Design Document

for

MESS AUTOMATION SYSTEM

Prepared by Team 18:

Pranit Deshmukh	**B190553CS**	**pranit_b190553cs@nitc.ac.in**
Sumedh Kambale	**B190450CS**	**sumedh_b190450cs@nitc.ac.in**
Prince Chauhan	**B190492CS**	**prince_b190492cs@nitc.a.c.in**
Jitu Mangilal Banot	**B190576CS**	**jitu_b190576cs@nitc.ac.in**

Course: **CS3007D Object Oriented Systems**

Date: **06-11-2021**

Glossary

Contractor	The mess administrator who overlooks all the happenings in the mess.
Extras	The extra food items that are provided to students apart from regular food
IDE	Integrated Development Environment

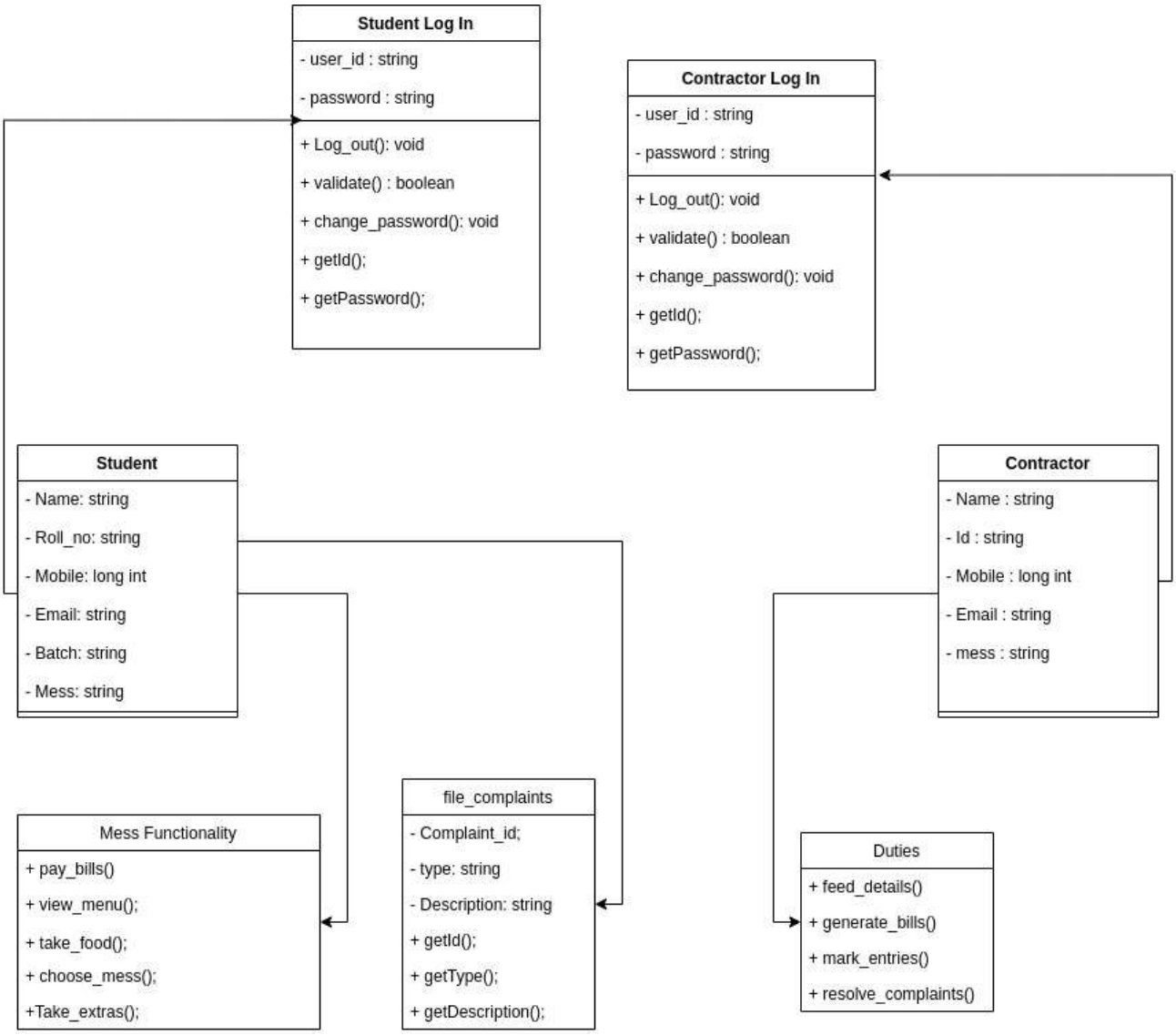
Table of contents

1. Detailed Design through UML diagrams

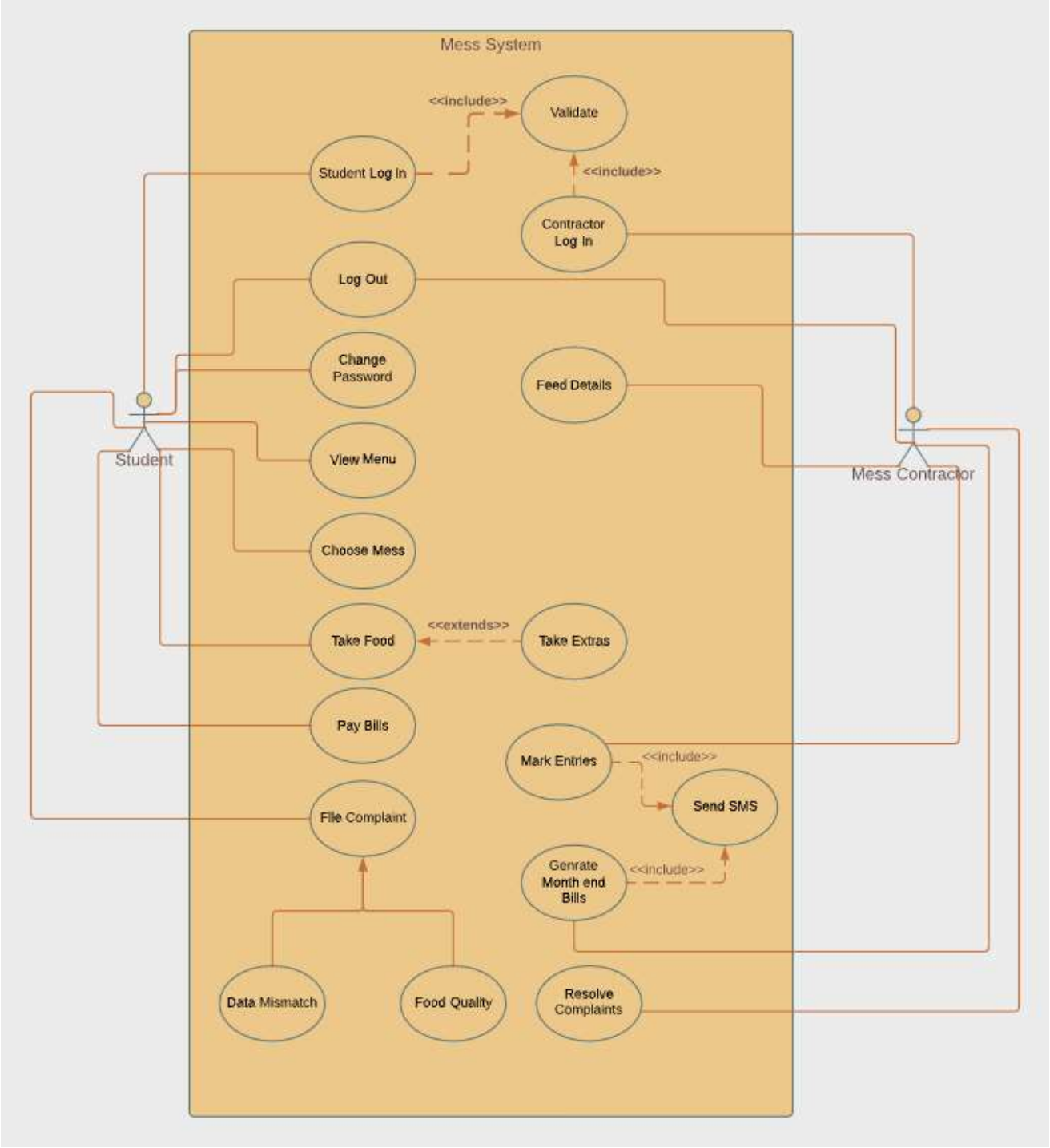
1.1 System model using Class Diagram

Class Diagram in the Unified Modelling Language is a type of static structure diagram that describes the structure of a system by showing the system's classes, their attributes, operations (or methods) and the relationships among classes.

