

just a filler slide, dont start presenting yet!

Inertial Navigation Data Simulator

Lockheed Martin

David Smith

Mike Kasper

Ryan Raub

Task Definition

- ✦ Current SAR testing environment
 - ✦ Rigid
 - ✦ Expensive

Task Definition

- ✦ Current SAR testing environment
 - ✦ Rigid
 - ✦ Expensive
- ✦ New SAR testing environment
 - ✦ Flexible
 - ✦ Modular

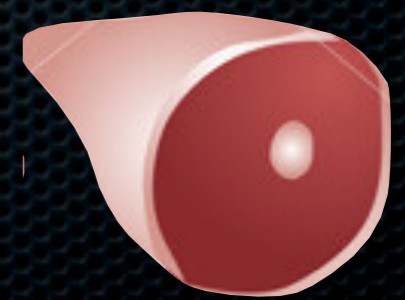
Design Paradigm

- ✦ Agile Development Model
 - ✦ Iterative
 - ✦ Unit Tests

Usability Testing

- ✦ Expert Reviews
- ✦ Moderated Testing
- ✦ Performance Testing

The Meat

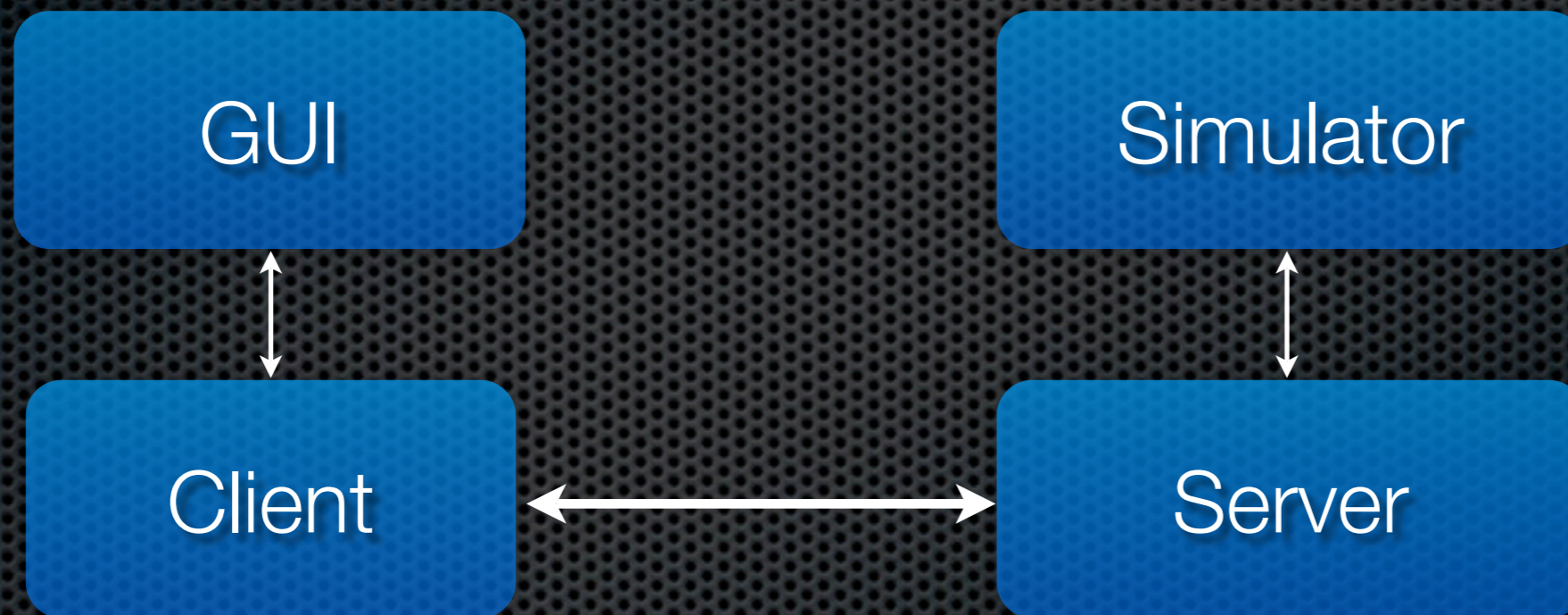


[Transition to Ryan]

