Feature Release Plan

Appendix F

This Appendix Provides a mapping of Use Cases with associated requirements to Functional Components, Software Components and to the NB DSS release that will enable the use case to be executed. The purpose of mapping the use cases to each of the three releases is to provide a "functional image" of the contents of each of the three releases. Appendix F supplements the Feature Release Plan presented in Chapter 7 of the Inception Report.

Functional component	Use case (id and name)	Requirements	Software Components Involved	NB DSS Release	Comment
CBA	086: Run CBA	2.1.5.11	CBA	3	
	081: Setup CBA	2.1.5.11	CBA	3	
Ensembles	046: Run ensemble scenario		Timeseries Manager Scenario Manager Ensemble Modeler	2	
	045: Setup ensemble scenario		As above	2	
	080: Use ensemble generator tool	2.1.6.6 (1) 2.1.6.6 (2)	DSS Tools	2	
GIS	023: Edit GIS data		GIS Manager	1	
	089: Export GIS data				
	021: Import GIS data	2.1.4.1 2.1.4.2 (1)	GIS Manager	1	
	007: Inspect GIS layers		GIS Manager Meta Data Manager	2	Meta data inspection will be available when meta data is implemented.
	077: Link timeseries to feature		GIS Manager	1	
	051: Use GIS catchment delineation tool	2.1.4.3 (3)	GIS Manager	2	
	026: Use GIS tool	2.1.4.2 (2) 2.1.4.3 (1) 2.1.4.3 (2) 2.1.4.4 2.1.4.4 (1a) 2.1.4.4 (1b) 2.1.4.4 (1c) 2.1.4.4 (2a) 2.1.4.4 (2b) 2.1.4.4 (2c) 2.1.4.4 (2d) 2.1.3.3(2a) 2.1.3.3(2e)	DSS Tools	1 and 2	Release 1 will include everything but raster operations which will be included in release 2 (Req. 2.1.4.4 2a – 2d)
	021: Visualize GIS data	2.1.4.3 (1) 2.1.4.3 (2)	GIS Manager	1	Raster operations in release 2 (see above)

Functional component	Use case (id and name)	Requirements	Software Components Involved	NB DSS Release	Comment
Hydro objects	075: Create hydroobject			1-2	Suggests the following revised text: The number of HydroObjects will grow over the two first releases as new objects are added. The data- and object model will be finalised in R1. Subsequent definitions of hydro-objects (e.g. in R2) will not lead to extending and redesigning the data and object model.
	078: Edit hydroobject			1-2	As above
Indicators	038: Define indicator	2.1.5.12 2.1.8.2	Analysis Manager	3	
	039: Use indicator tool	2.1.5.12 2.1.8.3		3	
Linked Model	027: Create linked model	2.1.5.10	Scenario Manager Model Linker	1	
MCA	040: Run MCA	2.1.5.12 2.1.8.1 2.1.8.2 2.1.8.3	MCA	3	
	081: Setup MCA	2.1.8.1 2.1.8.3	MCA	3	
Optimization scenarios	057: Create optimization scenario	2.1.6.4	Scenario Manager Optimizer	2	
	056: Define optimization scenario		Scenario Manager Optimizer	2	
	058: Run optimization scenario		Scenario Manager Optimizer	2	
Scenarios	032: Clone and modify MIKE BASIN model and scenario		Scenario Manager Model Tools	1	
	044: Clone and modify model and scenario		Scenario Manager	1	As above

Functional component	Use case (id and name)	Requirements	Software Components Involved	NB DSS Release	Comment
	047: Compare scenarios	2.1.6.3	Scenario Manager Timeseries Manager	1-2	Some comparison functionality will be available in release 1 but will continue to develop (improved usability) into release 2. Release 1 will enable "simple" comparisons such as comparison of time-series. More advanced comparisons will be added in R2. *See note 1.*
	015: Create scenario	2.1.6.1	Scenario Manager	1	
	084: Modify DSS scenario		Scenario Manager	1	
	036: Register MIKE 11 model	2.1.6.1	Scenario Manager	1	
	025: Register MIKE BASIN model	2.1.6.1	Scenario Manager	1	
	014: Register model	2.1.6.1	Scenario Manager	1	
	046: Run ensemble scenario		Timeseries manager Scenario Manager Ensemble Modeler	2	
	016: Run scenario		Scenario Manager	1	
	045: Setup ensemble scenario		Timeseries manager Scenario Manager Ensemble Modeler	2	
Studies	019: Create study		Study Manager	2	Studies will be included in the detailed design for phase 1. The implementation targets R2.
	048: Export study		Study Manager	2	As above
	050: Import Study		Study Manager	2	As above
	020: Manage study		Study Manager	2	As above

