Inertial Navigation Data Simulator

SimSolutions

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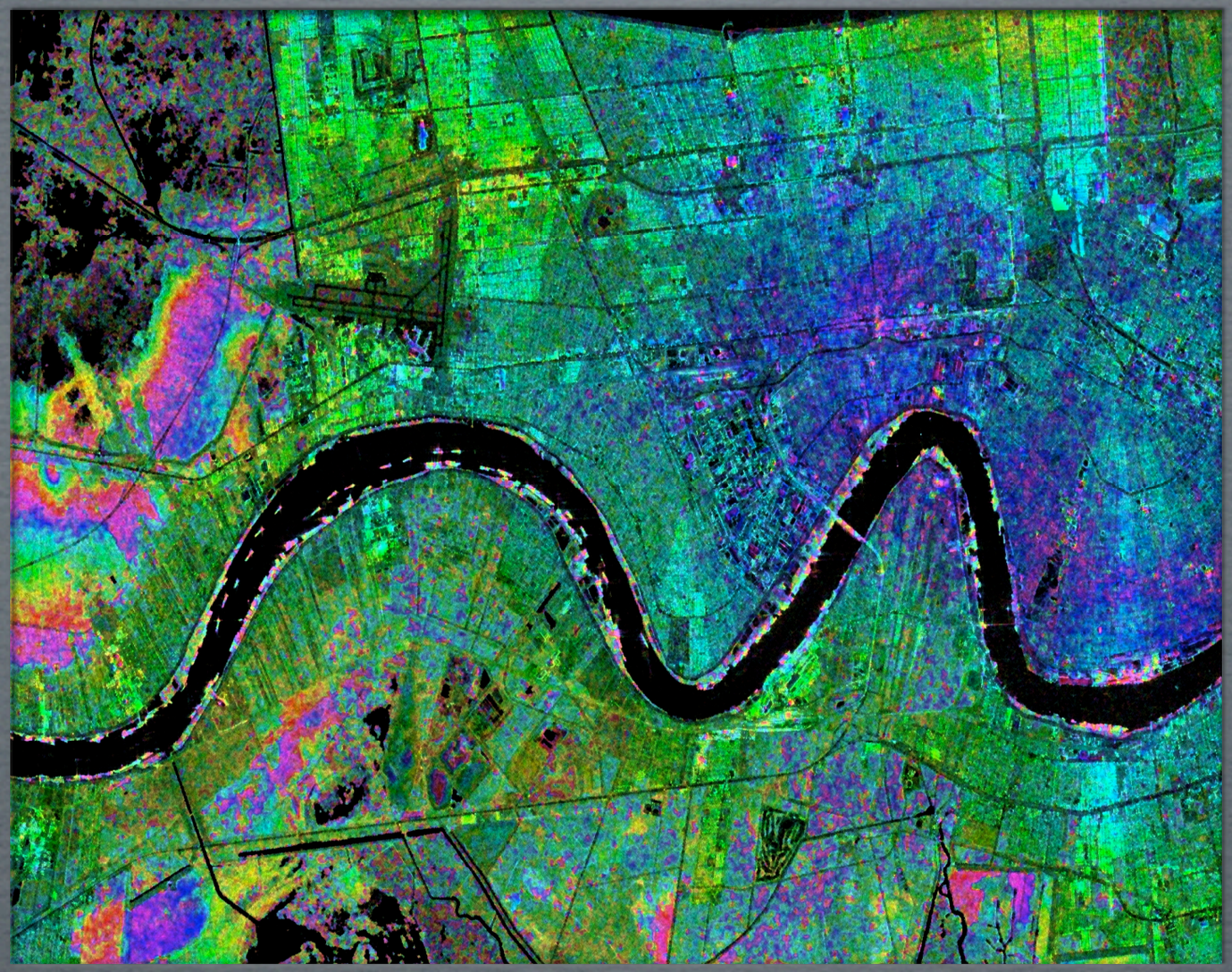
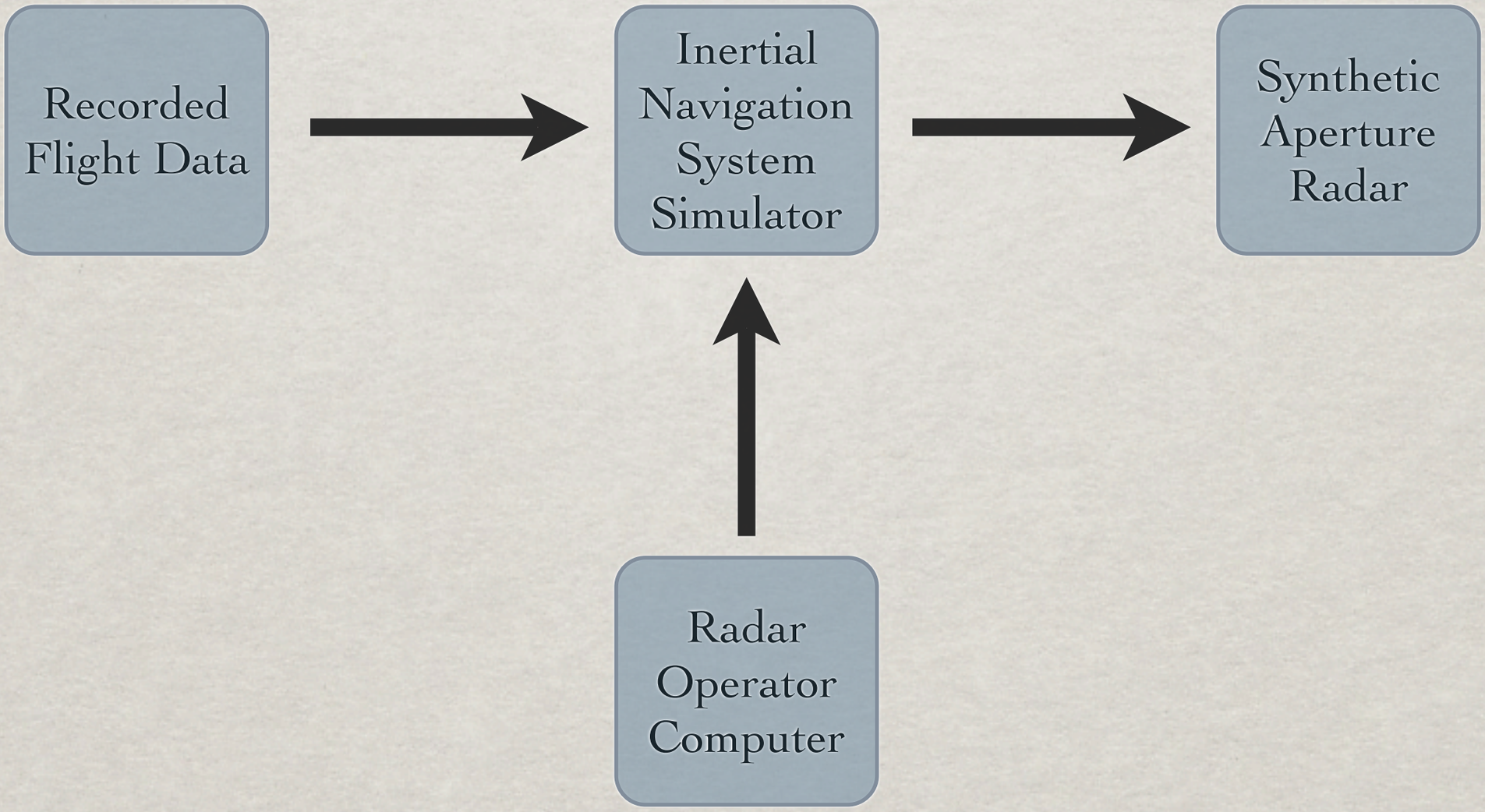
Sponsor

