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A Project Report on ‘‘**Online Complaint Management System**’’

BY

Aniket A. Gulabrao Roll no. 223411028

Atharv D. Gujar Roll no. 223411026

Department of BCA Science F.Y.

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Specifications For Report: -

1. The Report shall be computer-typed (English- British, Font -Times Roman, Size-regular text 12 points, Header-14 points) and printed on A4 size paper.

2. The Report shall be typed on one side only with 1.5 spacing with a margin of 2.5 cm on the left, 2.5 cm on the top, and 1.25 cm on the right and at the bottom.

3. The diagrams should be printed on a light/white background, and Tabular matter should be arranged. A decimal point may be indicated by a full stop(.)The caption for the Figure must be given at the BOTTOM of the Fig. and the Caption for the The table must be given at the TOP of the Table.

Certificate

This is to certify that Mr. Aniket Gulabrao and Atharv Gujar have completed the Computer Organization Laboratory coursework and have scored Marks out of 15.

Roll No. 223411028, 223411026 Seat No. _____

Instructor H.O.D. **Internal Examiner External Examiner**

Acknowledgment

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Thank you for your contributions and support!

ClassTrack (Classroom Management System)

- **Introduction: -**

In educational institutions, managing classrooms and laboratories is a challenging task. Teachers must reserve classrooms or laboratories for their lectures and ensure they are available when needed. Furthermore, institutions need to track the usage of classrooms and laboratories to optimize their utilization and allocate resources effectively. To address these challenges, we propose a system that allows teachers to check the availability of classrooms and laboratories and reserve them for their lectures.

The proposed system is a web-based application that provides a user-friendly interface for teachers to check the availability of classrooms and laboratories. Teachers can log in to the system using their teacher ID and view the status of classrooms and laboratories. The system shows the availability of classrooms and laboratories in real time and allows teachers to reserve or occupy them with just a few clicks.

Moreover, the system collects all the data generated from these activities and generates a monthly report of the classroom, laboratory, and teachers. This report provides insights into the usage of classrooms and laboratories, the availability of resources, and the utilization of teachers' time. The proposed system's main features include a centralized classroom and laboratory information database, reservation management, real-time availability updates, and monthly reporting. The system is designed to be user-friendly and accessible to both teachers and administrators, with appropriate security measures to protect sensitive data.

In summary, the proposed system addresses the challenges of managing classrooms and laboratories in educational institutions by providing a user-friendly interface for teachers to reserve and occupy classrooms and laboratories. Additionally, the system collects and reports classroom and laboratory usage data, allowing institutions to optimize their resources and improve the teaching experience. We believe that this system will benefit both teachers and administrators and improve the efficiency of classroom and laboratory management in educational institutions.

Furthermore, the proposed system's real-time availability updates eliminate the need for manual updates and reduce errors associated with classroom and laboratory reservations. This feature ensures that teachers always have accurate information on the availability of classrooms and laboratories, reducing scheduling conflicts and allowing for a more efficient teaching experience. By providing a seamless and streamlined process for classroom and laboratory reservation, the proposed system enables educational institutions to focus on delivering high-quality education and improving student outcomes.

- **Problem Definition: -**

➢ **Problem Description: -**

In educational institutions, managing classrooms and laboratories is a challenging task. Traditionally, classroom and laboratory management have been done manually, which is time-consuming and prone to errors. In some cases, institutions have adopted computerized systems for classroom and laboratory management. However, these systems are often complex, difficult to use, and lack the features required to manage classrooms and laboratories effectively. To address these challenges, we propose a system that allows teachers to check the availability of classrooms and laboratories and reserve them for their lectures.

➢ **Study of Existing System: -**

The existing systems for classroom and laboratory management are either manual or computerized. In manual systems, teachers must physically check the availability of classrooms and laboratories and reserve them through a paper-based system. This method is cumbersome and error-prone, as it relies on individuals to update and maintain the reservation records.

Additionally, it can be difficult to retrieve records or generate reports on classroom and laboratory usage.

In computerized systems, institutions use software to manage classrooms and laboratories. However, these systems can be complex and difficult to use, requiring extensive training for teachers and administrators.
Additionally, they often lack the features required to manage classrooms and laboratories effectively, such as real-time availability updates and detailed reporting.

