Bringing the Alert Stream to the Public

Summarizing Current EPO Goals for the Alert Stream

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Goals and Use Cases

• *To highlight scientific advancements of the community and to promote the unique strengths of the telescope*

• LSST Live Status Webpage

**Uses:**

• Demonstrating volume of discoveries
• Presenting new discoveries
• Integrate new discoveries into products immediately
• Demonstrate telescope observing patterns, previous 24-hours of observing, most recent imaging

**Audiences:**

• General public accessing LSST website
• By educators in classrooms
• At conferences, building spaces, planetariums, museums

Always updating!
Guiding the user experience

- Users expressed interest in topics but not knowing what to do when given something as open ended as a generic sky viewer.

The viewport highlights objects within the current skyviewer to suggest options for user

- Curated objects highlighted
- Links to recommended features
The website will be mobile friendly and features will be shareable!
Use Case Examples
Use Case Examples

- Summary statistics provide a sense of scale
- A live counter would make the discoveries feel immediate
Use Case Examples
Use Case Examples

- Provide a sense of scale and spatial context for the survey and the highlighted object.
Use Case Examples
Use Case Examples

- Display different classes of discovery and versatility of telescope
- How will we handle the number of alerts?
Use Case Examples
Top view of the LSST site on 2015/6/28 23:15:37, GMT
Use Case Examples

- Love nightly presenting motion of actual telescope
- Combine observing pattern with location of alerts
Needed Broker Capabilities

- **Must make output public**
  - Enables live status of telescope and discoveries
  - Allows for follow up by amateurs
  - Makes data instantly shareable

- **Provide classifications of alert sources**
  - Provides context for alerts to be meaningful to the public - type of object, distance, size, duration, etc.
  - Guide which objects to feature more broadly in media with markers of “importance” or “uniqueness”

- **Provide data in form that is web accessible**
  - Automate nightly update to LSST website graphics, visualizations, text
  - Generate summary statistics of alerts, discoveries, sky coverage, etc.

- **Facilitate linking to larger LSST database**
  - Get larger, higher quality images for selected objects for wider usage
  - Link to previous alerts to build movies / time lapse images / context
Content Discussion Questions

• What do we anticipate the most common alerts to be?
  • SNe, solar system objects, variable stars, AGN
• What about the most exciting?
  • New discoveries that we are anticipating?
• How quickly can classifications be generated?
• What is going to be the best way for EPO to ingest these discoveries?
  • Planning on working with whatever brokers are selected but how much alert processing will be done outside of the brokers?
Visualization Discussion Questions

- How do we make the alerts **visually compelling**?
- How can we use the alert stream to communicate the new **rates of discovery**?
- Do you have any ideas for how to **combine static** information with the alert stream?
  - Images/photometry from DRs with nightly alert stream
Any other questions? Suggestions?

Thank you for your time!