Soothsayer:
Final Presentation

CS 472 05/06/2014

Overview

- Introduction
  - Clients
  - History
  - Proposal Requirements
  - Why We Accepted the Proposal
- Architecture
- Team Dynamics
- Demo
- Project Problems
- Questions

History

- Clients
  - Paul Delys, Geophysical Institute IT Manager
  - Dr. Charles Deehr, Prof. Emeritus of Physics and Aurora Forecaster

History

- Problem
  - Due to a power outage, there was a loss of data, including:
    - All forecast data, prior to 2010.
    - Automated forecasts and graphs.

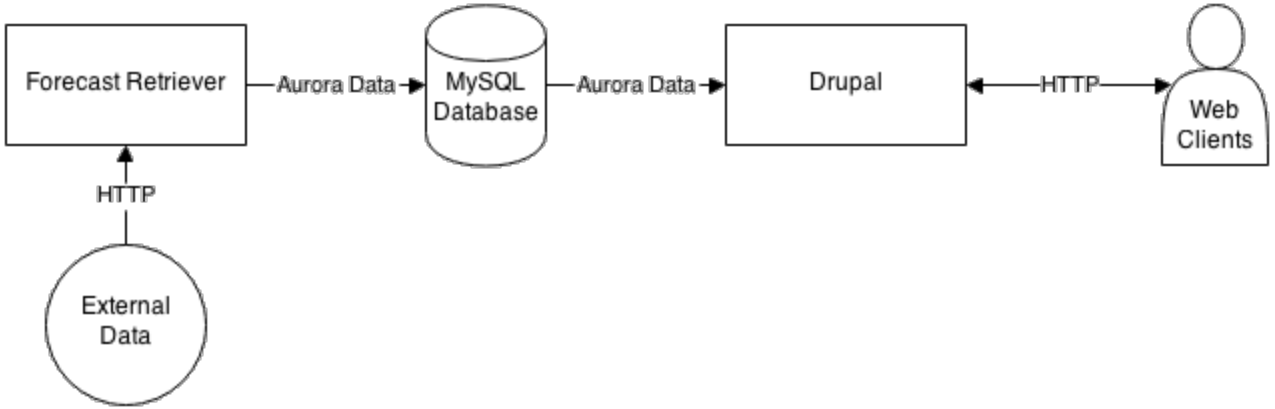
History

- Proposal Requirements
  - Redesigned site with desktop and mobile views.
  - Fully automated data retrieval.
  - Storage of auroral data in a database.
  - New public photogallery.