Architecture

- ✦ Java
- ✦ Modular
- ✦ Client Server Model

What it does



[Ryan]

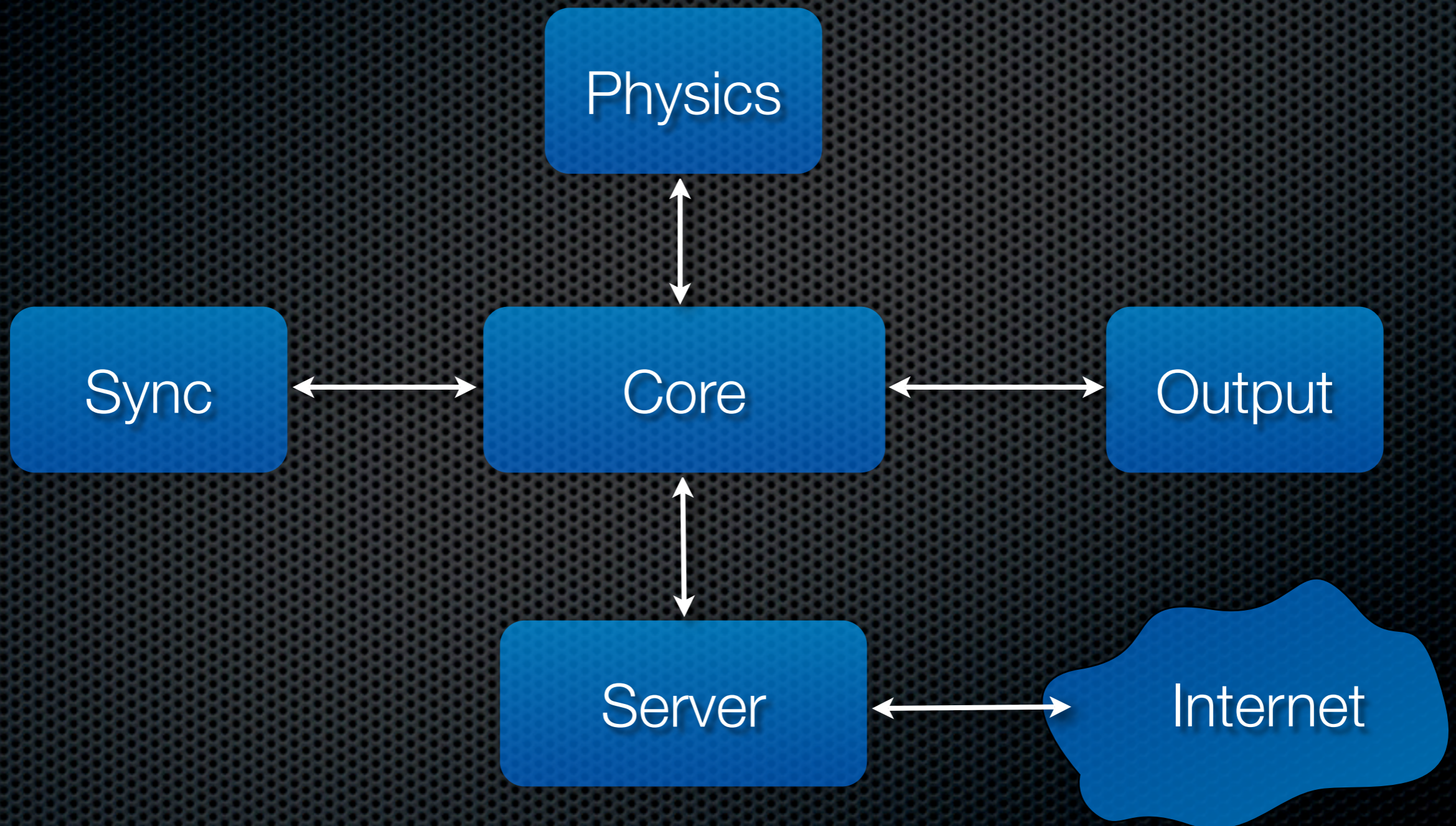
client connects to server, sets up waypoints and chooses which sync/output modules to run and then runs the simulation allowing for some parameter changes while running.

