

Virtual Yachting On The Web



BRINGING THE *Whitbread* HOME

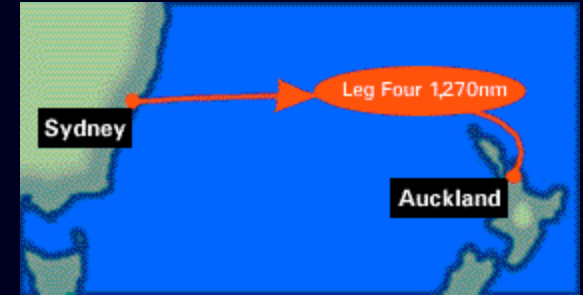
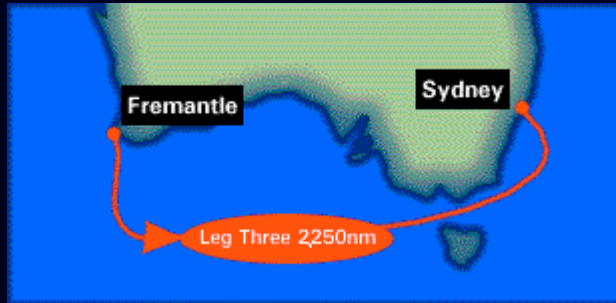
Birth of a
Spectator
Sport



Presented by
Quokka Sports

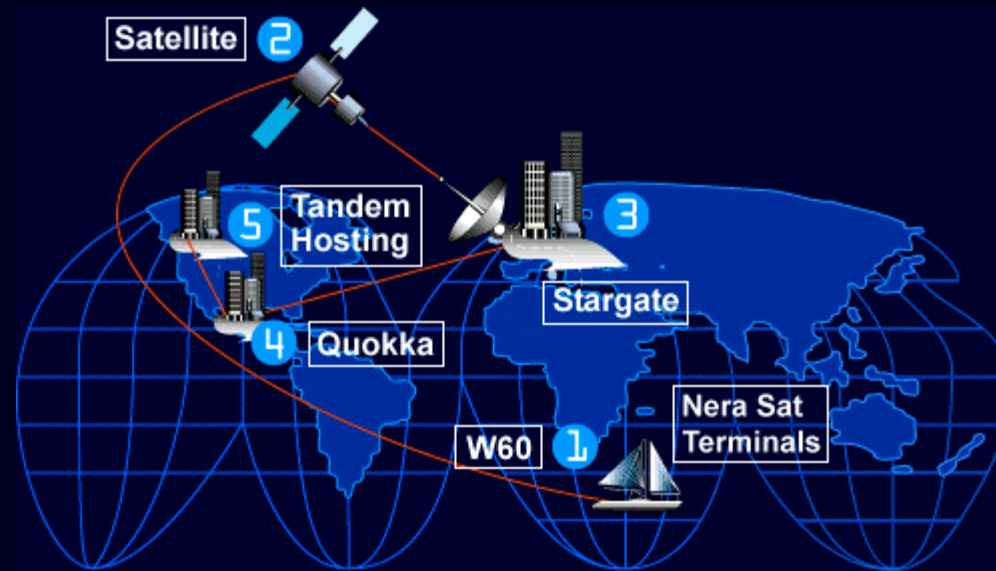
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Virtual Yachting On The Web



9 Legs - 9 Ports

Virtual Yachting On The Web



Each boat equipped with GPS transmitters as well as Satellite uplink for weather and boat conditions, email, video, & images

Images, video and data transmitted to the Whitbread race office and replicated from the Race Management System to Quokka

Virtual Yachting On The Web



Why?

- Create an immersive experience
- Involve the audience
- Create a 'sticky' site
- Players sail head to head with the actual fleet

How?

- We're collecting boat telemetry, but can we simulate it?

