

Apps Status Report for May 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 21 May 2010

ID	Percent	Task	Comments
APP200	75%*	validate initial integration run successfully completed	

*Percent updated in this report

Comments: Initial integration is ongoing. Science validation of the output products is still underway. Integration of 5 of the six pipelines into the pipeline orchestration layer is complete. The 6th pipeline is independently functional but its inclusion into the Production pipeline awaits a refinement of the handshake between differently parallelized pipelines. Testing on ABE has not begun.

Other Activities

Axelrod Tim

Reported xx/xx/xx

ID	Percent	Task	Comments
APP155	0%	photometric self calibration	<i>not started</i>
APP56	80%	defining units	
APP261	20%	create calibration catalogs for CFHTLS	
APP291	0%	create input data for <u>ImSim</u>	<i>not started</i>
APP263	50%	identify set of images for compression tests	
APP260	90%	define DC3b data quality requirements	
APP204	0%	identify scientists to analyze stage output	<i>not started</i>
APP199	0%	PT1 best efforts science data analysis/validation	<i>not started</i>

APP191	50%	Provide special case simulation needs (Axelrod)
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*Percent updated in this report

Comments:

Other Activities

Becker Andy

Reported 05/20/10

ID	Percent	Task	Comments
APP246	50%	update Diff-Im post design review (ticket 1176)	
APP245	25%	implement correlation function for spatial kernel fit (ticket 1140)	
APP100	0%	test difference imaging coadds	<i>not started</i>
APP247	40%	code to measure quality of difference imaging coadds	
APP123	100%	find CFHT fringe frames and move to NCSA	*

*Percent updated in this report

Comments:

Other Activities

All time has been spend on DC3b data staging and debugging activities.

Becla Jacek

Reported 05/20/10

ID	Percent	Task	Comments
APP54	75%	schema updates for all exposure related tables	
APP55	0%	synthetic sources of data	<i>not started</i>
APP56	80%	defining units	

*Percent updated in this report

Comments:

Other Activities

See middleware status report

Bickerton Steve

Reported xx/xx/xx

ID	Percent	Task	Comments
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APP295	25%	stellar photometry	
APP256	0%	compute statistics on a sky pixel masked image	<i>not started</i>

*Percent updated in this report

Comments:

Other Activities

Dodd Suzy

Reported 5/21/10

Worked with Jeff on IPAC Statement of Work and review of proposed DM organization.

Ran May 5 Apps WG for Robert.

Review DC3b Plan and DM PDR plan

Track status on IPAC SDQA and SUI PT1 work.

Standard meetings: Apps WG, DC3b, SAT, DM management, LSST management, 2 pm stand ups

Next Month:

Run DM PMC meetings for Jeff in June

Define SUI all hands break out with Schuyler and Suzanne

Good John

Reported 5/21/10

ID	Percent	Task	Comments
APP226	50%*	code PT1 SUI tools	

*Percent updated in this report

Comments: Adapted Gator and VOInventory tools for LSST PT1. Waiting on table data from KT to test/update tools.

Other Activities

Jarvis Mike

Reported 5/20/10

ID	Percent	Task	Comments
APP105	50%	PSF for deep detection	Completed review of class design. Full code review still pending.

*Percent updated in this report

Bickerton Steve

Comments:

Other Activities

Krughoff Simon

Reported xx/xx/xx

ID	Percent	Task	Comments
APP84	0%	apply fringe frame correction	<i>not started</i>
APP83	75%	develop camera state classes (CCDinfo and Ampinfo)	
APP82	25%	develop calibration products database classes	
APP253	0%	implement ccd assembly code with appropriate stage code	<i>not started</i>
APP252	0%	test camera geometry classess with <u>ImSim</u> LSST focal plane model	<i>not started</i>
APP251	18%	implement datarel.IsrStageUnit? Test	
APP250	25%	write stage dictionaries and unit tests for ValidateMetaData? and CalibrationDataProducts?	
APP249	25%	create policy files for <u>ImSim</u> camera geometry	
APP254	0%	move saturation and defect correction to the CCD assembly stage	<i>not started</i>