➢ **Drawbacks of Existing Systems: -**

The drawbacks of the existing systems for classroom and laboratory management include inefficiency, errors, and lack of features.

In manual systems, the process of checking the availability of classrooms and laboratories and reserving them is time-consuming and prone to errors. It can also be challenging to generate reports on classroom and laboratory usage, as records may be incomplete or difficult to retrieve.

In computerized systems, the complexity and lack of user-friendliness can be a barrier to adoption. Additionally, these systems may not provide real-time availability updates, making it difficult for teachers to plan their lectures effectively.

- **Scope of the Proposed System: -**

The proposed system aims to provide a user-friendly interface for teachers to check the availability of classrooms and laboratories and reserve them for their lectures. The system will be web-based and accessible to teachers and administrators with appropriate security measures to protect sensitive data. The system will also provide real-time availability updates, reducing scheduling conflicts and errors associated with manual updates.

Additionally, the system will collect data on classroom and laboratory usage and generate monthly reports, allowing institutions to optimize their resources and improve the teaching experience.

In conclusion, the proposed system aims to address the inefficiencies, errors, and lack of features associated with the existing systems for classroom and laboratory management. By providing a user-friendly interface, real-time availability updates, and detailed reporting, the proposed system will improve the efficiency and effectiveness of classroom and laboratory management in educational institutions.

- **Feasibility Study: -**

  - **Technical Feasibility: -**

The technical feasibility of the system is high because it is based on modern technology and software engineering practices. The system will use a web-based interface that can be accessed by any device with an internet connection, including desktop computers, laptops, tablets, and smartphones. The system will be built using a reliable and scalable programming language such as Python, and it will use a database management system such as MySQL or PostgreSQL to store and retrieve data.

In addition, the system will use a secure authentication mechanism to ensure that only authorized users can access the system. This mechanism will use a combination of usernames and passwords. The system will also be designed to be easy to use, with a user-friendly interface that is intuitive and simple to navigate.

Furthermore, the system's hardware requirements are quite modest, and it can be easily installed on existing computer systems, making it highly technically feasible. Additionally, the system's software requirements are well within the realm of current technology, making it simple to design and implement. Therefore, the proposed system is highly technically feasible, and its development and implementation should not pose any significant technical challenges.

  - **Economic Feasibility: -**

The economic feasibility of the system is also high, as it can be implemented at a relatively low cost. The system will not require any expensive hardware or software, as it can be built using open-source technologies that are freely available. The system will also be designed to be scalable so that it can be easily expanded as the institution grows and new classrooms or laboratories are added.

In terms of maintenance costs, the system will be designed to be self-sustaining, with minimal maintenance required after the initial implementation. The system will also be designed to be easily upgradable, with new features and functionality added as needed to meet the changing needs of the institution.

Additionally, the cost of implementing the proposed system will be relatively low, as the hardware and software requirements are not prohibitively expensive. Additionally, the system's maintenance costs should be minimal, and any required upgrades or enhancements can be completed without significant expense. Thus, the proposed system is highly economically feasible and is expected to provide a significant return on investment in terms of improved classroom and laboratory utilization and overall operational efficiency.

- **Operational Feasibility: -**

The operational feasibility of the system is also high, as it can be easily integrated into the existing workflow of the institution. The system will be designed to be flexible and adaptable so that it can be customized to meet the specific needs of the institution. The system will also be designed to be easy to use, with minimal training required for users to get up and running. The system will also be designed to be scalable so that it can handle the growing needs of the institution as it expands. This will ensure that the system remains relevant and useful over time and that it continues to provide value to the institution.

Moreover, the proposed system is highly user-friendly and requires minimal training to use. Teachers and staff members can easily access the system and perform tasks such as reserving classrooms or laboratories without any difficulty. Furthermore, the system's maintenance requirements are minimal, and any required updates or modifications can be completed without interrupting the system's operation. As a result, the proposed system is highly operationally feasible and is expected to provide significant benefits to the institution's teachers, staff, and administrators.

In summary, the proposed system has high technical, economical, and operational feasibility, making it a viable solution for any institution looking to manage and reserve its classrooms and laboratories efficiently.