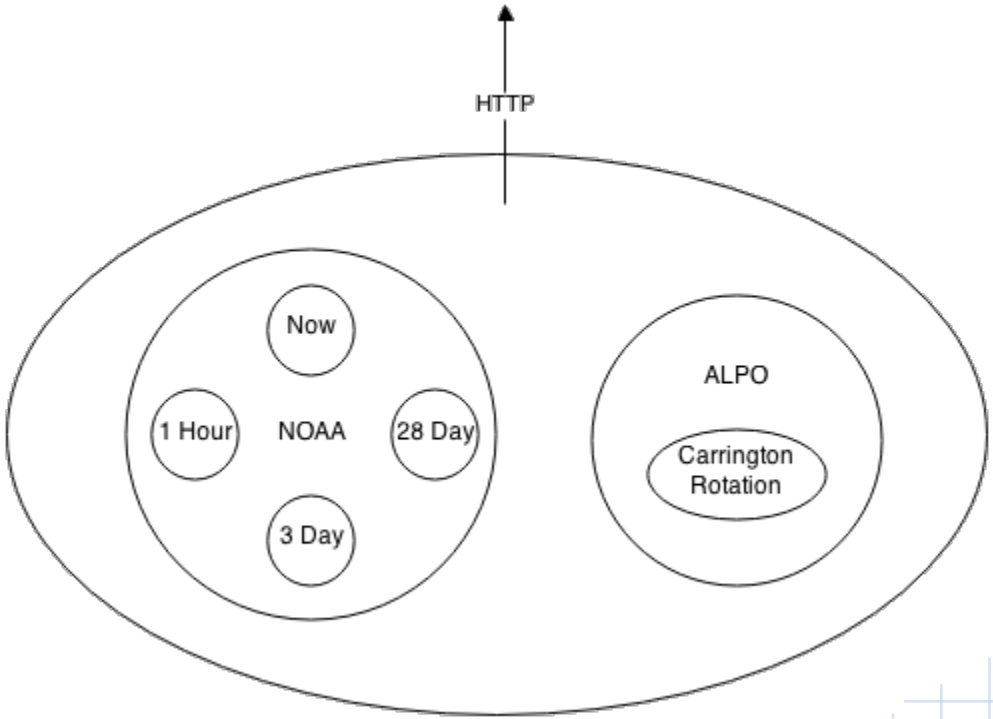
History

- Why We Accepted the Proposal
  - 14,500 - 61,000 visits per day (large impact).
  - Data archive would benefit the scientific community.
  - Interesting.

