**MVF Idea 4 COVID-19 Trends**

**Description:**

A lot of people feel like COVID19 is an endless rabbit hole. No one knows when it will end, and some people do not always trust the governments’ actions. Experts also need certain ways to predict the best measurements that the government can implement.

COVID-19 Trends allows the users to choose different measurements/no actions at all etc to see how the pandemic will last and how effective certain measurements can be. Users can also choose if a certain area has reduced a certain percentage (25%, 50% or 75%) of infected cases, how things will turn out. Thus, citizens would gain more trust with government actions and experts can also use this as a consideration when recommending government what actions to take.

For now, we decide to make the estimations based on the R0, population density and effectiveness of the measurements. R0 means patient zero, and it leads to a certain infection chain, for example, if R0 can infect 3 people based on high population density, every patient they infect can pass on the transmission onto another 3 patients. Let’s say if the government implements a lockdown, population density will be reduced, and the infection rate can be reduced let’s say from 3 down to 1 then the outcome will be totally different. These are just some basic ideas. Our algorithm can change as we implement the system.

**Validation Testing:**

Once we’ve implemented the algorithms, we will conduct validation testings based on how accurate the system generates the outputs based on the population density, restrictions and infection rate. We will calculate the equations manually and list down the expected outcomes. Then we will run the system and see if the outputs are the same as the expected outcomes.

**User Stories:**

1. Arisa Sonohara is a university student who is depressed about the current COVID-19 situation as she has no idea when the pandemic will end and she’s unsure if the new restrictions can improve the future. Thus, she can use COVID-19 Trend to make predictions for the future. Once she sees some estimated outcomes, she feels more relieved and more confident with life.
2. James Whistler is a health expert working in the Australian Department of Health and he wants to give advices to the Australian government of what actions to take based on the current situation of COVID-19. COVID-19 Trend can help him decide with more reliable and useful ideas for the government.