**Laboratory 1, 2**

Title of the Laboratory Exercise: Functional, Non-functional and UML diagrams

1. Introduction and Purpose of Experiment

2. Aim and Objectives

Aim

● To develop Functional and Non-Functional requirements, ER diagram, class diagram, interaction sequence diagram and algorithm/flowchart

Objectives

At the end of this lab, the student will be able to

● Model the information required for the given scenario using E-R diagrams

● Develop ER diagram, class diagram, interaction sequence diagram and algorithm/flowchart

3. Experimental Procedure

Students are given a set of instructions to be executed on the computer. The instructions should be edited and executed and documented by the student in the lab manual. They are expected to answer questions posed in section 5 based on their experiment.

4. Presentation of Results

**Scenario:** Student Group Project Management System

**Functional Requirement:**

1. The system should allow the staff to login and students to login/register
2. The system should allow the students to enter their group project details in a form
3. The system should allow the students to register their group project
4. The system should display the room and table no. allotted to the group
5. The system should allow the students to cancel their registration
6. The system should allow the staff to view all the registered group projects
7. The system should allow the students to view the allotted room and table no of a group project
8. The system should allow the students to cancel a group registration

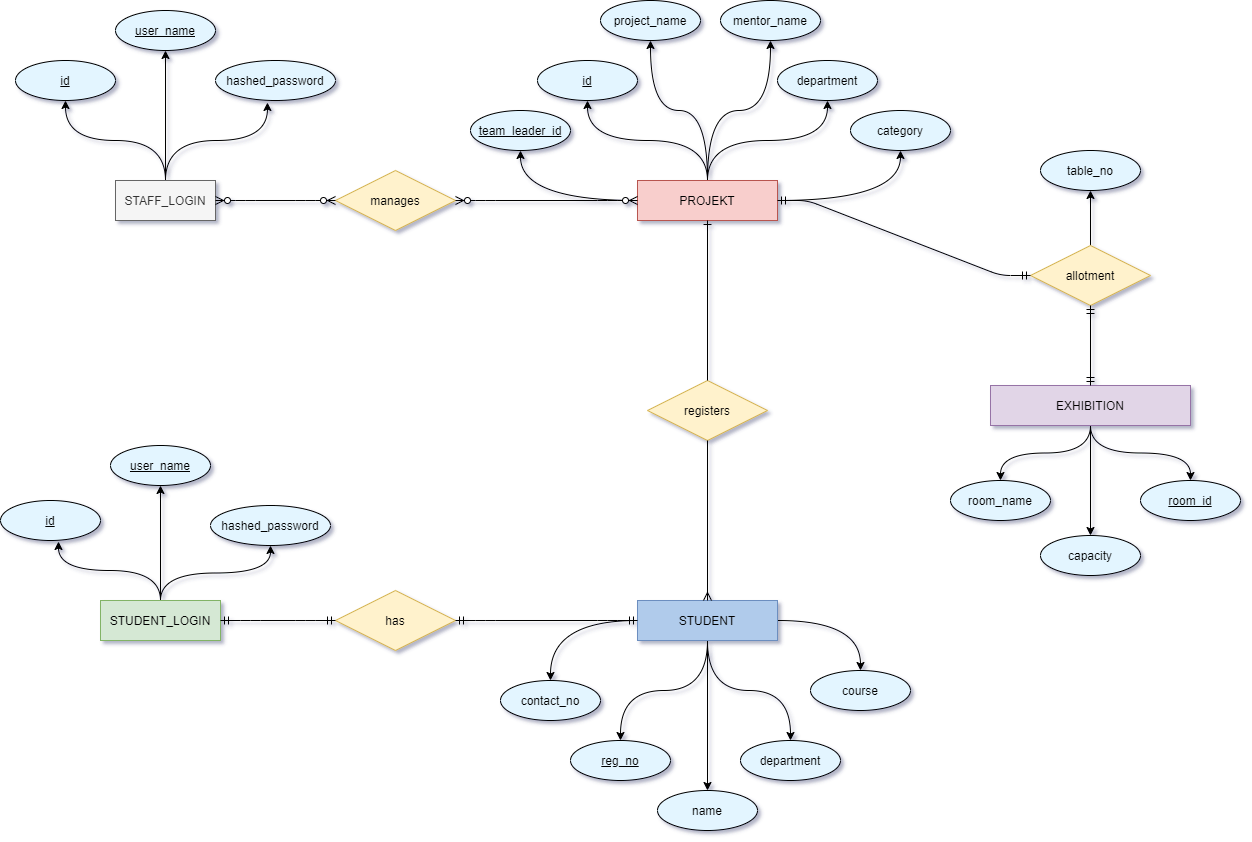
**Non-functional Requirement**

a) The system must be secure

b) The system must not collapse while handling large number of users

c) The system must be reliable.

**ER Diagram:**



**Relational Schema:**

**STAFF\_LOGIN**

|  |  |  |
| --- | --- | --- |
| id | user\_name | hashed\_password |

**STUDENT\_LOGIN**

|  |  |  |
| --- | --- | --- |
| id | user\_name | hashed\_password |

**STUDENT**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| fk\_id | reg\_no | name | department | course | contact\_no |

**PROJEKT**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| fk\_team\_leader\_id | id | project\_name | mentor\_name | department | category |

**PROJECT\_STUDENT\_REGISTER**

|  |  |
| --- | --- |
| fk\_project\_id | fk\_student\_id |

**EXHIBITION**

|  |  |  |
| --- | --- | --- |
| room\_id | room\_name | capacity |

**PROJECT\_EXHIBITION**

|  |  |  |
| --- | --- | --- |
| fk\_room\_id | fk\_project\_id | table\_no |

**Class Diagram:**

5. Analysis and Discussions

6. Conclusions