**Complaint Registration Portal**

Project for the class Database Systems II

in the Summer Semester 2023

The following persons have contributed to this project:

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| Bhavuk Arora | Dejan Mijic | Kanwar Pritesh Singh |
| [31arbh1mst@hft-stuttgart.de](mailto:31arbh1mst@hft-stuttgart.de) | 31mide1mst@hft-stuttgart.de | 22sika1mst@hft-stuttgart.de |

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Abstract

This Software project will help in making easy accessibility of the Complaint registration portal be the Hostel students so that they can submit there Complaints in no time, and get them resolved by the concerned authorities. For this, general observation is taken into consideration that what are the different kind of complaints that a student faces in a hostel for example Plumbing, Electrical, Cleaning, Maintenance issues etc. keeping all these things into consideration this project has been developed. So the users can directly upload there Complaint to the database of the college provided specifically for it. And from that database the complaints will be segregated and will be sent to the people who are liable to fulfil these complaints and then the action will be taken accordingly.

1. **Introduction**
   1. **Purpose:**

As we know that many students who enroll in universities or colleges reside in Hostels as it is the most economical way to reside in some or other city. But when we have problems related to our rooms or apartments there is no one to listen to those problems and act on them because of this the students have to face many problems. We are creating this project to minimize this problem and let the student live the tension-free life. (at least there will be no tension related to living)

* 1. **Intended Audience and Reading Suggestions**

This is for the Students that are living in hostels and want to report any certain problems that they faced by them at any point of time ,so this software / project is going to help them report any such thing , and resolution can be done by the intended personals

* 1. **Product Scope**

We are creating this project to minimize this problem and let the student live a tension-free life. (at least there will be no tension related to living). This Software project is a new initiative by us to make easy accessibility of the Complaint registration portal by the Hosteler so that they can submit their Complaints in no time, and get them resolved by the concerned authorities. For this general observation is taken into consideration, that what all are the Complaints that a student faces in a hostel like for example Plumbing, Electrical, Cleaning, Maintenance issues, etc. keeping all these into consideration this Software project is being initiated.

1. **System Platform**

This chapter lists the information about the system and software used in this project. The versions and licensing of these tools have also been mentioned so that other students who want to reconstruct the project can use this information. The system was developed in **Apache Netbeans IDE**. The user interface was created using the **Java Swing framework.** The DBMS implemented for this program is **MYSQL**, which is an open-source DBMS.

|  |  |  |
| --- | --- | --- |
| **System/Software** | **Version** | **Licenses** |
| Windows | 10 | Student-License |
| MySQL Workbench | 8.0 | Open-Source |
| Apache Netbeans IDE | 17 | Open-Source |
| JDBC Driver | 8.0.23 | Open-Source |

1. **Data Model**

**3.1 Entity Relationship Model:**

ER(Entity Relationship) Diagram represents the model of Complaint Box Entities. The entity-relationship diagram of Complaint Box shows all the visual instruments of database tables and the relations between different Technician management, Carpenter management etc. It used structure data and of Complaint Box. It is used Structure data groups of Complaint Box functionalities of the main entities of the Complaint Box.

1. Complaint Box Entities and Attributes :

* User: Attributes of user are user\_id, hostel\_number, room\_number, Complaint, field.
* Login: Attributes of login are username, password.

1. Description of Complaint Box Database:

* The details of Hostel is stored into the user tables respective with all the tables
* Each entity (User, Login) contains primary Key and Foreign key.
* There is one-to-one and one-to-many relationships available between the entities.
* We have implemented indexing on each tables of Complaint Box for fast query execution.

**PASTE ER DIAGRAM HERE WITH FIGURE NUMBER AND DESCRIPTION**

**3.2 Login Sequence Diagram of Complaint Box:**

This is the Login Sequence Diagram of Complaint Box , where admin will be able to login in there accounts using their credentials. After login user can manage all the operations of the functions. All the pages such as Technician Management, Carpenter Management are secure and user can login these pages after login. The diagram below helps demonstration how login page works in a Complaint Box, all the pages interact over the course of sequences and the user will not be able to access this page without verifying there identity.

------------------------------------------Insert sequence diagram here----------------------------------

**3.3 Use Case Diagram of Complaint Box:**

A use case diagram is a dynamic or behaviour diagram in UML. Use case diagrams model the functionality of a system using actors and use cases. Use cases are a set of actions, services, and functions that the system needs to perform. In this context, a "system" is something being developed or operated, such as a web site. The "actors" are people or entities operating under defined roles within the system.

This Use Case Diagram is a Graphical depiction of the interaction among the events of Complaint Box. It represents the methodology used in system analysis to identify, clarify and organize system requirements of Complaint Box. The main actor of Complaint Box in this Use Case Diagram are: Super Admin, System User and Staff who perform the different type of use cases such as Technician Management, Carpenter Management, Plumber Management etc. major elements of the use case diagram of Complaint Box are shown in picture below.

Relationships between and Among Actors:



* *Super Admin Entity*: Delete user, Validate Student’s Details. 
* *Staff Entity*: Forward Complaint, Remark. 
* *Student Entity*: Issue Complaint, Register.

---------------------------- INSERT UML DIAGRAM HERE ---------------------------------------------

1. **Relational Design**

This chapter shows all database tables, their schema and example data that exist for this system in the tables

**4.1 Table schema** ((Cross check the details and add table schema images)

The database system consists of four database tables (show tables):

---------------------------insert THE IMAGE OF LIST OF TABLES--------------------------

* Student Details:
  + ----------add table images and the code for creating all these table-------------------
* Student Complaint
  + ----------add table images and the code for creating all these table-------------------
* Wardern Details
  + ----------add table images and the code for creating all these table-------------------
* Worker Details
  + ----------add table images and the code for creating all these table-------------------

**4.2 Normalization**

For this project it was not necessary to normalize the database. (please update if we have implemented normalization)

**4.3 Integrity Contraints**

**------------------insert the images of the tables showing the use of any constraints like primary or foreign key-------------------------------------**

1. **Use case (need to check and update)**

In this chapter the individual use cases of this system are presented. Each Use Case is described in detail. It is also clear who is executing this Use Case. The SQL transaction that is performed after the execution of the Use Case has also been mentioned.

|  |  |
| --- | --- |
| Name | User Login |
| Actor | User and Admin |
| Goal | User logs in with his userID and password to access the portal. |
| Condition | User is registered in the system |
| SQL Query |  |

**---------------WE need to create similar type of tables for different use cases (atleast 4)--------------**

1. **Graphical User Interface**

**--------------------NEED to add UI Images with short description of what it does---------------------------**

1. **Transactions/Triggers**

**Need to add**

1. **Code**

**Need to add java code for various classes**

1. **Conclusion**

In conclusion, the main objective of this project's development was to identify and address the problems that students at the hostel were experiencing. Its goal was to provide students a place to air their grievances so that appropriate action could be done, lowering their stress levels in the process. For Java development, an IDE called NetBeans was used in order to make database integration easier. The project effectively saves and retrieves important data, including usernames, passwords, user information, and complaints, by using the MySQL connection using JDBC. By adding password protection to the database, security is improved since only people with permission may access the data.

Overall, this project serves as an effective solution for students seeking a user-friendly and secure platform to address their hostel-related issues. Its successful implementation and comprehensive features make it a valuable and reliable resource for users.