WP #	CASU WP name /sub task / 04Q3 deliverable	V.I.F.	name	date	end of month report	%sub	% task
1	**Management and definition of project responsibilities**	**3.0**					
1.1	report to VISTA, UKIDSS, JAC, ATC, GSC						87
	provide fornightly meeting minutes, monthly reports on progress + quarterly review reports and planning		STH, MJI	31-Jul-04	minutes and report produced	10	
			STH, MJI	31-Aug-04	meetings held, minutes and report produced	50	
			STH, MJI	30-Sep-04	met, reported	100	
	prepare for and present paper at ADASS meeting		JRL	31-Jul-04	abstract written and submitted	10	
			JRL	31-Aug-04	nothing further this month	10	
			JRL	30-Sep-04	poster text and figures drafted and now in the hands of Richard Sword	50	
1.2	interface control document between CASU and JAC				completed		100
1.3	interface control document between CASU and WFAU				completed		100
1.4	define WFCAM data structures and FITS headers				completed		100
1.5a	define WFCAM observing protocols						87
	check OT generated MSBs and create diagrams		MJI + STH	31-Jul-04	no progress	0	
			MJI + STH	31-Aug-04	MSBs generated for GPS, began investigation	10	
			MJI + STH	30-Sep-04	no further progress	50	
1.5b	define VISTA observing protocols						
	help define science and user requirements		MJI + PSB	31-Jul-04	example science goals collated from VDUC to be included in UKURD	10	
			MJI + PSB	31-Aug-04	sent detailed comments on UKURD to WJS	50	
			MJI + PSB	30-Sep-04	sent further comments to WJS	100	
1.6a	liaise with UKIDSS&JAC on WFCAM obs strategy, surveys planning						87
	monitor progress		DWE	31-Jul-04	nothing to report	10	
			DWE	31-Aug-04	continued telecons	50	
			DWE	30-Sep-04	continued JAC telecons.	100	
	investigate MKO sky brightness		STH	31-Jul-04	no progress	0	
			STH	31-Aug-04	no progress	0	
			STH	30-Sep-04	Andy Adamson has completed report on MKO sky brightness	100	
1.6b	liaise with Project Scientist on VISTA observing strategy & survey planning						
	monitor progress		PSB	31-Jul-04	PSB held discussions with WJS	10	
			PSB	31-Aug-04	nothing to report	50	
			PSB	30-Sep-04	incorporated WJS suggestions on failure modes into URD draft	100	
1.7a	liaise with VDUC on VDFS products for WFCAM						87
	monitor progress + attend meetings as necessary		STH + MJI	31-Jul-04	up to date	10	
			STH + MJI	31-Aug-04	nothing to report	50	
			STH + MJI	30-Sep-04	nothing to report	100	
1.7b	liaise with VDUC on VDFS products for VISTA						
	monitor progress + attend meetings as necessary		MJI + STH	31-Jul-04	up to date	10	
			MJI + STH	31-Aug-04	nothing to report	50	
			MJI + STH	30-Sep-04	nothing to report	100	
1.8a	liaise with UKIDSS and JAC on survey progress DB		JRL		paused until commissioning		87
1.9	system documentation						87

	update and maintain web pages of system docs	DWE	31-Jul-04	documentation updated as necessary	10	
		DWE	31-Aug-04	documentation updated as necessary	50	
		DWE	30-Sep-04	documentation updated as necessary	100	
2 ESO VISTA software interface deliverables and documentation		**4.0**				
2.1	**VDFS user requirements document**					70
	agree RIXs	PSB	31-Jul-04	comments fed back to JPE	50	
		PSB	31-Aug-04	no progress. awaiting final issue of RIX response document.	50	
		PSB	30-Sep-04	reviewed and agreed final RIX doc	100	
	update docs	PSB	31-Jul-04	clearcut alterations made, now awaiting agreement on RIXs	10	
		PSB	31-Aug-04	still awaiting agreement on RIXs	10	
		PSB	30-Sep-04	drafted multiple changes	50	
2.2	**data reduction specification document**					70
	agree RIXs	PSB	31-Jul-04	comments fed back to JPE	50	
		PSB	31-Aug-04	no progress. awaiting final issue of RIX response document.	50	
