WP #	CASU WP name /sub task / 03Q4 deliverable	V.I.F.	name	date	end of month report	% done
1	**Management and definition of project responsibilities**	**3.0**				
1.1	report to VISTA, UKIDSS, JAC, ATC, GSC					40
	provide fornightly meeting minutes, monthly reports on progress + quarterly review reports and planning		MJI + STH	03/11/03	all done, plus modifications to GANTT chart following comments from AGOC	
			MJI + STH	30/11/03	submitted monthly report, held CASU meetings and reported minutes	
			MJI + STH	31/12/03	completed quarterly report	100
1.2	interface control document between CASU and JAC					100
	in conjunction with JAC produce and sign off hard copy		MJI	03/11/03	nearing completion	50
			MJI	30/11/03	this document has been signed off by all concerned parties	100
1.3	interface control document between CASU and WFAU					100
	sign off Q2 ICD and finalise advanced processing product ICD		MJI	03/11/03	a further iteration of the catalogue table format has been agreed together with the completion and agreement of the list driven photometry design and output format. These were the remaining items in the CASU-WFAU ICD. Version 3 has been issued and the document is ready to be signed off.	99
			MJI	30/11/03	document completed and signed off	100
1.4	define data structures and FITS headers					
	sign off version 1.1 of header document		JRL	03/11/03	version 1.1 of WFCAM FITS header document agreed after a few more iterations and document signed off.	100
1.5	define observing protocols		STH		paused	60
			STH	30/11/03	some discussion at UKIDSS meting. Agreement reached that SJW + CASU will produce HOWTO document for generating MSBs. This will be circulated to survey heads. MSBs will be vetted by CASU. Timeframe awaiting UKIDSS meeting minutes.	50
			STH	31/12/03	draft MSB guidelines produced and circulated to UKIDSS CSS and other interested parties	100
1.6	liaise with UKIDSS & JAC on observing strategy & survey planning					50
	monitor progress		DWE	03/11/03	CASU will attend UKIDSS November meeting and present talks.	10
			DWE	30/11/03	CASU attended UKIDSS meeting. Presentations by MJI (overview), JRL (2d processing) STH (photometric calibration). On-sky characterisation plan has been iterated over once.	50
			DWE	31/12/03	up to date	100
1.7	liaise with UKIDSS & JAC on VDFS products					50
	monitor progress		DWE	03/11/03	CASU have sent comments to SJW concerning the proposed CSS and CSV roles. Discussion on pipeline acceptance has been initiated.	50
			DWE	30/11/03	WFCAM pipeline acceptance now likely to be overseen by VDUC (terms of reference document submitted to PPARC by JPE).	50
			DWE	31/12/03	up to date	100
1.8	liaise with UKIDSS and JAC on survey progress DB					50
	get feedback from JAC for mirroring of current progress database		JRL	03/11/03	visited JAC to discuss mirroring of database and finalised methodology	100
	investigate use of Sybase Replication Server to perform the task		JRL	03/11/03	replication server is too expensive and complex for the job, will use similar tool to JAC archive replication	100
	deliver a working mirror copy of the OMP database		JRL	03/11/03	OMP database is now being duplicated using a homegrown DB sync tool	100
1.9	system documentation					50
	update and maintain web pages of system docs		DWE	03/11/03	document WWW pages revamped in response to internal and external suggestions. Document numbering ongoing	50
			DWE	30/11/03	STH has built document database and automatic WWW page generation script. This will go live by the end of the quarter after internal/external review. UKIDSS talks placed on WWW pages and summaries sent to SJW	50

		DWE	31/12/03	STH's database still being modified and improved. DWE has written a script to check the integrity of the links within the group's web pages		50
2 ESO VISTA software interface deliverables and documentation	**4.0**					
2.1	**VDFS user requirements document**					50
incorporate minor improvements prior to FDR		PSB	03/11/03	minor improvements added. Needs internal reviewing		50
		PSB	30/11/03	internal review completed, no serious additions requested		100
2.2	**data reduction specification document**					20
produce first real draft of DRS document		PSB	03/11/03	collecting CIRDR documentation for sources		10
		PSB	30/11/03	orgranised ESO VDFS meeting (December). Need additional information on CPL, environment etc before further progress can be made		50
		PSB	31/12/03	succesful ESO visit.		50
2.3	**calibration plan document**					50
incorporate draft plan for calibration fields		PSB	03/11/03	added full data-format specification and calibration fields		50
		PSB	30/11/03	first pass photometric calibration fields incorporated		100
