

Science Pipelines Project Planning

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The logo for the Large Synoptic Survey Telescope (LSST). The letters 'LSST' are rendered in a bold, black, sans-serif font. The letter 'S' is filled with a blue-to-white gradient, representing a galaxy or nebula. The letters 'L' and 'T' are solid black with a white outline. The background of the slide features technical drawings in yellow and blue, including circular patterns and structural diagrams.

Large Synoptic Survey Telescope

Situation to date

- “Science Pipelines” referring to Alert Production, Data Release Production, Calibration Products Production teams.
- Most Pipelines developers working independently on long-term projects (deblender, Jointcal, DCR, galaxy modeling, ...).
- Building up deep expertise on particular algorithmic areas.
- Provides an obvious contact point for particular functionality.
- Provides easy-to-reason-about linear development timelines.

Moving towards commissioning / operations

- The Pipelines development team will have to be responsive to requests from commissioning, ops (& where appropriate, community members).
- We can't tell Chuck to wait until staff are available or we reach a convenient point in the timetable.
- We prioritise concrete, incremental performance improvements (scientific and/or computational) over the pursuit of long-term algorithmic research.
- Getting the knowledge we've built up on hard algorithmic problems into operational pipelines will require a combination of skills – scientific and engineering – which will mean drawing upon multiple team members.

The approach: be more “agile”

- Rather than attempt to schedule all work up-front in a giant Gantt chart, we will define as much work as possible in terms of short (1-2 month) projects involving a few (2-5? people).
- Projects drawn from work known necessary to complete construction **and** “emergent” work corresponding to issues identified by commissioning, validation, sci. collabs, etc.
- Projects will all have concrete, testable deliverables.
- Product owners (Eric, Jim, Robert L.) will select the highest-priority projects on a month-by-month basis.
- Not *all* work will be scheduled on this basis: some long-running projects will continue.

Executing projects

- Each project will have an associated product owner and manager.
- We will be experimenting with management approaches (how best to use Jira, sprints, standups, etc etc); do not expect a one-size-fits-every-project approach (at least at first).
- Each project will end with a “demo” in which the team shows what they have done to key stakeholders, and a “retrospective” where we review process.

Consequences

- Obvious earned value implications, which I will be addressing with Kevin Long.
- No longer possible to predict concrete due dates on some major deliverables.
- That is, I will not give you a Gantt chart today which says “MultiFit arrives on the Umpteenth of Dectober, 2038”.
- *We will* work with the Commissioning Team, Validation Team, etc to ensure they have the functionality they need at major milestones.
- This approach has been agreed with the DM Subsystem Scientist (Leanne) & LSST Project Scientist (Željko), the ultimate product owners.
- Pipelines team members will be asked to prioritise the immediate project they are working on; may be less responsive to interruptions from e.g. Slack.

Upcoming projects

- Jira backlog: <http://ls.st/vzp>
- Please coordinate ideas for projects with the Product Owners.
- Starting first projects ~now (for the beginning of the F19 cycle).

