



MALNAD COLLEGE OF ENGINEERING HASSAN

Department of Information Science and Engineering

Course title : Mini Project

Course code : 21IS507

Online Examination Management

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INTRODUCTION

- Online Examination Management is a comprehensive system designed to streamline the allocation of faculty to various laboratories.
- This platform optimizes the assignment process, ensuring a fair and efficient distribution of faculty members across different labs.

PROBLEM STATEMENT

- The current faculty-lab allocation system faces challenges in terms of manual processes, lack of optimization, and potential biases.
- Faculty assignments are often conducted with limited consideration of individual preferences and expertise.
- This manual approach can result in uneven workloads and may not align with faculty strengths.

System Analysis

Existing System

- The existing system for faculty allocation to labs often relies on manual processes, making it time-consuming and prone to human errors.
- This traditional approach lacks the efficiency and precision that an automated system can provide.
- Online Examination Management offers a modern alternative, introducing a dynamic and intelligent solution to enhance the overall faculty allocation process.

System Analysis

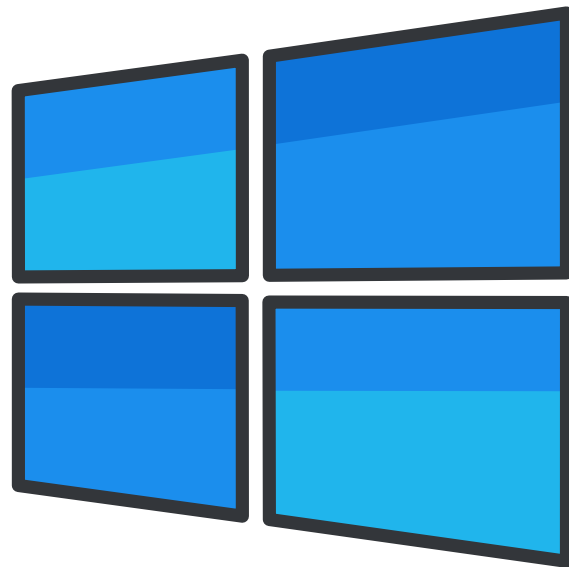
Proposed System

- The proposed system for faculty allocation to labs aims to revolutionize the process through an Online Examination Management system.
- Leveraging advanced algorithms, it ensures a fair and optimized assignment of faculty members to labs.
- The system introduces features like intelligent matching, considering faculty preferences and expertise, leading to a balanced workload distribution.
- This automated approach enhances efficiency, reduces manual errors, and provides a seamless experience for effective faculty-lab allocation in the academic environment.

Requirements Specification

SOFTWARE REQUIREMENTS:

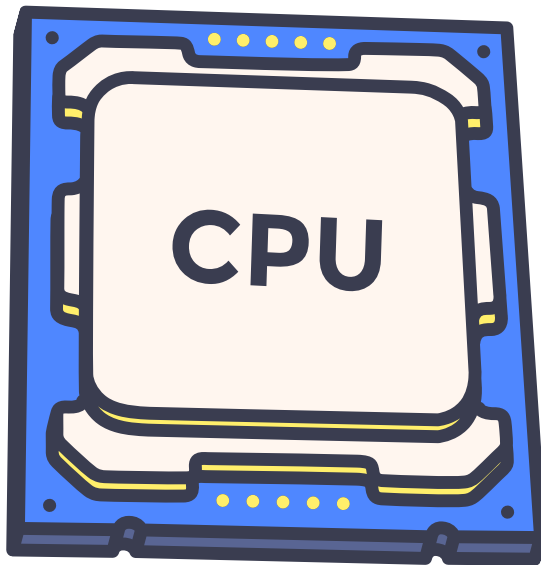
- Operating system: Windows 10 or above
- Software: JAVA Swing, Java NetBeans IDE & MySQL Database



Requirements Specification

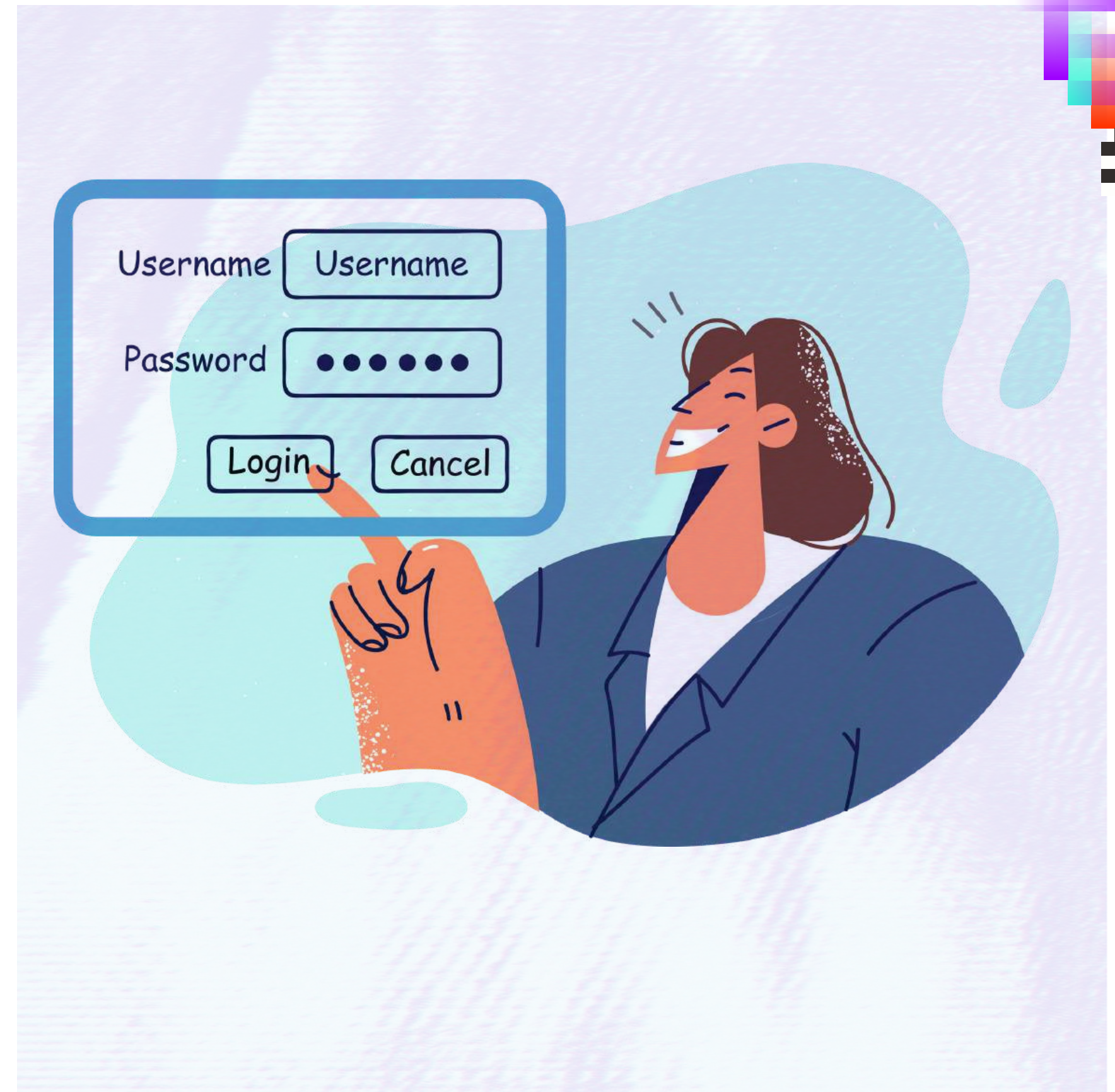
HARDWARE REQUIREMENTS:

- Processor: Core i3 Processor or above
- RAM: 4GB or more RAM
- Hard disk: 512GB or more Hard Disk Drive (HDD)



Functional Requirements

1. User Authentication
2. Faculty Management
3. Lab Details
4. Automated Allocation Algorithm
5. Real-time Availability Updates
6. Exam Details
7. User Interface
8. Data Security



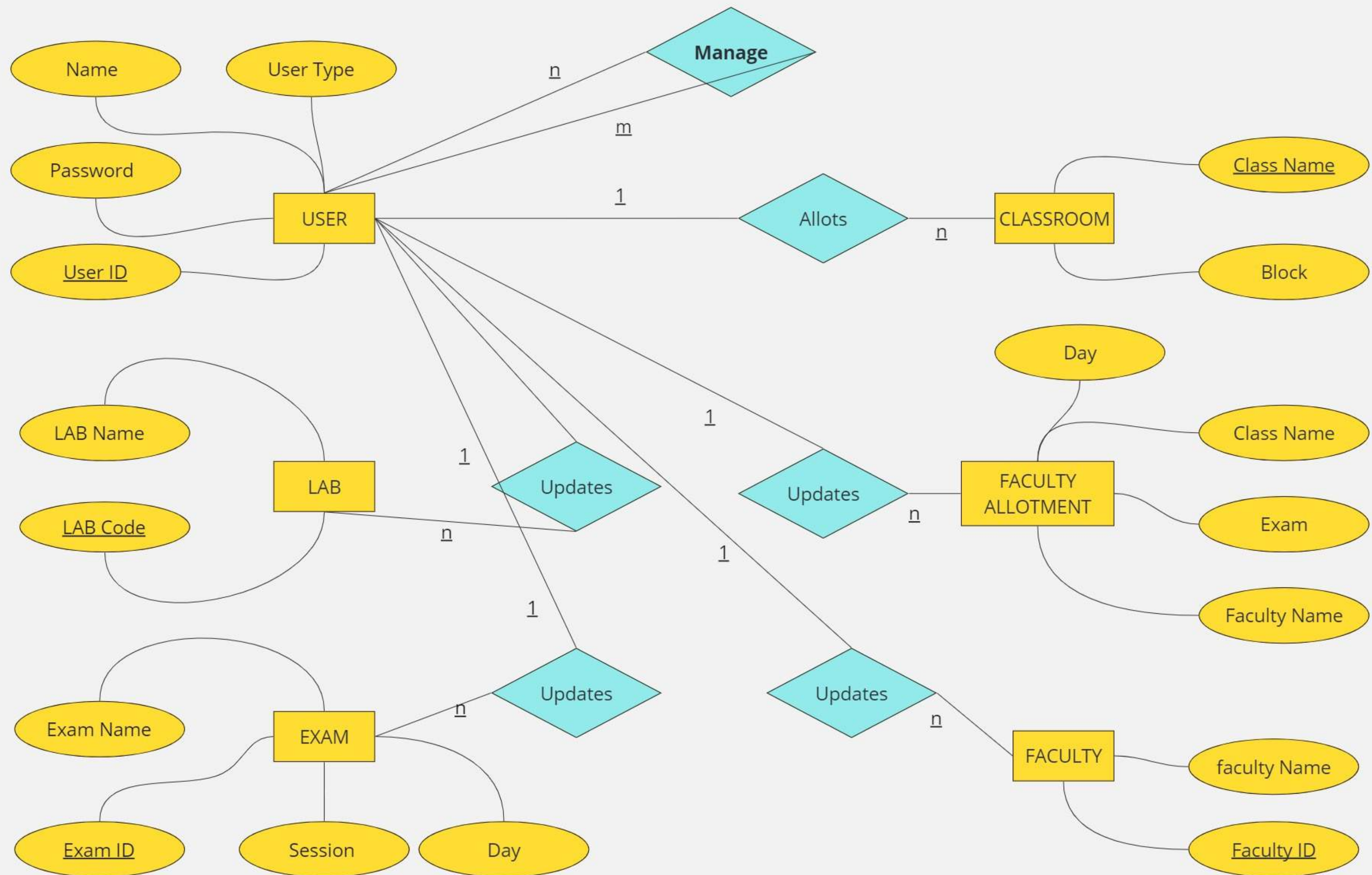
Non-Functional Requirements

- Performance
- Reliability
- Scalability
- Availability
- Security
- Usability
- Compatibility
- Maintainability
- Portability
- Interoperability
- Data Integrity
- Response Time



SYSTEM DESIGN

ER Diagram



RELATIONS:

PRIMARY KEYS :

1. User id
2. Faculty id
3. Exam id
4. Lab Code
5. ClassName

CARDINALITY RATIOS:

1. Allots : Faculty to lab -> 1 : n
2. Manages: Users -> n:m
3. Updates: Details -> 1:n

SYSTEM DESIGN

Schema Diagram

USERS

User Name	<u>User ID</u>	Password	UserType
-----------	----------------	----------	----------

EXAMS

Exam Name	<u>Exam ID</u>	Exam Day	Session
-----------	----------------	----------	---------

