

**CSE 443**

**Object Oriented**

**Analysis Design**

**FINAL PROJECT**

**REPORT**

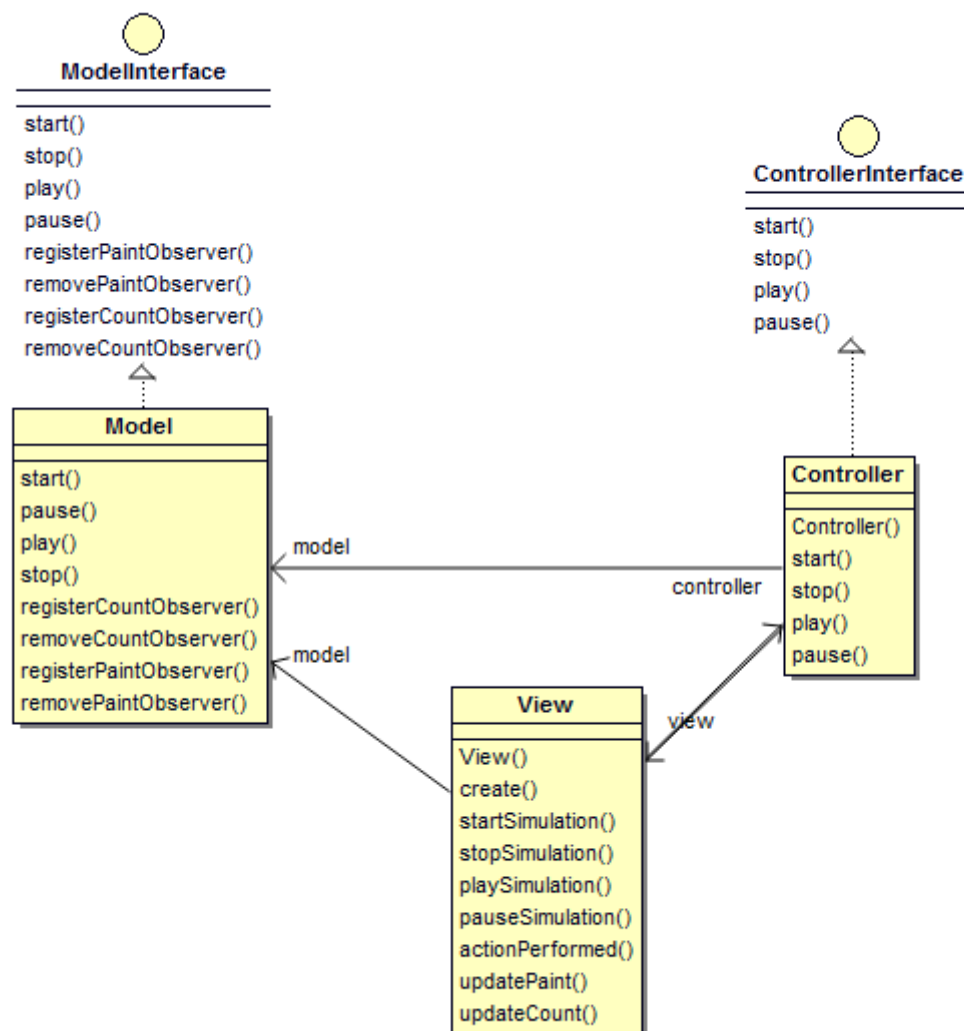
**161044083**

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Firstly, i used taxicab distance metric for all my distance calculations, and I evaluated all the conditions discretely, including the movements (per second). Also, possibility of wearing mask for an individual is 0.5.

I used MVC desing pattern initially to communicate with the modeled game engine which designed as Mediator design pattern. In controller interface, I defined all the commands as method. I also defined methods for all the commands in Model interface, to be able to give response for all the commands. I also gave Model interface observable ability to deliver responds to the View instantly, and implemented the update methods for View class.