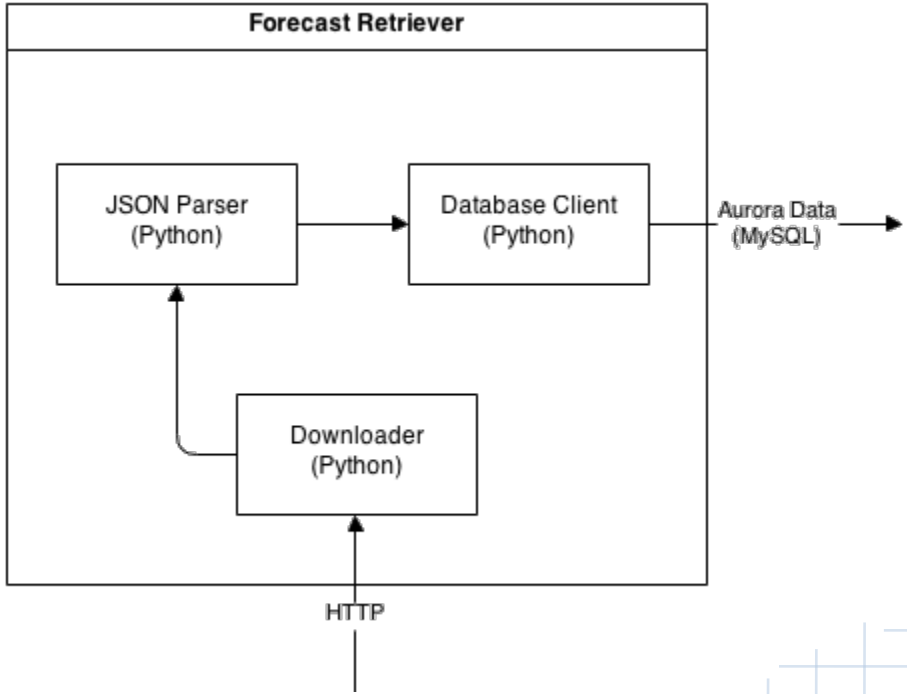
Architecture - Overview V3



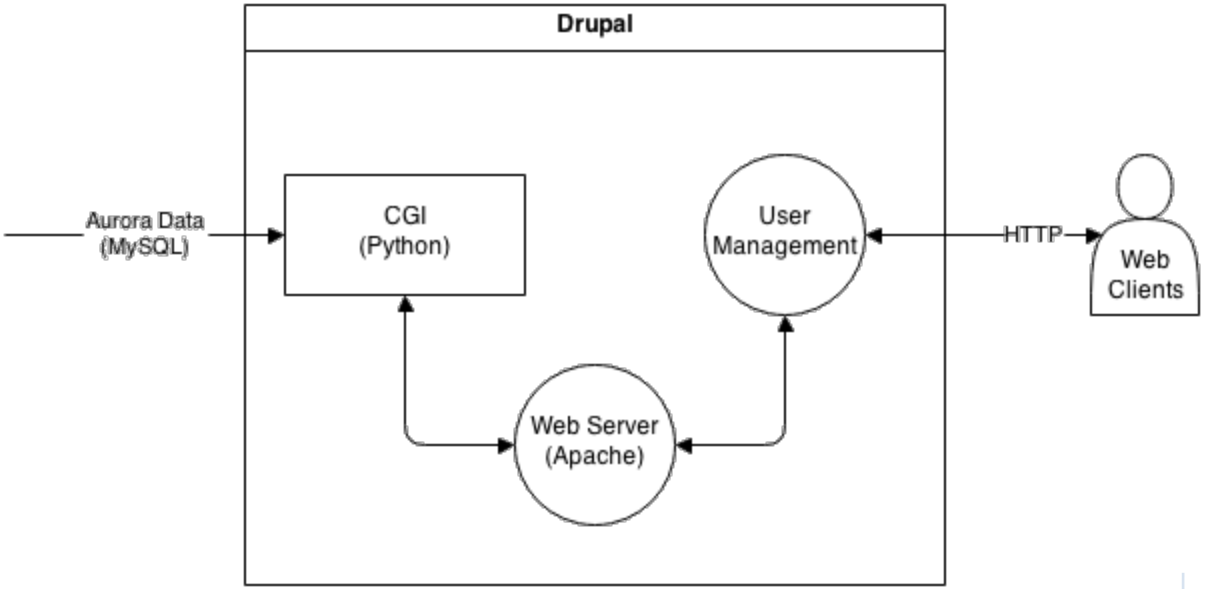
Architecture - External Data



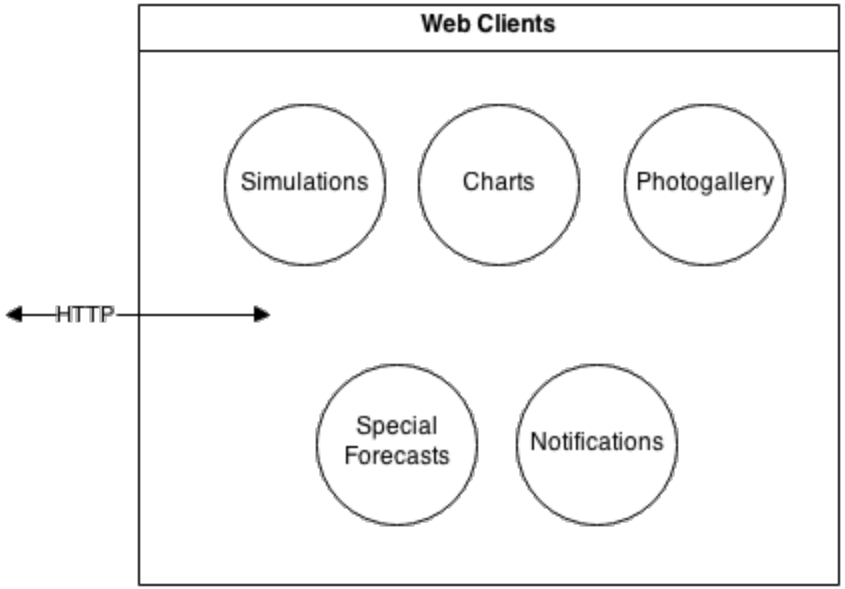
Architecture - Retriever



Architecture - Web Server



Architecture - Web Frontend



Team Dynamics

- Weekly meetings on Saturdays.
  - Usually turned into work sessions.
- Weekly work sessions on Thursdays.
  - Approximately 4 hours.
- 2 Week Scrum Sprints

Scrum Sprints?

- Scrum is a project framework designed to deal with changing requirements.

- Sprints are work cycles.
  1. Create a prioritized list of tasks from the clients.
  2. Work on tasks for rest of sprint.
  3. Start again at the next sprint.

Scrum Sprints?

- Worked well.
  - Ended up using one giant list of “things to do” towards end of project.
- Some sprints ran short (1 week).
- Some sprints ran long (3 weeks).
- Would have gone smoother without other classes.

Scrum 1

Scrum 1			
Task	Estimated Time (hr)	Actual Time (hr)	% Completed
Nowcast Conversion Script	6	4	100%
1-Day Conversion Script	6	5	100%
3-Day Conversion Script	6	5	100%
28-Day Conversion Script	6	10	100%
Soothsayer Server	6	10	100%
JSON Parser/Tester	6	7	100%

Scrum 2

Scrum 2			
Task	Estimated Time (hr)	Actual Time (hr)	% Completed
Configure CMS	1	2	100%
Upload Photos to Site	12	6	100%
Database	6	4	100%

Scrum 3

Scrum 3			
Task	Estimated Time (hr)	Actual Time (hr)	% Completed
Notifications	6	1.5	100%
WebGL	12	36	100%
Database Retrieval Server	20	8	100%

Scrum 4

Scrum 4			
Task	Estimated Time (hr)	Actual Time (hr)	% Completed
Record Access Data	6	2	Not Required
Auto Location	6	1	100%
Special forecast editing	10	4	100%

Scrum 5

Scrum 5			
Task	Estimated Time (hr)	Actual Time (hr)	% Completed
Design Web Frontend	12	6	100%
Mobile Web Access	12	6	100%
Parse JSON on Web	1	1	100%

Scrum 6

Scrum 6			
Task	Estimated Time (hr)	Actual Time (hr)	% Completed
2D Fallback	4	5	100%
Install Script	12	6	95%
User Documentation	12	16	100%
Carrington Rotation Graph	12	26	100%

Version Control - GIT

- Worked great at the beginning.
- Sometimes added files with passwords.
- Once the database was introduced, development was mainly done on the central server.