Virtual Yachting On The Web



Features

- Quality Simulation of the effects of sailing decisions on performance
 - hull design
 - sail selection
 - risk factors - events (demasted, man overboard, etc.)
 - course
 - select competitors
- weather
 - boundaries
- Visualize the virtual fleet along side the actual fleet
 - nautical charts that pan and zoom illustrating the fleet
 - weather overlays with forecasted weather at 12 hour intervals

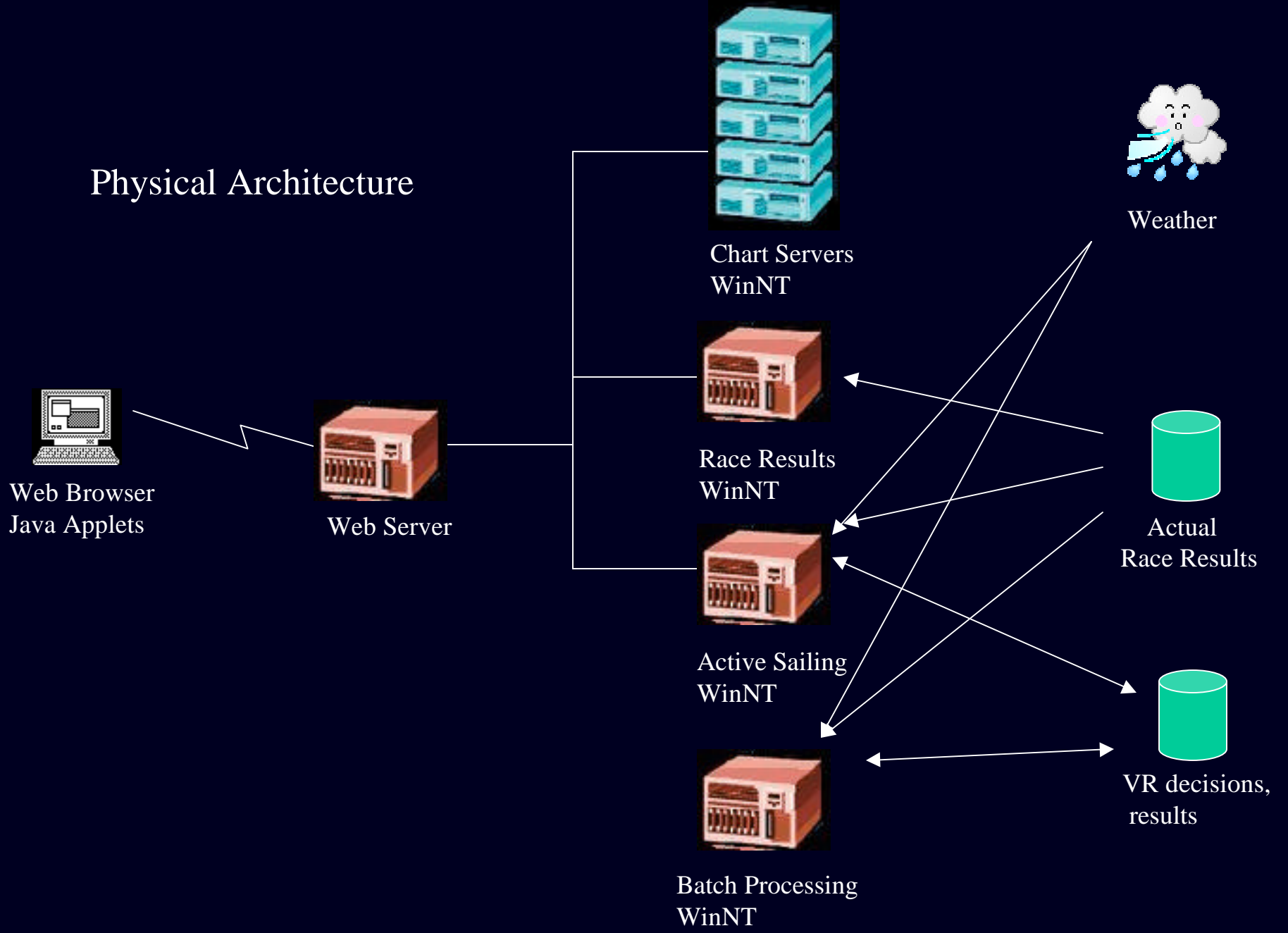
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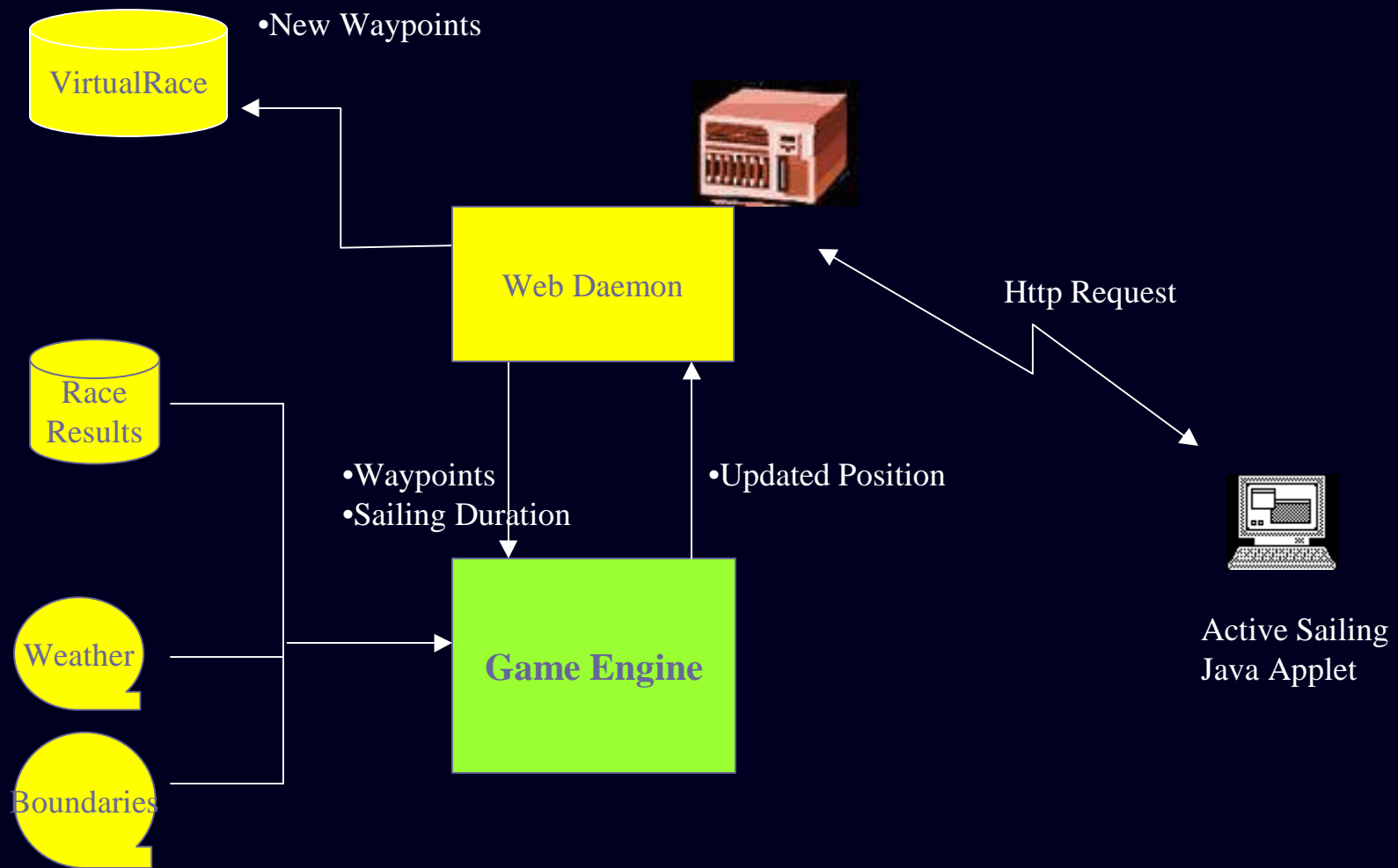