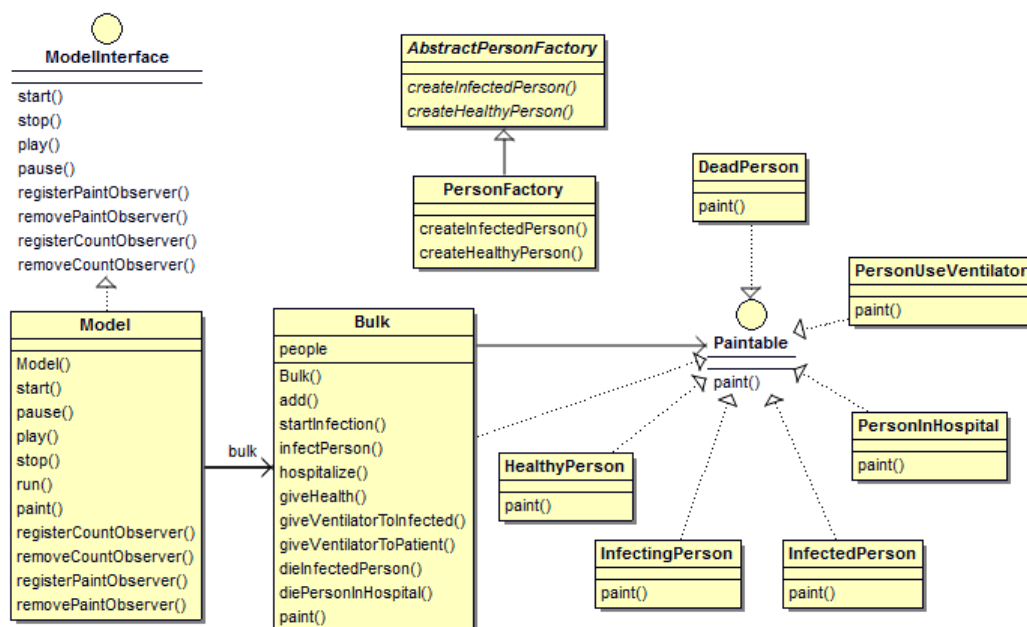


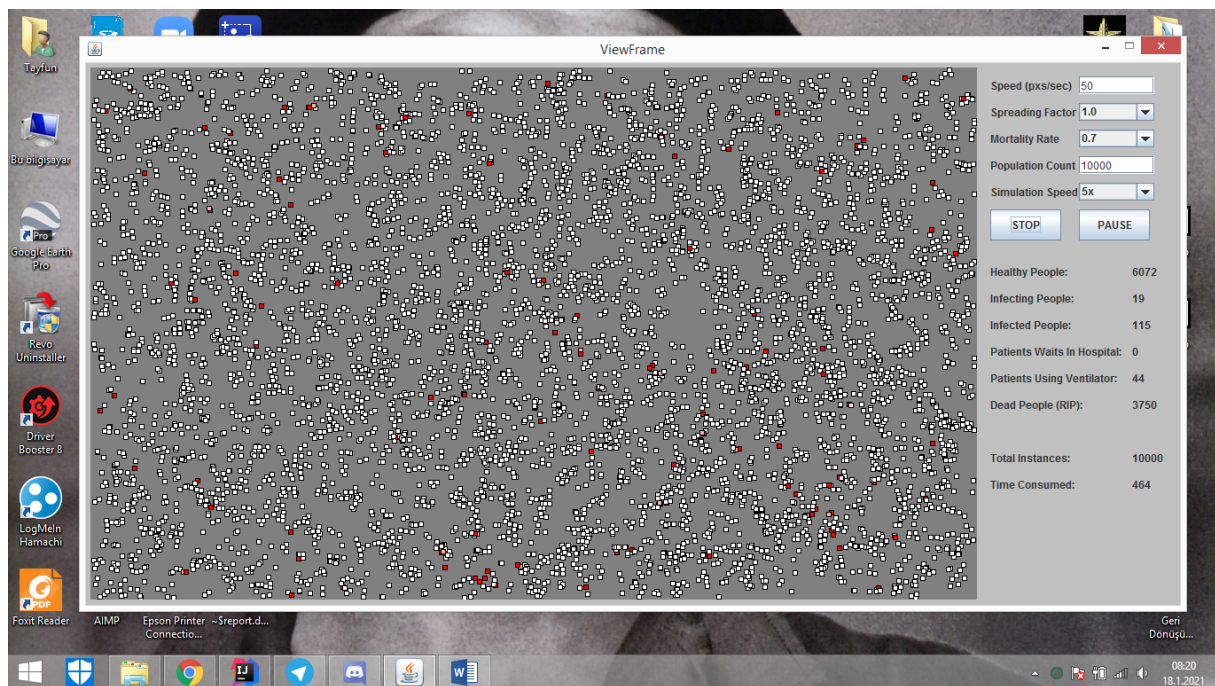
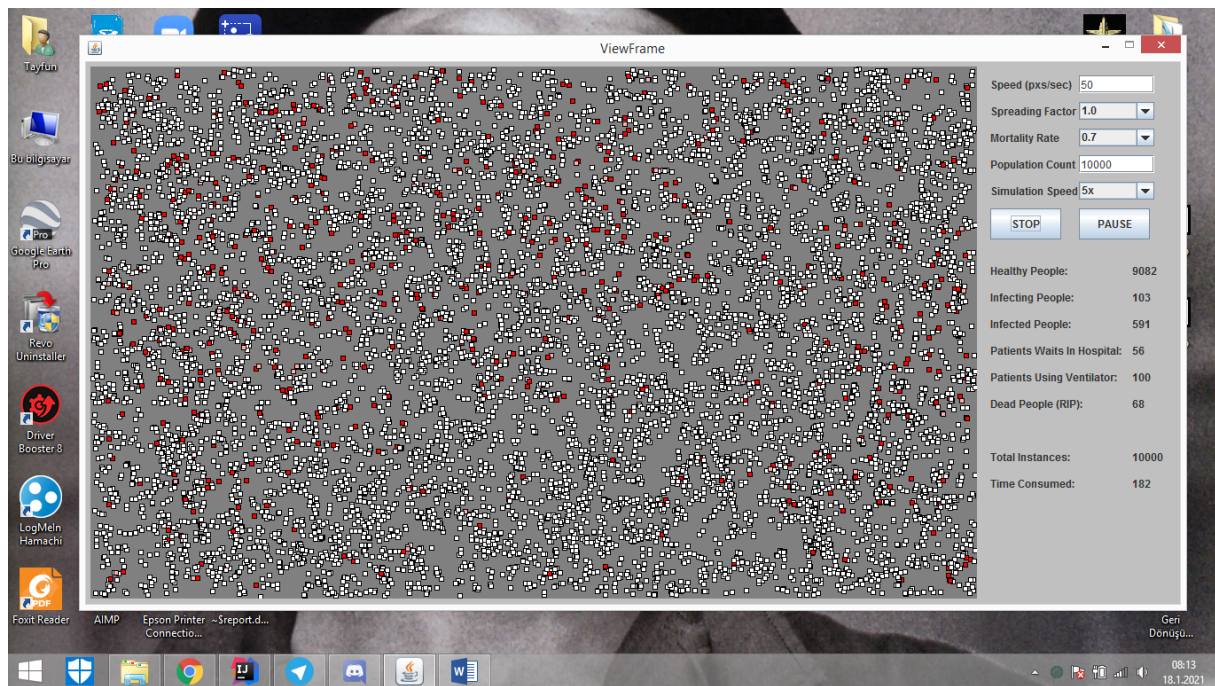
I designed my Model class as Mediator design pattern, which holds all the individuals in a bulk, and makes all the operations due to the current state and the requirements of the game. It also does all the distance calculations for each instance pair.

I designed the individuals with Strategy design pattern, so that I can create any type of individual like healthy, infected or intubated. And its easy to change its behavior when its required (like infect or kill a person). I also implemented a Bulk class which also inherited from Paintable class, to behave all the individuals as a bulk, and to have the info about population. It also helps controlling the bulk, and noticing any change in the bulk.

When i communicate with the individuals with the help of the Bulk object that its reference is holded, the Bulk does not let any unwanted command to happen (Mediator (Model) class is restricted with the methods that Bulk provide, it kinda Works like Proxy in this what.).

I also implemented Person factory to create individuals and add them to Bulk one bt one, in the initialization of scenerio.





**Screenshots From Simulation**