Simulator

Simulator Functionalities

- ✦ Variable Sync Rates
- ✦ Modular Output Options
- ✦ Accurate Physics Arithmetic

Simulator



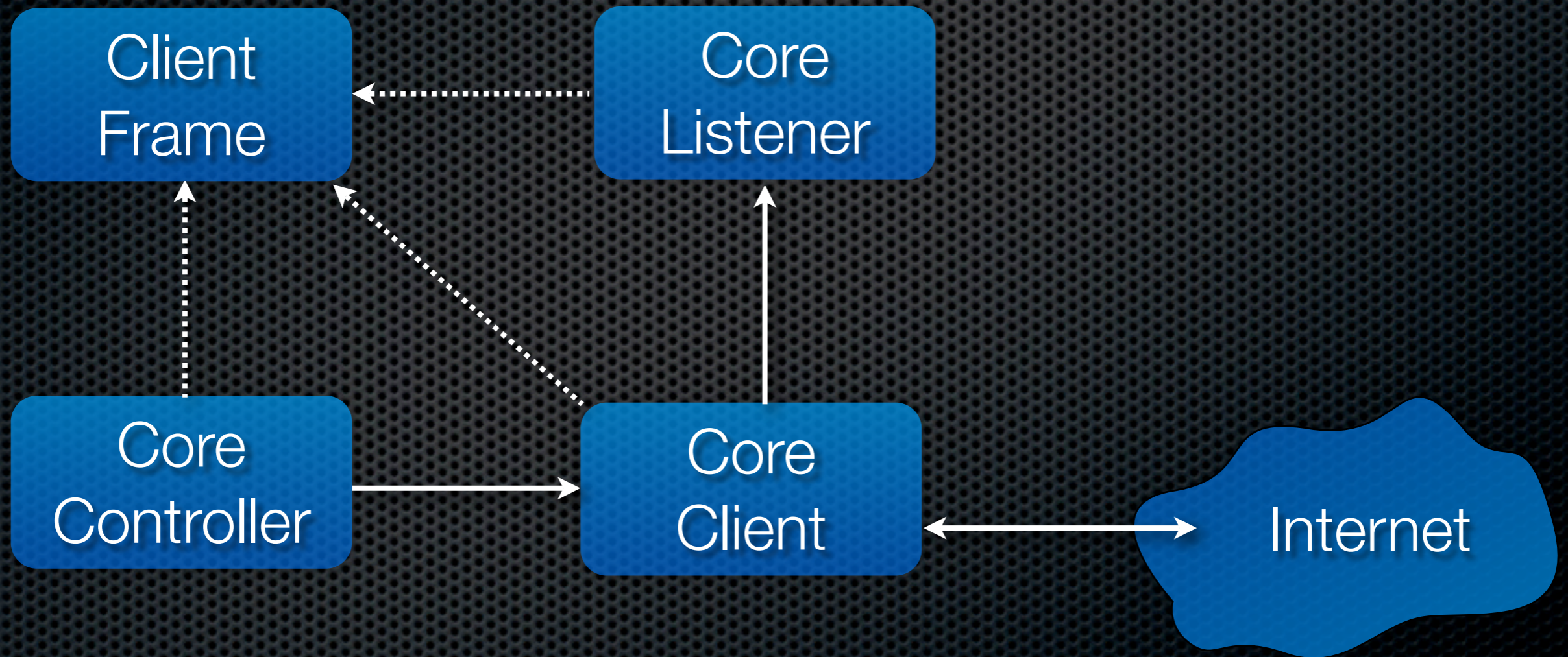
[Ryan]
Server <-> Internet : tcp socket connection