CLASS

<u>Classroom Name</u>	Block
-----------------------	-------

LAB

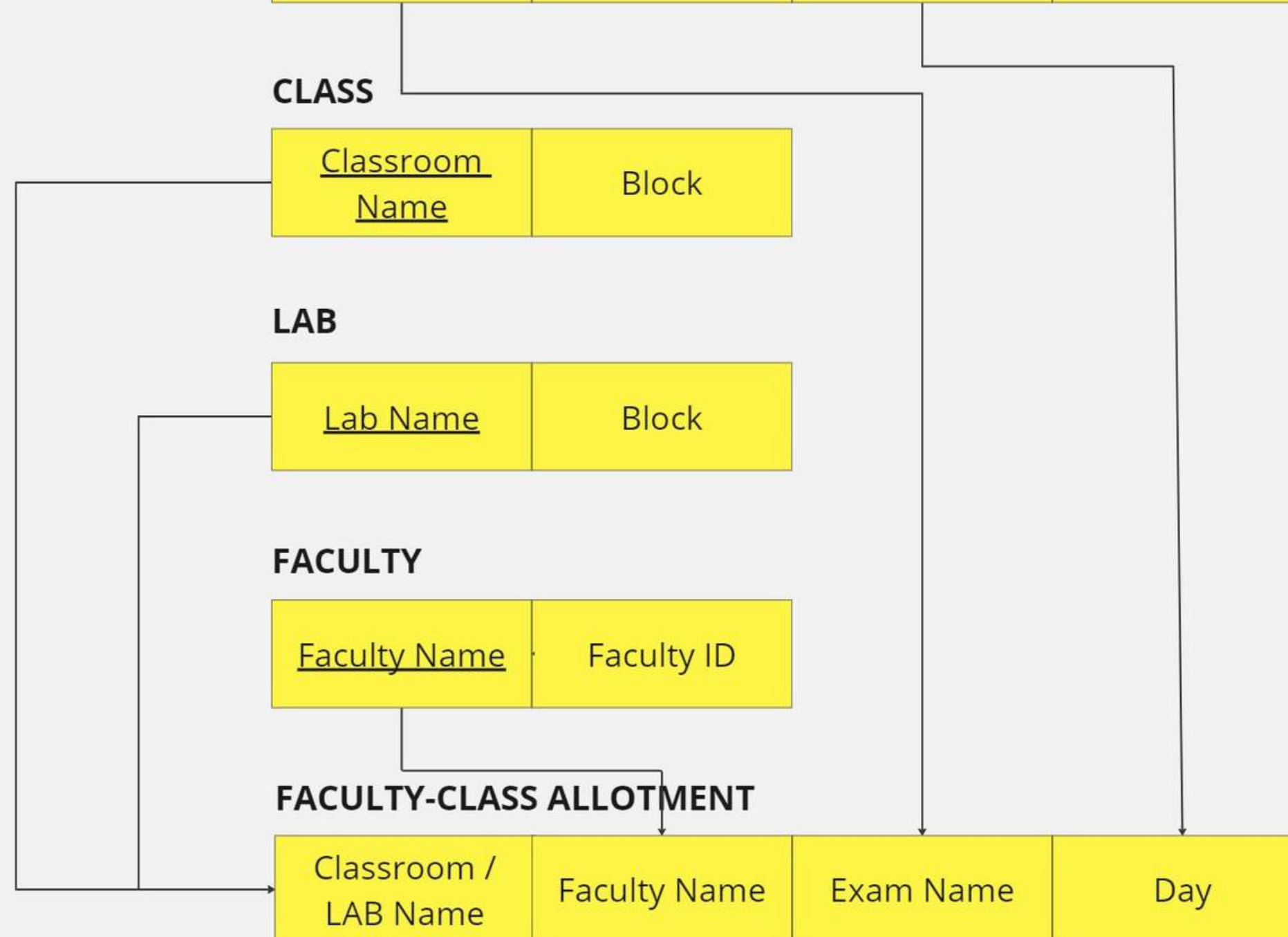
<u>Lab Name</u>	Block
-----------------	-------

FACULTY

<u>Faculty Name</u>	Faculty ID
---------------------	------------

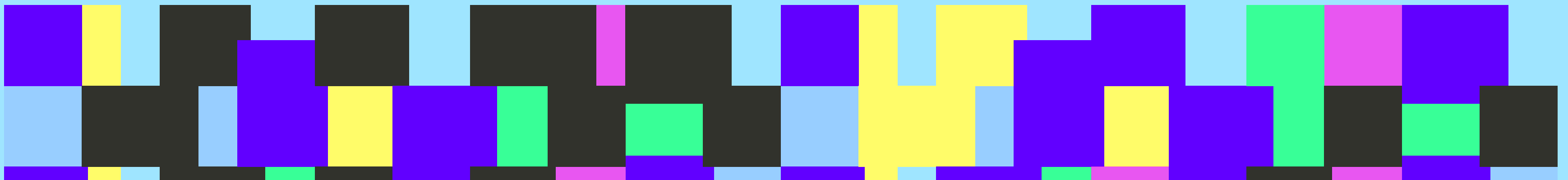
FACULTY-CLASS ALLOTMENT

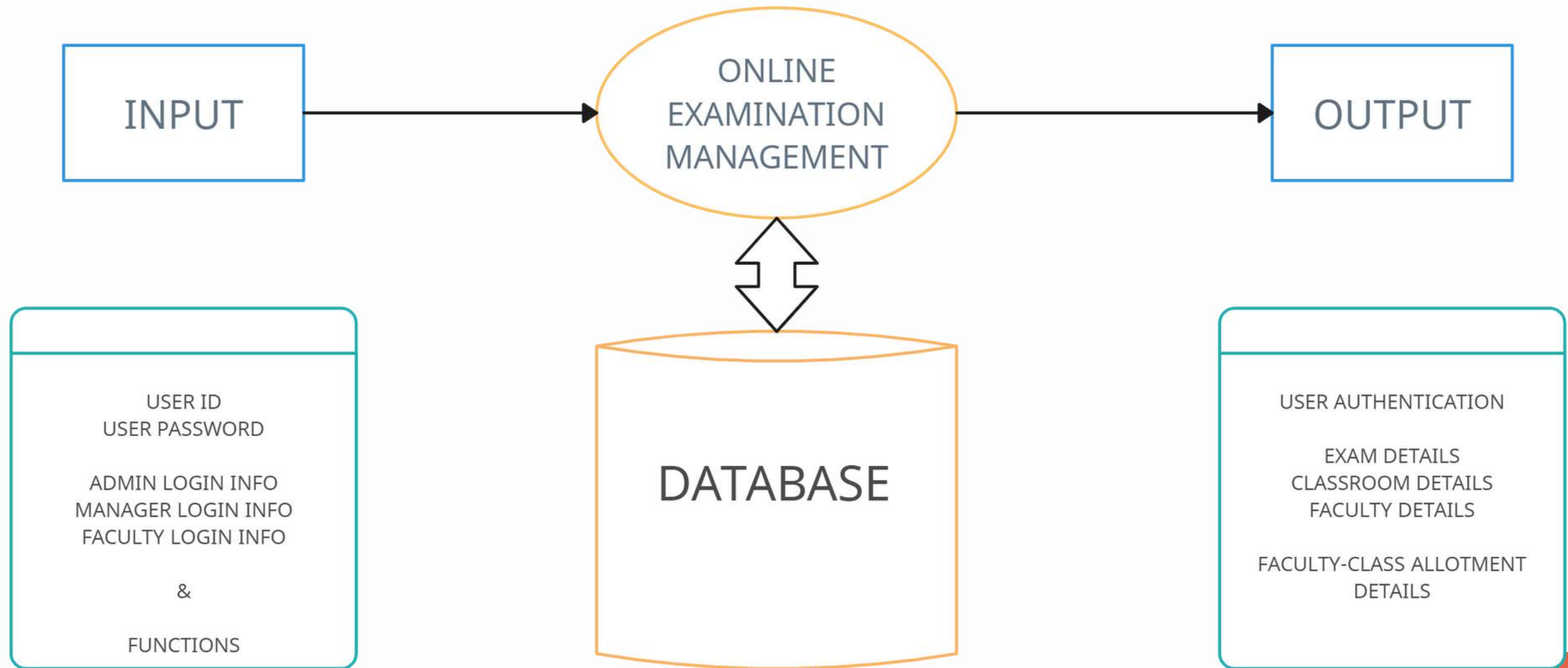
Classroom / LAB Name	Faculty Name	Exam Name	Day
-------------------------	--------------	-----------	-----



SYSTEM DESIGN

Dataflow Diagram







IMPLEMENTATION

FUNCTIONAL MODULES

LOGIN FORM : This Application provides a login form for admin, faculty and manager along with sign up page for user

ADMINISTRATION FORM: Lets admin to add another Admin or Manager, can view lab and exam details.

