

# Quaranteam - Cognitive Walkthrough

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# Cellular Automaton: Infectious Disease

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## About:

<insert summary of our application  
here>



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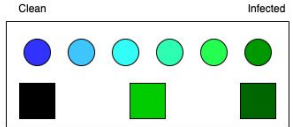
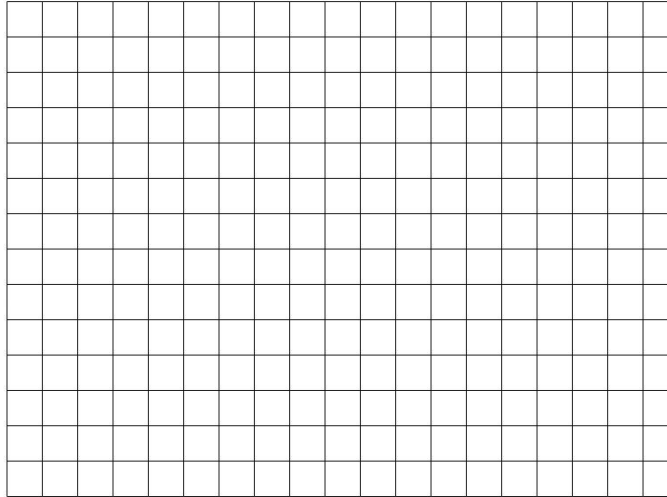
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# Cellular Automata: Infectious Disease Simulation

People:  Erase:   
Items:

Grid Setup: Select one of the options to the left and select where to place it on the grid by clicking a square. To remove items or persons, select the "Erase" tool.



Grid Size	<input type="text" value="19"/> x <input type="text" value="14"/>	Item Contamination Period	<input type="text" value="2"/>	<input type="button" value="Run Simulation"/>
Days Simulated	<input type="text" value="5"/>	Manual Player Control	<input checked="" type="radio"/> On <input type="radio"/> Off	<input type="button" value="End Simulation"/>
Viral Amount to Catch Illness	<input type="text" value="100"/>	Masks	<input checked="" type="radio"/> On <input type="radio"/> Off	
Infected Period	<input type="text" value="10"/>	Sanitization	<input checked="" type="radio"/> On <input type="radio"/> Off	
Viral Amount Production	<input type="text" value="50"/>	Death	<input type="radio"/> On <input checked="" type="radio"/> Off	

### Manual Control:

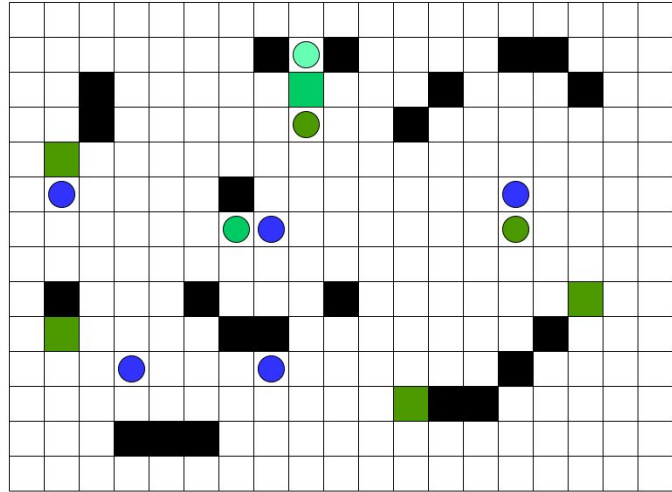
Arrow Keys : Movement

Clicking on a person: Take control if "Manual Player Control" is On (Controlled persons have an arrow above them)

# Cellular Automata: Infectious Disease Simulation

People:   Erase:   
 Items:

Grid Setup: Select one of the options to the left and select where to place it on the grid by clicking a square. To remove items or persons, select the "Erase" tool.



