

# Design choices

We implemented two design patterns for the system:

## **Factory design pattern for the Queue numbering system**

The rationale behind this decision was the consideration that Queue numbers have the same characteristics across all three Queues, and that reusing the code to generate queue numbers by making each queue a Concrete class of the `Queue Number` would lead to cleaner code, as well allow us to update the queuing algorithm for all three in the future if needed.

## **Decorator design pattern for the Abstract Documents carried by Customer**

While the documents carried by the Customer for the purpose of application for the license vary, they all inherit from `AbstractDocumentClass` which allowed us to utilize the Decorator pattern and “decorate” the Customer object with the respective documents that they are carrying.

## **Receptionist**

We also streamlined the queuing process by implementing a receptionist that checks for the presence of documents for each application and assigns queue numbers to applicants who have not undergone the eye test and/or translated their existing driver’s license. If the applicant has all the required documentation, the receptionist assigns him/her a place in the Licensing queue.