		PSB	30-Sep-04	reviewed and agreed final RIX, reviewed new DFS deliverables spec and CPL Tech Manual for impact on Data-Reduction design	100	
	update docs	PSB	31-Jul-04	clearcut alterations made, now awaiting agreement on RIXs	10	
		PSB	31-Aug-04	no progress. awaiting final issue of RIX response document	10	
		PSB	30-Sep-04	drafted multiple changes	50	
	produce report on QFITS/CPL for ESO	PSB	31-Aug-04	report written and sent to JPE for review	50	
		PSB	30-Sep-04	report updated and sent to ESO	100	
2.3	**calibration plan document**					70
	agree RIXs	PSB	31-Jul-04	comments fed back to JPE	50	
		PSB	31-Aug-04	no progress. awaiting final issue of RIX response document.	50	
		PSB	30-Sep-04	reviewed and agreed final RIX document	100	
	update docs	PSB	31-Jul-04	uncontroversial alterations made, now awaiting agreement on RIXs	10	
		PSB	31-Aug-04	no progress. awaiting final issue of RIX response document.	10	
		PSB	30-Sep-04	drafted multiple changes	50	
2.5	**ICD ESO/VPO**					60
	update DID and write first draft of DID doc for FDR	PSB	31-Jul-04	first draft DID almost complete barring input from JMS on TCS	10	
		PSB	31-Aug-04	first draft DID sent to JPE for release	100	
2.7	**Delivery software modules for exposure time calculator**					20
	develop mathematical description for ETC	PSB	31-Jul-04	no progress	0	
		PSB	31-Aug-04	began investigation based on ISAAC ETC	10	
		PSB	30-Sep-04	STH has written mathematical description of ETC	100	
	define scope of ETC	PSB	31-Jul-04	no progress	0	
		PSB	31-Aug-04	began initial investigation	10	
		PSB	30-Sep-04	STH has defined scope of ETC based on 1618_v2	100	
	write report	PSB	31-Jul-04	no progress	0	
		PSB	31-Aug-04	no progress	0	
		PSB	30-Sep-04	STH and PSB have written first draft of ETC document. Waiting to see ESO example doc (VIMOS ETC) before circulating	50	
2.8	**liaise with VISTA IR camera development team**					87
	continue liaising	PSB	31-Jul-04	productive interaction with SB on DID	10	
		PSB	31-Aug-04	lots of discussion with JMS	50	
		PSB	30-Sep-04	discussed implications of new template approach, discussed TCS DIC, organised and held RIX-action telecon	100	

3	**Pipeline infrastructure and pipeline progress monitoring tools**		**3.5**				
3.1	interactive tools for running pipeline						65
	develop tools and document		JRL	31-Jul-04	some more tools written and documented	10	
			JRL	31-Aug-04	some more tools written and documented. Local catalogue searching added.	50	
			JRL	30-Sep-04	large number of basic tools added and documented, mainly for commissioning tasks following discussion with JAC. Up to date as far as we can predict.	100	
3.2	high level scripts to interrogate headers						60
	develop with WFC data		STH, JMI	31-Jul-04	programmes written to extract status from image and catalogue headers. needs work to speed up and optomize method. present version takes 30 mins to run on 3000 files.	10	
			STH, JMI	31-Aug-04	some speed up achieved by using cats were poss. will need to rethink method if this is too slow.	50	
			STH, JMI	30-Sep-04	method works well with WFC data.	100	
3.3	automatic progression of results to web pages						60
	develop with WFC data		STH, JMI	31-Jul-04	script reports results to www pages - by machine and by run number	50	
			STH, JMI	31-Aug-04	some testing and feedback received - improvements and extra plots added, including expected parameters from WFCAM headers and value checking. Investigating interactive plots/database scheme.	50	
			STH, JMI	30-Sep-04	taken as far as we can with WFC data	100	
3.4	automatic checks to spot failure of pipeline						20