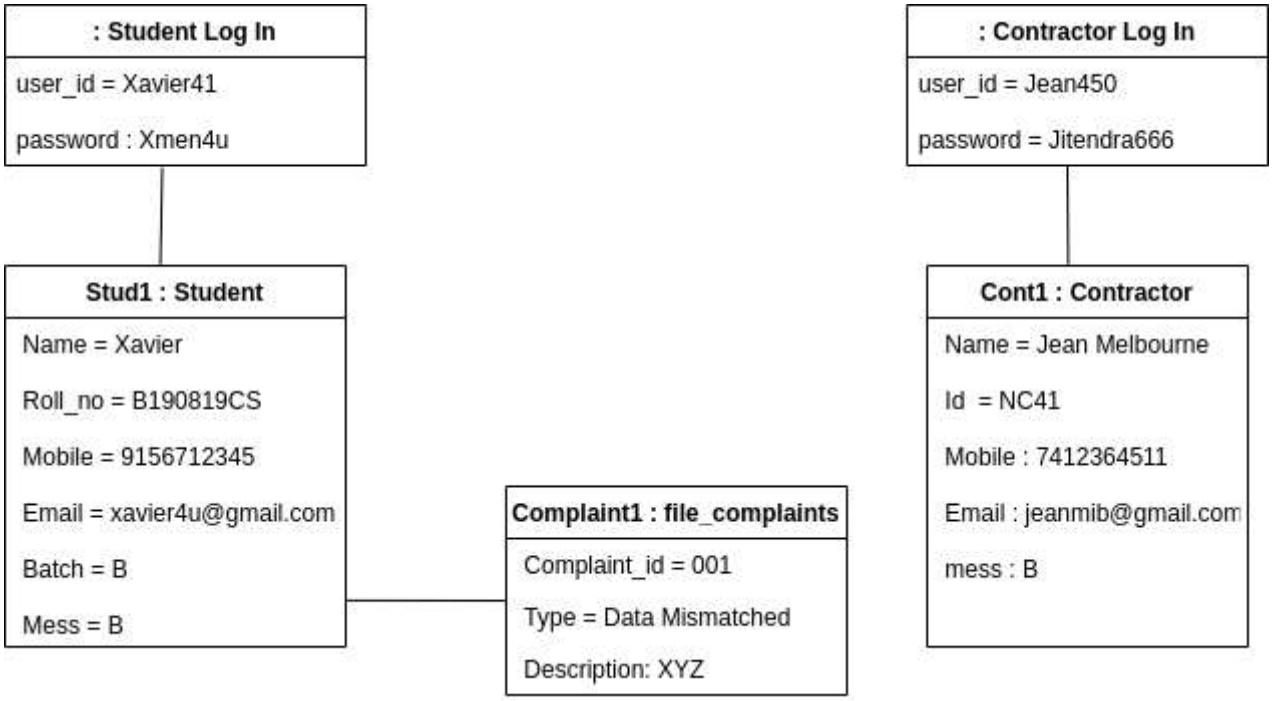
1.1.1 Class Diagram



1.2 Responsibilities - Usecase Diagram



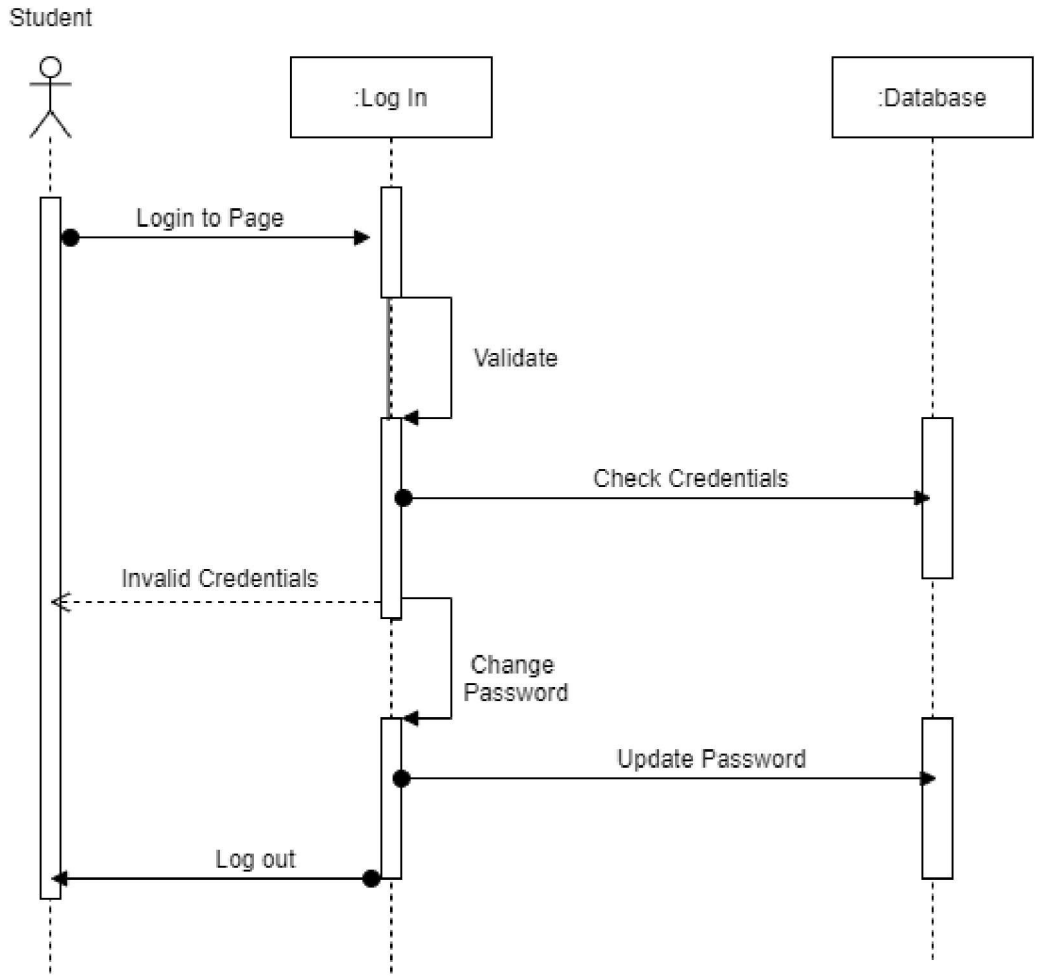
1.3 Static snapshot of the system - Object Diagram



