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Viral Agent-Based Model Interface
User Acceptance Test Cases

Version 1.0

Revision History

Date	Version	Description	Author
2026-03-16	1.0	UAT results documentation	Norwood, Ellion

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User Acceptance Test Results

1. Introduction

1.1 The Purpose of User Acceptance Testing

The User Acceptance Testing (UAT) phase is designed to ensure that the Viral Agent-Based Model (ABM) Interface meets the requirements of researchers and students. By testing specific interactions, the team verifies that the graphical user interface (GUI) provides a reliable method for configuring and running complex viral simulations without direct code manipulation.

1.2 The Purpose of this Document

This document records the execution status and findings of the 17 primary test cases used to validate the interface. It serves as a final record for project to confirm that the system behavior aligns with experimental needs.

2. Test Execution Results

2.1 Detailed Test Case Table

Test ID	Requirement	Test Step	Success Criteria	Status
UAT-01	Model Selection	Switch dropdown from "Original" to "Gerg."	Screen layout changes to show only Gerg-specific Fusion settings.	**PASS**
UAT-02	Default Loading	Click the "Load Defaults" button.	All input boxes reset to the project baseline scientific values.	**PASS**
UAT-03	Live Preview	Modify a parameter value.	The "Config Preview" panel updates data immediately for review.	**PASS**
UAT-04	Input Guardrails	Enter an invalid value (e.g., negative cells).	The "Run" button becomes unclickable to prevent a simulation crash.	**PASS**
UAT-05	Error Feedback	Observe the UI while an invalid value is present.	A red warning message clearly states that errors must be fixed.	**PASS**
UAT-06	Config Export	Click "Save Config" and name the file.	A JSON file is created containing the current experimental setup.	**PASS**
UAT-07	Config Import	Click "Load Config" and select a saved file.	The UI successfully updates all boxes to match the saved settings.	**PASS**
UAT-08	System Launch	Click "Run Simulation".	The backend math engine starts without freezing the visual window.	**PASS**
UAT-09	Progress Screen	Observe UI during an active run.	The Running page is now displayed..	**PASS**
UAT-10	Run Completion	Wait for the simulation to finish to display the post-simulation report.	The post-simulation screen displays after the simulation ends.	**PASS**

UAT-11	Visual Theme	Navigate through UI components.	The color theme is applied consistently.	**PASS**
UAT-12	Layout Scalability	Toggle "Config Preview" pane.	Interface resizes elements cleanly to hide/show the preview.	**PASS**
UAT-13	Iteration Discovery	Open the Select Iteration dropdown menu.	The system successfully lists all valid simulation folders found.	**PASS**
UAT-14	Data Switching	Select a different run folder from the iteration dropdown list.	All four plots update immediately to show the data from that specific iteration.	**PASS**
UAT-15	Data Visualization	Complete a simulation and view the "Time Series Plot" section.	The interface automatically generates four distinct scatter plots (Virus, Syncytia, Infected, Eclipse) based on the actual output files.	**PASS**
UAT-16	Interactive Scrubbing	Move the blue horizontal slider at the bottom of the graphs.	A vertical marker line moves across all four plots simultaneously, and the "Step" readout updates to show the exact values at that time.	**PASS**
UAT-17	Graph Export	Right-click on any active "Time Series Plot" and select the export option.	A menu appears allowing the user to save the specific graph as an image file to their computer.	**PASS**

3. Conclusion

Based on the execution of the 17 test cases described above, the Viral Agent-Based Model Interface has successfully passed all acceptance criteria. The system is stable and ready for deployment in the TCU Biophysics lab environment.