	use WFC data to develop a scheme		JMI, STH	31-Jul-04	existing scheme allows failures to be spotted and reason diagnosed. work to be done on DQC parameter checking - current version includes astrometry.	50	
			JMI, STH	31-Aug-04	most checks now in place, and pipeline failures easy to spot - planning a more automated approach	50	
			JMI, STH	30-Sep-04	no further progress	50	
3.6	group documentation on pipeline infrastructure						65
	stress test documentation and update as necessary		JRL	31-Jul-04	JMI used pipeline to process IPHAS data and reported problems back to JRL for incorporation	10	
			JRL	31-Aug-04	problems reported by JMI fixed.	50	
			JRL	30-Sep-04	fixed a few small bugs	100	
4	**Set up and manage raw science archive**		**0.0**				
4.1	extend UKIRT archive to cope with WFCAM data						50
	implement interface for ESO compatibility		JRL	31-Jul-04	no progress	0	
			JRL	31-Aug-04	keyword translation code finished, about to test using WFCAM frames	50	
			JRL	30-Sep-04	created test data set for ESO to transfer (ESO keywords included). Liaising with ESO over a few more minor requested changes.	50	
5	**Set up and manage data processing system hardware**		**2.0**				
5.2	buy hardware and install						80
	purchase and install bulk storage devices		PSB, JMI	31-Jul-04	no progress	0	
			PSB, JMI	31-Aug-04	postponed	0	
	purchase and install spare ultrium device		PSB, JMI	31-Jul-04	no progress	0	
			PSB, JMI	31-Aug-04	postponed	0	
5.3	integrating and testing						70
	integrate and test bulk storage devices		PSB, JMI	31-Jul-04	no progress	0	
			PSB, JMI	31-Aug-04	postponed	0	
	integrate and test spare ultrium device		PSB, JMI	31-Jul-04	no progress	0	
			PSB, JMI	31-Aug-04	postponed	0	

5.4	**Manage day-to-day maintenance and upgrades**							87
	continue maintenance and upgrade programme		JMI, PSB	31-Jul-04	implemented virtual consoles for processing machines		10	
			JMI, PSB	31-Aug-04	maintenance and upgrades proceeding to plan		50	
			JMI, PSB	30-Sep-04	apm3 raid disk failure. disk recovered and backups restored		100	
	plan for APM refurbishment and move equipment		MJI, PSB	31-Jul-04	rack mounted more CASU equipment		10	
			MJI, PSB	31-Aug-04	some equipment moved, much clearing out and planning achieved, rest of equipment scheduled to be moved late september		50	
			MJI, PSB	30-Sep-04	APM building completely vacated and all equipment up and running in Obs sweatshop.		100	
6	**Run standard pipeline**	2.5						
7	**Development work for summit pipeline**	1.0						
7.1	**Interface test pipelines in ORAC-DR**		JRL		completed			100
7.2a	**implement WFCAM pipeline at summit**							75
	demonstrate catalogue and non-catalogue DQCs		JRL	31-Jul-04	continuing tests using CIRSI data with faked WFCAM headers		10	
			JRL	31-Aug-04	still no suitable test data, unlikely to see any before late september		10	
			JRL	30-Sep-04	still no suitable test data		10	
7.3a	**documentation for ORAC-DR interface**							70
	update and deliver documentation as development proceeds		JRL	31-Jul-04	documentation added for commissioning recipes written this month.		10	
			JRL	31-Aug-04	no progress this month		10	
			JRL	30-Sep-04	Documentation added to primitives as they have been written and is now up to date		100	
7.4a	**upgrade and maintain summit pipeline WFCAM**							30
	upgrade and maintain		JRL	31-Jul-04	commissioning recipes and primitives being updated to deal with readout characteristics (persistance, linearity etc).		10	
			JRL	31-Aug-04	continued work on sky subtraction algorithms		50	
			JRL	30-Sep-04	Series of primitives written for sky subtraction, linearity (pre- and post-reset corrected data) and defringing		100	
