**Reflection**

The system designed was firstly written down what functionalities, classes, and GUI should have to get the general idea of what the system should be. I started implementing the classes. After drawing the system with my own understanding technique, I was able to start the coding and implement the functions and the requirements of the project in the classes. After I started creating the GUI which I would link to the classes with.

I applied 4 Design patterns in the system. First, Observer pattern implementation was quite easy, I planned using it on Person System and Medicine Stock so it could refresh the Users Lists with every user to the system and the medicine stock list when both lists updated and that’s why it was a good design criteria. Second Singleton pattern having only one instance was good idea. I was planning on using this pattern to get the same array list from the Person System in all the classes easily as it could make what I wanted to do. It was going to create a new class instance if it was the first time creating it. Third, Strategy pattern was meant to be used on the Person System class so I can notify the patter and update the Users list or delete to keep my lists updated. Fourth, Factory pattern also helped to keep the code DRY, it wasn’t too necessary, but I was interested way of creating objects and is really going to be more helpful in bigger projects. It was meant to be used in the Person class to create each User according to their type if they were a Patient, Doctor, Secretary, Admin so I can insert them and divide them per category each one according to what they were.

The system is not well created as it doesn’t have any functions outside classes and the GUI connected to them so it could work properly but most of the code in the classes is tested and it could work under a few more time working on GUI to display each functionality properly and the system completed. There are also some functionalities which are not in the classes that couldn’t make it as I would have added them inside GUI buttons but I didn’t have enough time. I filled the systems with some patters which would have been better if the system was implemented correctly. I also added an enum page which helped me on the Strategy patter to work. I’m pretty sure most of the code in the classes works as I tested most of it on the main but sadly didn’t make it into GUI.

My git repository url on bitbucket is: https://theoherodotou@bitbucket.org/theoherodotou/soft252\_coursework.git