Key Software Components

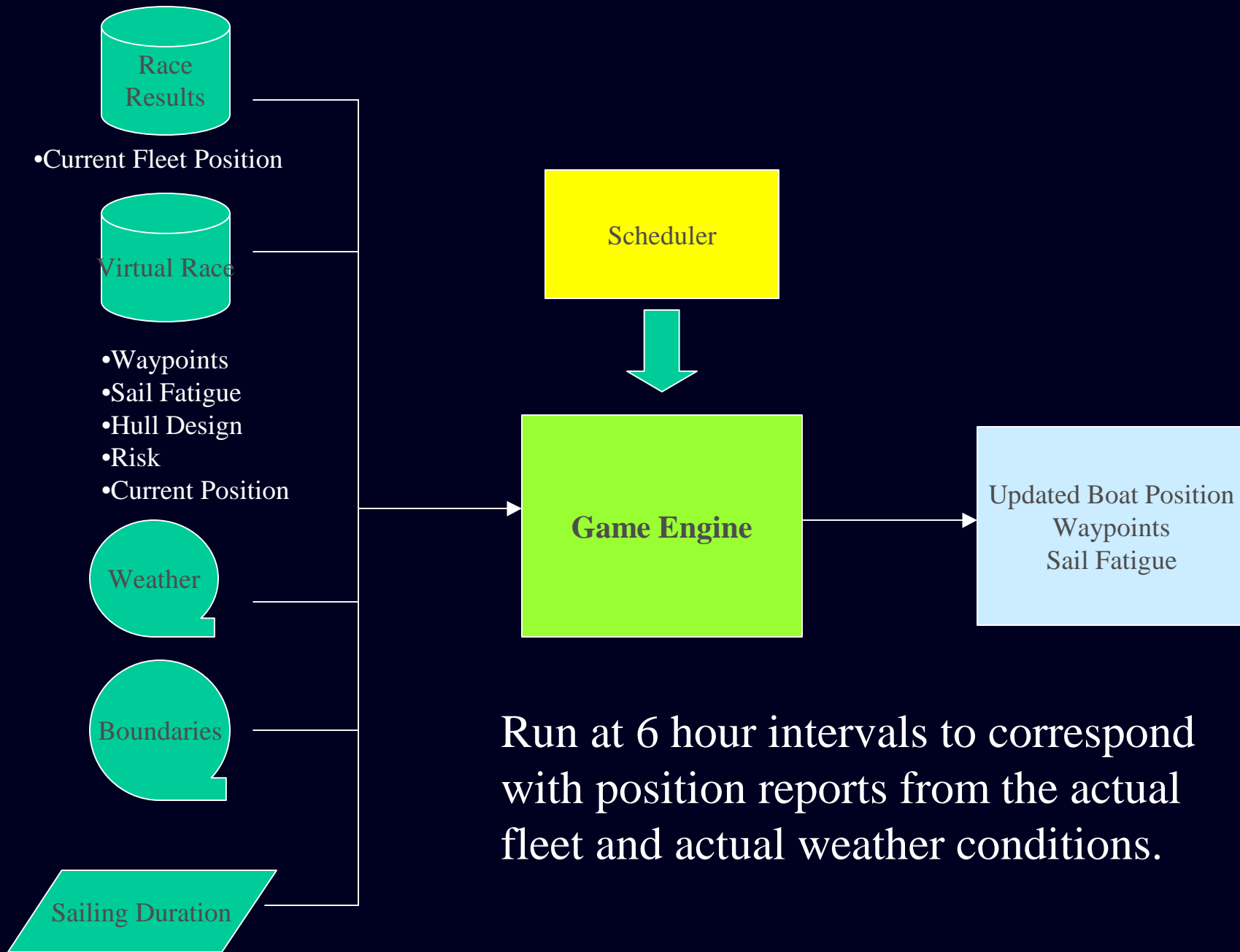
- Game Engine
 - C library
 - Weather data feed from uk met
- Database Harness For Game Engine
 - C++/Informix
- Web Harness For Game Engine
 - C++
- Graphical Client - Race Viewer - Active Sailing
 - Java Applets
- Nautical Chart Server
 - C++/Euronav Vector Graphic Charting Software

Physical Architecture





User input of waypoints and sailing decisions
Game engine available to run performance
prediction against forecasted weather



Virtual Yachting On The Web



Race Viewer/Nav Station

log book, sail status, leader board, etc.

MAP TOOLS :

RESET BACK

REFRESH

<< ANIMATE >>

ZOOM OUT

N
W E
S

WEATHER/CURRENT
Current ▼

SELECT LEG
Leg 1: Charleston to Cape Town ▼

RACE VIEWER
PREVIEW

Click this symbol on the map for information.

LEADERBOARD

DOUBLE CLICK TO PAN

DRAG WINDOW TO ZOOM IN

047 29.08N 000 57.07E Click icon for information on Charleston, South Carolina, US

SELECT BOAT :

- CLASS 1 BOATS
- PRB
- Team Group 4
- Gartmore Investment
- Modern University
- Project Amazon
- FILA
- SOMEWHERE
- CLASS 2 BOATS
- South Carolina
- Magellan Alpha
- Paladin II
- Cray Valley
- No Barriers
- Shuten-dohji II
- Rapscallion III
- Balance Bar
- Wind of Change

NAME	NATIONALITY	TIME STAMP	LATITUDE	LONGITUDE	TYPE	DTF
Light air	United States	4/15/99 5:33:57 PM	27.36	-68.74	Virtual (Competition)	6161.437

Virtual Yachting On The Web



How does a user pilot a boat on the web?