- Lockheed Martin
- Mark Wollgast
- Engineering Program Manager



Synthetic Aperture Radar

How it Works

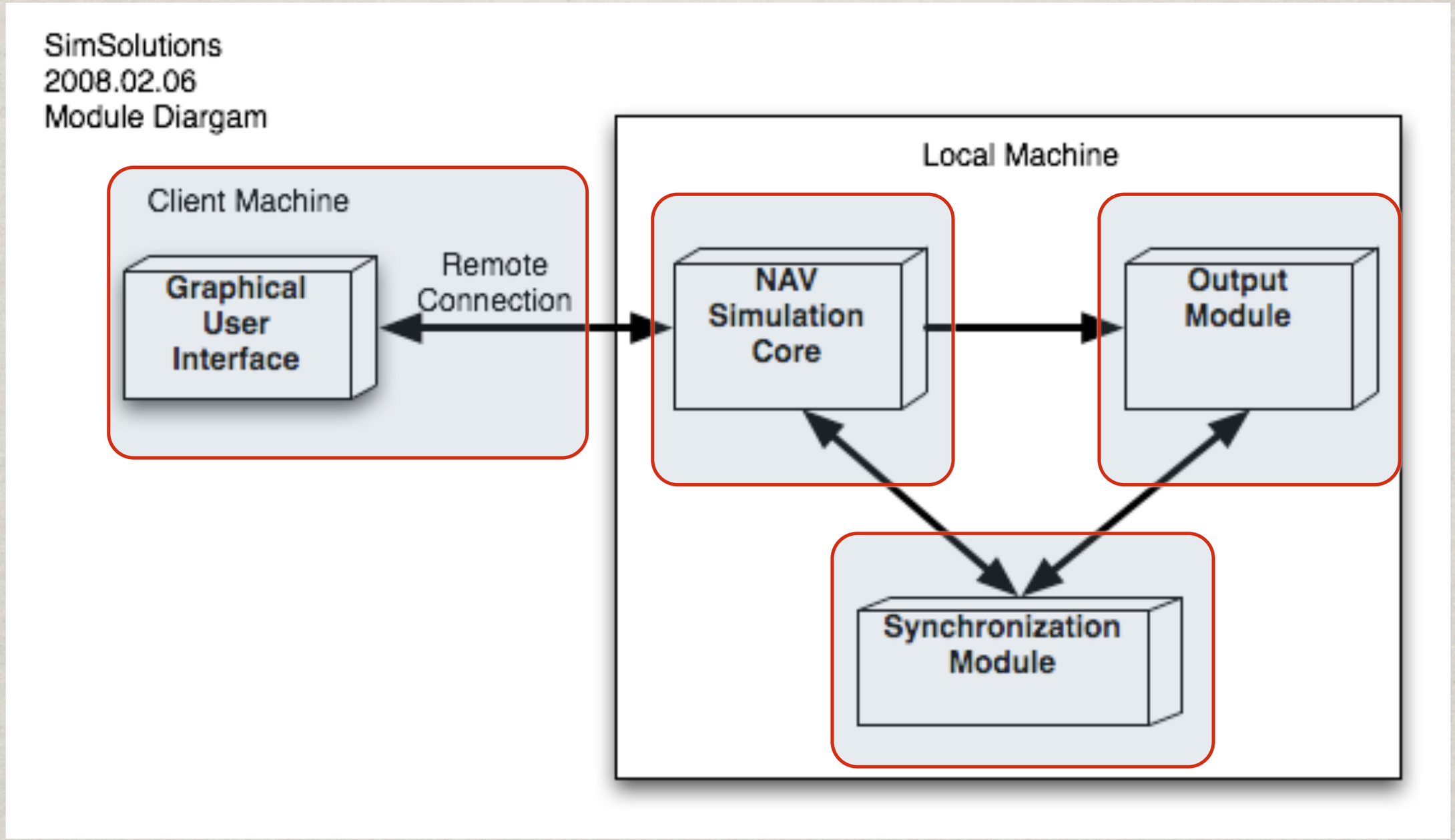

Recorded Flight Data
Inertial Navigation System Simulator
Synthetic Aperture Radar
Radar Operator Computer

Current Problems

- Limited testing data
- Different data rates
- Difficult to set up and run
- Current solutions are expensive and rigid

How it Will Work

Modular Design



Inertial Navigation Simulator - [Flight 1]