2.5	**ICD ESO/VPO**					50
draft version of Data Interface dictionary - esp. FITS header specification		PSB	03/11/03	finalised draft DID, sent out to camera software engineer and deposited in FDR documentation store		50
		PSB	30/11/03	investigating ESO tcl tools to ensure exact compatibility		50
		PSB	31/12/03	started reviewing QFITS and CPL 1.0		100
work on templates/Obs		PSB	03/11/03	no progress		0
		PSB	30/11/03	have begun working on this		10
		PSB	31/12/03	held more discussions with JMS		
2.8	**liaise with VISTA IR camera development team**					50
check camera documentation for conflicts/issues		PSB	03/11/03	much interaction with SMB on camera software design documents for FDR		50
		PSB	30/11/03	organised presence at camera FDR, currently reviewing relevant FDR docs		50
		PSB	31/12/03	attended camera/software FDR		100
3 Pipeline infrastructure and pipeline progress monitoring tools	**3.5**	JRL				
3.1	**interactive tools for running pipeline**			paused		75
		STH, JMI				
3.2	**high level scripts to interrogate headers**			paused		75
		STH, JMI				
3.3	**automatic progression of results to web pages**			paused		50
3.6	**group documentation on pipeline infrastructure**					40
modify current documentation according to recommendations from stress tests.		JRL	03/11/03	no progress this month		0
		JRL	30/11/03	made a few minor mods and updates		10
		JRL	31/12/03	no further progress		10
4 Set up and manage raw science archive	**0.0**					
5 Set up and manage data processing system hardware	**2.0**					
5.2	**buy hardware and install**					50
install and test data ingest server hardware/software		MTB	03/11/03	data ingest server PC had to be returned for new model since it didn't meet our specification. Still awaiting delivary of replacement PC		10
		MTB	30/11/03	hardware for data ingest server PC now fully rack mounted, installed and tested. 24 port Gbit switch installed and tested and apm1, apm3 and apm6 on Gbit connections. Value Gbit PCI cards for sun servers, cass36 and cass38 identified and tested, these servers will be upgraded shortly to Gbit connectivity.		50
		MTB	31/12/03	servers upgraded to Gigabit links, Debian installed and tested on apm6		100
5.3	integrating and testing					0

	install and test pipeline software		MTB	03/11/03	unable to start		0
			MTB	30/11/03	extra software infrastructure (perl, cfitsio, pgplot etc..) for pipeline installed. Pipeline and toolkit software will be installed and tested shortly.		50
			MTB	31/12/03	pipeline development toolkit successfully installed and basic tests completed on data ingest server		50
6	Run standard pipeline	2.5					
7	Development work for summit pipeline	1.0					
7.1	Interface test pipelines in ORAC-DR						100
	update and trial updated test pipelines		JRL	03/11/03	visited JAC and set up test pipelines in ORACDR for UFTI and dummy WFCAM. Now tested and running.		100
7.2	implement WFCAM pipeline at summit						65
	CVS deposit and trial test ORACDR pipeline at JAC		JRL	03/11/03	Latest version of test pipelines are deposited in CVS at CASU and JAC		50
			JRL	30/11/03	no further development this month		50
			JRL	31/12/03	deposited latest versions of pipeline software in JAC and CVS repositories		100
	End-to-end comparitive pipeline tests (ORACDR/CASU/Starlink)		JRL	03/11/03	Paused, awaiting real WFCAM data and further development of observing strategy which willl allow us to write real recipes.		0
			JRL	30/11/03	paused pending development of observing strategy and real WFCAM data		0
			JRL	31/12/03	End-to-end test with UFTI data being done to ensure similar photometric results.		50
	Demonstrate catalogue and non-catalogue DQCs		JRL	03/11/03	Paused as above		0
			JRL	30/11/03	paused pending development of observing strategy and real WFCAM data		0
				31/12/03	DQC estimates and comparisons of various catalogue parameters will be presented in a small document. Some information on how we can adapt to other datasets (I.e. ISAAC) will also be presented. Not much more can be done until we have some real data.		10
7.3	documentation for ORAC-DR interface						60
	continue to add to interface documentation as pipeline modules are written. These will appear in the CIRDR and ORACDR documentation sets		JRL	03/11/03	Paused awaiting further development of pipeline in response to real data		0
			JRL	30/11/03	still paused awaiting real data		0
			JRL	31/12/03	stil paused		0
8	Development and testing of standard 2d processing	4.0					
8.1	further development of standard pipeline						75
	deliver report on flatfielding and sky subtraction strategies		JRL	03/11/03	continuing using ESO ISAAC data		50