UI design challenge

Navigation Demo

CMG VS Dead Reckoning

COMPAQ

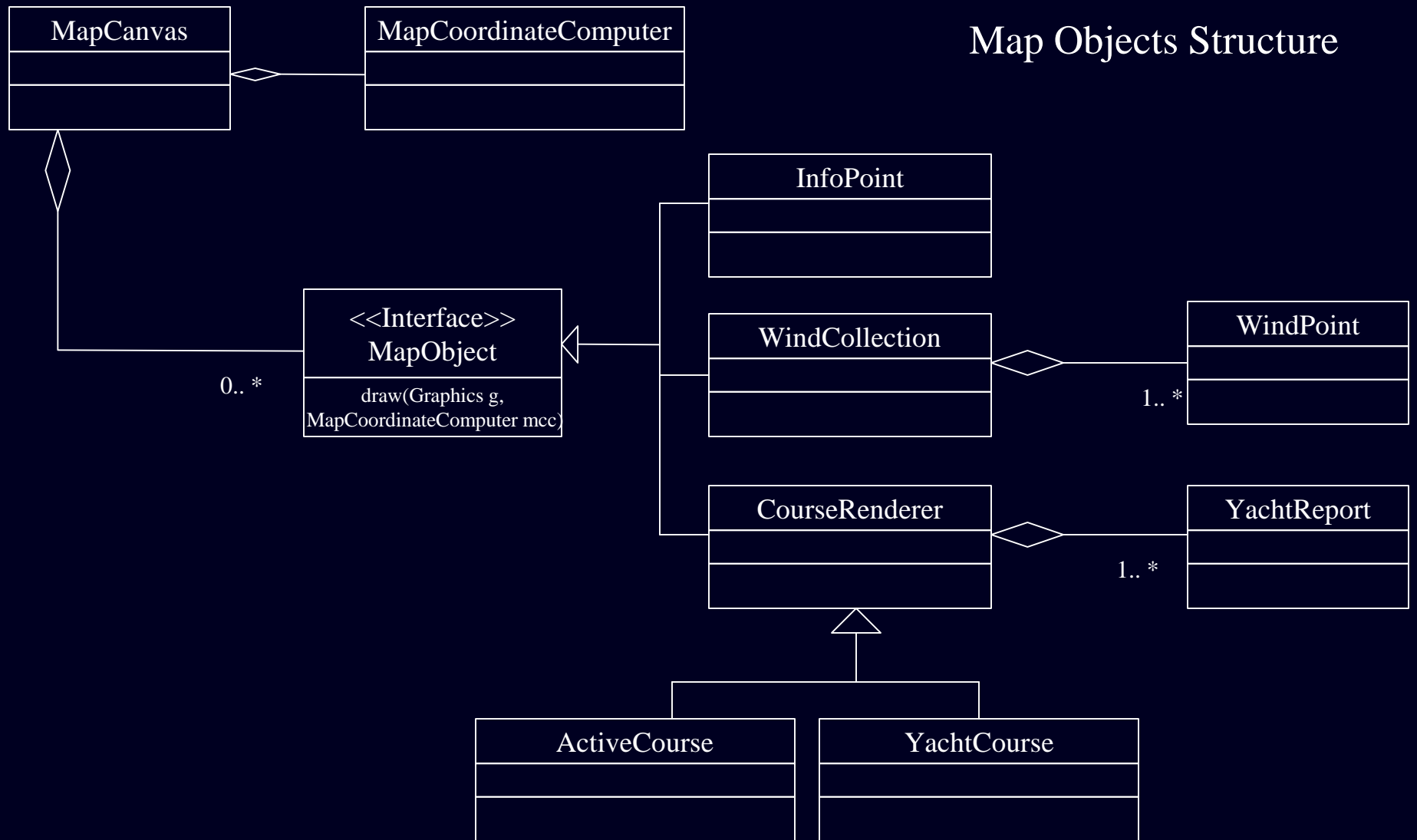
Total Immersion
Mapping, Charting, and Gaming

powered by **TANDEM**

The screenshot shows a web-based interface for virtual yachting. It features a central map with a grid of wind vectors (arrows) and several colored paths representing different yachts. The interface includes a control panel on the left with buttons for 'Reset', 'Refresh', 'Animate', and 'Zoom Out', along with a directional pad for panning. Below the map, there are dropdown menus for 'SELECT WEATHER', 'SELECT LEG', and 'SELECT REPORT'. On the right, a 'SELECT BOATS' panel lists various yachts with checkboxes, including 'EF Language', 'Swedish Match', 'Cresset Racing', 'Ment Cup', 'Innovation Kvaerner', 'Toshiba', 'Silk Cut', 'Drurel/Sunergy', and 'EF Education'. The interface is powered by TANDEM and uses the roceVIEWER engine. The text 'EXTREME CHALLENGE' and 'EXTREME COMPUTING' is visible at the bottom.

