System Test Table

Khimeta System

ID	Requirement	Description	Inputs	Expected outputs	Pass/ Fail	Comments
M1.1	FR1	On Welcome page: User can request the minimum size of a contig	Valid contig over 1000 Minimum length of 1000	The contig appears on the List page	P	
M1.2	FR1	On Welcome page: User can request the minimum size of contig	Valid contig under 1000 Minimum length of 1000	The contig does not appear on the List page	P	
V1.1	FR1	On Welcome page: User cannot input incorrect parameters	Invalid contig Valid minimum length	User is returned to Welcome page to re-input parameters	P	Could do with improvement by giving reason why the parameter(s) were bad
V1.2	FR1	On Welcome page: User cannot input incorrect parameters	Valid contig Invalid minimum length	User is returned to Welcome page to re-input parameters	P	Could do with improvement by giving reason why the parameter(s) were bad
M2.1	FR2	On List page: User should see number of N characters of a contig	Contig with no N characters	N character count is 0, percentage of N is 0.0%	P	
M2.2	FR2	On List page: User should see number of N characters of a contig	Contig with 240 N characters of contig length 480	N character count is 240, percentage of N is 50.0%	P	
M3.1	FR3	A contig should have its GC content calculated and GC content results should be available in the Model	An artifical contig with known GC values in selected areas	GC content windows high in GC where expected from the test contig	P	
M4.1	FR4	The application should find the ORF locations of a contig in each frame	An artifical contig with known ORF Locations	The ORF Location results from the contig are found	P	

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M4.2	FR4	The application should not find the ORF locations of a contig in each frame where there are non	An artifical contig with no ORF Locations	The ORF Location results from the contig should have no ORF locations	P	
M5.1	FR5	The application should carry out k-mer frequency analysis	A contig with known k-mer frequencies	The expected k-mer frequency analysis results	N/a	Not implemented
M6.1	FR6	When a contig aligns with known reference sequence using BLAST it should be found and compared	A contig that will align to some sequence data in an NCBI database	A match and comparison result	N/a	Not implemented
V2.1	FR7	The user can paste assembly sequence data into the application to be read	A number of contigs to be pasted in	The contigs from the pasted data should be found and read	P	
V2.2	FR7	The user can upload a file containing assembly sequence data into the application to be read	A file containing a number of contigs	The contigs from the file data should be found and read	N/a	File reading is implemented but no way for a user to manually upload. Needs front end implementation
V3.1	FR8	On the list page: A user can see their list of contiguous reads	There has been some sequence data put into the users @SessionAttributes	A list of contiguous reads	P	
V3.2	FR8	On the list page: A user cannot view any contigs in the contig list without submitting contig data on the welcome page first	No input, fresh session	User is taken to Welcome page	P	Could do with improvement by giving reason that the data was missing

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V4.1	FR9	When inspecting a contig, a user should be able to modify the parameters of the inspection	With known test sequence data already in place: Valid Threshold highlighting Valid GC window size Valid minimum ORF location length	The results page, including the expected GC content chart, expected ORF Location chart and Superframe chart results	P	
V4.2	FR9	When inspecting a contig, a user should not be allowed to input invalid parameters for inspection	With known test sequence data already in place: Invalid Threshold highlighting Valid GC window size Valid minimum ORF location length	The user is kept at the List page to re-input the inspection parameters	P	Could do with improvement by giving reason that the Threshold highlighting parameter was invalid
V4.3	FR9	When inspecting a contig, a user should not be allowed to input invalid parameters for inspection	With known test sequence data already in place: Valid Threshold highlighting Invalid GC window size Valid minimum ORF location length	The user is kept at the List page to re-input the inspection parameters	P	Could do with improvement by giving reason that the GC window parameter was invalid
V4.4	FR9	When inspecting a contig, a user should not be allowed to input invalid parameters for inspection	With known test sequence data already in place: Valid Threshold highlighting Valid GC window size	The user is kept at the List page to re-input the inspection parameters	P	Could do with improvement by giving reason that the minimum ORF location length parameter was invalid

ID	Requirement	Description	Inputs	Expected outputs	Pass/ Fail	Comments
			Invalid minimum ORF location length			
V4.5	N/A	Results page: User cannot view without submitting contig data first	No input, fresh session	User is shown the error page	P	Could do with improvement by giving reason that the data was missing