1.4 System Interactions through Sequence Diagrams

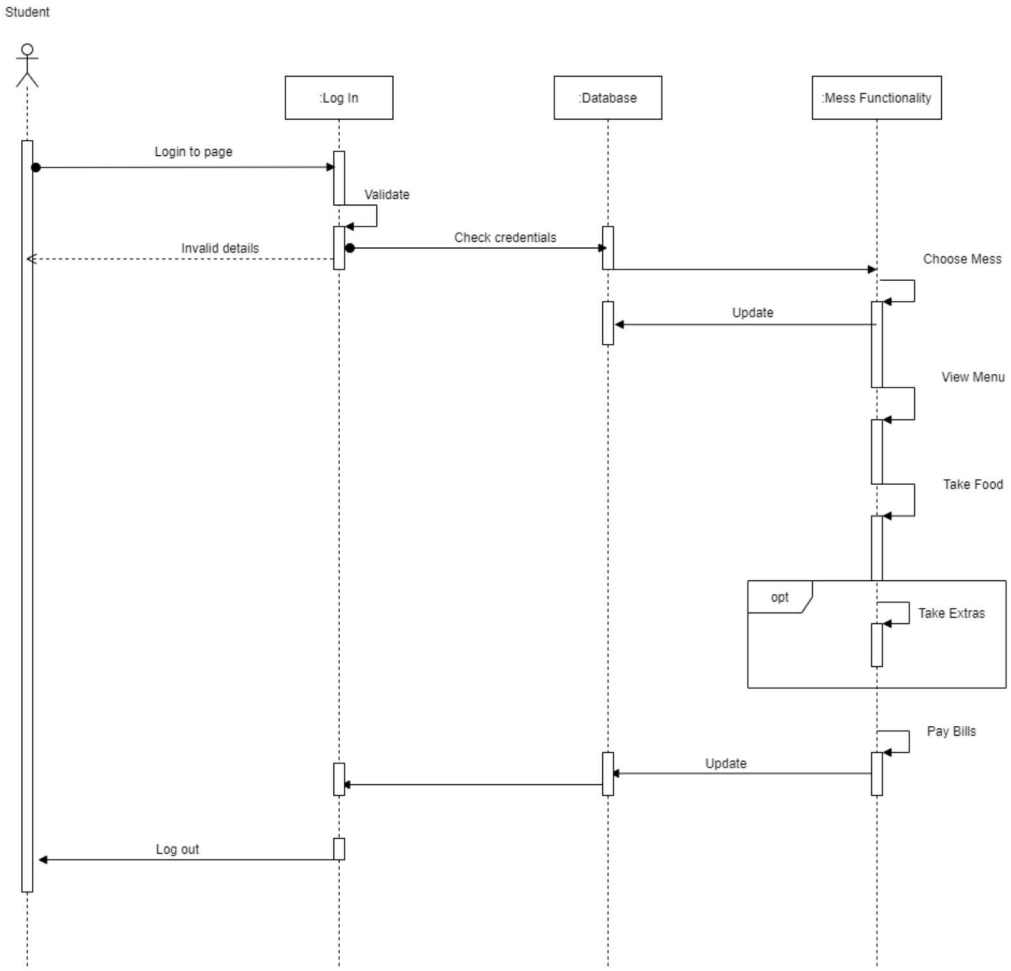
Sequence diagrams are interaction diagrams that show the sequence of messages exchanged by the set of objects performing a certain task. A sequence diagram shows, as parallel vertical lines (lifeline), different processes or objects that live simultaneously, and as horizontal arrows, the messages exchanged between them, in the order in which they occur.

1.4.1 Change Password : Jitu Mangilal Banot



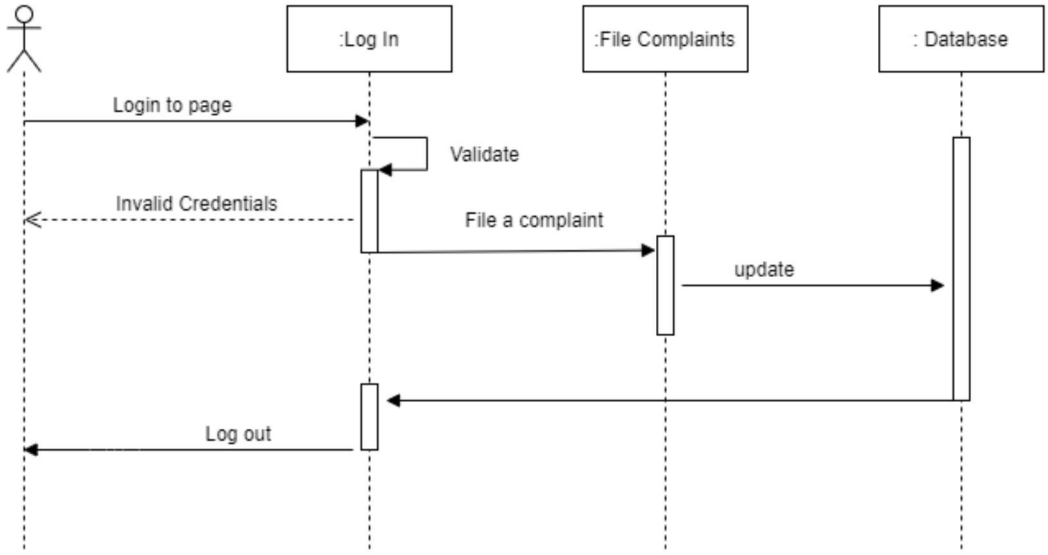
Initially the user is on the Login page and he/she is asked to enter login credentials. If the credentials are not valid then he is redirected to the login page. Else the student will have the option to change the password. After confirming the old password, the option to enter a new password will appear. Once the password is changed it is saved to the database and the user is logged out.