Client

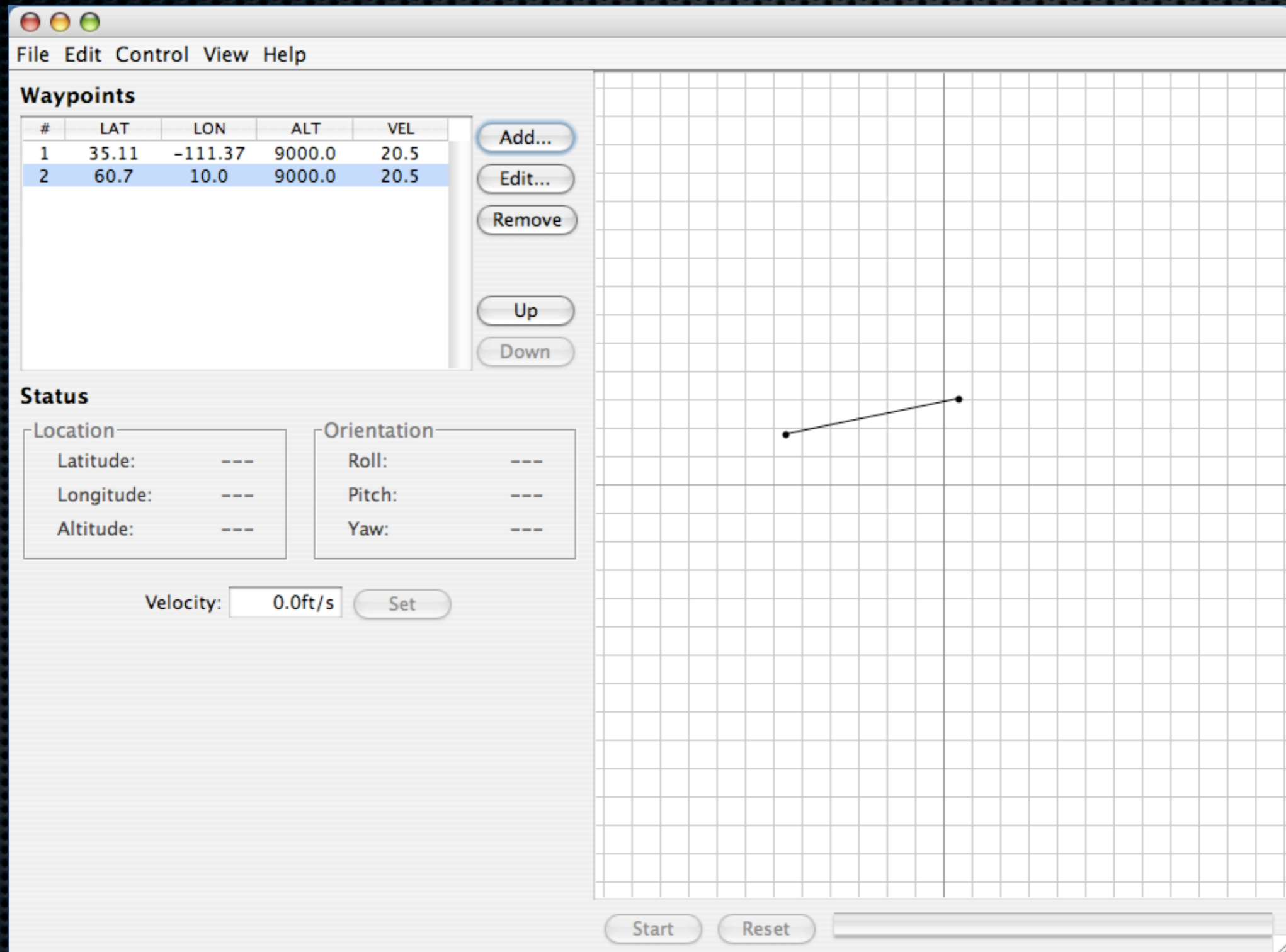
Client Functionalities

- ✦ Visual Display
- ✦ File I/O
- ✦ Flight Control

Client



Client



Implementation

Mike

