

Apps Status Report for January 15, 2010

Guide on Reporting Percentage Completed:

For software development tasks,

- use 0% if the solution is still being designed;
- use 25% if the solution's design is completed;
- use 50% if the solution is implemented and tested within the Ticket branch;
- use 75% if the implementation review is complete, the Ticket branch has been merged onto the Trunk branch, and the Ticket is closed.
- use 100% if the affected Trunk packages are tagged and released.

For other tasks, still use these increments, but apply their meaning as best as possible.

Note: Please place an asterisk (*) after the percent if you updated this value in this report.

Allsman Robyn

Reported 20/Jan/10

| ID | Percent | Task | Comments |
|--------|---------|---------------------------------------------------------|--------------------|
| APP204 | 0% | identify scientists to analyze stage output | <i>not started</i> |
| APP200 | 0% | validate initial integration run successfully completed | <i>not started</i> |

*Percent updated in this report

Comments:

Other Activities

- DM TCT activities
 - ◆ update C++ Standards Document per TCT 13 Jan meeting
- Standards Checking
 - ◆ continued to handle Standards Checking for C++ and Python language use
 - ◆ wrote [StandardsChecking/Setup](#) describing Parasoft setup for Parasoft CLI standards checking
 - ◆ requested that Parasoft and Pylint Standards Checking be integrated into the buildbot environment.
- Enterprise Architect
 - ◆ moving the existing DC3b activity flow model into alignment with KTL's dataflow model
- Software Release Project Plan
 - ◆ continued to update the SDP DC3 documents [DC3/ProjectManagementPlan](#) to reflect DC3b development and release protocols.

Axelrod Tim

Reported xx/xx/xx

| ID | Percent | Task | Comments |
|--------|---------|---------------------------------------------------------------|--------------------|
| APP155 | 0% | photometric self calibration | <i>not started</i> |
| APP159 | 0% | evaluate tools and make selection | <i>not started</i> |
| APP158 | 0% | configure and test for HEALpix projection | <i>not started</i> |
| APP161 | 0% | configure and test for display of full focal plane LSST image | <i>not started</i> |
| APP56 | 0% | defining units | <i>not started</i> |
| APP91 | 80% | define DC3b goals for SDQA | |
| APP191 | 50% | Provide special case simulation needs (Axelrod) | |

*Percent updated in this report

Comments:

Other Activities

Becker Andy

Reported 01/19/10

| ID | Percent | Task | Comments |
|--------|---------|--------------------------------------------------------|--------------------|
| APP145 | *75% | move applications code out of stage code | |
| APP80 | 75% | adapt PSF spatial cell model for ip_diffim | |
| APP79 | 75% | implement sum-of-gaussians (Alard-Lupton) kernel basis | |
| APP78 | *75% | investigate regularizing delta function kernels | |
| APP95 | *25% | code to measure quality of difference imaging coadds | |
| APP100 | 0% | test difference imaging coadds | <i>not started</i> |
| APP123 | 0% | find CFHT fringe frames and move to NCSA | <i>not started</i> |

*Percent updated in this report

Comments:

Other Activities

Becla Jacek

Reported 01/21/10

| ID | Percent | Task | Comments |
|-------|---------|---------------------------------------------------------------|--------------------|
| APP53 | 75% | schema updates for all source related tables and object table | |
| APP54 | 0% | schema updates for all exposure related tables | <i>not started</i> |

| | | | |
|-------|------|---------------------------|---------------------------------------------------------------------------------------------------------|
| APP55 | N/A* | synthetic sources of data | <i>Per Tim (DataAccWG telecon Jan 15, 2010) this is not needed for DC3b. Planning to do after DC3b.</i> |
| APP56 | 0% | defining units | <i>not started</i> |
| APP57 | 75% | standardizing names | |

*Percent updated in this report

Comments:

See [MW report](#).