*Percent updated in this report

Comments:

Other Activities

Laher Russ

Reported 5/21/10

ID	Percent	Task	Comments
APP90	0%	implement SDQA tool functionality to support DC3b goals	<i>not started</i>
?	75%*	Thoth GUI for database visualization and statistical analysis	new task
APP89	0%	query metadata and package in C++ container	<i>not started</i>
APP88	0%	implement threshold comparision	<i>not started</i>
APP211	75%	WCS verification code	
APP210	75%	ATpy evaluation	
?	50%*	Develop common SQL queries for SDQA and DC3b data validation	new task
APP283	50%*	identify existing sdqa metrics	
APP282	50%	code to validate ISR pipeline outputs	
APP281	5%	code to validate IC pipeline outputs	started
APP280	0%	code to validate image subtraction	<i>not started</i>
APP288	0%	code to validate detection of sources in subtracted image	<i>not started</i>
APP290	0%	code to validate association pipeline	<i>not started</i>
APP287	0%	code to validate deep detection and measurement pipeline	<i>not started</i>

*Percent updated in this report

Comments: worked on SDQA metrics and queries.

Other Activities

Levine Deborah

Reported 5/21/10

ID	Percent	Task	Comments
APP90	0%	implement SDQA tool functionality to support DC3b goals	<i>not started</i>
APP229	50%*	identify tools to support PT1 data analysis	
APP227	50%*	manage PT1 data access tools task	<i>not started</i>
APP235	25%	design and document SUI in UML	<i>not started</i>

*Percent updated in this report

Comments:

Supported SDQA SPIE paper design

Tracked SUI status for PT1

Regular meetings

Other Activities

Lim KT

Reported 5/20/10

ID	Percent	Task	Comments
APP6	0%	interslice communications	<i>not started</i>
APP7	0%	post spatial matching (stretch goal)	<i>not started</i>
APP192	75%	translate overall production into pipeline, stages, and policies	

*Percent updated in this report

Comments: I'm hoping that once PT1 production starts up I can sit down and think about a more up-to-date list of the apps tasks on my plate.

Other Activities

Lupton Robert

Reported xx/xx/xx

ID	Percent	Task	Comments
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APP139	0%	integrate HEALPix into software stack	<i>not started</i>
APP100	0%	test difference imaging coadds	<i>not started</i>
APP121	50%	adapt astrometry code for DC3b use	

*Percent updated in this report

Comments:

Other Activities

Mannings Vince

Reported xx/xx/xx

ID	Percent	Task	Comments
APP235	0%	design and document SUI in UML	<i>not started</i>

*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 5/21/10

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>
APP244	65%	implement/wrap OPTICS source clustering algorithm	
APP243	0%	implement Detection/Source? association	<i>not started (not required for PT1)</i>
APP6	0%	interslice communications	<i>not started</i>
APP7	0%	post spatial matching (stretch goal)	<i>not started</i>
APP74	0%		<i>not started</i>

	characterization of and improvements to association cosmic ray rejection performance	
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*Percent updated in this report

Comments: All association pipeline work for PT1

Other Activities

Mullally Fergal

Reported xx/xx/xx

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

*Percent updated in this report

Comments:

Other Activities

Myers Jon

Reported 5/20/10

ID	Percent	Task	Comments
APP140	25%	integrate MOPS stages with new C++ KD-Tree tools	
APP129	50%*	run DayMOPS with solar system model	
APP141	90%	write linkTracklets and unit tests	
APP267	100%	update DayMOPS for new DIASource Table	
APP265	25%	make DIASource the smallest unit of Tracks and MovingObject??	
APP264	25%	update DayMOPS to stop using template tables	<i>not started</i>
APP270	25%	remove DIASourceForTonight table, pass DIASource on clipboard	
APP269	0%	pass Tracks on clipboard rather than via Tracks table	<i>not started</i>
APP268	50%*	made a new initial stage which gets night numbers from Policy	

*Percent updated in this report

Comments:

- Plans to improve integration into DayMops? framework held up while we wait for SAT to determine appropriate methods for allowing stages to process data sets too large to fit in memory; presented a plan/algorithm for how to allow MOPS to process data sets too large to fit in memory using a database and put it up at [DatabaseBackedTracklets](#) .
- Decided to use Cobalt, the (very) large shared-memory machine at Purdue, for testing existing C implementations which have large inputs and/or outputs. Got access through Mike Freemon and TeraGrid?.