David

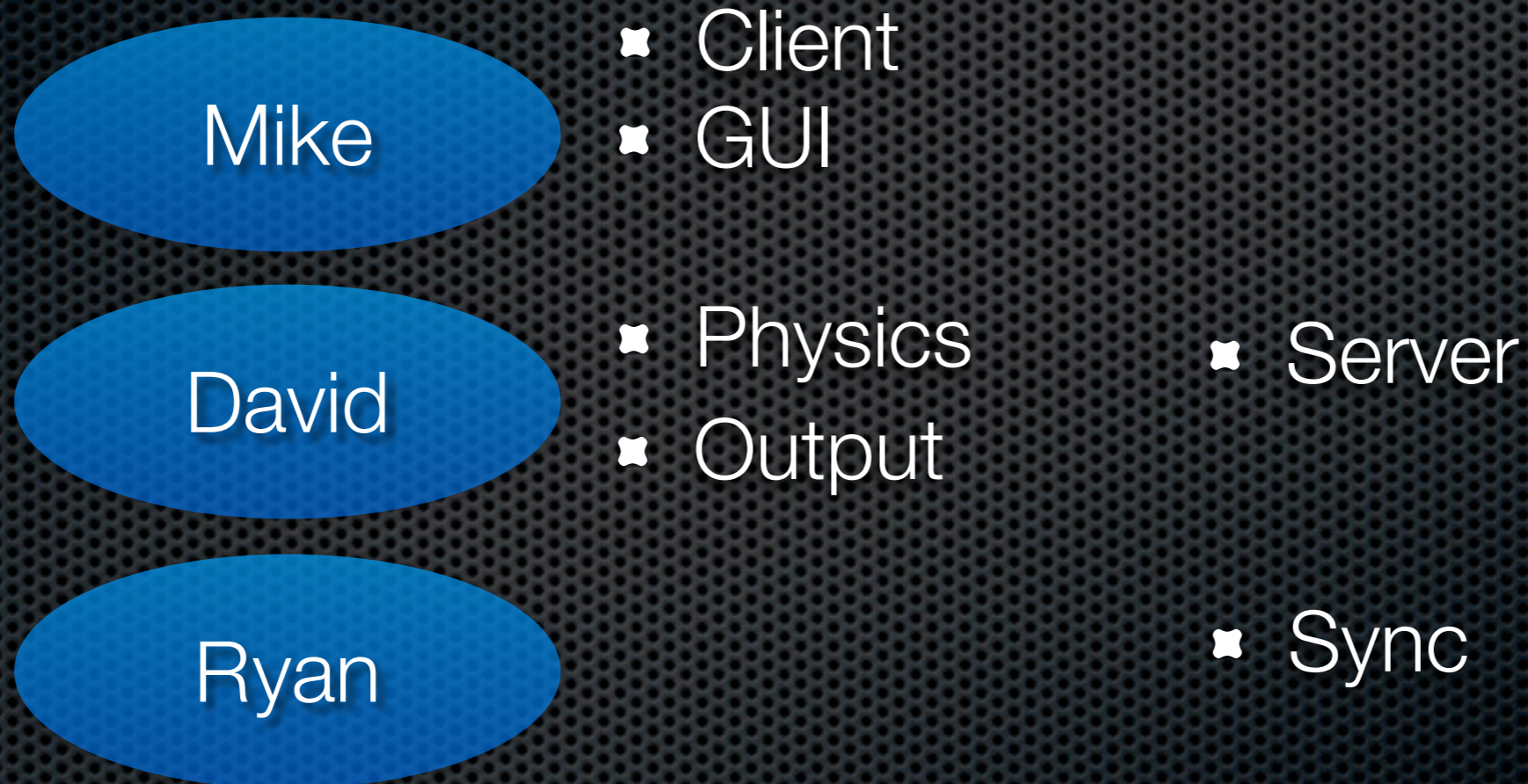
Ryan

- ✦ Client
- ✦ GUI
- ✦ Server
- ✦ Physics
- ✦ Sync
- ✦ Output

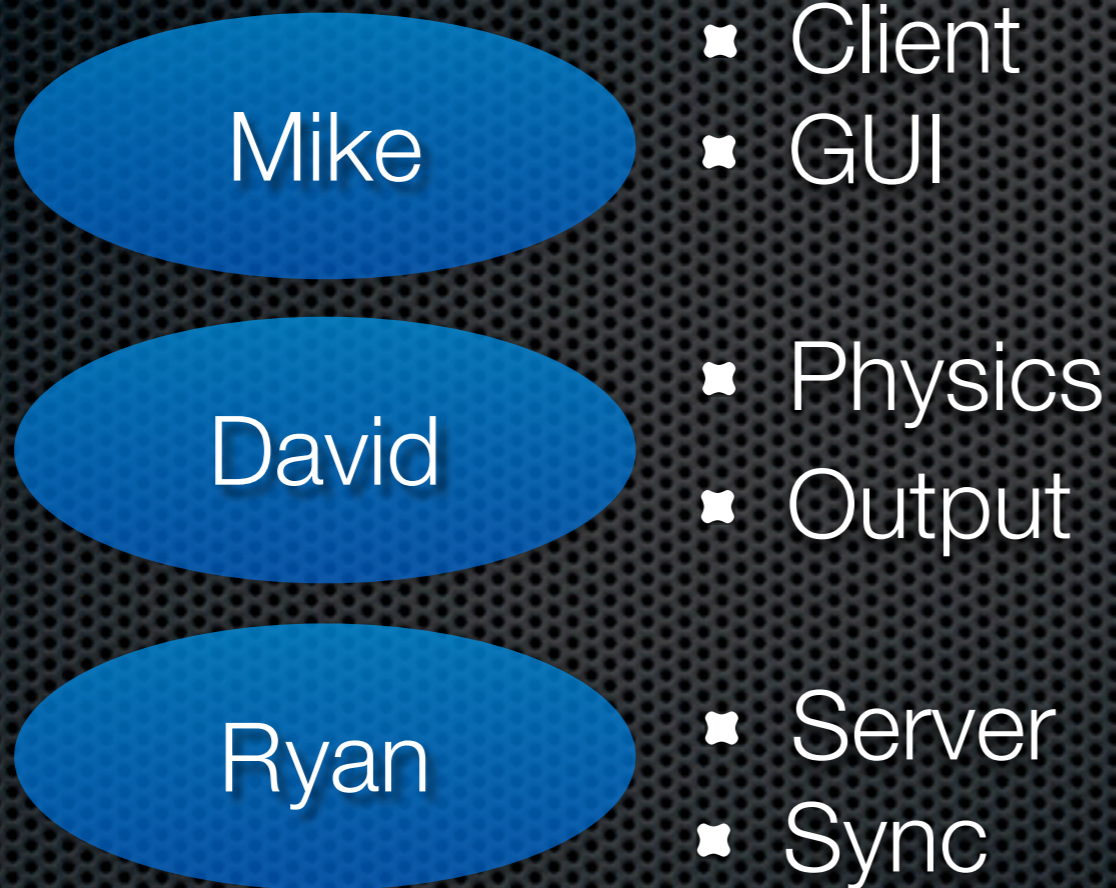
Implementation



Implementation



Implementation



Challenges & Changes

- ✦ Coordination
- ✦ Communication
- ✦ Testing
- ✦ Time Restrictions
- ✦ Serialized Objects