MANAGER FORM: Lets manager to add another faculty, lab details, exam details, can view lab and exam details. And mainly Assign Faculties to the Labs

FACULTY FORM: Lets faculty to view lab details, exam details, Allotment details

NON-FUNCTIONAL MODULES

SECURITY MODULE : Ensures the protection of user data and system integrity through encryption, access control, and secure communication protocols.

BACKUP AND RECOVERY MODULE : Implements mechanisms for regular data backups and restoration procedures to ensure data integrity and system resilience in case of failures or disasters.

PERFORMANCE MONITORING MODULE : Tracks system performance metrics such as response time, throughput, and resource utilization to identify and address bottlenecks or performance issues.

Source Code

```
*/  
class UserInfo {  
  
    private String userId;  
    private String passwd;  
    private String userType;  
    private String name;  
  
    public UserInfo() {  
    }  
  
    public UserInfo(String userId, String passwd, String UserType, String name) {  
        this.userId = userId;  
        this.passwd = passwd;  
        this.userType = UserType;  
        this.name = name;  
    }  
  
    public String getUserId() {  
        return userId;  
    }  
  
    public void setUserId(String userId) {
```

Design

History



```
}  
}  
public final void Load() {  
try {  
    pst = con.prepareStatement("select * from exams");  
    rs = pst.executeQuery();  
  
    ResultSetMetaData rsd;  
    rsd = (ResultSetMetaData) rs.getMetaData();  
    int c;  
    c = rsd.getColumnCount();  
    DefaultTableModel d = (DefaultTableModel) jTable1.getModel();  
    d.setRowCount(0);  
  
    while (rs.next()) {  
        Vector v = new Vector();  
        for (int i = 1; i <= c; i++) {  
            v.add(rs.getString(i));  
        }  
        d.addRow(v);  
    }  
} catch (SQLException ex) {  
    Logger.getLogger(exams.class.getName()).log(Level.SEVERE, null, ex);  
}
```


Database

LAB TABLE

The screenshot displays the MySQL Workbench interface for a local instance of MySQL 8.0. The 'Navigator' pane on the left shows the 'onlineexam' database selected, with the 'lab' table highlighted under the 'Tables' folder. The 'Information' pane at the bottom left provides details for the 'lab' table:

Table: lab

Columns:

- LabCode** varchar(45) PK
- LabName** varchar(45)
- NoOfPC** varchar(45)

The 'Query' pane in the center shows the following SQL query:

```
1 • SELECT * FROM onlineexam.lab;
```

The 'Result Grid' pane on the right displays the query results in a table format:

	LabCode	LabName	NoOfPC
▶	101	CRB !	24
	105	CRB3	35
	109	CRB6	26
*	NULL	NULL	NULL

EXAM TABLE

The screenshot shows the MySQL Workbench interface. The left sidebar displays the 'SCHEMAS' tree with the 'onlineexam' database expanded, showing tables 'exams', 'faculty', and 'lab'. The 'exams' table is selected. The main window shows the SQL editor with the query `SELECT * FROM onlineexam.exams;` and the 'Result Grid' displaying the following data:

ExamId	ExamName	Description	Duration
101	GAME	12	12
12312	SE	TEST	15
123123	FAFL	EXAM	10
123456	DBMS	prac test	10
NULL	NULL	NULL	NULL

The bottom left pane shows the 'Information' tab for the 'lab' table, listing columns: 'LabCode' (varchar(45) PK), 'LabName' (varchar(45)), and 'NoOfPC' (varchar(45)).

FACULTY TABLE

MySQL Workbench

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

Filter objects

bank040

onlineexam

Tables

exams

faculty

Columns

Indexes

Foreign Keys

Triggers

facultyallot

lab

questions

reports

student

users

Views

Stored Procedures

Administration Schemas

Information

Table: faculty

Columns:

facultyId varchar(45) PK

facultyName varchar(45)

passwd varchar(45)

faculty users lab exams exams onlineexam - Schema onlineexam - Schema onlineexam - Schema faculty

Limit to 1000 rows

1 • SELECT * FROM onlineexam.faculty;

Result Grid

Filter Rows:

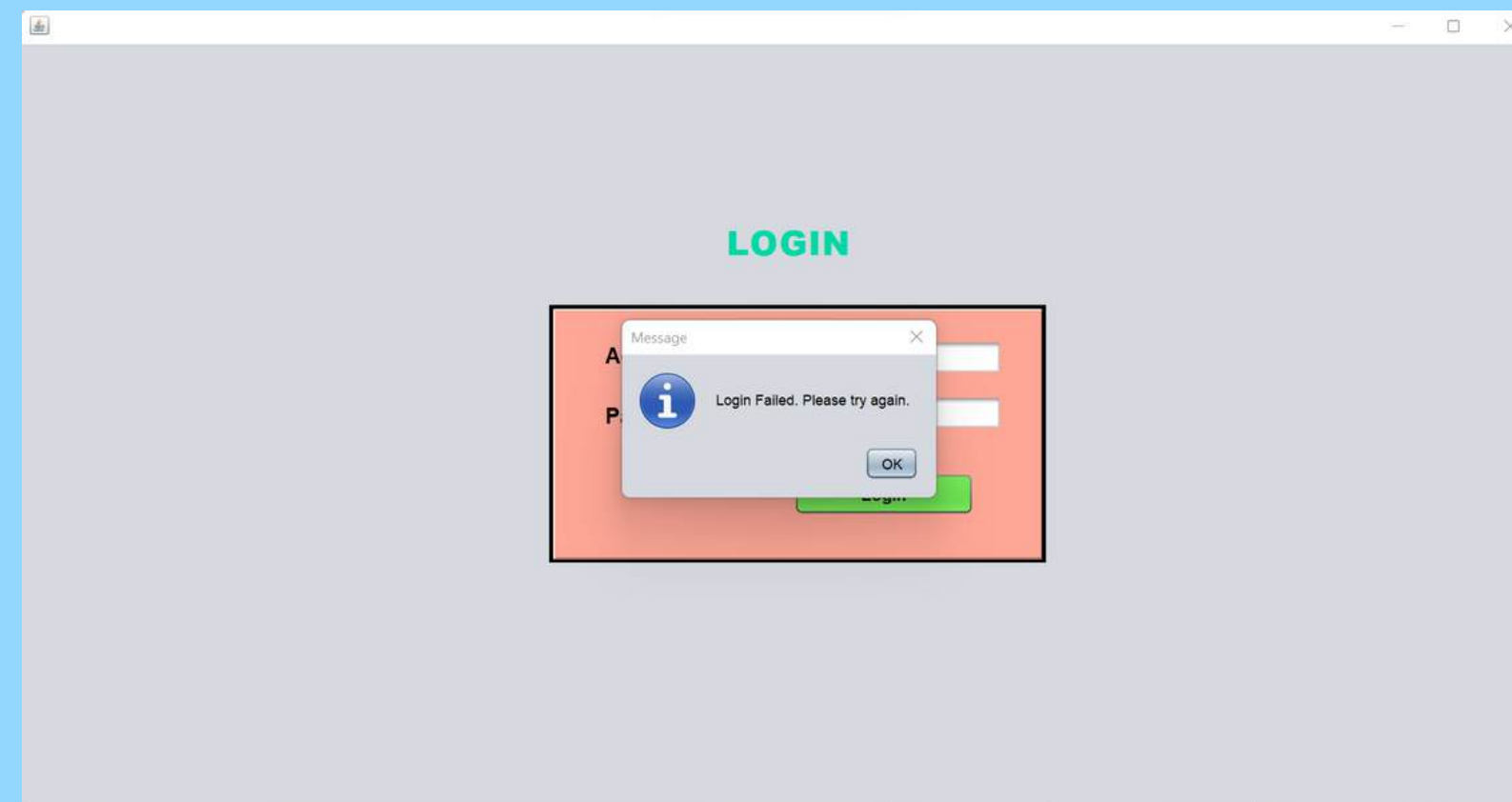
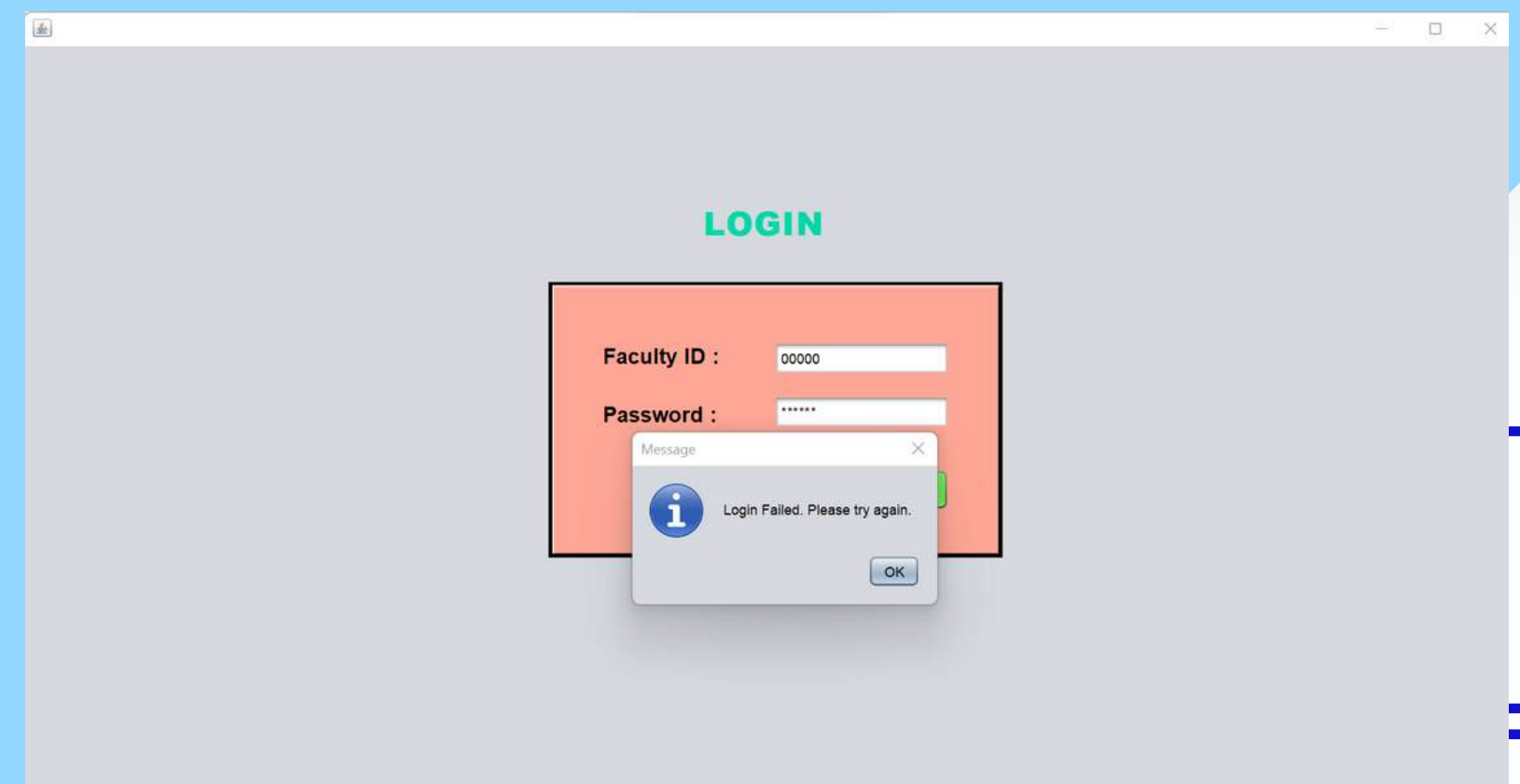
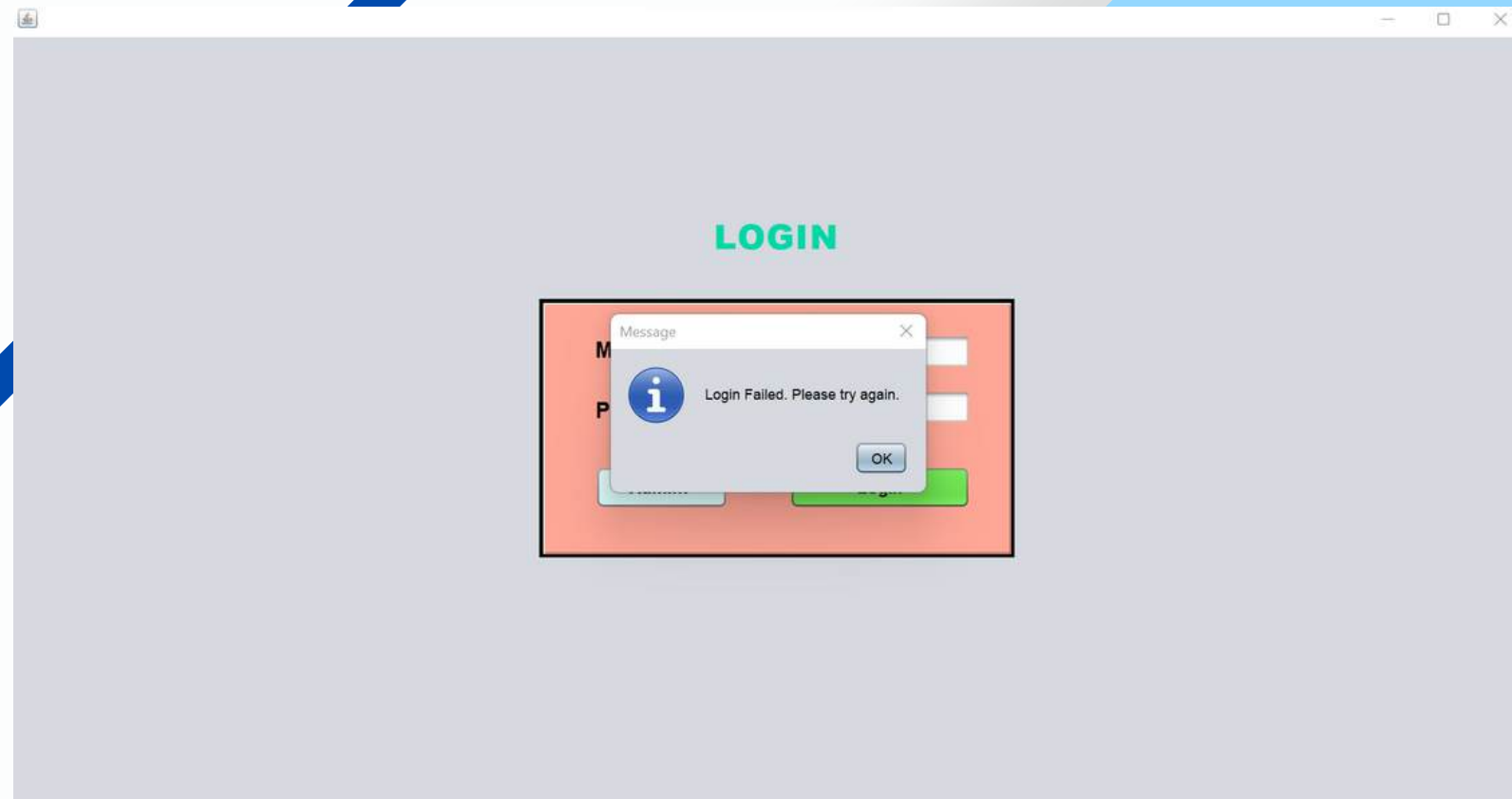
Edit: Export/Import: Wrap Cell Content:

	facultyId	facultyName	passwd
▶	123	they	1212
	201	nazre	232377
	202	nana	2323
	205	nani	030403
*	NULL	NULL	NULL

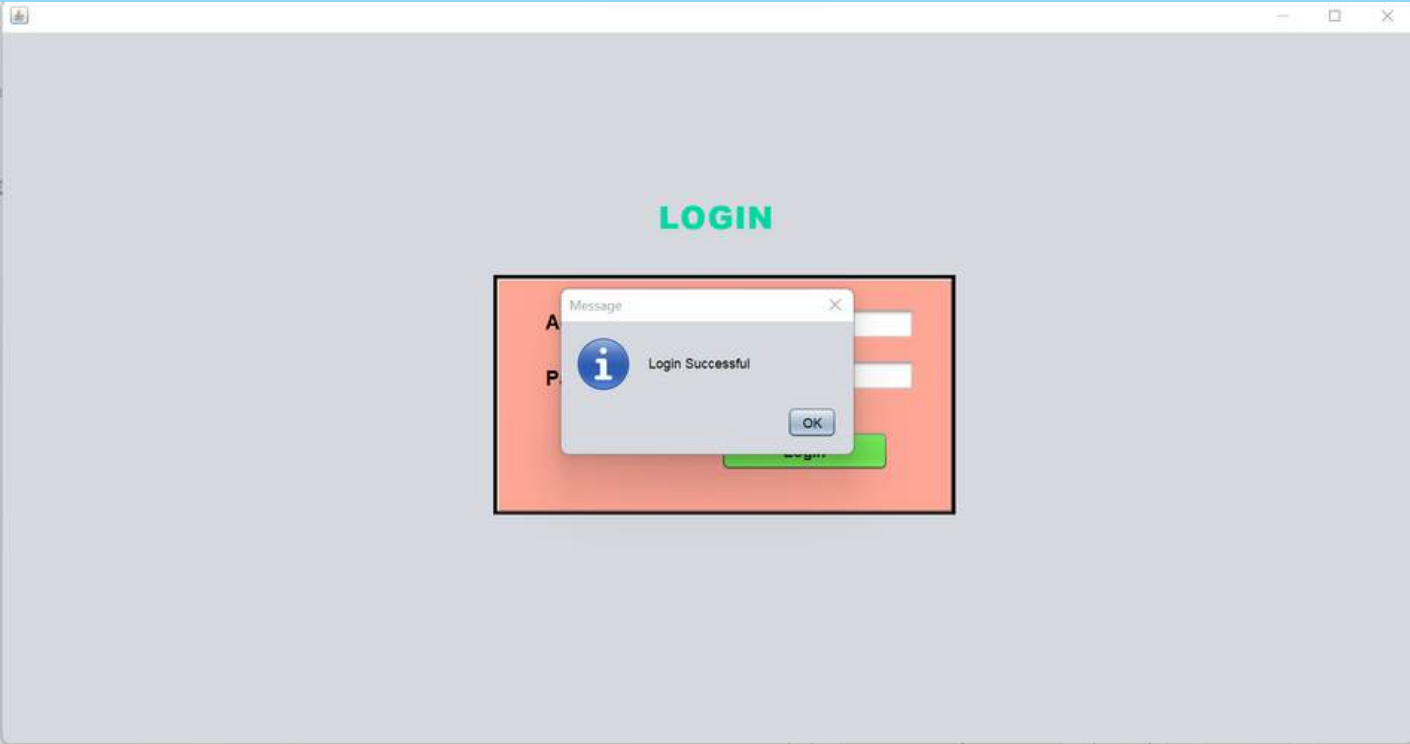
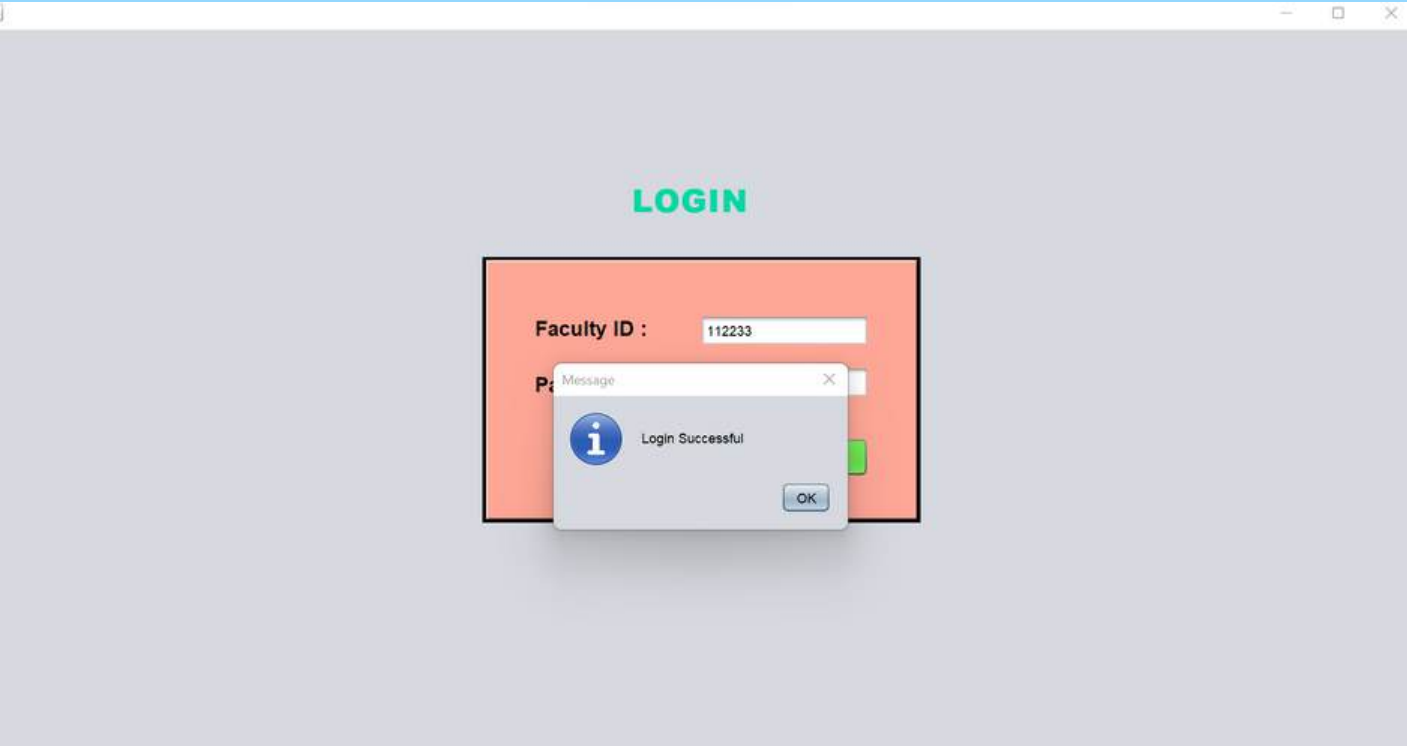
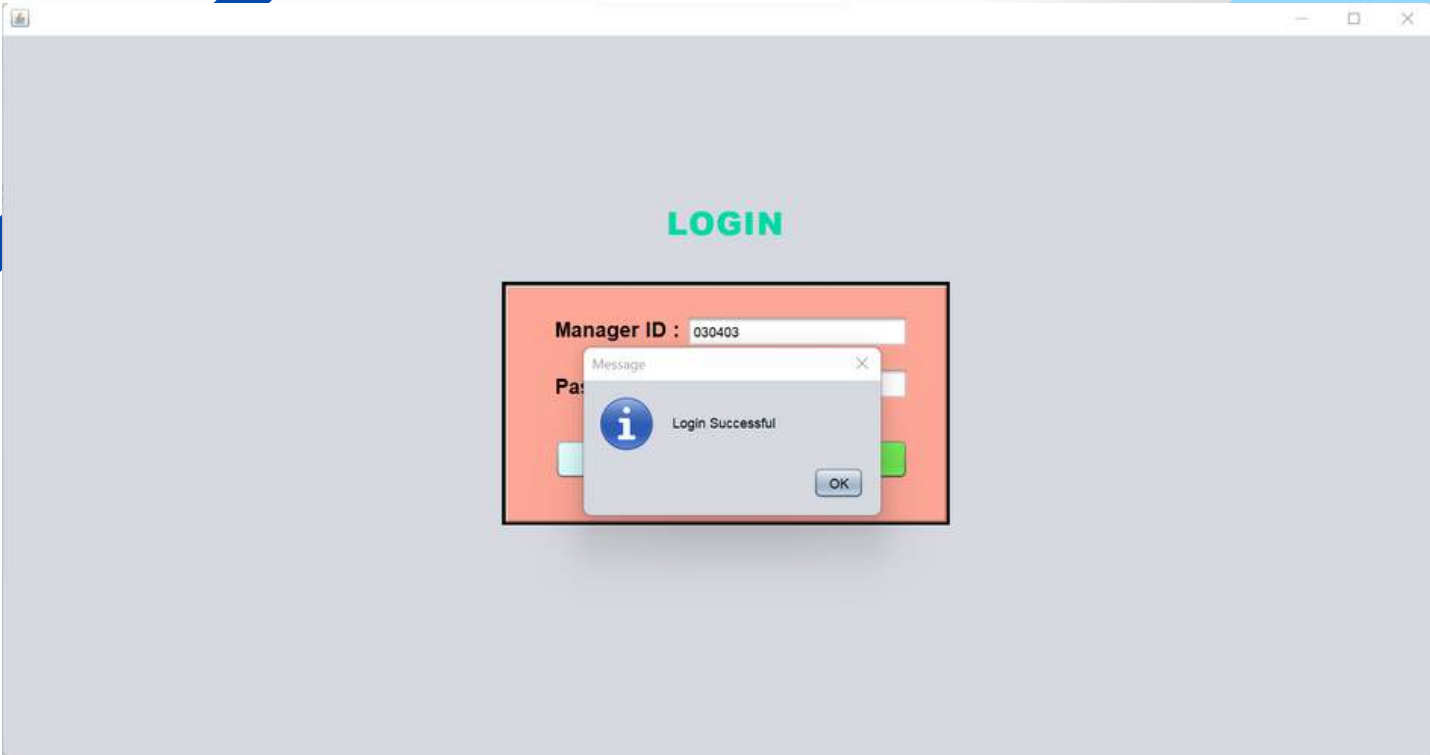