- **Gathering Data Requirements and Functional Requirements: -**

➢ **Identify End Users of the System: -**

The primary end-users of the proposed system are the teachers, staff members, and administrators of the institution.

1. **Teachers:** - To check the availability of classrooms and laboratories and reserve them for their lectures.
2. **Staff members:** - Responsible for maintaining the system, ensuring its smooth operation, and providing support to the end users.
3. **Administrators:** - will use the system to generate reports, monitor the usage of classrooms and laboratories, and make decisions regarding resource allocation.

➢ **Input Data to the System: -**

The system will require several types of input data to operate effectively.

- Firstly, it will need information about the classrooms and laboratories available in the institution, including their capacity, equipment, and location.
- Secondly, it will require information about the teachers, including their names, IDs, and schedules.
- Thirdly, the system will require data about the availability of classrooms and laboratories, including their occupancy status, reservation history, and maintenance schedule.
- Lastly, the system will need to receive data from the end users, including reservations, cancellations, and feedback.

➢ **Other Information from the System: -**

Apart from the input data, the system will also generate and store other information that will be useful to the institution. This includes monthly reports about classroom and laboratory utilization, maintenance schedules, and feedback from end users. Additionally, the system will store information about the availability of classrooms and laboratories, allowing the institution to make informed decisions regarding resource allocation and utilization.

- **Functional or Processing Requirements of the System: -**

➢ **The functional or processing requirements of the system are as follows: -**

a. Classroom and Laboratory Availability: -

The system should be able to display the availability of classrooms and laboratories in real-time, allowing teachers to reserve them for their lectures.

b. Reservation Management: -

The system should be able to manage reservations made by teachers, including cancellations, changes, and conflicts.

c. User Authentication: -

The system should require users to authenticate themselves using their teacher IDs, ensuring that only authorized individuals can reserve classrooms and laboratories.

d. Reporting: -

The system should be able to generate monthly reports about classroom and laboratory utilization, maintenance schedules, and user feedback.

e. Maintenance Management: -

The system should be able to manage the maintenance schedules of classrooms and laboratories, ensuring that they are kept in good condition and available for use.

f. System Administration: -

The system should have an administrative interface for staff members to manage system settings, users, and data.

g. Hardware requirements: -

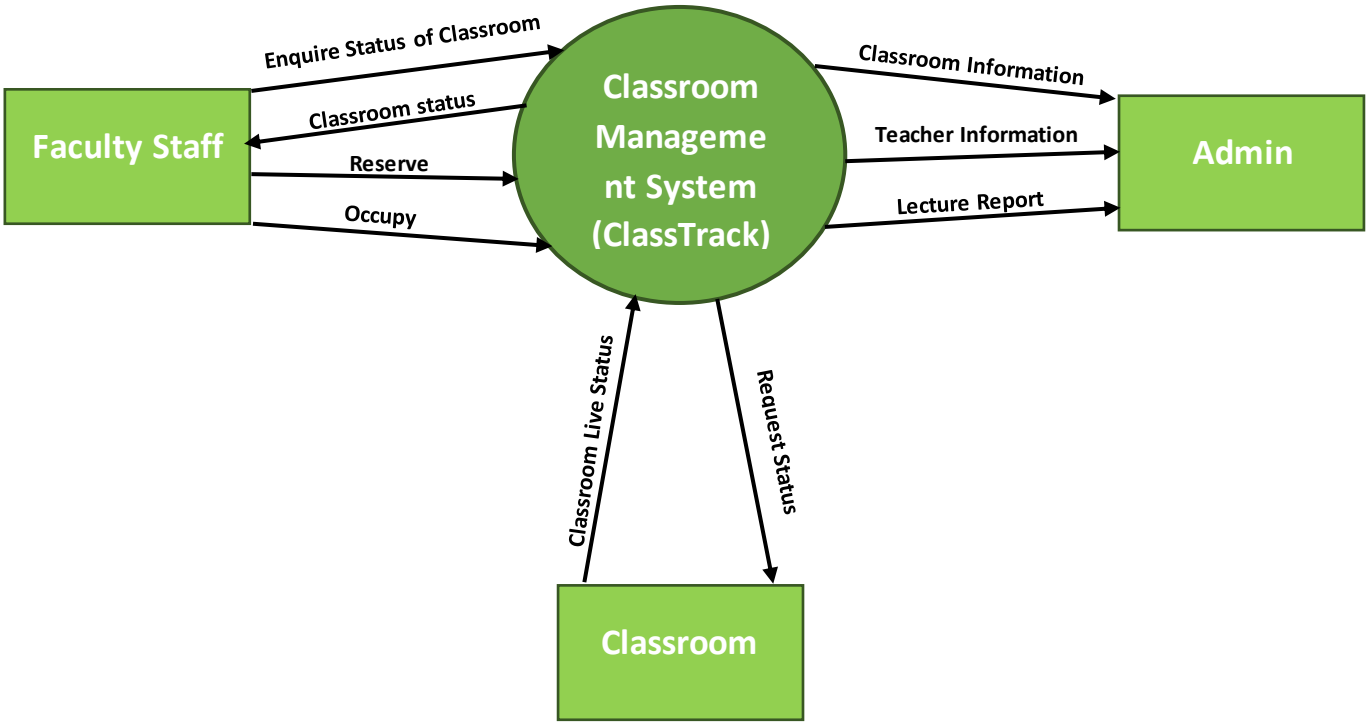
The system requires a base model server that can handle the traffic of incoming and outgoing data easily. Database that can store the amount raw of data generated.