[Mike]
But be sure to say that: our agile dev model is proving to be very helpful

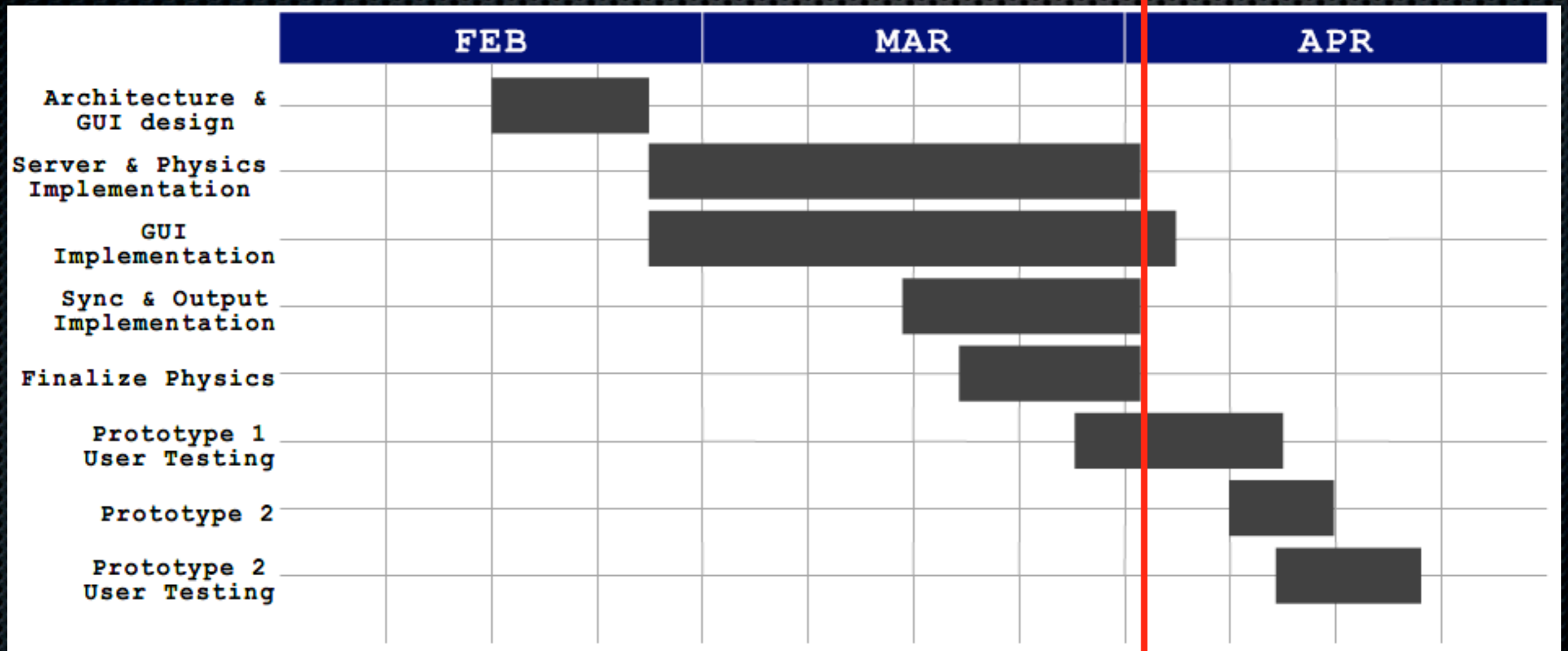
Current Progress

- ✦ Still in Early Iterations
- ✦ GUI/Client interface

What's Left?

- ✦ Further Iterations
- ✦ Unit Testing
- ✦ User Testing
 - ✦ Expert Reviews

Overall Status



Conclusion

- ✦ More Progress to be made
- ✦ Achievable Goals
- ✦ Effective Iterative Development Process