8	**Development and testing of standard 2d processing**	4.0						
8.1a	**further development of standard pipeline for WFCAM**							80
	finish implementing new version of imcore to include full param set		JRL	31-Jul-04	no further progress		0	
			JRL	31-Aug-04	no further progress		0	
			JRL	30-Sep-04	no further progress - awaiting completion of 9.1		0	
8.2a	**liaison with WFCAM development team**							75
	continue discussion on reset anomaly, crosstalk and linearity		JRL	31-Jul-04	progress on readout problems is being made now due to discussions with ATC staff. Real test data is still vital.		10	
			JRL	31-Aug-04	some progress on dark stability using acceptance data. Expecting crosstalk data from JAC in September		10	
			JRL	30-Sep-04	stil waiting for some lab data, including crosstalk measurements. Have used the existing lab data to investigate linearity		10	
	assess engineering test data for above problems and report		JRL	31-Jul-04	no further work on linearity of existing engineering data		0	
			JRL	31-Aug-04	no progress		0	
			JRL	30-Sep-04	no progress		0	
8.2b	**liaison with Project Scientist & VISTA development team**							10
	assess detector engineering test data		MJI	31-Jul-04	nothing to report		10	
			MJI	31-Aug-04	nothing to report		50	
			MJI	30-Sep-04	studied engineering test data report		100	
8.3a	**partake in planning WFCAM commissioning observations**							85

	continue liaising with ATC/JAC	STH	31-Jul-04	nothing to report	10	
		STH	31-Aug-04	responded to query from Paul Hirst, continued telecons. discussion with JAC on revised on-sky commissioning plan	50	
		STH	30-Sep-04	telecons continued and planned for JRL to visit JAC in November in line with revised commissioning schedule.	100	
8.3b	**partake in planning VISTA comissioning observations**					10
	liaise and discuss with VISTA PS	STH	31-Jul-04	nothing to report	10	
		STH	31-Aug-04	nothing to report	50	
		STH	30-Sep-04	nothing to report	100	
8.5	**Tuning pipeline during commissioning and after**					10
	optimize and stress-test pipeline using IPHAS data	JMI	31-Jul-04	good progress with IPHAS data shows that splitting by filter works well. have identified problems with using networked catalogues for crowded regions and planned to implement local versions.	50	
		JMI	31-Aug-04	continued processing and reprocessing has helped tune and stress test the pipeline. Local catalogue access implemented.	100	
8.6	**documentation for 2D processing software**					50
	updates docs as necessary and as a result of feedback	JRL	31-Jul-04	no progress	0	
		JRL	31-Aug-04	no progress	0	
		JRL	30-Sep-04	no progress	0	
8.7	**Comparison between automated and manual data products**					75
	compare FIRES with published results and write report	STH	31-Jul-04	no progress	0	
		STH	31-Aug-04	MJI implementing alternative seeing-weighted image stacking algorithm to give better comparison with published FIRES dataset.	10	
		STH + MJI	30-Sep-04	no further progress	10	
	discuss results with CSV	STH	31-Jul-04	no progress	0	
		STH	31-Aug-04	nothing to report	0	
		STH	30-Sep-04	have had no feeeback	0	
9	**Development and testing of standard catalogue products**	**4.0**				
9.1	**add in new measures requested**					60
	finish testing and debugging new catalogue parameter measures	MJI	31-Jul-04	no progress	0	
		MJI	31-Aug-04	more tests and progress on assorted flux measures and errors. As expected NIR data needs a different specification c.f. to optical	50	
		MJI	30-Sep-04	work on refining error estimation still in progress	50	
