

MICHIGAN STATE
UNIVERSITY

Project Plan

Design, Fly, and Compete Sim Suite, V2.0

The Capstone Experience

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

Project Overview

- Existing application overview
- Add networking capabilities
- Implement browser version
- iPhone compatible



Functional Specifications

- Spectator mode
- Run in Chrome and Safari
- New UI for the web/iPhone version

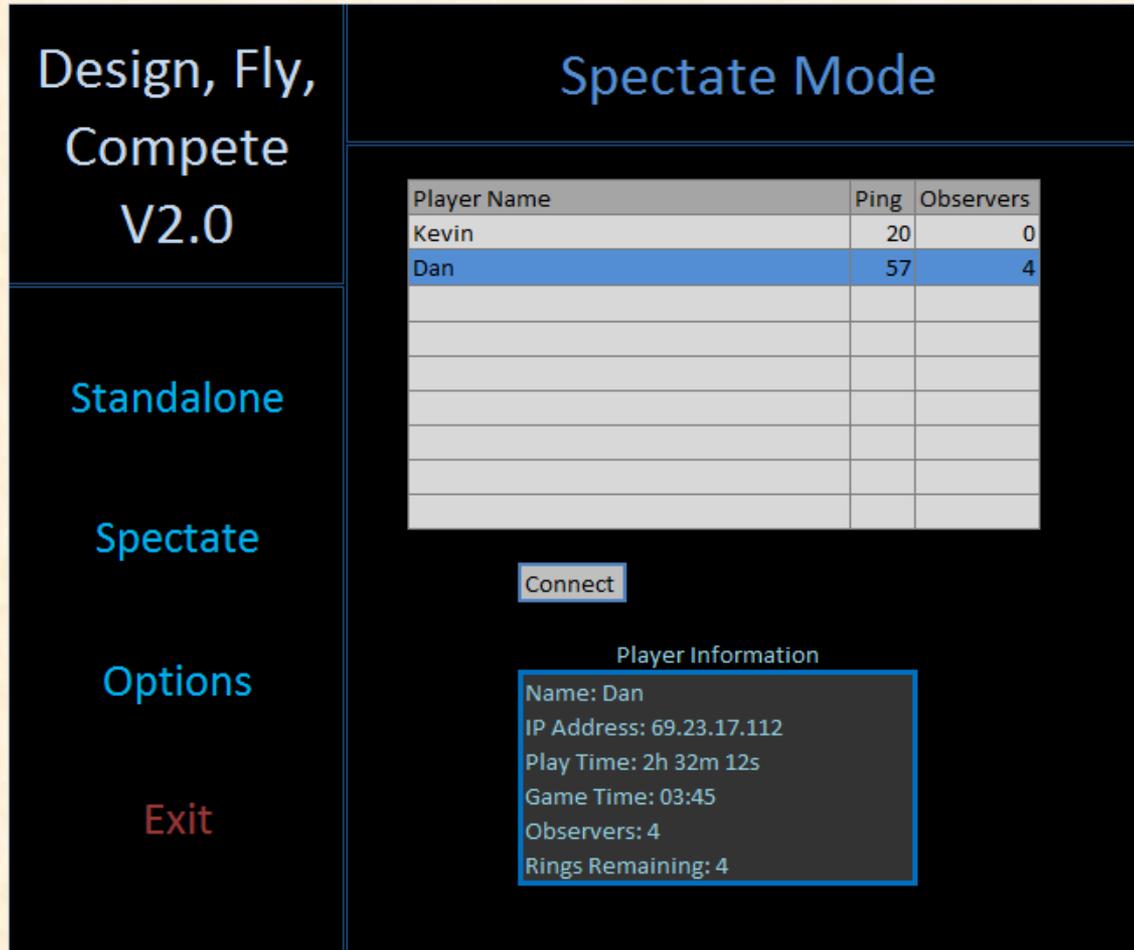


Design Specifications

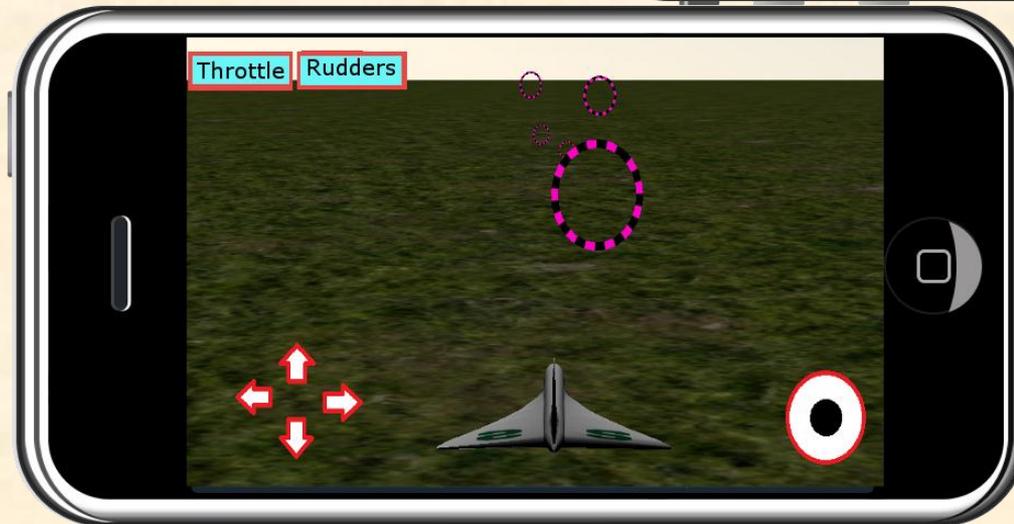
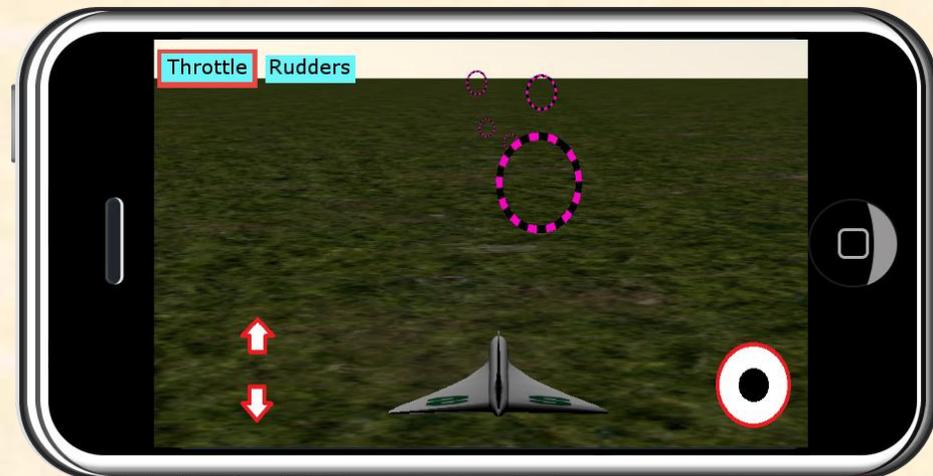
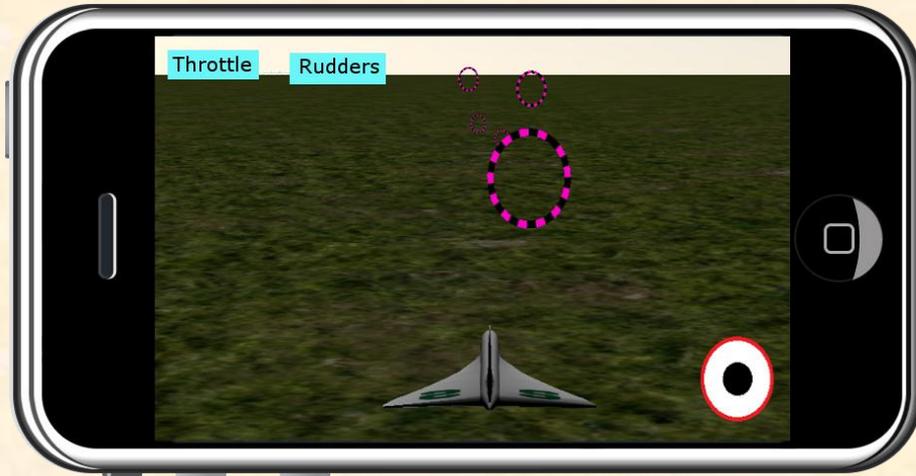
- High-level architecture (HLA) protocol
- Distributed interactive simulation (DIS) protocol
- Web sockets & packets for browser communication



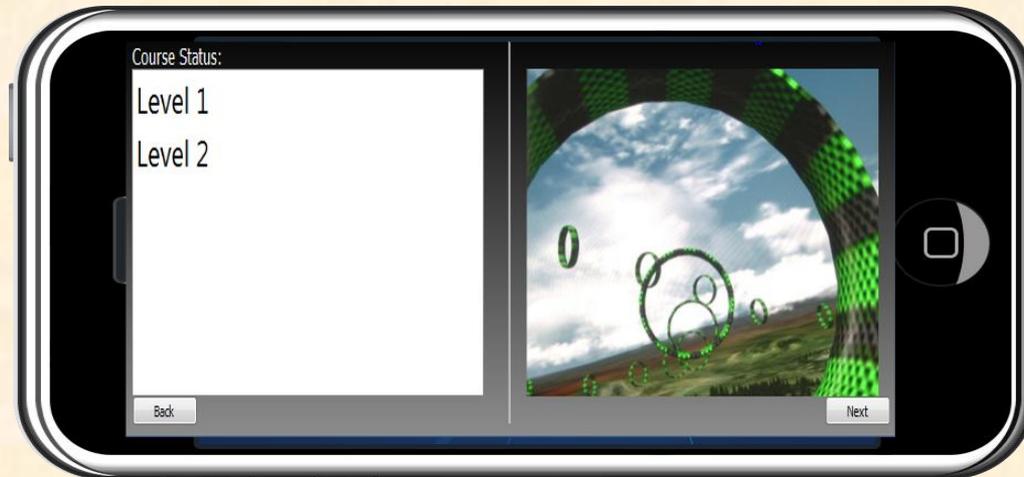
Screen Mockup: Networking Connection Menu