File Edit View Settings Help

Waypoints

#	LAT	LON	ALT	VEL
W1	35.18N	-111.65W	9000	120
W2	35.18N	-111.65W	9000	120
W3	35.18N	-111.65W	9000	120

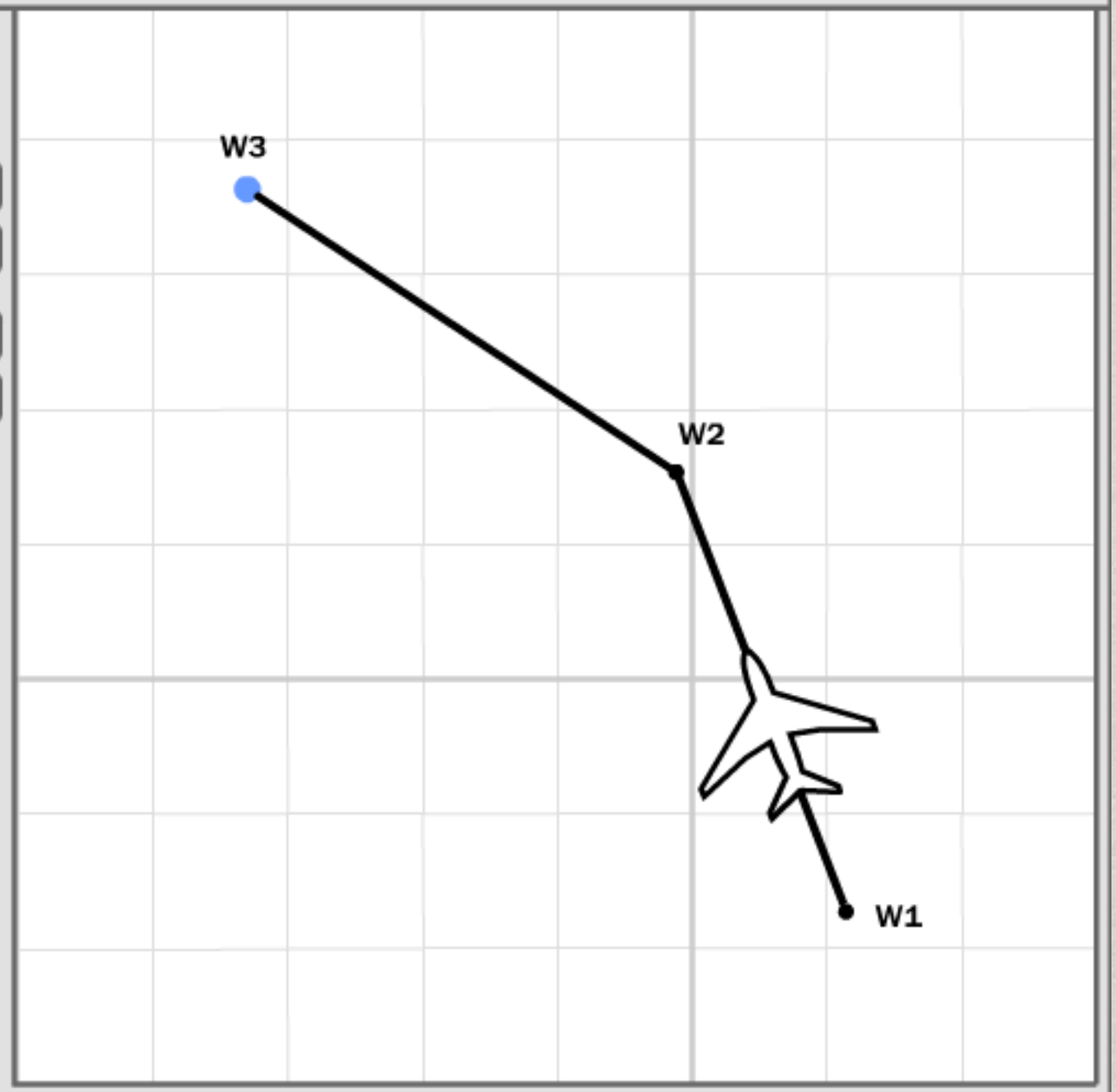
Add... Remove Up Down

Flight Status

Velocity: 120mph Altitude: 9000ft

Latitude: 35.18N Longitude: -111.65W

Heading: 320° Distance: 2.5mi



Flight Time: 17m 45s / 48m 23s

Reset Pause

Requirements Acquisition

- Communication
  - Teleconference
  - Email Correspondence
- Early Data Specifications
- Interface Prototyping