Functional component	Use case (id and name)	Requirements	Software Components Involved	NB DSS Release	Comment
Tables	053: Assess data availability		Time Series Manager GIS Manager Table Manager Meta Data Manager	2	The design of the Table Manager and implementation of the data model related to Tables will be done in C1. Implementation of functionality related to Tables will target NB DSS R2.
	073: Import tables		Table Manager	2	As above
	004: Use table tool		DSS Tools	2	As above
	018: Visualise tables		Table Manager	2	As above
Timeseries	053: Assess data availability		Time Series Manager GIS Manager Table Manager Meta Data Manager	1-2	Functionality related to timeseries and GIS will be in release 1.
	074: Create time series		Time Series Manager	1	
	052: Edit timeseries		Time Series Manager	1	
	088: Export timeseries data				
	008: Filter timeseries		Time Series Manager	1	
	001: Import timeseries		Time series Manager	1	
	009: Inspect timeseries	2.1.3.3 (1a) 2.1.3.3 (1b)	Time series Meta data	1	Functionality related to meta data will be available when meta data is implemented.
	079: Use demand calculator tool		DSS Tools	2	
	076: Use soil erosion tool		DSS Tools	2	

Functional component	Use case (id and name)	Requirements	Software Components Involved	NB DSS Release	Comment
	002: Use timeseries tool	2.1.3.1 2.1.3.1 (1) 2.1.3.1 (1a) 2.1.3.1 (1b) 2.1.3.1 (1c) 2.1.3.1 (1d) 2.1.3.1 (1e) 2.1.3.1 (1f) 2.1.3.1 (1g) 2.1.3.1 (1h) 2.1.3.1 (1i) 2.1.3.1 (1j) 2.1.3.1 (2a) 2.1.3.1 (2b) 2.1.3.1 (2c) 2.1.3.1 (3) 2.1.3.1 (4) 2.1.3.1 (4a) 2.1.3.1 (4b) 2.1.3.2 2.1.3.2 (2) 2.1.3.2 (3) 2.1.3.2 (4) 2.1.3.2 (5) 2.1.3.3 (1b) 2.1.3.3 (1c) 2.1.3.3 (1e) 2.1.3.3 (2b.3) 2.1.3.3 (2c) 2.1.3.3 (2c.1) 2.1.3.3 (2c.2) 2.1.3.3 (2c.3) 2.1.3.3 (2d.3)		1	

Functional component	Use case (id and name)	Requirements	Software Components Involved	NB DSS Release	Comment
	003: Visualise timeseries	2.1.3(1) 2.1.3(2) 2.1.3(3) 2.1.3(4) 2.1.3(5) 2.1.3(6) 2.1.3.3 (1b) 2.1.3.3 (1c) 2.1.3.3 (1d) 2.1.3.3 (1f) 2.1.3.3 (2b) 2.1.3.3 (2b.2) 2.1.3.3 (2b.3) 2.1.3.3 (2c.1) 2.1.3.3 (2c.2) 2.1.3.3 (2d) 2.1.3.3 (2d.1) 2.1.3.3 (2d.2) 2.1.3.3 (2d.3)		1	
Reporting	005: Publish in report			1-2	Will be included in the design in cycle 1 and some implementation may also start in Cycle 1. The reporting component will be relatively close to the database and is best implemented once meta-data and hydro objects are implemented.
Model tools	082: Calibrate MIKE 11			1	
	013: Calibrate MIKE BASIN			1	
	028: Calibrate model	2.1.6.2 2.1.6.2 (1) 2.1.6.2 (2) 2.1.6.2 (4)		1	
	032: Clone and modify MIKE BASIN model and scenario				
	085: Edit model			1	