In conclusion, the proposed system's gathering data requirements and functional requirements have been identified and outlined. The system is designed to improve classroom and laboratory utilization, making it more efficient and effective for teachers, staff members, and administrators. By gathering the necessary data and implementing the functional requirements, the system will provide a comprehensive solution for classroom and laboratory management.

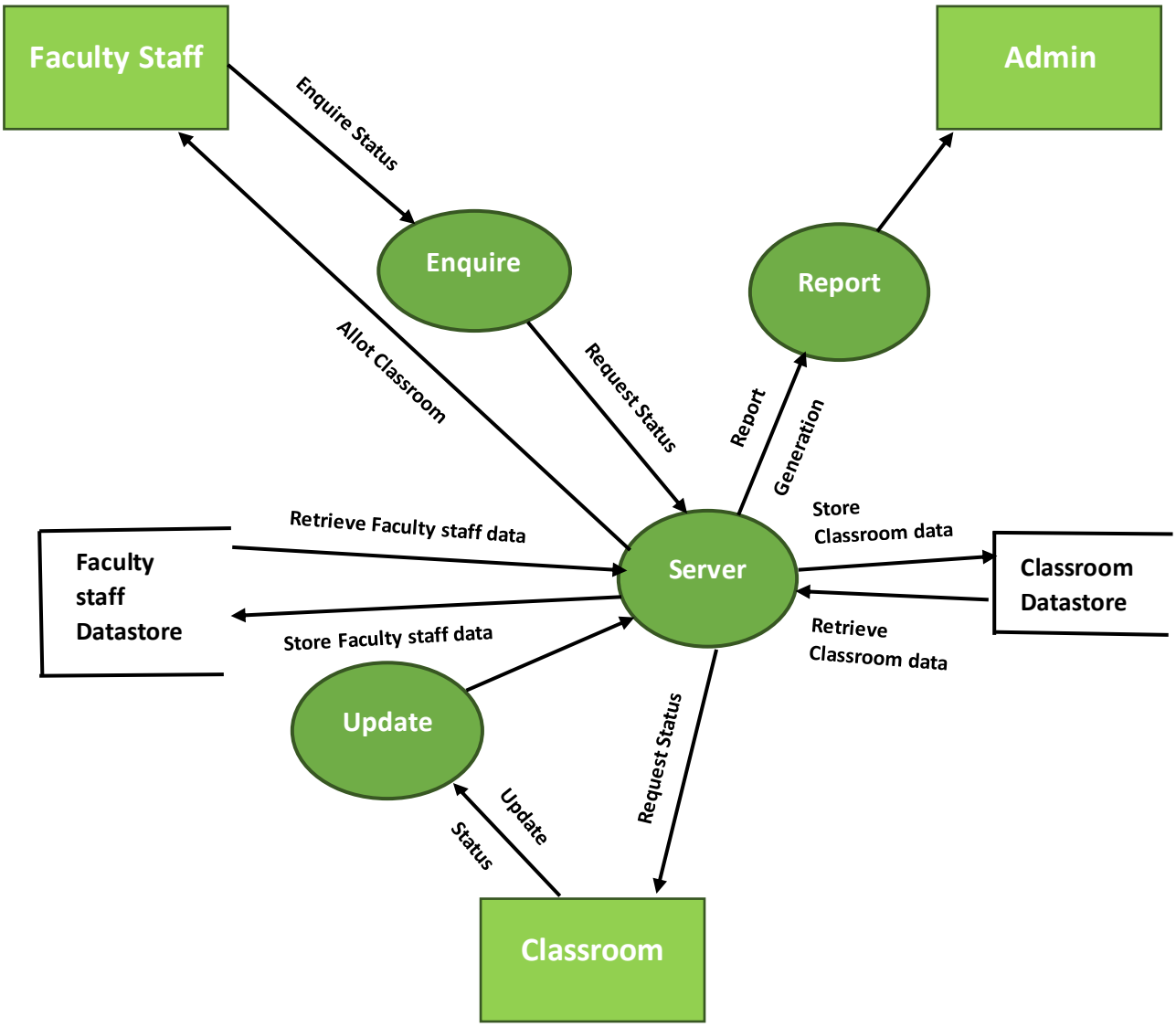
➢ **Data Flow Diagram (DFD): -**

(**Note**: From here Classroom and Laboratory are treated as 1 entity for efficiency.)

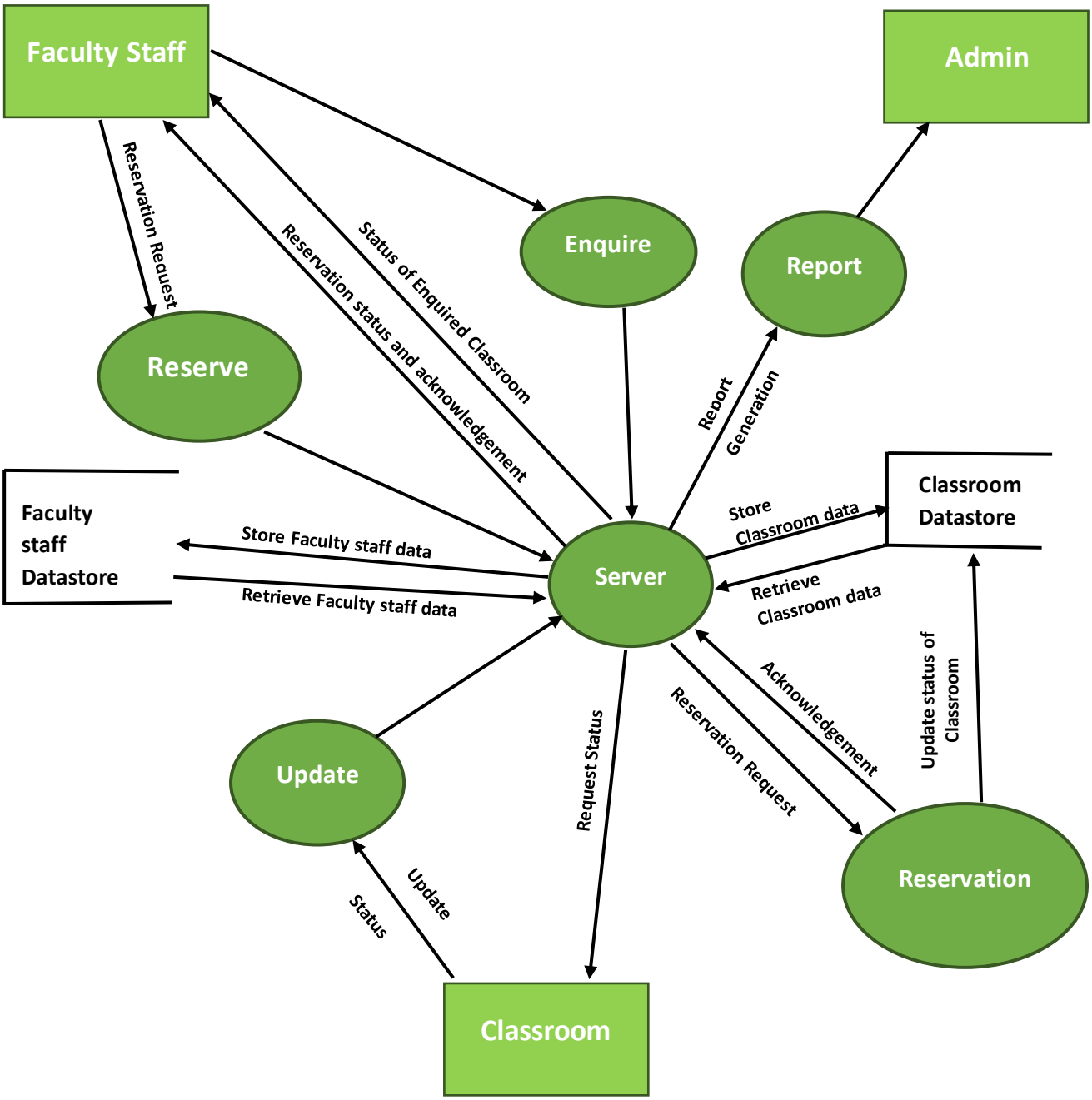
- **Context level DFD of the ClassTrack: -**