9.2	**refine astrometric calibration model**	MJI		paused		85
9.3	**generate model simulations of expected data**	STH, JMI		paused		80
9.4	**assess catalogue parameter reliability**					70
	refine parameter error estimates and check for systematics in new params	MJI	31-Jul-04	no progress	0	
		MJI	31-Aug-04	some further progress on error estimates and systematics for new parameters	10	
		MJI	30-Sep-04	more tests completed	50	
9.5	**intercomparison of catalogue products with other packages**	JMI		paused		60
9.6	**Completeness and error estimates**			stopped - subsumed into 9.4		
9.7	**documentation of catalogue software and products**					55
	update catalogue products documentation	MJI	31-Jul-04	updated PODs	10	
		MJI	31-Aug-04	more software added to documentation set	10	
		MJI	30-Sep-04	further updates made	50	
10	**Setup trial and run further processing pipeline**	**3.0**				

10.2	**development and assessment of PSF options 1,2**				**60**
	produce robust version of code for PSF level 1	MJI	31-Jul-04	awaiting results from 16	0
		MJI	31-Aug-04	robust versions of PSF generation code developed and good progress on level 1 PSF estimation code	50
		MJI	30-Sep-04	trial software completed	100
	produce prototype for PSF level 2	MJI	31-Jul-04	awaiting results from 16	0
		MJI	31-Aug-04	good progress on level 2 PSF estimation code	50
		MJI	30-Sep-04	no further progress	50
10.3	**develop 1D/2D PSF-deconvolved Sersic profile fits**				
	produce prototype code for sersic profile fits	MJI	31-Jul-04	no progress	0
		MJI	31-Aug-04	no progress this month	0
		MJI	30-Sep-04	made assessment of existing software: found to be of no use	10
11	**Photometric standards and calibration**	**3.0**			
11.1	**agree on primary standards**				**90**
	complete narrow band filter calibration plan and update document	STH	31-Jul-04	no progress	0
		STH	31-Aug-04	no progress	0
		STH	30-Sep-04	no progress	0
11.2	**choose secondary standard fields**				**80**
	finish updates to photom doc and circulate	STH	31-Jul-04	no progress	0
		STH	31-Aug-04	no progress	0
		STH	30-Sep-04	added standard field tables and figure to the document. sent to Paul Hirst for comments.	50
11.7	**assess extinction monitoring methods and develop measures**				**50**
	complete investigation of UKIRT archive and write report	STH	31-Jul-04	no progress	0
		STH	31-Aug-04	no progress	0
		STH	30-Sep-04	no progress	0
	simulate from night(s) data and estimate expected accuracy	STH	31-Jul-04	no progress	0
		STH	31-Aug-04	no progress	0
		STH	30-Sep-04	no progress	0
12	**Further development of DQC measures at summit and Cambr**	**2.0**			
12.1	**develop extra systematic noise measures**				**50**
	trial software with real & simulated data	MJI	31-Jul-04	using INT WFC data to test measures	10
		MJI	31-Aug-04	no progress this month	10
		MJI	30-Sep-04	awaiting real data	10
12.2	**Refine current measures for WFCAM/VISTA data**	JRL		paused pending appropriate data	**20**
12.3	**implement 2mass for throughput measurement**	JMI		paused	**75**
12.4	**master calibration frames for detector monitoring**				**35**
	assess and report on lab testing of detectors	JRL	31-Jul-04	no data = no progress	0
		JRL	31-Aug-04	some progress on dark stability using acceptance data	10
		JRL	30-Sep-04	unable to make further progress	10
13	**Co-located list driven photometry**	**3.0**			
13.2	**develop basic WCS-based list driven photometer**				**90**
	investigate practicalities and implement agreed ICD for parameters	MJI	31-Jul-04	no progress	0
		MJI	31-Aug-04	completed to level of earlier 32 parameter catalogue set, paused waiting for final version of 9.1	50