MAP TOOLS
PAN MAP
SELECT WEATHER
SELECT LEG
SELECT REPORT
roceVIEWER
EXTREME CHALLENGE
EXTREME COMPUTING

Map Objects Structure

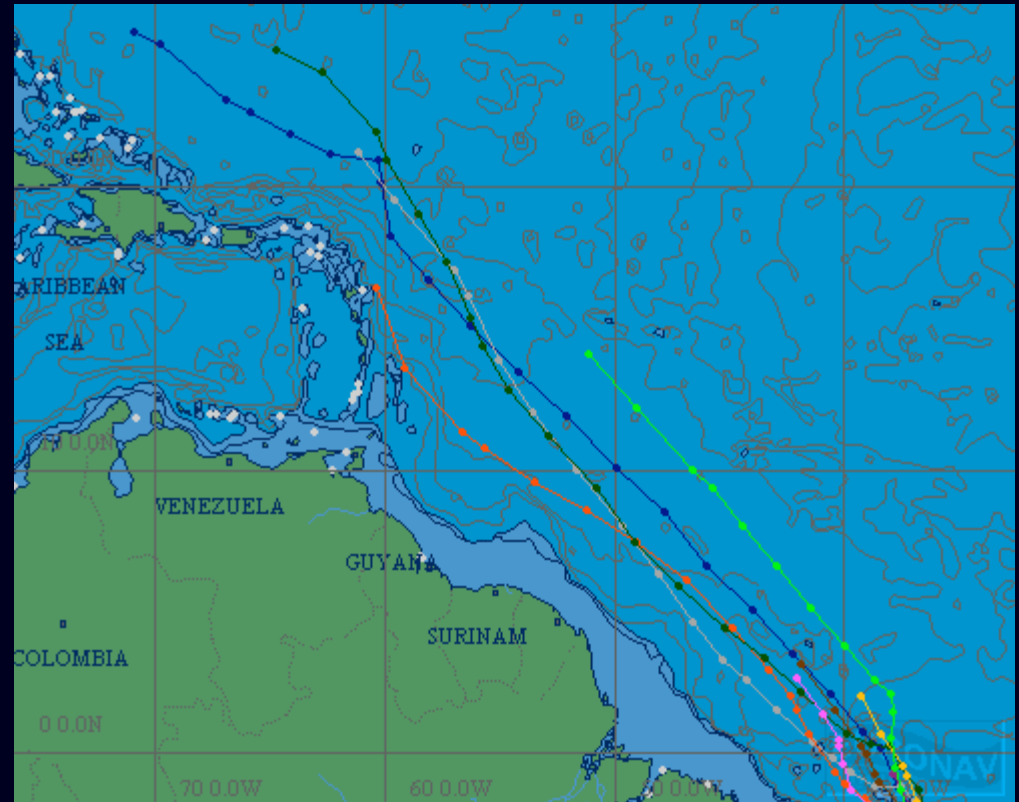


Virtual Yachting On The Web



Mapping Components re-used in:

- Race Management System
- Java Applets
- Flat Content Generation
- Animation Demo



Virtual Yachting On The Web



Development Experience

- 2.5 Quokka Engineers
 - Game Engine Daemons
 - Batch Game
 - Chart Server
 - Race Viewer/Nav Station (Visualizations)
 - Weather extraction from grib format
- 2 Off Site Game Engine Engineers
- 1.5 Graphic Designers
- Chart Engine Support/Euronav
- 6 Month Schedule
- The Right Team

Virtual Yachting On The Web



Serving The Virtual Race/Aftermath

- ~10000 Registered Virtual Yachters
- A few good bugs - boundary points & weather
- Charting bottlenecks
- Quality achieved into the first leg
- All 9 legs served
- Emails from around the world
- Servlet technology would have helped
- Charting Alternatives