Screen Mockup: Controls UI



Screen Mockup: New Menu Screens

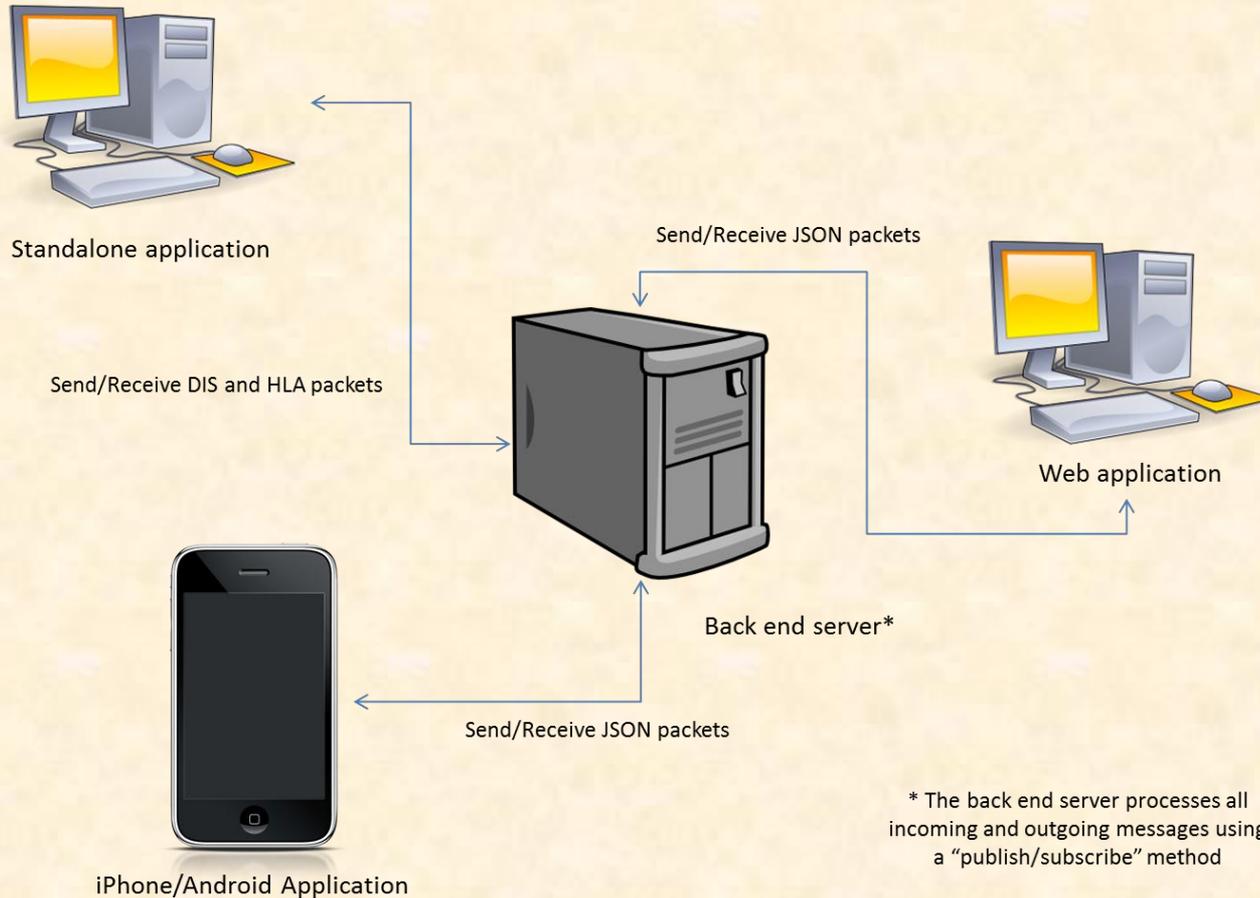


Technical Specifications

- Portico
- KDIS
- Socket.IO & JSON
- QTWebKit & WebGL



System Architecture



System Components

- Hardware Platforms
 - Dedicated server
- Software Platforms / Technologies
 - Windows 7
 - QT Creator IDE
 - HLA & DIS
 - WebGL, HTML5, Javascript
 - Socket.IO



Testing

- Web port
 - Make direct web port of existing application
 - Implement new UI scheme for web

- Networking
 - Get client-server communication
 - Integrate a networking protocol
 - Inter-device communications



Risks

- Web browser port
 - Little experience with web development,
 - Use open source application that can build C++ projects to Javascript/HTML5
- iPhone development
 - Will require a new user interface due to different input devices
 - Look at how other PC to touch-compatible web browser applications made the transition
- Performance
 - Unknown what performance on web browser will be
 - QtCreator profiling tool
- Using DIS and HLA
 - Large packages, time consuming to make our own solution
 - Looking to open source implementations we can use