Project Outcomes

- What didn’t get done?
  - Images from remote cameras.
  - Image database with corresponding locations.
  - Social networking notifications.
  - Auroral oval simulation.
  - Auroral view based on relative position to the Sun.

Demo

Check it out at: http://aurora.cs.uaf.edu

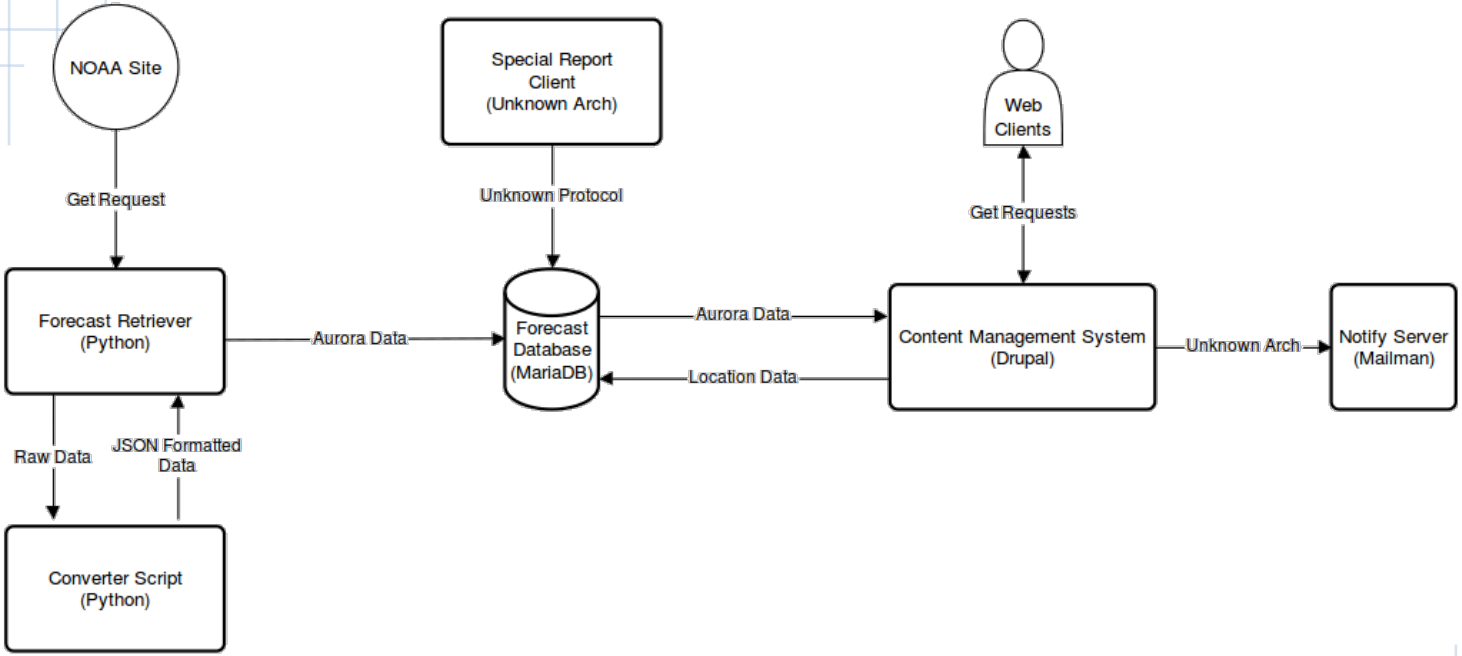
Project Problems

- Hacked!
- Other group crash GIT server (3 times).
- Browser compatibility…
- Lighting in the Bunnell lab.

Thank you for your attendance!

Questions?

Architecture - Overview V1



Architecture - Overview V2