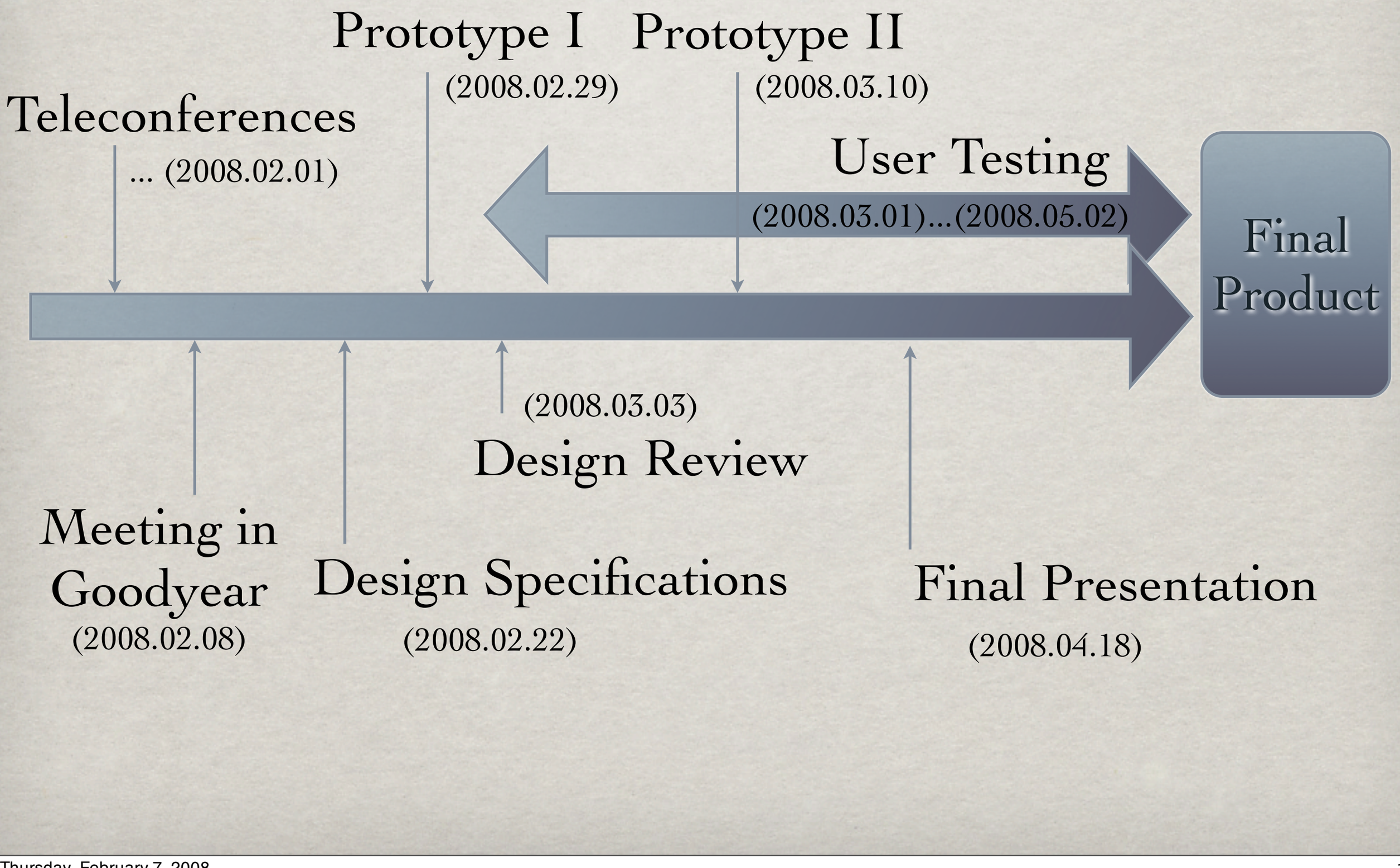
Requirements & Functionalities

- Remote GUI Client
- Modular Output
- Runtime Parameter Modification
- Playback
- Output Timings
- Waypoint Control
- Platform Requirements

Risks

- Realtime Board
- Real Time Java (RTJ)
- Unit Testing
- Geographical Limitations

Time Line


Prototype I
(2008.02.29)
Prototype II
(2008.03.10)
Teleconferences
... (2008.02.01)
User Testing
(2008.03.01)...(2008.05.02)
Final Product
(2008.03.03)
Design Review
Meeting in Goodyear
(2008.02.08)
Design Specifications
(2008.02.22)
Final Presentation
(2008.04.18)

Inertial Navigation Data Simulation

- Robust Testing Environment
- Flexibility
- Speed
- Increase in Quality