Other Activities

Bickerton Steve

Reported xx/xx/xx

| ID | Percent | Task | Comments |
|--------|---------|--------------------|----------|
| APP112 | 25% | stellar photometry | |

*Percent updated in this report

Comments:

Other Activities

Bosch Jim

Reported xx/xx/xx

| ID | Percent | Task | Comments |
|--------|---------|----------------------------------------------------|--------------------|
| APP108 | 75% | implement convolved Sersic models | |
| APP107 | 50% | implement multifit fitter | |
| APP117 | 0% | implement constrained models for forced photometry | <i>not started</i> |
| APP116 | 0% | create LSST stages for photometry | <i>not started</i> |

*Percent updated in this report

Comments:

Other Activities

Cleveland Matt

Reported xx/xx/xx

| ID | Percent | Task | Comments |
|--------|---------|--------------------------------------------------|--------------------|
| APP154 | 0% | develop distributed linkTracklets implementation | <i>not started</i> |

*Percent updated in this report

Comments:

Other Activities

Dubcovsky Martin

Reported 01/20/09

| ID | Percent | Task | Comments |
|--------|---------|----------------------------------------------------------------------------------------------------|--------------------------------------------|
| APP150 | 100% | move applications code out of stage code | |
| APP168 | 100% | modify stage code to conform with new MW API | |
| APP109 | 100% | complete API for model fitting with marginalization over calibration parameters | |
| APP108 | 75% | implement convolved Sersic models | <i>Point source model work is complete</i> |
| APP107 | *100% | implement multifit fitter | |
| APP118 | 25% | implement multifit pipeline which leverages multifit API and image access framework | |
| APP119 | 0% | implement pipeline stage for extracting ellipse parameters, flux, and bounding box from detections | <i>not started</i> |
| APP117 | 0% | implement constrained models for forced photometry | <i>not started</i> |
| APP116 | 0% | create LSST stages for photometry | <i>not started</i> |

*Percent updated in this report

Comments:

First complete implementation! Can only fit Point-Source models but it's a start. Will be slowing down development slightly in order to catch up the documentation, and clean up the code

Other Activities

Grav Tommy

Reported xx/xx/xx

| ID | Percent | Task | Comments |
|--------|---------|----------------------------------|--------------------|
| APP134 | 0% | generate PS-SSM catalog for LSST | <i>not started</i> |

*Percent updated in this report

Comments:

Other Activities

Jarvis Mike

Reported xx/xx/xx

| ID | Percent | Task | Comments |
|--------|---------|------------------------|----------|
| APP105 | 25% | PSF for deep detection | |

*Percent updated in this report

Comments:

Other Activities

Jones Lynne

Reported xx/xx/xx

| ID | Percent | Task | Comments |
|----|---------|------|----------|
|----|---------|------|----------|

*Percent updated in this report

Comments:

Other Activities

Krughoff Simon

Reported 01/29/10

| ID | Percent | Task | Comments |
|--------|---------|----------------------------------------------------|--------------------|
| APP146 | *75% | move applications code out of stage code | |
| APP84 | 0% | apply fringe frame correction | <i>not started</i> |
| APP83 | 50% | develop camera state classes (CCDinfo and Ampinfo) | |
| APP82 | 25% | develop calibration products database classes | |

*Percent updated in this report

Comments:

Other Activities

Laher Russ

Reported 01/29/10

| ID | Percent | Task | Comments |
|--------|---------|---------------------------------------------------------|--------------------|
| APP212 | 100% | Update SDQA package to confirm with C++ standards | Completed. |
| APP90 | 0% | implement SDQA tool functionality to support DC3b goals | <i>not started</i> |
| APP89 | 0% | query metadata and package in C++ container | <i>not started</i> |

| | | | |
|--------|-----|---------------------------------|-------------------------|
| APP88 | 0% | implement threshold comparision | <i>not started</i> |
| APP211 | 50% | WCS verification code | Development continuing. |
| APP210 | 75% | ATpy evaluation | Put on the back burner. |

*Percent updated in this report

Comments:

- Attended DC3b data-validation meeting with Deborah, Jeonghee, Dick, Robyn, Tim and Jeff in Tucson Jan 12 & 13.
- Documented design of SDQA WCS verification stage in [SdqaWcsFailureCheckStage](#).
- Implemented Trac ticket [#1084](#) (skeletal stage for SDQA WCS verification).
- Developed and tested unit test for SDQA WCS verification stage.
- Working now on fleshing out SDQA WCS verification stage (Trac ticket [#1147](#)).