			JRL	30/11/03	have made real progress on alternative sky subtraction and fringe removal questions using ISAAC (FIRES) and UFTI (service) data. presented talk to UKIDSS meeting		50
			JRL	31/12/03	FIRES data nearly fully reduced (8.7). Report to follow soon		50
	write updated wrapper for improved version of catalogue software		JRL	03/11/03	awaiting improved version of catalogue software		0
			JRL	30/11/03	as last month		0
			JRL	31/12/03	a new version of the current catalogue generation software is being written. Once this is fully tested and debugged, the new parameters can be added.		50
8.2	liaison with WFCAM development team						25
	assess engineering test data for reset anomaly, dark stability, cross-talk, image retention and linearity		JRL	03/11/03	awaiting engineering data		0
			JRL	30/11/03	awaiting engineering data but investigated several of these aspects using ISAAC data as a stop gap		10
			JRL	31/12/03	still paused. no engineering data		10
8.3	partake in planning commissioning/characterisation observations		STH		paused		80

8.6	documentation for 2D processing software					50
	updates docs as necessary and as a result of feedback	JRL	03/11/03	no further work this month		0
		JRL	30/11/03	no further work this month		0
		JRL	31/12/03	no progress		10
8.7	Comparison between automated and manual data products					50
	pipeline process FIRES data	STH	03/11/03	preliminary reduction underway. Completed calibration frame tests		10
		STH	30/11/03	significant progress made by JRL and MJI on FIRES dataset - dry run of pipeline tuning. various flatfielding and (iterative) sky subtraction methods investigated. data found to be entirely free from fringes. working towards generation of individual and stacked data products for distribution to Subaru colleagues and community at large. JRL persented talk at UKIDSS meeting.		50
		STH	31/12/03	pipeline processing of FIRES data now nearly completed. Report will be written.		50
	pipeline process UFTI data	STH	03/11/03	not started		0
		STH	30/11/03	more UFTI service data acquired and under investigation. JRL presented summary of UFTI findings at UKIDSS meeting - especially relevant is illumination dependent dark artefacts rendng UFTI twilight flats of little use. However UFTI data shows strong and variable fringing which is useful for testing defringing algorithms.		50
		STH	31/12/03	UFTI data processing nearly finished		50
9	Development and testing of standard catalogue products	4.0				
9.1	add in new measures requested					50
	Produce first version of catalogue software with all extra measures	MJI	03/11/03			
		MJI	30/11/03	FITS header and table structure written		50
		MJI	31/12/03	prototype software to compute Petrosian, Kron and total radii/flux measures written. aperture software generalised to allow arbitrary series of aperture measures to be computed. flagging of NN images incorporated in all aperture measures		50
9.2	refine astrometric calibration model	MJI		paused		75
	update report	MJI	31/12/03	produced further simulations of expected photometric and astrometric distortions for WFCAM data and updated online report		100
9.3	generate model simulations of expected data	STH, JMI		paused		80
9.4	assess catalogue parameter reliability	JMI		paused		70
9.5	intercomparison of catalogue products with other packages	JMI		paused		60
9.6	Completeness and error estimates	JMI		paused		50
9.7	documentation of catalogue software and products					50
	update docs as necessary and as a result of feedback	MJI	03/11/03	no progress		0
		MJI	30/11/03	no progress		0
		MJI	31/12/03	updated some documentation		10
10	Setup trial and run further processing pipeline	3.0				
11	Photometric standards and calibration	3.0				
11.1	agree on primary standards					90
	investigate and report on narrow-band filter calibration options	STH	03/11/03	no progress		0
		STH	30/11/03	some preliminary investigation and consulting with experts.		10
		STH	31/12/03	consesus reached on optimum strategy. report to be incorporated in photometry document		50
	extend primary standards to VISTA	STH	03/11/03	primary standard fields chosen for VISTA. CM diagrams and star counts for fields produced. Fields overlap WFCAM selection at equator plus overhead fields. Summary passed on to PSB for inclusion in calibration document		100

11.2	**choose secondary standard fields**					80
	incorporate feedback from working group on choice of secondary fields and update document		STH	03/11/03	no progress	0
			STH	30/11/03	still awaiting feedback from WG. arranged meeting with chair next week. document yet to be updated	0
			STH	31/12/03	some feedback received, document being modified	50
	choose secondary standard fields for VISTA		STH	03/11/03	secondary standards chosen as fields around primary standards	50
