

Sessions and hacks for March 2015 sims all hands

- hacks we should work on
 - *release MAF before the workshop*
 - Monday morning presentations
 - **9.00 - 10:00am Presentation on the OCS so that the group understands how it fits in (Paul Lotz?) George to ask**
 - 10.00 - 10.30am Define everything that will be removed from gitolite
 - 10.30 - 11.00am Break
 - 11.00 - 12.30am Hacks
 - **Move gitolite - Michael, Simon, Lynne: DONE except docs**
 - Release MAF, Scott – ready for review
 - **Release Tier 1 runs (MAF, and data) in a web page etc (Cathy) - Understand what is needed**
 - **Work to be done on MAF to understand transients in the context of rolling cadences.**
 - Design work (Kem, Zeljko, Peter, Rahul) DONE
 - **Need rotTelPos and rotSkyPos back in the OpSim output (Simon, Michael, Francisco)**
 - This is done and in review Scott DONE
 - Lynne asks - can we get new versions of the sqlite outputs that contain the rotTelPos in the summary table?
 - filter control parameters (Francisco, Michael)
 - Identify code locations for new logic
 - Add configuration parameters to appropriate config file
 - Add logic to code for filter changes
 - Test!
 - **DES into LSST Yusra, Bryce**
 - **Put alert stream in Git and JIRA (Darko, ajc) DONE**
 - 12.30-1.00pm Lunch
 - Monday afternoon
 - 1.30 - 5.30pm Hacks continued
 - **Get more cups (ajc) -**
 - **Release Tier 1 runs (MAF, and data) in a web page etc (Cathy) - sketches done**
 - will implement and show example noon tomorrow
 - **Work to be done on MAF to understand transients in the context of rolling cadences.**
 - write the metric (Peter) - done
 - in for code review DONE
 - **Build a Science Analysis driver. (Lynne, Kem, Cathy)**
 - Remove SStar and replace with first look analysis, SRD-level analysis, then wider science analysis.
 - general user tag to eups 'setup' (e.g. for Opsim group use of single git cloned version of MAF)
 - Goal to have first look in place, and have the design of the rest completed
 - just remove f0 and put SRD science stuff
 - Status - built updated schedulerValidation driver (includes hour angle plots, rotSkyPos plots and more metrics on filter changes) and an SRD driver (includes versions of the four major SRD metrics that have thresholds, as well as metrics on time uniformity and good seeing in r/i ... more metrics clearly need to be added, but can be done after release). Ready for review.
 - **DES into LSST (Yusra, Bryce)**
 - download and extract NOAO images and into a repo
 - running obsdeccam package in processCCD
 - **Reconcile fact that OpSim pointings are for only one filter while catalogs simulate photometry for all filters (Scott, Darko, Rahul)**
 - Design - DONE
 - Create a specialized class of instance catalog - pushed code
 - **Filter changes**
 - checking with the camera team about agreement on the parameters
 - looking at the code and looks localized
 - **gitolite is done**
 - **Put bright stars into the catalog database (ajc, Simon)**
 - Ask Yusra where the refactoring of the DB stands
 - filter control parameters (francisco Michael)
 - Identify code locations for new logic
 - Add configuration parameters to appropriate config file
 - Add logic to code for filter changes
 - Test!
 - Rely on healpix dust maps rather than SFD native version in CatSim (Scott)
 - Tuesday morning
 - **9.00 - 10.30am How to we go from pointings to images (end-to-end simulation): (Scott)**
 - 10.30 - 11.00am Break
 - 11.00 - 12.30pm Hacks Day 2
 - **Release Tier 1 runs (MAF, and data) in a web page etc (Cathy) - sketches done**
 - will implement and show example noon tomorrow
 - **Build a Science Analysis driver. (Lynne, Kem, Cathy)**
 - Remove SStar and replace with first look analysis, SRD-level analysis, then wider science analysis.
 - general user tag to eups 'setup' (e.g. for Opsim group use of single git cloned version of MAF)
 - Goal to have first look in place, and have the design of the rest completed
 - just remove f0 and put SRD science stuff
 - (see above)
 - **DES into LSST (Yusra, Bryce)**