- Generated tracklets at at velocity ranges 0 to 0.5, 0 to 1.0, and 0 to 2.0 for full set of DC3b PT2 ephemerides with deep stack ephemerides removed. Both the C and C++ implementations of findTracklets were used.

Other Activities

- Built new buffered TrackletVector? class used by find/linkTracklets; it can be used to buffer output for findTracklets, periodically writing it to disk, thus preventing out-of-memory errors when running findTracklets.
- Added new TrackSet? class for linkTracklets, which has fast, useful subset/equality tests, to be used for unit testing and validation.
- Attempted to write my first full Formatter, before it was nixed as being a bad idea until we hear back from SAT!
- Performance and functionality improvements in C++ findTracklets

Owen Russ

Reported 5/18/10

ID	Percent	Task	Comments
APP77	100%	fix ticket #873	
APP139	0%	integrate HEALPix into software stack	<i>not started</i>
APP94	25%	code to warp images to/from sky pixel representation	
APP209	50%	implement outlier rejection	
APP98	50%	code to create PSF-matched difference imaging coadds (no outlier rejection)	
APP257	50%	code to create deep monochromatic coadds	
APP104	75%	code to detect chi-squared deep detection coadds (no outlier rejection)	
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>

*Percent updated in this report

Comments: Implemented convolution with adaptive linear interpolation (Mike Jarvis' algorithm). This fixes two tickets:

- ticket [#873](#) Convolution of a [MaskedImage](#) with a spatially varying LinearCombinationKernel? can give incorrect variance
- ticket [#1198](#) Convolution is too slow with a spatially varying Linear Combination Kernel that has many basis kernels

This has been merged to afw trunk, but a new version of afw has not yet been tagged. Note that spatially varying separable kernels still use brute force for convolution; we may wish to apply linear interpolation to those at some point, but only if the current code is not deemed fast enough.

Next I intend to focus on implementing HEALPix. I also need to finish some work on testing chi squared coadd.

Other Activities

Pierfederici Francesco

Reported xx/xx/xx

ID	Percent	Task	Comments
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*Percent updated in this report

Comments:

Other Activities

Shaw Dick

Reported xx/xx/xx

ID	Percent	Task	Comments
APP240	*15%	DC3b User Guide	
APP242	0%	create user training program	<i>not started</i>
APP234	0%	develop Use Cases for SUI	<i>not started</i>
APP239	*100%	prepare CFHT-LS Calibration Reference Files	done
APP208	*100%	define CFHT raw data to be used	done
APP283	*75%	Define SDQA Metrics (and subset for PT1)	

*Percent updated in this report

Comments:

Other Activities

Van Dyk Schuyler

Reported 5/21/10

ID	Percent	Task	Comments
APP229	33%	identify tools to support PT1 data analysis	
APP240	8%	DC3b User Guide	
APP296	50%	set up helpdesk system	
APP234	0%	develop Use Cases for SUI	<i>not started</i>
APP235	0%	design and document SUI in UML	<i>not started</i>
APP260	75%	define DC3b data quality requirements	<i>dialed back from previous month</i>
APP230	60%		

		complete DM system data product quality metrics document	
	25%	develop PT1 data analysis/validation plan	
APP199	0%	PT1 best efforts science data analysis/validation	<i>not started</i>

*Percent updated in this report

Comments:

Met with IPAC scientists to work out PT1 validation tasks/assignments.

Ran April 21 Apps WG for Robert.

Supported regular meetings.

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.