TESTING

LOGIN UNSUCCESSFUL



LOGIN SUCCESSFUL





SNAPSHOTS

WELCOME PAGE

WELCOME TO ONLINE EXAMINATION MANAGEMENT SYSTEM

Sign In As

Manager

Faculty

MANAGER LOGIN PAGE

MANAGER LOGIN

Manager ID :

Password :

Login

<-- Back

Admin?

ADMIN LOGIN PAGE

ADMIN LOGIN

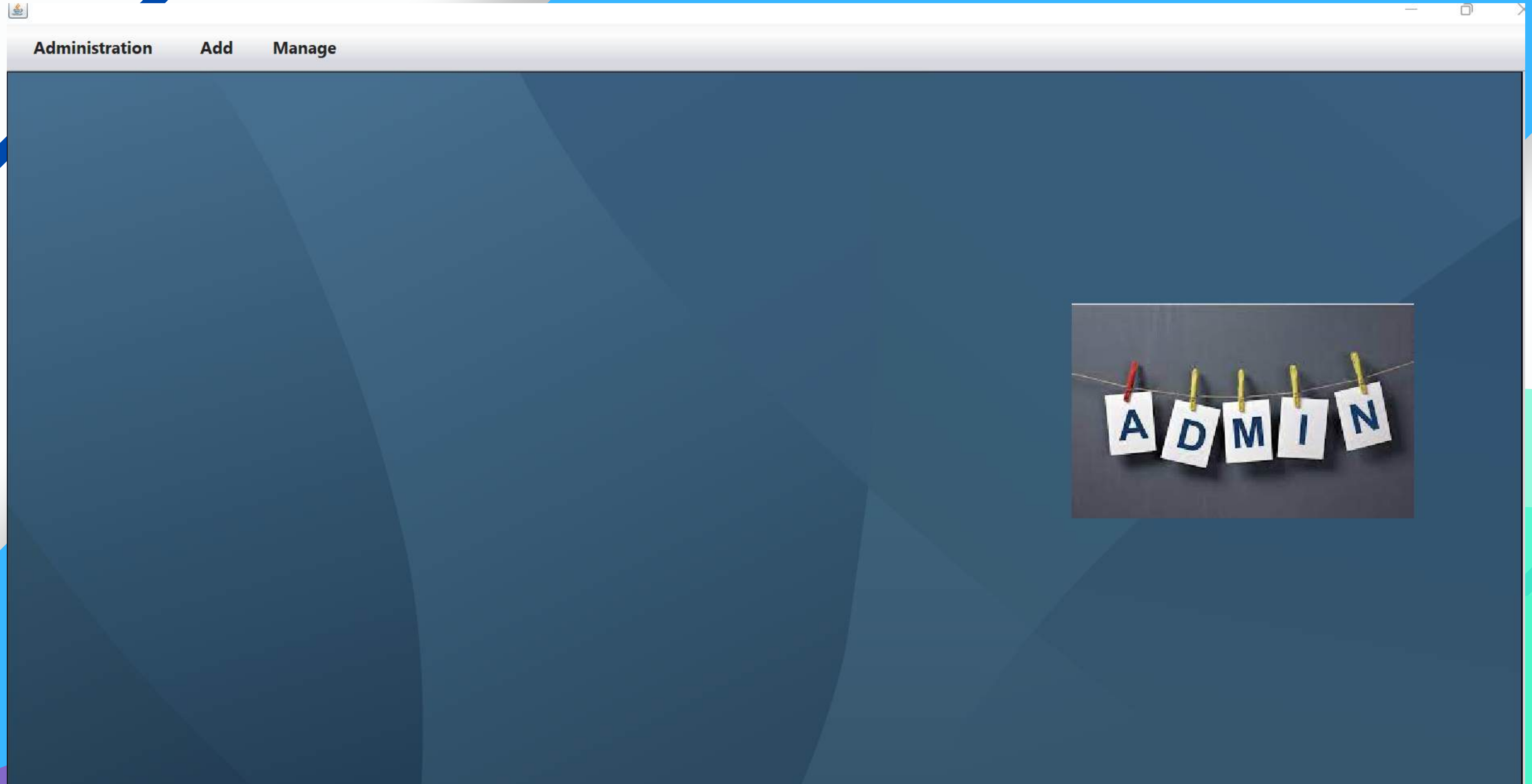
Admin ID :