1.4.2 Mess Functionality : Prince Chauhan



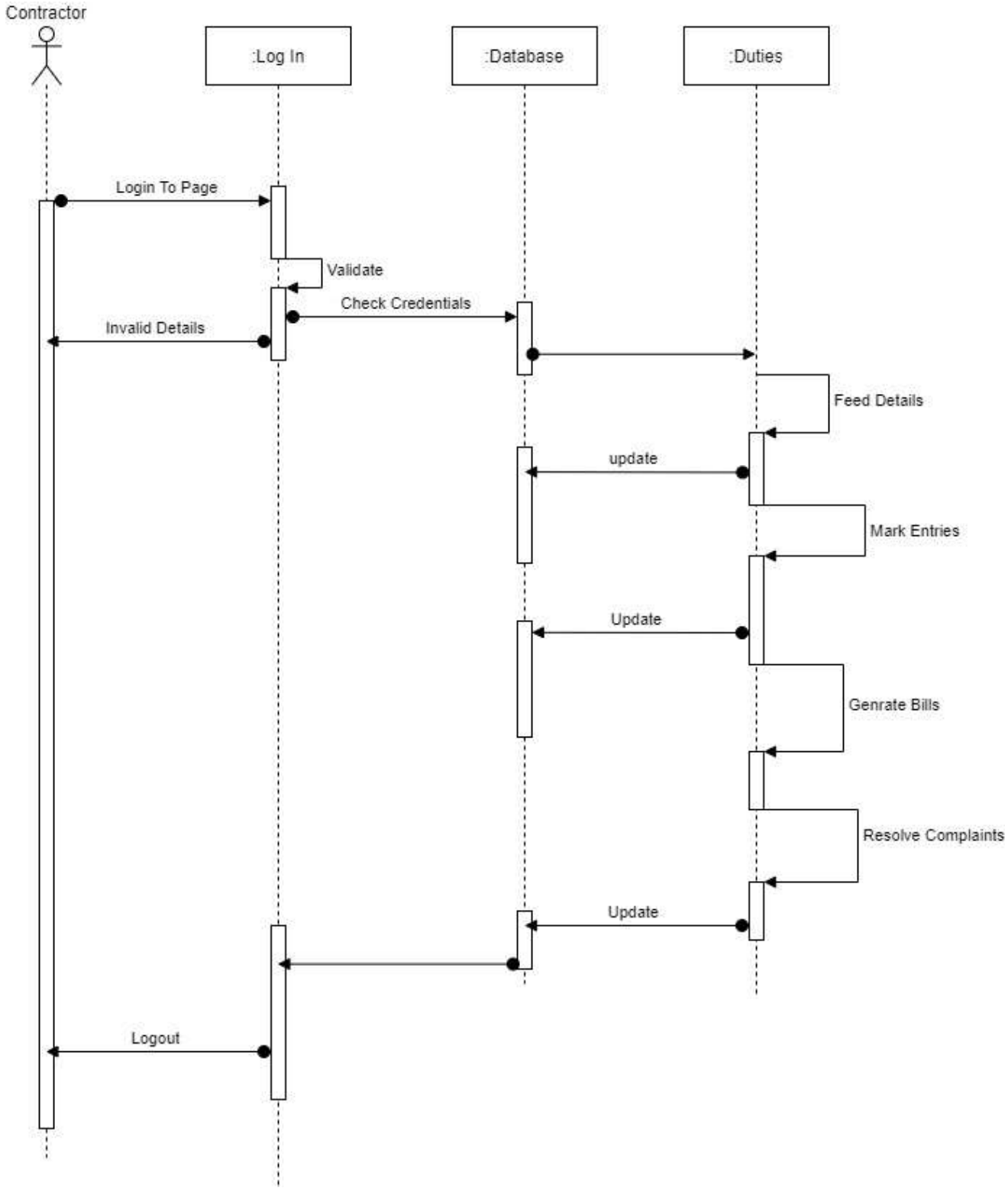
Initially the user is on the Login page and he/she is asked to enter login credentials. If the credentials are not valid then he/she is redirected to the login page. Else he/she will be redirected to the choose mess option. After that students can view the menu, take food and take extras (optional). At the end of each month students will have to pay bills. The changes in the data are saved to the database. The student is logged out.

1.4.3 File Complaints: Sumedh Kambale



The student will have to enter the login credentials on the login page. If the credentials are not valid then he is redirected to the login page. Else, the student will be able to file a complaint. The complaint can be of two types. Data mismatch and food quality complaint. After filing the complaint, it will be updated in the database. So that the contractor can look into the issue. After that the student is logged out of the system.

1.4.4 Contractor Duties : Pranit Deshmukh



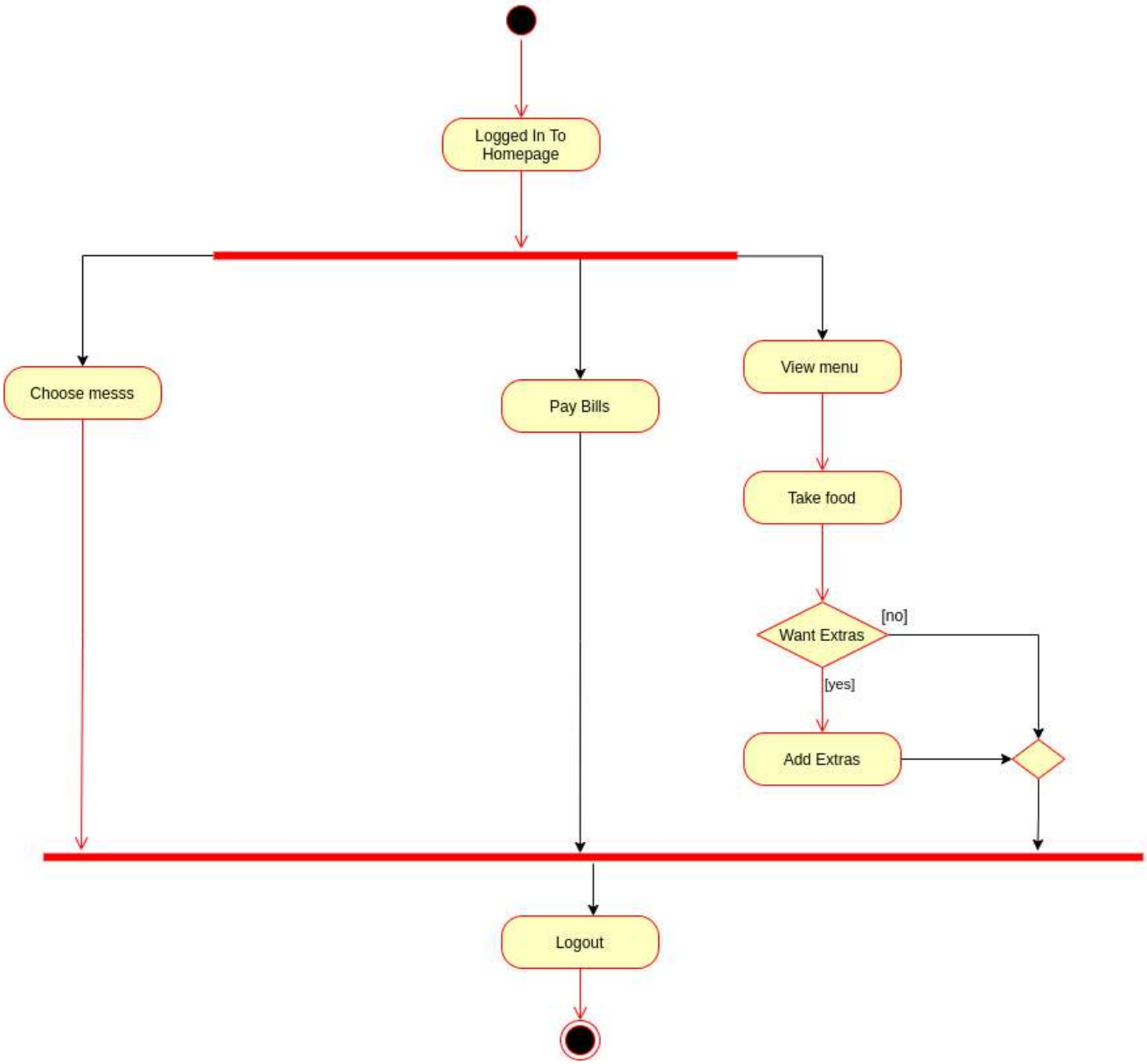
After the successful validation of login credentials the contractor can access functionalities in the application like feed details at the start of each month, mark entries after the student takes food, generate bills at the end of month. The contractor will also have the option to resolve pending