		MJI	30-Sep-04	no further progress	50
13.3	**externally driven WCS photometry and define parameter set**				**75**

	refine, test and debug list-driven parameter estimator - finish	MJI	31-Jul-04	no progress	0	
		MJI	31-Aug-04	completed to level of earlier 32 parameter catalogue set, paused waiting for final version of 9.1	50	
		MJI	30-Sep-04	no further progress	50	
14	**Stacking and mosaicing**	**4.0**				
14.1	**develop benchmark simple stacking/mosaicing framework**	MJI		complete		100
14.2	**NN algorithm with simple rejection**	MJI		complete		100
14.3	**More sophisticated rejection dealing with pixellation**	MJI		complete		100
14.4	**Stacking with optimum wighting and defect rejection**					25
	refine current weighting method, test and report on alternative schemes	MJI	31-Jul-04	no progress	0	
		MJI	31-Aug-04	trialling seeing-weighted scheme for optimum point source detection and parameterisation	50	
		MJI	30-Sep-04	no further progress	50	
15	**Continuum subtraction and basic difference imaging**	**4.0**				
15.1	**Simple WCS-based subtraction techniques**	MJI		completed		100
15.2	**investigate and apply different interpolation methods**	MJI		completed		100
15.3	**develop adaptive kernel matching option**					80
	continue debugging and enhancements to adaptive kernel package	MJI	31-Jul-04	no more bugs this month	10	
		MJI	31-Aug-04	on track, no new bugs found, now trialling on 15.4	50	
		MJI	30-Sep-04	up to date	100	
15.4	**transit event detection**					10
	assess difference imaging method (continuum subtraction)	STH	31-Jul-04	no progress	0	
		STH	31-Aug-04	MJI investigating undersampled time series data for variability/transit event detection	10	
		STH	30-Sep-04	trials on SuperWASP data progressing well	50	
16	**Interpolation techniques and PSF modeling**	**4.0**				
16.1	**investigate alternative interpolation/PSF schemes**					100
	investigate PSF fitting algorithms and write report - finish	DWE	31-Jul-04	report released	100	
				http://www.ast.cam.ac.uk/~wfcam/docs/reports/psf/		
16.2	**implications for different stacking methods**					20
	quantify effects of interpolation on stacked image quality	MJI	31-Jul-04	doing tests in conjunction with 14.4	10	
		MJI	31-Aug-04	tried various schemes and found have little impact for well sampled images	50	
		MJI	30-Sep-04	no further progress	50	
16.3	**implications for deriving catalogues and parameters**					70
	test PSF photom and astrom using optical data and include in report (16.1)	DWE	31-Jul-04	no progress	0	
		DWE	31-Aug-04	update of astrometry being added to PSF fitting code	10	
		DWE	30-Sep-04	Astrometry estimation in PSF fitting programme (using elliptical Moffat profiles) produces more accurate positions than standard pipeline astrometry, but is very slow. More tests are ongoing.	50	
16.4	**oversampled PSF generation per detector**					60
	investigate modelling emprical PSF and add to report	DWE	31-Jul-04	elliptical moffat profile fitting as part of PSF generator tested	50	
		DWE	31-Aug-04	elliptical moffat profile fitting added to PSF fitting and formulation added to report	100	
16.5	**develop oversampled spatially varying PSF model**					10
	measure spatial variation in optical/IR datasets	DWE	31-Jul-04	no progress	0	

		DWE	31-Aug-04	no progress	0	
		DWE	30-Sep-04	no progress	0	
design empirical model describing same		DWE	31-Jul-04	no progress	0	
		DWE	31-Aug-04	MJI devised elegant scheme based on adaptive kernal matching to incoporate spatial variation in PSF, if needed.	10	
		DWE	30-Sep-04	Alternate scheme involves Moffat and bilinear interpolation across frame (cf Anderson and King)	50	