

Usability Test Plan  
Team 6: Infectious Disease Cellular Automaton  
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## Test Scenario 1

1. **Scenario Name:** Basic Simulation
2. **Test Goals:** The goal is to determine if the user is able to set up and run a basic simulation
3. **Required Equipment:** Zoom Conferencing software, web browser, internet connection
4. **Quantitative Measurements:**
  - a. Time taken to complete tasks
  - b. Number of clicks needed to complete tasks
5. **Scenario Description:** The purpose of this scenario is to determine how intuitive the application is and where additional instruction may be needed. Therefore, I will not be able to provide any instruction on how to use the application beyond the tasks that are given and what is provided within the application itself. I will also not be able to answer any questions during the course of this scenario. This is not a test of your abilities, but rather of the application. It may help us in development if you are able to speak your thought process aloud so we can recognize areas of potential confusion. If you are unable to complete the task please inform me of where you got stuck and what you have tried.

"Please create a simulation on a 10x10 grid with 7 people, 2 of whom are infected. Place 12 objects into the world, 7 of which are contaminated. Remove 2 objects from the world. The people should wear masks and be able to die, but they do not sanitize surfaces. Run the simulation for 2 days and report how many people became infected."

6. **Task List:** The participant will likely start by viewing the tutorial, then proceed to the simulation. They will increase the grid size and then place the people followed by objects. They will then remove 2 objects and enable both masking and death. They will set the length of the simulation and let it run to completion.
7. **Qualitative Measurement:**
  - a. Which steps of the process do participants express confusion on?
  - b. Are the participants able to complete the set of tasks?
  - c. Do the participants make any mistakes in setting up the simulation?
  - d. Are the participants able to figure out how to remove objects?
8. **Test Setup Details:** The participants will need to open the application in their web browser and share their screen on Zoom. <https://2021-ui.github.io/6-InfectiousDisease/>

## **Post Scenario 1 Interview**

1. On a scale from 1 to 7, where 1 is very difficult and 7 is very easy, how did you find these tasks?
  - a. Which tasks caused the most difficulty?
2. Were there any interactions with the application that seemed unnatural?
3. If you were to set up the same simulation again, would you now know how to do it properly?
4. Did you know there was a tutorial page?
  - a. Were you able to locate and access it?
  - b. Did you find it helpful?
  - c. When setting up the simulation, did you want to reference the tutorial again?
5. Do you have any other comments or suggestions?

## Test Scenario 2

1. **Scenario Name:** Educational Experience
2. **Test Goals:** The goals for this test are to determine the quality of the educational content provided in the application (i.e. do the users learn something from the simulation?).
3. **Required Equipment:** Zoom Conferencing software, web browser, internet connection
4. **Quantitative Measurements:**
  - a. Number of simulations run
  - b. Parameters used for each simulation
  - c. Number of clicks used to set up each simulation
  - d. Time taken (each simulation and total)
5. **Scenario Description:** The purpose of this scenario is to give you a chance to explore the different parameters that are available. You should run several different simulations (they don't need to be long) and change the parameters each time. You should experiment to see what effect each of them has on the simulation and the number of people that become infected and potentially die. At the end of at least one of your simulations, save the results to a PDF.
6. **Task List:** Now that the participant is familiar with the application, they will likely not need to view the tutorial page, though they may need to reference it to read up on the different parameters.

I expect that they will use a short simulation length to be able to perform multiple tries, and that they will modify a few different parameters per simulation, specifically focusing on viral threshold and production, infected period, and contamination period, since these were not modified in the previous scenario. Participants will likely download the results of their first simulation.

7. **Qualitative Measurement:**
  - a. Are there any parameters that participants express confusion about?
  - b. Are the participants able to complete multiple simulations?
  - c. Are participants able to start a new simulation once the previous one is complete?
  - d. Do participants express any signs of learning when conducting the simulations (e.g. comments about the effect of certain parameters)?
8. **Test Setup Details:** The participants will need to open the application in their web browser and share their screen on Zoom. <https://2021-ui.github.io/6-InfectiousDisease/>

## **Post Scenario 2 Interview**

1. On a scale from 1 to 7, where 1 is very difficult and 7 is very easy, how did you find these tasks?
  - a. Which tasks caused the most difficulty?
2. Were there any interactions with the application that seemed unnatural?
3. Were the differences in the simulation clear when you changed parameter values?
  - a. What effects did you observe?
4. On a scale from 1 to 7, where 1 is not at all, and 7 is extremely, how educational did you find this simulation?
  - a. What was something that you learned?
5. Do you have any other comments or suggestions?

## **Bug Report Form**

Bug Number: \_\_\_\_\_

Bug Name: \_\_\_\_\_

Bug Description:



# Computer User Interface Usability Testing

You are being invited to participate in a research study to determine the usefulness and usability of computer user interfaces. This study is being conducted by Dr. Robert Pastel of Michigan Technological University Computer Science Department and Dr. Pastel's Human-Computer Interaction (HCI) courses. The students are performing the usability tests as part of their project and to fulfill the HCI course requirements.

There are no known risks if you decide to participate in this research study. There are no costs to you for participating in the study. The information you and the tasks that you will perform will determine the usefulness and usability of user interfaces. The questionnaires and the tasks should take less than an hour to complete. The information collected may not benefit you directly, but the information learned in this study should provide more general benefits.

The questionnaires and tests are anonymous. No one will be able to identify you and your answers, and no one will know whether or not you participated in the study except for the instructor of the class who is giving you credit for participating. Should the data be published, no individual information will be disclosed.

Your participation in this study is voluntary. By completing the questionnaires and performing the tasks, you are voluntarily agreeing to participate. You are free to decline to answer any particular question you do not wish to answer or not to perform a task for any reason.

The testing may make use of video conferencing software which will record your tasks on computers screen and from your webcam. The webcam recordings will not be shared, and you may mute the webcam at any time. Before sharing your screen, you should clear your desktop of any open apps except your browser. Also you should clear your desktop of any icons or widget that you wish not to be observed.

If you have any questions about the study, please contact Dr. Robert Pastel, Associate Professor, Computer Science Department, Michigan Technology University, Houghton, MI 49931.