Project Payroll Flipkart

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1   Design Approach

The design was made keeping in mind the scalability of the system as the problem statement is quite open. The solutioned is designed in three layers.

- User layer

- Communicator

- Database

The 1st and the 3rd layer are very loosely coupled. COmposition is used to make the system more managable.

1.1   User Layer

It contains the classes Date, Employee, UnionReport, SalesRecord, TimeCard, Tansaction, PayRoll, UI. This is where the user interacts. For any communiation to the data the methods of the communicator are invoked. The implementation of the database is immaterial.

1.2   Communicator

It contains an interface Communicator and a class SqlComm that implements it. Idea of composition is used here. One might implement Communicator in multiple ways. Accordingly an instance of that class and type Communicator will be created in the user layer and used.

1.3   Database

This is basically the storage layer. The database can be different like mysql, postgresql, json files etc.. Accordingly the communicator has to be changed but the user layer remains untouched.

2   Sequence Diagram

The three layers mentioned above can in principle exist in different locations physically. For example user layer in the personal computers of the employees, communicator in the main server of that office and database in some other city in the main branch office. The sequence diagram below sums up the messages passed between the layers in various stages. The blue line refers to the active life time of the entity.
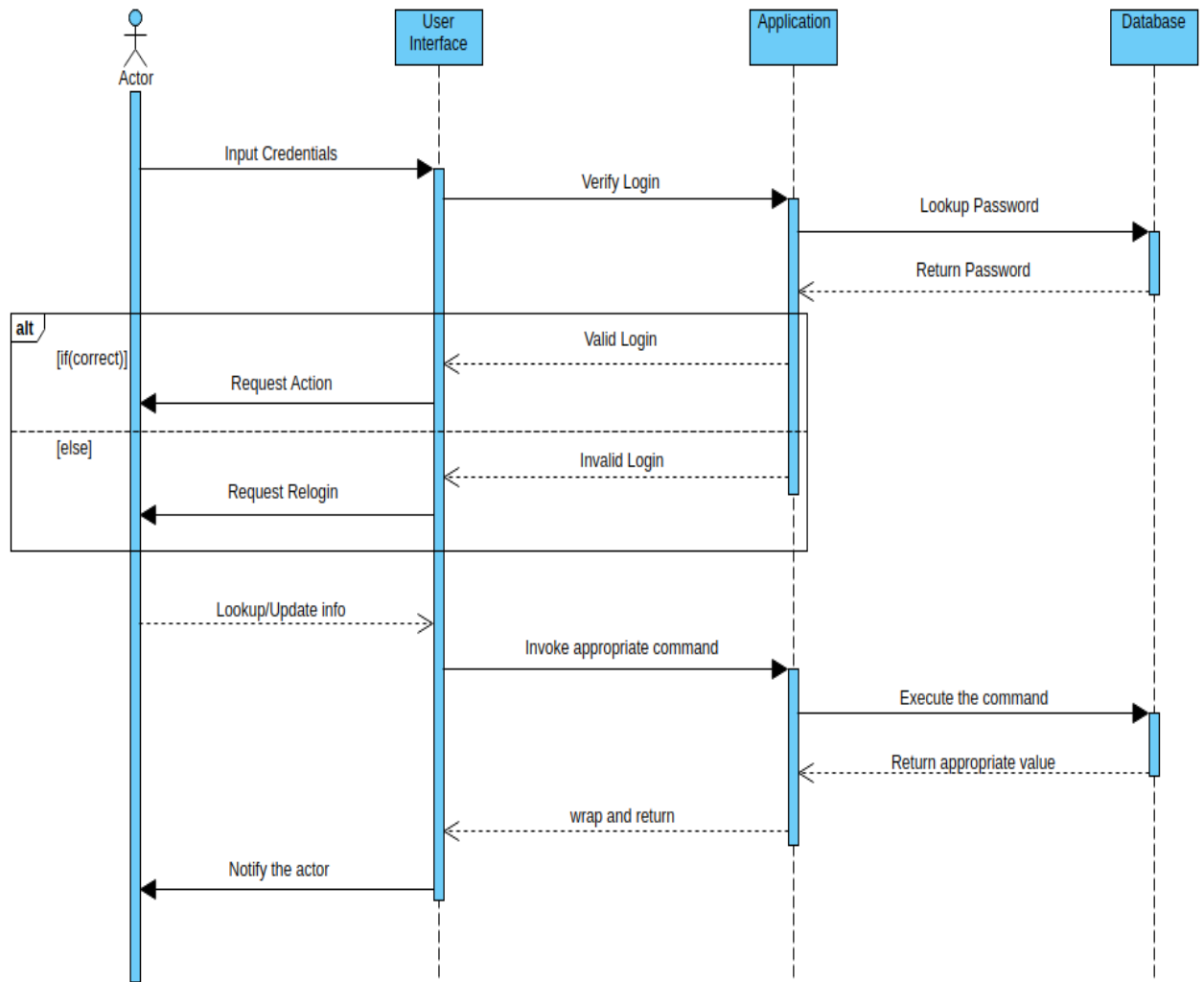
Figure 1: Sequence Diagram