MICHIGAN STATE
U N I V E R S I T Y

Project Plan
Virtual Reality Aircraft Walkaround

The Capstone Experience

Team United Airlines Safety

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Spring 2020

Functional Specifications

- Assist in the training of aircraft walkarounds
- Simulate a wide variety of aircraft models and potential defects
- Training mode teaches what to look for in various locations
- Testing mode tests and grades the technician in various scenarios

Design Specifications

- Start Menu

- Airplane Model/Scenario Model

- Aircraft Navigation

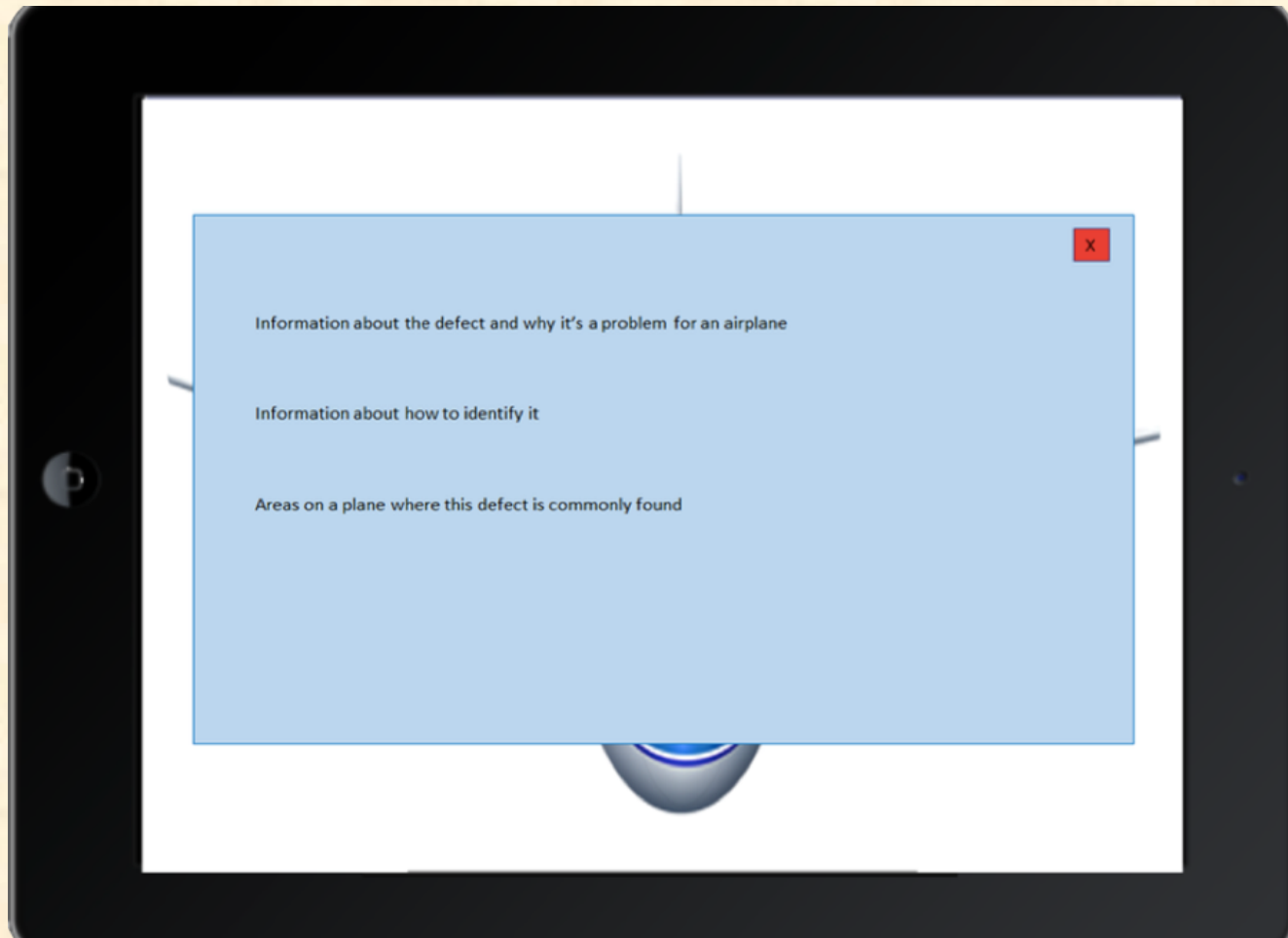- Training Mode

- Testing Mode

- Feedback Window
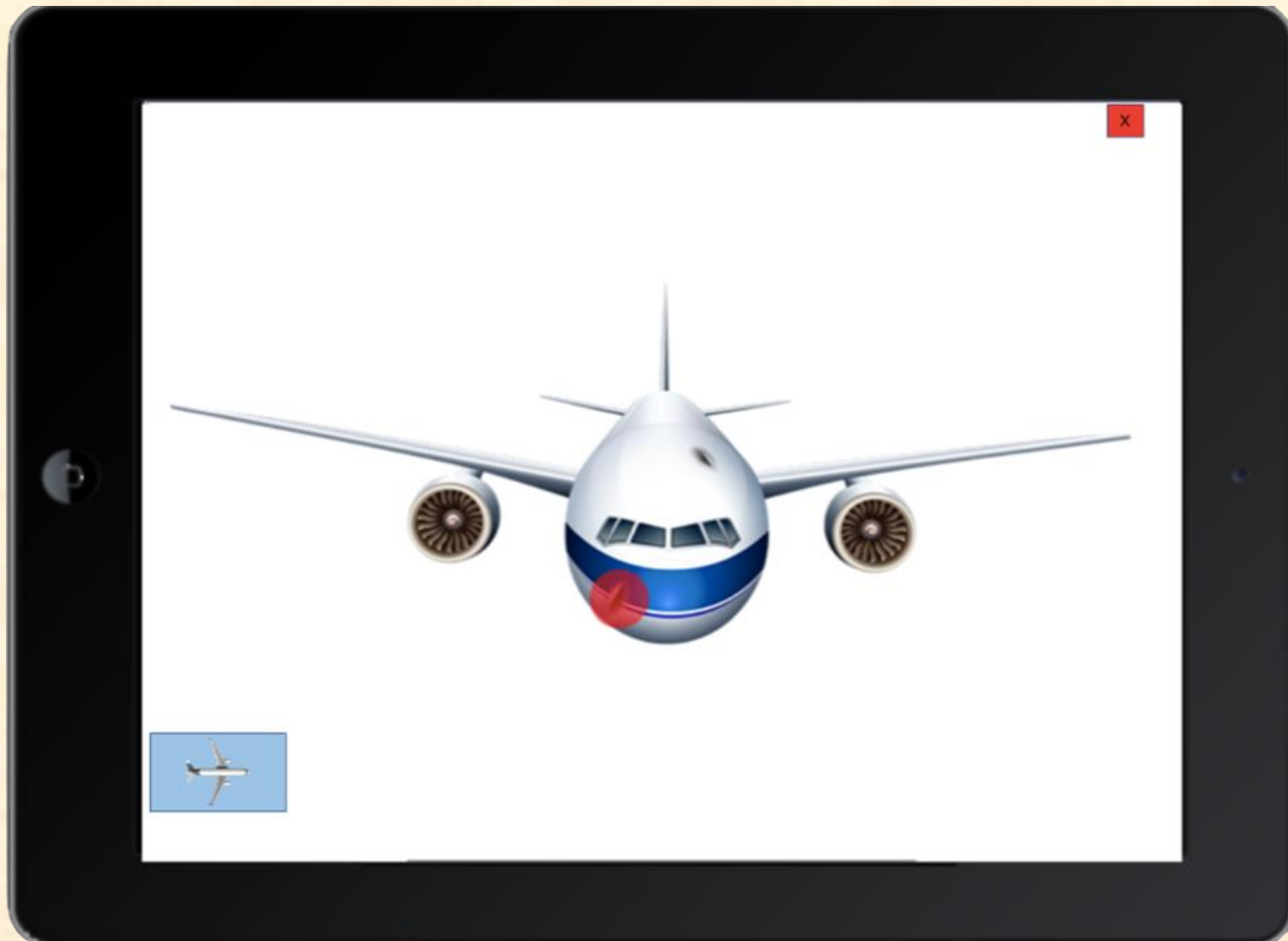
Screen Mockup: Navigation
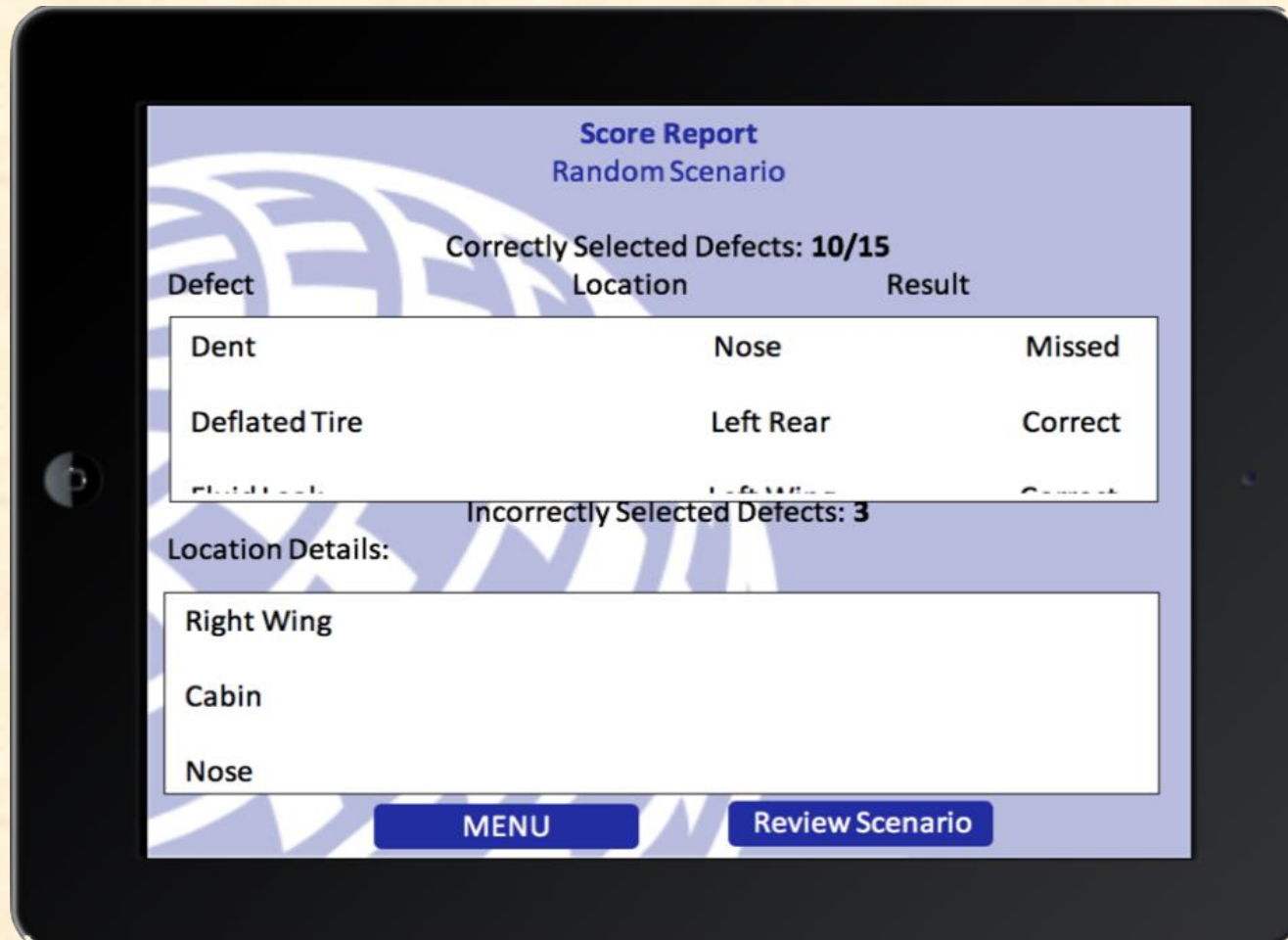
Screen Mockup: Training Mode