- download and extract NOAO images and into a repo
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- Reconcile fact that OpSim pointings are for only one filter while catalogs simulate photometry for all filters (Scott, Darko, Rahul)
 - Design - DONE
 - Create a specialized class of instance catalog - pushed code
- Filter changes
 - checking with the camera team about agreement on the parameters
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- - filter control parameters (francisco)
 - Build a Science Analysis driver. (Lynne, Zeljko, Cathy)
 - Remove SStar and replace with first look analysis, SRD-level analysis, then wider science analysis.
 - Goal to have first look in place, and have the design of the rest completed
 - Reconcile fact that OpSim pointings are for only one filter while catalogs simulate photometry for all filters (Scott, Simon, ajc, Rahul)
- **12.30 - 1.30 Lunch**
- Tuesday afternoon
 - 1.30 - 5.30pm Hacks Day 2
 - Need to get DDS to work. (Michael, Dave Mills)
 - Install new DDS binary
 - Work through examples to check functionality
 - Implement one of the simpler telemetry messages
 - implement pex_config in a user-friendly way. (Scott, Michael, Kem, Cathy)
 - Define use cases and desired functionality (what problem(s) are we solving? e.g. bookkeeping, mass production)
 - Slower introduction to pex_config
 - Identify concerns with implementation
 - Identify mitigation tasks
 - Review opsim design (michael, ajc, francisco)
 - Demonstrate progress on sky brightness (Peter, Zeljko)
 - Figure out use cases for something that makes run-to-run comparisons automatically. (Cathy, Lynne)
 - add UCDs to database (darko, simon)
 - Ask Yusra where the refactoring of the DB stands

All hack suggestions

- Kem (+1 for George): Michael and Francisco should work on filter control parameters.
- Kem: We need to understand how to optimize rolling cadences. (+1 cathy)
- Kem (+1 for George, +1 Cathy, +1 Scott): Work needs to be done on MAF to understand transients in the context of rolling cadences. Need to optimize a MAF transient metric.
 - Lynne: Should this be in another driver (not SStar)? Build a Science Analysis driver
- Kem: implement pex_config in a user-friendly way. (+1 cathy, +1 Michael, +1 Scott)
- Kem: pull out cloud and seeing tables. Have them talk over DDS to Opsim.
- Lynne: Build a Science Analysis driver. Remove SStar and replace with first look analysis, SRD-level analysis, then wider science analysis.
 - Need to talk to Kem and Cathy about what a first look analysis would need.
 - +1 from Peter, 1 ajc, +1 Cathy, +1 Michael, +1 Scott
 - George: Consolidate SRD metrics and must meet limits for those metrics, preferably before the Scheduler Workshop
- Lynne: Build a benefit function (i.e. prioritize low airmass feels or look through filters with the lowest sky brightness).
 - possibly should wait until after Scheduling workshop (+1 PY-maybe this is just getting a more in-depth look at the Opsim cost function—do we have any tools to visualize the cost function?)
- Lynne: figure out use cases for something that makes run-to-run comparisons automatically. (+1 Cathy, +1 PY)
- Peter: demonstrate progress on sky brightness calculator. (+1 ajc)
- Peter: make sure we can combine multiple outputs into a single display. (does this refer to the movies? -Cathy. This is related to breaking up the SSTAR config file, I want to be sure that we can dump the results from different configs into the same output directory without problems. -PY)
- Peter: need rotTelPos and rotSkyPos back in the OpSim output.
- Scott: reconcile fact that OpSim pointings are for only one filter while catalogs simulate photometry for all filters.
 - A part of this is having a discussion about what we want the catalogs to be used for. They are currently very specialized to act as PhoSim input catalogs. That may not be the most generally useful application. (+1 ajc)
- Darko: Put alert stream in Git and JIRA (+1 ajc, +1 Michael, +1 PY)
- Darko: add UCDs to database.
- Darko: get interface to PhoSim or GalSim to generate simulated cut-out that comes with alert stream.
- Michael (+1 for George, +1 ajc, +1 Michael): need to get DDS to work. (Work with Dave Mills)
- Michael: continue to review OpSim design.
- Michael: go from generating catalogs using photons to generating an image. (George: Isn't this the same as the training session on "pointings to images"?)
- Francisco: emphasize the boundaries of all of the components of the simulation code.
- Cathy (+1 for George +1 Cathy): need standard pipeline to perform and analyze and compare OpSim runs
- Chuck: both sky brightness and seeing feeds into simulations (using Peter's model) could be implemented