complaints and update the data in the database. The contractor is logged out after performing the above operations.

1.5 Control and Data Flows through Activity Diagrams

Activity diagram shows business and software processes as a progression of actions. These actions can be carried out by students,contractors, software components or computers. Activity diagrams are used to describe business processes and use cases as well as to document the implementation of system processes.

1.5.1 Mess functionalities : Prince Chauhan

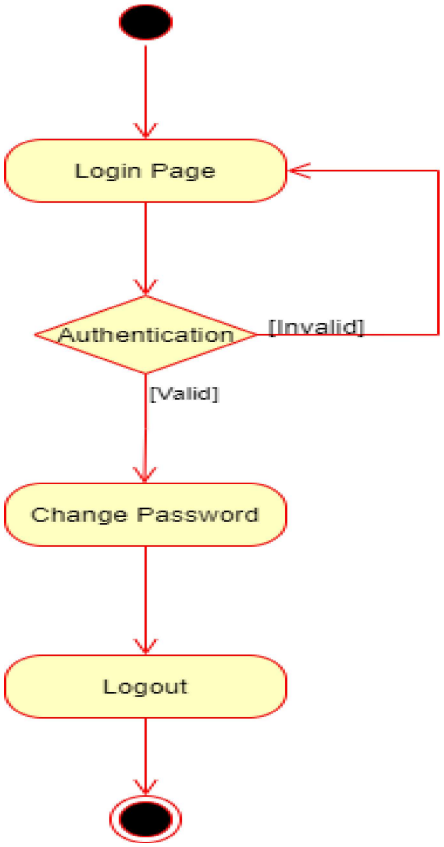


Students log in to the system to use all the functionalities of mess. In the home page they gets the options to perform the following activities :

- Choose the mess they want to select (at the start each month)
- Pay the bills generated by the system