Screen Mockup: Training Mode

Screen Mockup: Testing Mode
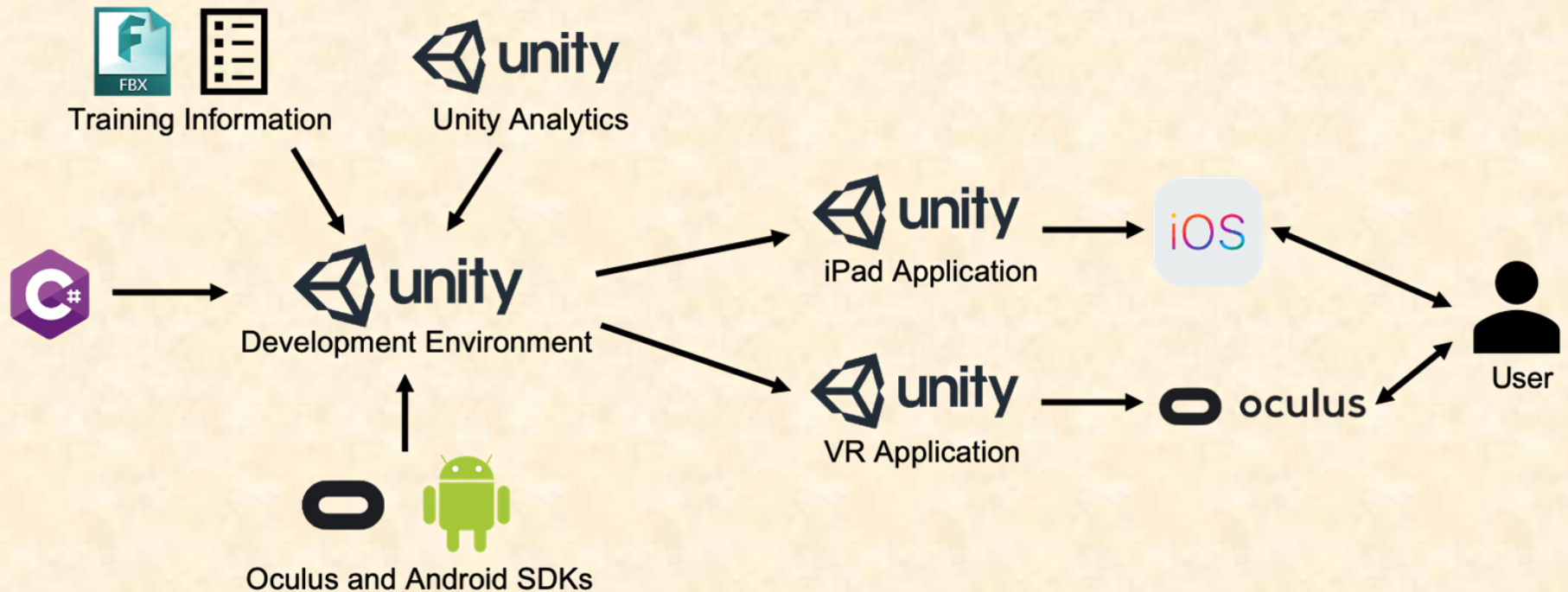
Screen Mockup: Score Report

Technical Specifications

- Unity
- iPad
- Oculus Quest

System Architecture

System Components

- Hardware Platforms
  - iPad
  - Oculus Quest
- Software Platforms / Technologies
  - Unity
  - Unity Analytics
  - Visual Studio 2019
  - Xcode
  - Oculus, Android SDK

Risks

- Accuracy of the information and defects in the planes
  - Not highly knowledgeable about aircrafts
  - Mitigation: Keep careful track of text in the application and become more familiar with aircraft

- Creating two nearly identical applications
  - Slight changes must be made to the iPad version but must keep same functionality
  - Mitigation: Develop both applications within same Unity project, actively test both versions.

- Oculus Quest Performance Limitations
  - Performance problems may arise for the Oculus Quest
  - Mitigation: The models are being stress-tested on the Oculus Quest. Development focused on the Oculus Quest

Questions?