Other Activities

Suzy Dodd

-Schuyler, Suzy attended NSF Review in Tucson. -Schuyler, Suzy, Lee attended LSST Session at AAS.
 -Schuyler getting up to speed on LSST. He lead two Apps WG meetings while Robert in Japan. Supported the usual meetings and reporting.

Levine Deborah

Reported 01/19/10

| ID | Percent | Task | Comments |
|-------|---------|-------------------------------------------------------------------------------|--------------------|
| APP90 | 0% | implement Dc3b processing validation tool functionality to support DC3b goals | <i>not started</i> |

*Percent updated in this report

Comments:

Met with Tim and Jeff in Tucson Jan 12 & 13. Decided to emphasize activities that support validation of the pipeline processing for DC3b, especially comparison to "truth" as captured in the simulator inputs. A list of actions has been generated, prioritized and circulated and a list of specific tasks for the formerly SDQA, now Analysis Support group. These are currently being sized and we will determine how far down the priority list we believe we can get fro the various stages of DC3b.

Other Activities

Lim KT

Reported xx/xx/xx

| ID | Percent | Task | Comments |
|------|---------|--------------------------------------|--------------------|
| APP6 | 0% | interslice communications | <i>not started</i> |
| APP7 | 0% | post spatial matching (stretch goal) | <i>not started</i> |

| | | | |
|--------|----|-------------------------------------------------------------------|--------------------|
| APP192 | 0% | translate overall production into pipeline , stages, and policies | <i>not started</i> |
|--------|----|-------------------------------------------------------------------|--------------------|

*Percent updated in this report

Comments:

Other Activities

Lupton Robert

Reported xx/xx/xx

| ID | Percent | Task | Comments |
|--------|---------|------------------------------------------------------|--------------------|
| APP139 | 0% | integrate HEALPix into software stack | <i>not started</i> |
| APP95 | 40% | code to measure quality of difference imaging coadds | |
| APP100 | 0% | test difference imaging coadds | <i>not started</i> |
| APP149 | 80% | move applications code out of stage code | |
| APP167 | 0% | modify stage code to conform with new MW API | <i>not started</i> |
| APP101 | 75% | simplified background estimation | |
| APP121 | 50% | adapt astrometry code for DC3b use | |

*Percent updated in this report

Comments:

Other Activities

Monet Dave

Reported xx/xx/xx

| ID | Percent | Task | Comments |
|--------|---------|------------------------------------|----------|
| APP121 | 50% | adapt astrometry code for DC3b use | |

*Percent updated in this report

Comments:

Other Activities

Monkewitz Serge

Reported xx/xx/xx

| ID | Percent | Task | Comments |
|--------|---------|----------------------------------------------|--------------------|
| APP144 | 0% | move applications code out of stage code | <i>not started</i> |
| APP162 | 0% | modify stage code to conform with new MW API | <i>not started</i> |
| APP6 | 0% | interslice communications | <i>not started</i> |
| APP7 | 0% | post spatial matching (stretch goal) | <i>not started</i> |

| | | | |
|-------|----|--------------------------------------------------------------------------------------|--------------------|
| APP74 | 0% | characterization of and improvements to association cosmic ray rejection performance | <i>not started</i> |
|-------|----|--------------------------------------------------------------------------------------|--------------------|

*Percent updated in this report

Comments:

Other Activities

Mullally Fergal

Reported xx/xx/xx

| ID | Percent | Task | Comments |
|--------|---------|-------------------------------------------------------|----------|
| APP86 | 60% | implement improvements for WCS | |
| APP151 | 25% | implement stage structure for support astrometry code | |