Password :

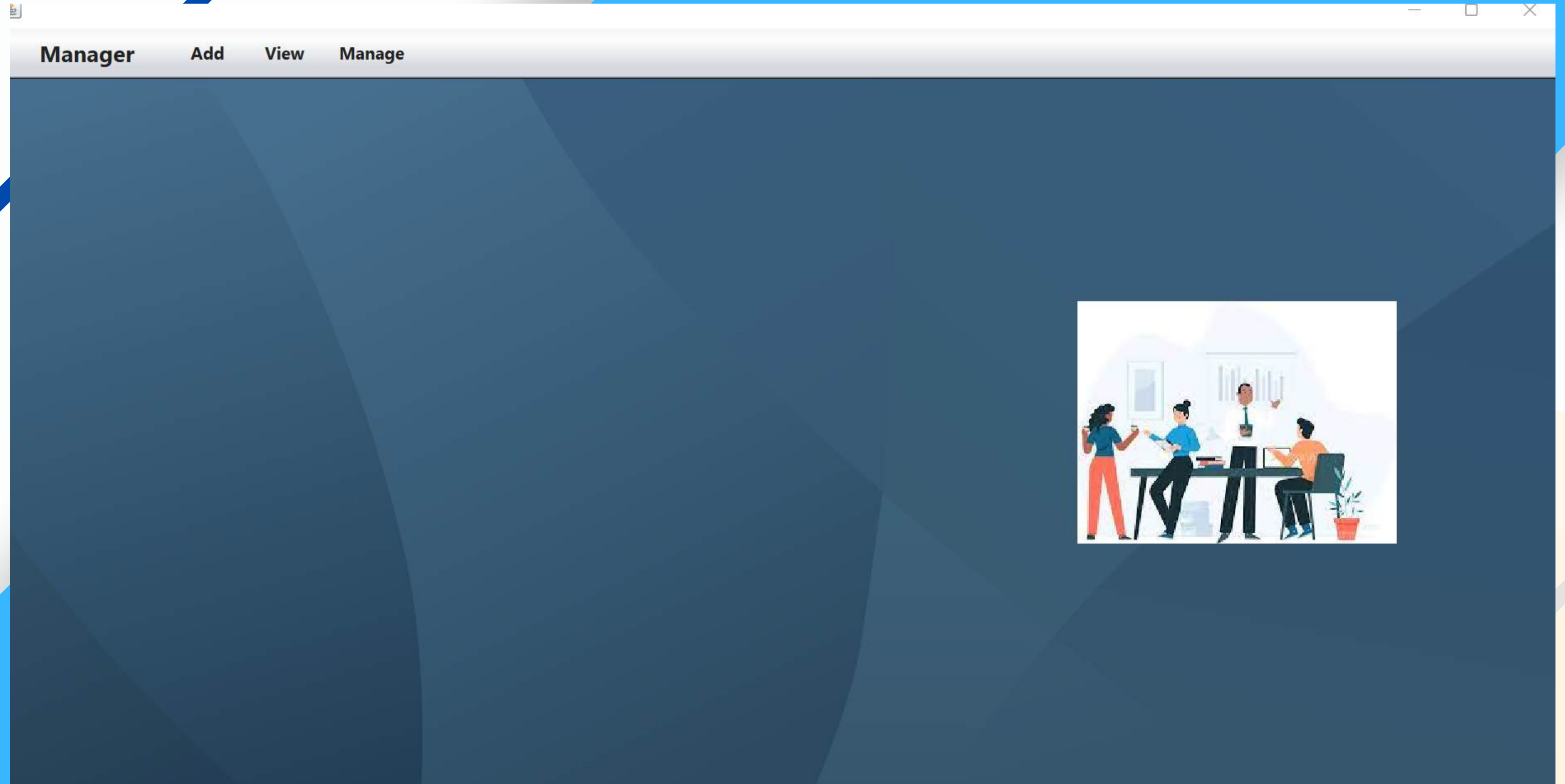
<-- Back

Login

ADMIN FRAMEWORK



MANAGER FRAMEWORK



FACULTY ALLOTMENT

Faculty Allotment		
Refresh Print		
ClassName	FacultyID	FacultyName
CRB2	4	Shruthi D V
CRB3	1	Anand Babu J
CRB4	3	Vinutha M R
LH1	2	Nanditha B R
LH2	9	Shruthi B S



PRINT PAGE

Print

General Page Setup Appearance

Print Service

Name: Microsoft Print to PDF Properties...

Status: Accepting jobs

Type:

Info: ☐ Print To File

Print Range

☒ All

☐ Pages 1 To 1

Copies

Number of copies: 1

☐ Collate

Print Cancel

Refresh Print

ID	FacultyName
	Nithin K
	Nanditha B R
	Nithin K
	Anand Babu J
	Krishna Swaroop A



CONCLUSION

- In conclusion, the Online Examination Management System serves as a comprehensive solution to streamline the faculty allotment process for laboratory assignments
- By leveraging database management and randomization techniques, the system ensures fair and efficient distribution of faculty members to various labs.
- The proposed system addresses the shortcomings of the existing manual methods, offering enhanced accuracy and speed in faculty allocation.
- The implementation of such a system not only simplifies administrative tasks but also promotes equitable distribution of resources, fostering a conducive environment for academic activities.
- Overall, the Online Examination Management System represents a significant advancement in optimizing the allocation of faculty to labs, paving the way for a more effective and technology-driven educational administration.

REFERENCES

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- P. Kumar Chaki and S. Anirban, “Algorithm for Efficient Seating Plan.”



THANK YOU!