedicated one person to learn how to setup a library for easy communication to MySQL Server.

- Setting Up A Test Server Rack
  - Problem: To run proper testing and easy access for the client, we need a server rack set up for PHP and MySQL. This way the MySQL server can be populated and set up like a production environment and we can have consistent Q&A.
  - Mitigation: Member who is also setting up the MySQL server is to seek some outside help from someone with experience doing this.

- Developing with iOS
  - Problem: No one in the group has developed with iOS or used X-code before.
  - Mitigation: Assign one person to this task who has experience with mobile development in Android and have them focus on learning Swift and X-code from the start.

- Potential Issues with Angular
  - Problem: Since Angular is a newer library, it can be prone to the occasional difficult error. If we run into one of these it could slow down our development significantly.
  - Mitigation: Making sure we keep ahead of schedule. If one comes up, we can spend the time finding an alternate way to tackle a problem.
Questions?