- **First Level DFD: -**



- **Main Process in the DFD: -**

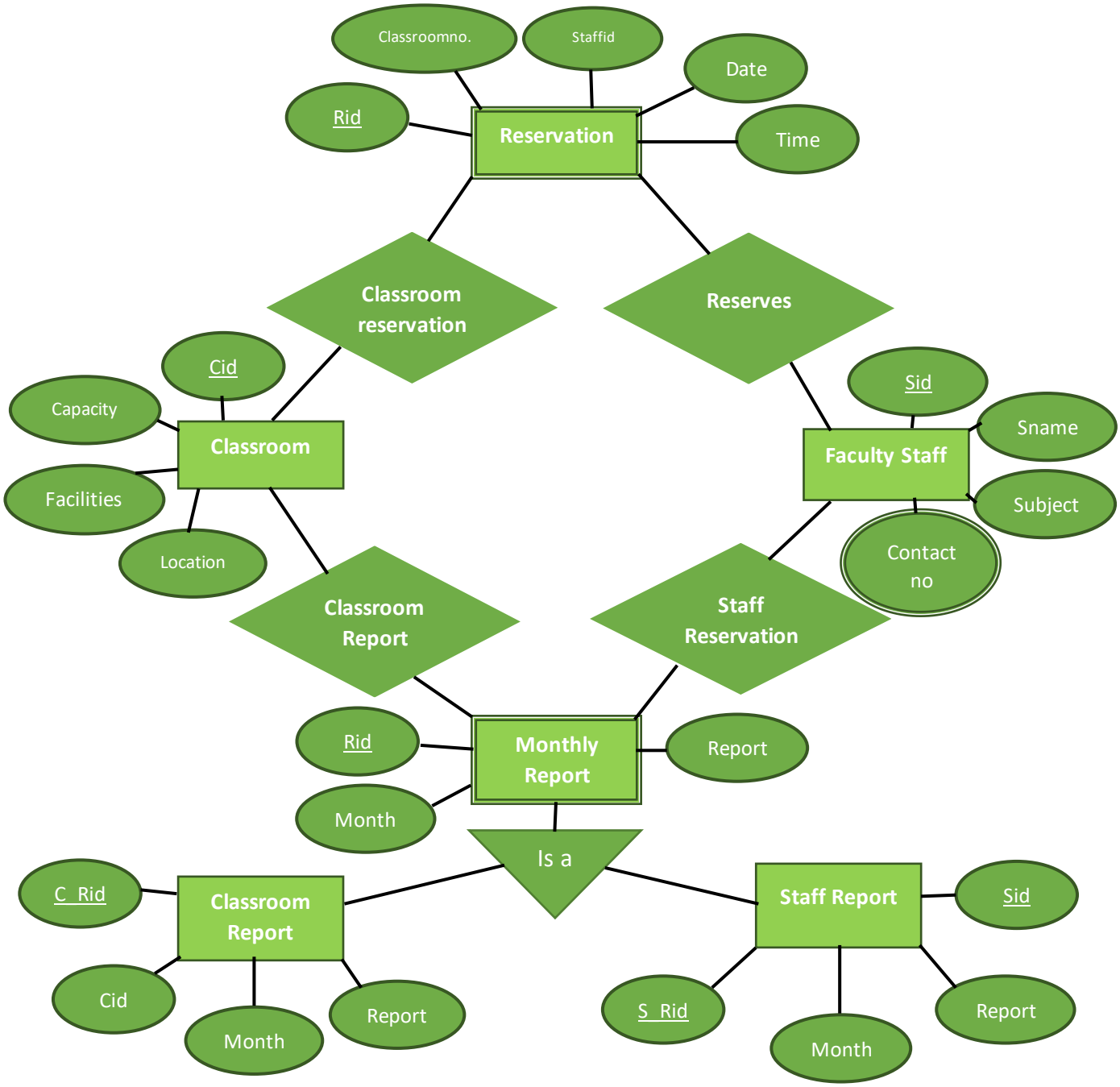


- **Entity Relationship Modelling: -**