			STH	30/11/03	began more detailed analysis of secondary standard fields to reject those unsuitable. current sample is of order 90 (combined WFCAM + VISTA)	50
			STH	31/12/03	ongoing	50
11.7	**assess extinction monitoring methods and develop measures**					50
	investigate UKIRT archive and write report		STH	03/11/03	initial results look promising but data sample too small. new data covering much larger timeframe has been obtained from Sandy Leggett.	10
			STH	30/11/03	acquired a dataset spanning several years. early results indicate that nightly monitoring of extincion is appropriate at MKO and agreement reached with JAC that hourly sampling of standards required.	50
			STH	31/12/03	met with calibration WG chair and presented findings. will incorporate results in document	50
12	**Further development of DQC measures at summit and Cambr**	2.0				
12.3	**implement 2mass for throughput measurement**		JMI		paused	75
12.4	**master calibration frames for detector monitoring**					35
	assess and report if current methods work on engineering WFCAM data		JRL	03/11/03	no progress - awaiting engineering data	0
			JRL	30/11/03	no progress - awaiting engineering data	0
			JRL	31/12/03	no progress - awaiting engineering data	0
13	**Co-located list driven photometry**	3.0				
13.2	**develop basic WCS-based list driven photometer**					70
	investigate practicalities and implement agreed ICD for parameters		MJI	03/11/03	major breakthrough in the design and implementation of the list-driven photometry WP was accomplished. Agreement of the list-driven design and output format reached with WFAU	50
			MJI	30/11/03	FITS header and table structure written	50
			MJI	31/12/03	main driver code with agreed output format written and debugged	100
13.3	externally driven WCS photometry and incorporate agreed parameter set					50
	modify software to take external lists of positions and incorporate agreed parameter set		MJI	03/11/03	software has been generalised to cope with external lists, satisfies both V1 and V2 requirements	50
			MJI	30/11/03	no progress this month	50
			MJI	31/12/03	produced prototype software to generate agreed set of parameters and tested on current catalogue parameter set	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**					50
	improve algorithms to deal with pixellation		MJI	03/11/03	no progress	0
			MJI	30/11/03	tried out some simple methods and incorporated the most promising	10
			MJI	31/12/03	tested and debugged	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 subject to minor bug fixes and software maintenance	75
			MJI	31/12/03	finished testing simple interpolation schemes	100
15.3	**develop adaptive kernel matching option**					60

	improve CASU version and update difference imaging report	MJI	03/11/03	Further improvements to the image subtraction/difference imaging WP mean that the prototype CASU software outperforms the alternative adaptive kernel packages. This needs a final shakedown, code tidy and further tests before being released at the end of Q4	
		MJI	30/11/03	Updated version of difference imaging report released, more tests on method carried out	**50**
		MJI	31/12/03	updated export CVS C version, carried out limited tests	**100**
16	**Interpolation techniques and PSF modeling**		**4.0**		
16.1	**investigate alternative interpolation/PSF schemes**				**50**
	finish review and write short report on alternatives	DWE	03/11/03	close to completion on investigation of alternative interpolation schemes. Report started	50
		DWE	30/11/03	Report completed and internally reviewed	100
				http://www.ast.cam.ac.uk/~wfcam/docs/reports/interpol	
16.2	implications for different stacking methods				10
	quantify effects of interpolation on stacked image quality	MJI	03/11/03	no progress	0
		MJI	30/11/03	no progress	0
		MJI	31/12/03	tested simple alternative interpolation schemes for stacking	50
16.3	**implications for deriving catalogues and parameters**				**50**
	assess and write report on errors in catalogue parameters arising from using different interpolation and interleaving schemes	DWE	03/11/03	report on catalogue parameters underway	50
		DWE	30/11/03	analysis completed and findings written to interpolation report (as 16.1)	50
		DWE	31/12/03	Report completed and internally reviewed	100
				http://www.ast.cam.ac.uk/~wfcam/docs/reports/interpol	
16.4	**oversampled PSF generation per detector**				**10**
	write first pass PSF generator using optical test data	DWE	03/11/03	meeting held to plan PSF fitting software. Identified DIVA project software as a basis	10
		DWE	30/11/03	started writing programme to measure PSF from simulated WFCAM data	10
		DWE	31/12/03	no progress	10