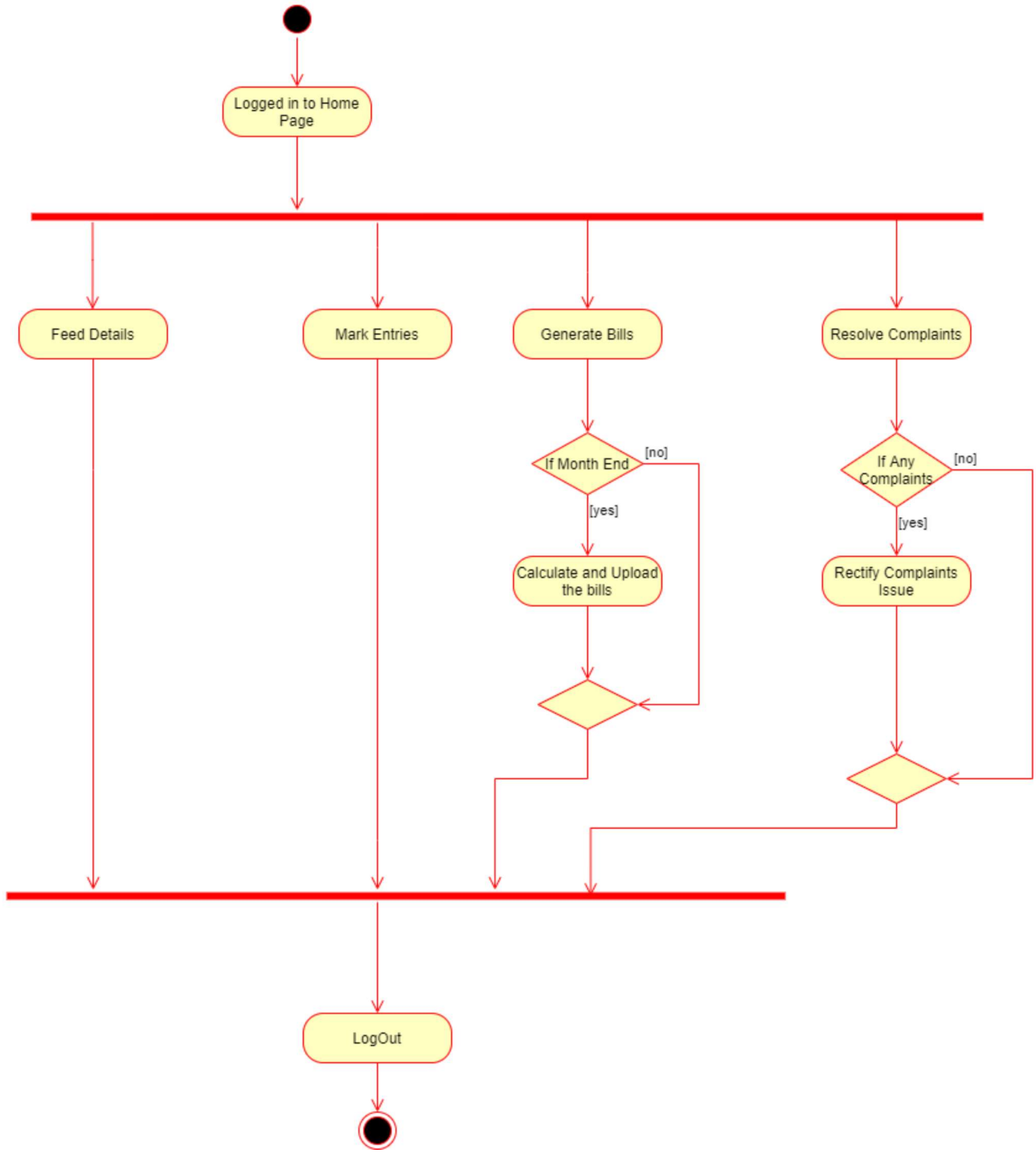
- View menu and then select the food items they want to eat along with the Extras if they wish to have them.

1.5.2 Change Password : Jitu Mangilal Banot



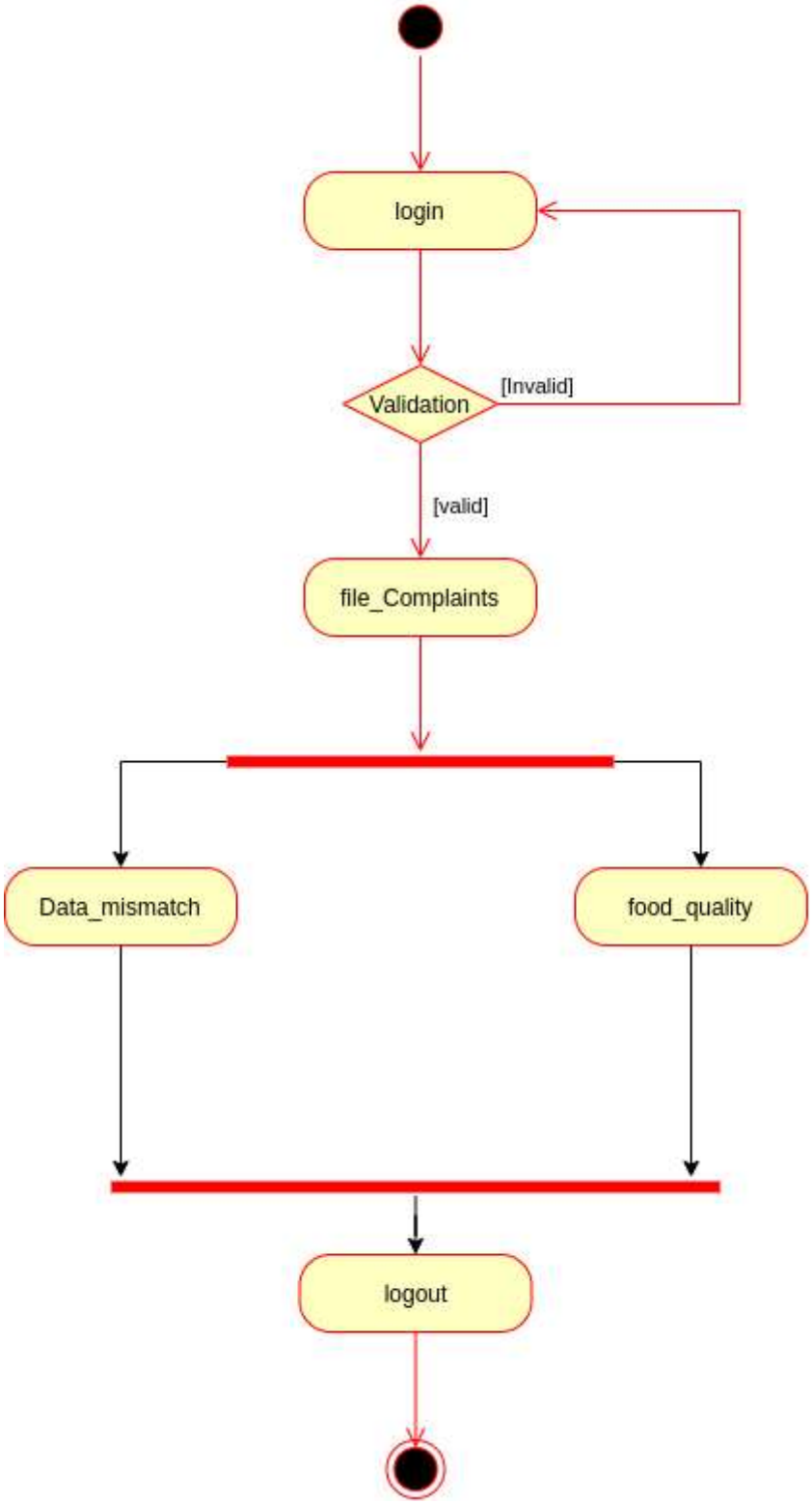
The user is sent to the login page first. The authentication of login is shown by the condition block. If credentials are invalid then the user is sent back to the login page. On successful authentication, the user can change the password and log out the session later.