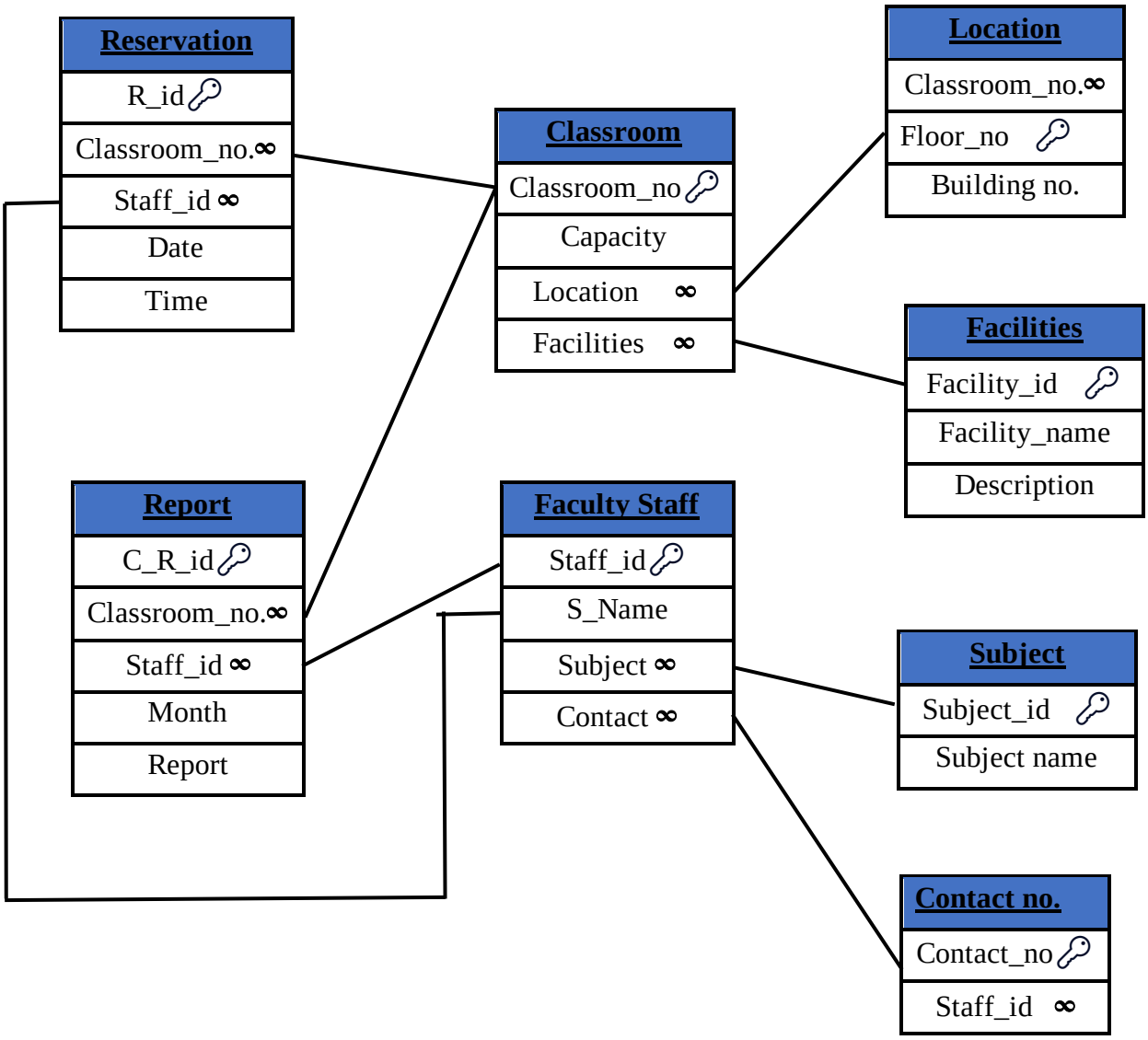
➢ **Entities: -**

i. Faculty Staff
ii. Classroom
iii. Reservation
iv. Monthly Report

➢ **Entity-Relationship Diagram: -**