Functional component	Use case (id and name)	Requirements	Software Components Involved	NB DSS Release	Comment
	034: Setup MIKE 11 model	2.1.5 (1) 2.1.5 (3.3) 2.1.5 (3.5) 2.1.5 (4) 2.1.5.1 2.1.5.2 2.1.5.2 (1) 2.1.5.2 2.1.5.2 (1) 2.1.5.2 (3) 2.1.5.2 (4) 2.1.5.2 (5) 2.1.5.2 (7) 2.1.5.3 2.1.5.4 2.1.5.5 2.1.5.8 2.1.5.9 2.1.5.13 2.1.5.14 2.1.5.15 2.1.5.16 2.1.5.17 2.1.5.18 2.1.7.1 2.1.7.2 2.1.7.3 2.1.7.5		1	

Functional component	Use case (id and name)	Requirements	Software Components Involved	NB DSS Release	Comment
	011: Setup MIKE BASIN model	2.1.5 2.1.5(1) 2.1.5(2) 2.1.5(3) 2.1.5(3.1) 2.5.5(3.2) 2.1.5(3.3) 2.1.5(3.4) 2.1.5(3.5) 2.1.5(3.6) 2.1.5(3.7) 2.1.5(3.8) 2.1.5(4) 2.1.5.1 2.1.5.2 2.1.5.2(1) 2.1.5.2(2) 2.1.5.2(3) 2.1.5.2(4) 2.1.5.2(5) 2.1.5.2(6) 2.1.5.2(7) 2.1.5.3 2.1.5.4 2.1.5.5 2.1.5.7 2.1.5.8 2.1.5.9 2.1.5.13 2.1.5.14 2.1.5.15 2.1.5.17 2.1.5.18 2.1.7.1 2.1.7.2 2.1.7.3 2.1.7.5 2.1.7.6 2.1.7.8 2.1.6.2 2.1.6.2(1) 2.1.6.2(2) 2.1.6.2(3) 2.1.6.2(4)		1-2	As per appendix H of contract.. Release 1 will be based on the current version of the MIKE BASIN software while a new (non ArcGIS base) user interface will be available with NB DSS release 2.

Functional component	Use case (id and name)	Requirements	Software Components Involved	NB DSS Release	Comment
		2.1.5 (1); 2.1.5 (2); 2.1.5 (3.1) 2.1.5 (3.2) 2.1.5 (3.3) 2.1.5 (3.4) 2.1.5 (3.5) 2.1.5 (3.6) 2.1.5 (3.7) 2.1.5 (3.8) 2.1.5 (4) 2.1.5.1 2.1.5.2 2.1.5.2 (1) 2.1.5.2 (2) 2.1.5.2 (3) 2.1.5.2 (4) 2.1.5.2 (5) 2.1.5.2 (6) 2.1.5.2 (7) 2.1.5.3 2.1.5.4 2.1.5.5 2.1.5.7 2.1.5.8 2.1.5.9 2.1.5.13 2.1.5.14 2.1.5.15 2.1.5.17 2.1.5.18 2.1.7.1 2.1.7.2 2.1.7.3 2.1.7.5 2.1.7.6 2.1.6.2 (3)		1	
	025: Setup semi-distributed rainfall-runoff model (MIKE SHE Studio)	2.1.5.13 2.1.5.7 2.1.5.6 2.1.7.8		2	
	010: Use rainfall runoff model			2	

Functional component	Use case (id and name)	Requirements	Software Components Involved	NB DSS Release	Comment
Meta-data	053: Assess data availability			(1-2)	The data model for the meta-data will be completed in R1 (detailed requirement analysis and design). The implementation of the data model in the database will be completed in R1 as well. Depending on the interactive functionality that is required some may be included in R1 and some in R2. Details will be agreed once the design is in place.
	007: Inspect GIS layers			(1-2)	As above.
	009: Inspect timeseries			(1-2)	As above.

Notes.

1) The scenario manager will include functionality for easy comparison of model simulations (scenarios) or for comparison of simulation outputs with field data etc. In release 1 we anticipate that some of the simple comparisons (e.g. comparison of time-series outputs and simple performance statistics) will be built-in to the scenario manager. Other comparisons may be done outside the Scenario manager by employing the time-series tools and other relevant tools. The latter will be a manual process (i.e. select data, select tool), while the Scenario Manager will include built-in functionality for “ease of use/automation”. Further release details will be agreed once the detailed design of the scenario manager component is completed.