1.5.3 Contractor Duties : Pranit Deshmukh



Contractor is logged in to the home page. He has 4 tasks to perform. Generate bills and Resolve complaints are connected to the condition blocks for testing the respective condition for further. Food Details and Mark Entries are other two tasks. Contractor can perform any task. At the end, the contractor has to log out the session.

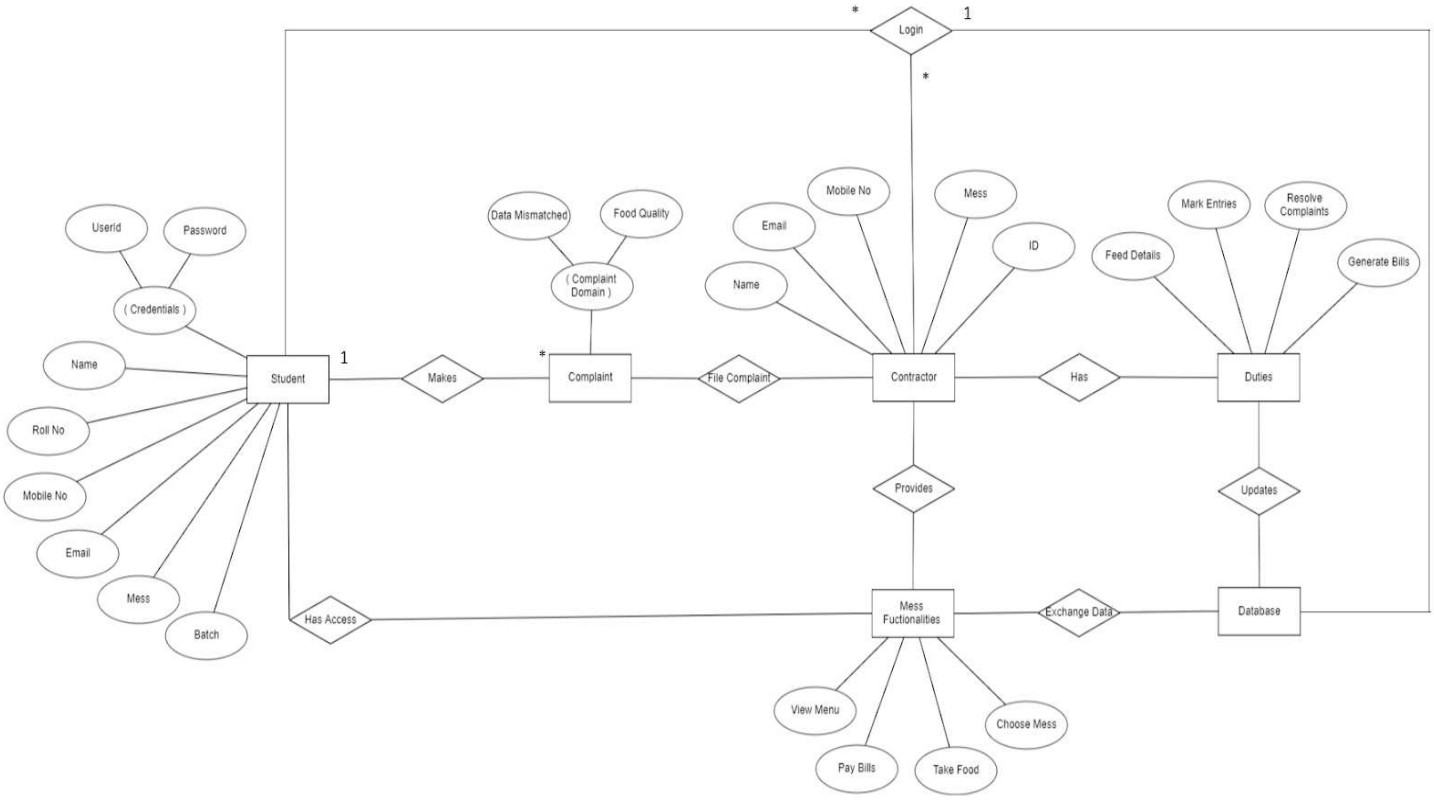
1.5.4 File Complaints: Sumedh Kambale



Students log in to his account to file the complaint regarding either Data mismatch or food quality through the app. After the complaint has been filed the changes are saved to the database. Students log out of the app and the process terminates.

2. Database Design

2.1 ER Diagram



3. Implementation Plans

3.1 Technology Stack

The IDE used for making the software is Eclipse. For programming, making classes Java language is used. For storing the data, MySQL is used. **JDBC** (**Java Database Connectivity**) is used for connecting the software to MySQL database.

References

●*https://www.perforce.com/blog/alm/how-write-software-requirements-specification-srs-docu ment*
●*https://www.geeksforgeeks.org/software-requirement-specification-srs-format/*
● *http://agilemodeling.com/style/useCaseDiagram.htm*
● *https://www.lucidchart.com/pages/uml-use-case-diagram*