*Percent updated in this report

Comments:

Other Activities

Myers Jon

Reported xx/xx/xx

| ID | Percent | Task | Comments |
|--------|---------|--------------------------------------------------|----------|
| APP140 | 25% | integrate MOPS stages with new C++ KD-Tree tools | |
| APP129 | *35% | run DayMOPS with solar system model | |
| APP141 | 75% | write linkTracklets and unit tests | |

*Percent updated in this report

Comments:

- Generated resource requirement estimates for DC3b with Lynne, Tim, DB folks
- Sent request for new pyorb function to Mikael Granvik
- Discovered missing, needed fields with current DIASource specification, discussed with DB crew
- Ingested new full-density LSST data covering a subsets of fields, generated by Lynne
- Ran DayMOPS with full-density LSST data covering only a subset of fields, found it to swap out.
- Pulled LSST data out and used command-line versions to research new parameters which will work better, chronicled results at [MopsRunlog](#)
- Discovered potential problems with tracklet linking over a 30-day window; fortunately, validated that ≤ 20 days is fast and generates a tractable number of tracks
- Discovered, isolated some data sets which cause findTracklets (C version) to crash on my machine
- Worked with Matt to generate a more thorough plan for distributing linkTracklets

Other Activities

Owen Russ

Reported xx/xx/xx

| ID | Percent | Task | Comments |
|--------|---------|-----------------------------------------------------------------------------|--------------------|
| APP77 | 0% | fix ticket #873 | <i>not started</i> |
| APP94 | 0% | code to warp images to/from sky pixel representation | <i>not started</i> |
| APP209 | 0% | implement outlier rejection | <i>not started</i> |
| APP98 | 50% | code to create PSF-matched difference imaging coadds (no outlier rejection) | |
| APP95 | 40% | code to measure quality of difference imaging coadds | |
| APP104 | 50% | code to detect chi-squared deep detection coadds (no outlier rejection) | |

*Percent updated in this report

Comments:

-Finished ticket [#606](#) (convert afw to use minuit2) and merged to trunk.

Worked on coadds (coadd_utils, coadd_psfmatched, coadd_chisquared and coadd_pipeline):

- Implemented outlier rejection stage
- Expanded coadd_utils
- Fixed an image weighting bug
- Worked around an afw bug ([#1121](#))
- Supported Ray Plante's resource allocation runs

These packages are now ready to be tagged, but I cannot tag them until we have tagged versions of ip_diffim and afw.

-Worked on afw some, cleaning things up, supplying a workaround for bug [#1121](#) (not a complete fix, but it does the job in many cases), testing changes. Also Jim Bosch and I patched meas_astrom to work with trunk afw.

-I am working on HEALPix, but that is going slowly.

Plans for next month:

- Tag and release the first versions of coadd_chisquared, coadd_psfmatched and coadd_pipeline (once afw and ip_diffim are tagged)
- Code to allow use of HEALPix

Other Activities

Pierfederici Francesco

Reported xx/xx/xx

Other Activities

| ID | Percent | Task | Comments |
|----|---------|------|----------|
|----|---------|------|----------|

*Percent updated in this report

Comments:

Other Activities

TBD

Reported xx/xx/xx

| ID | Percent | Task | Comments |
|--------|---------|----------------------------------------------------------------|--------------------|
| APP103 | 0% | create a set of chi-squared deep detection coadds | <i>not started</i> |
| APP102 | 0% | code to measure quality of deep detection coadds | <i>not started</i> |
| APP208 | 0% | define CFHT to be used | <i>not started</i> |
| APP201 | 0% | identify tools to analyze science data quality of stage output | <i>not started</i> |
| APP199 | 0% | validate science quality of initial integration run | <i>not started</i> |

*Percent updated in this report

Comments:

Other Activities

Major Accomplishments

Significant breakthroughs, issues resolved.

Objectives for the Next Period

What you expect to accomplish.

Problems Encountered and Solutions Being Pursued

Budget or schedule variance, technical issues, management issues.