Clean Infected

Grid Size	<input type="text" value="19"/> x <input type="text" value="14"/>	Item Contamination Period	<input type="text" value="2"/>	<input type="button" value="Pause Simulation"/>
Days Simulated	<input type="text" value="5"/>	Manual Player Control	<input checked="" type="radio"/> On <input type="radio"/> Off	<input type="button" value="End Simulation"/>
Viral Amount to Catch Illness	<input type="text" value="100"/>	Masks	<input checked="" type="radio"/> On <input type="radio"/> Off	
Infected Period	<input type="text" value="10"/>	Sanitization	<input checked="" type="radio"/> On <input type="radio"/> Off	
Viral Amount Production	<input type="text" value="50"/>	Death	<input type="radio"/> On <input checked="" type="radio"/> Off	

Manual Control:

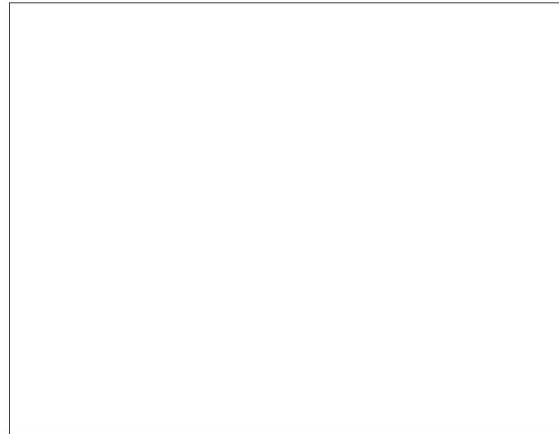
Arrow Keys : Movement

Clicking on a person: Take control if "Manual Player Control" is On (Controlled persons have an arrow above them)

\* -words inside of "<code>" are not a part of the page-

## Results:

<Charts showing results post-simulation>



Download your Results (PDF):

Download

Configure a New Simulation:

Start

Log Out:

Sign Out

# Users and Environments

- Middle School Students
- Middle School Teachers
- Computers/Tablets



# Use Scenario 1 - Nominal Scenario

User: Jake Sullivan

Jake opens the site and clicks on the google login and promptly enters his login information which is correct. Jake then proceeds to change some of the configurations while keeping the grid size the default grid size(19x14). Jake then proceeds to frequently pause the simulation to look at different aspects of the simulation while sanitizing spaces as frequently as possible. Jake then proceeds to end the simulation after 40 minutes of playing and downloads his results in order to print them which he then logs out.





# Use Scenario 2 - Error Handling

User: Mary Reed

Mary opens the website and proceeds to click the log in with google button which Mary then tries some different passwords since she often forgets hers until she successfully logs in (google handles error handling here). Mary then proceeds to see what would happen if she deleted the grid numbers without putting anything in the boxes, she then hits enter and the boxes automatically default to the values that are there previously. Mary tried to type words within the boxes, but the text would not appear unless she input numbers which disappointed Mary nonetheless. Mary then proceeded to properly run the simulation like Jake and promptly ended her simulation in order to start a new one which she clicked on in the results page. Afterwards she ended her second simulation and logged out.

# Other Content

- **Background Information**
  - There will be a static “About” page that contains a description of the project, some background information about viral spread, and links to the relevant resources
- **Tutorials**
  - For now, we plan to have a static tutorial page using images and descriptions to show the user how to go about setting up a simulation for the first time and explaining what each parameter does. As a stretch goal, we would like to have an interactive tutorial for first time users, where it goes through the actual game board page, having the user modify each setting to see the results. This would be more complicated to implement, but if we have time after finishing the core functionality we would like to add it
- **Landing Page**
  - The landing page will be the gameboard page with a prompt asking users to either login, create an account, or continue as guest. First time users will be given the options to go to the tutorial or skip it.



# Usability Goals

- Provide a functional, mathematically correct simulation.
- Make the app simple enough that a middle school student can navigate it, yet complex enough to provide an educational experience.
- Give the middle school teacher an overview of their class's progress
- Convey the results of the simulation in a meaningful and readable way



# Usability Concerns

- Being able to create a UX that is simple enough for a middle schooler to navigate with ease
- Building the teacher view in such a way that allows them to manage their class's progress
- Differentiating between the experience of a full simulation, and/or having a player controlled character.