- **Designing The Normalized Database: -**



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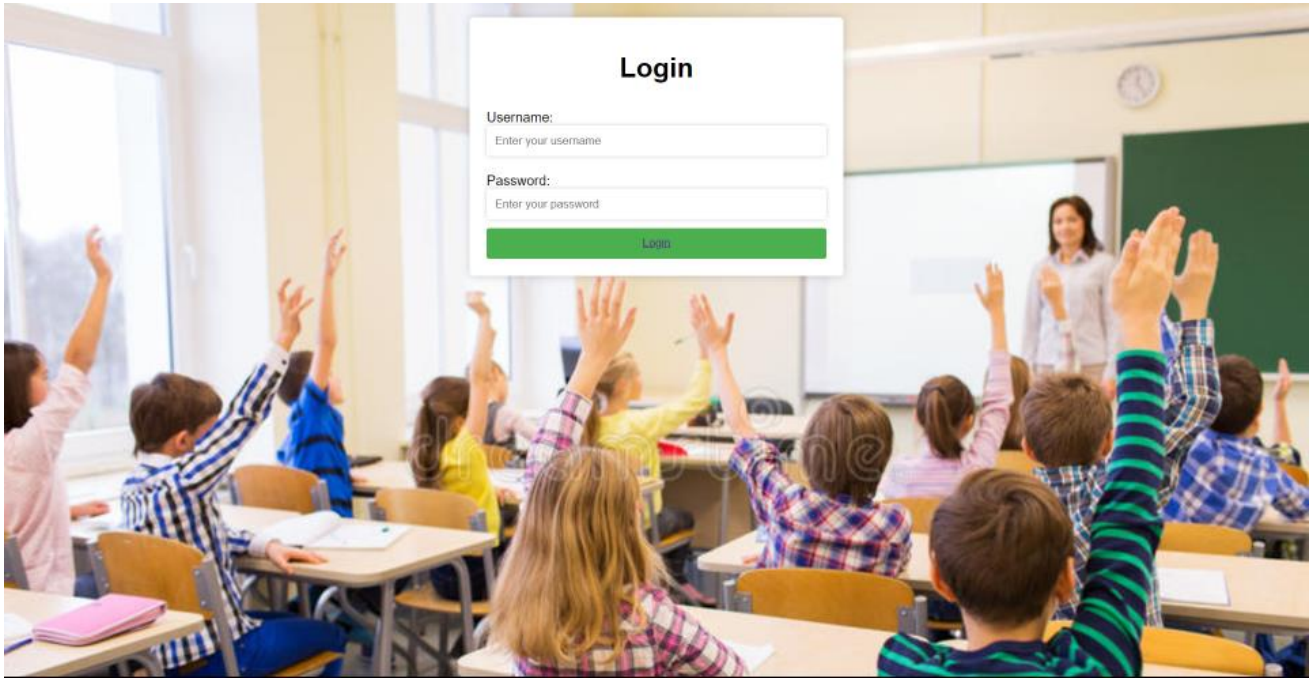
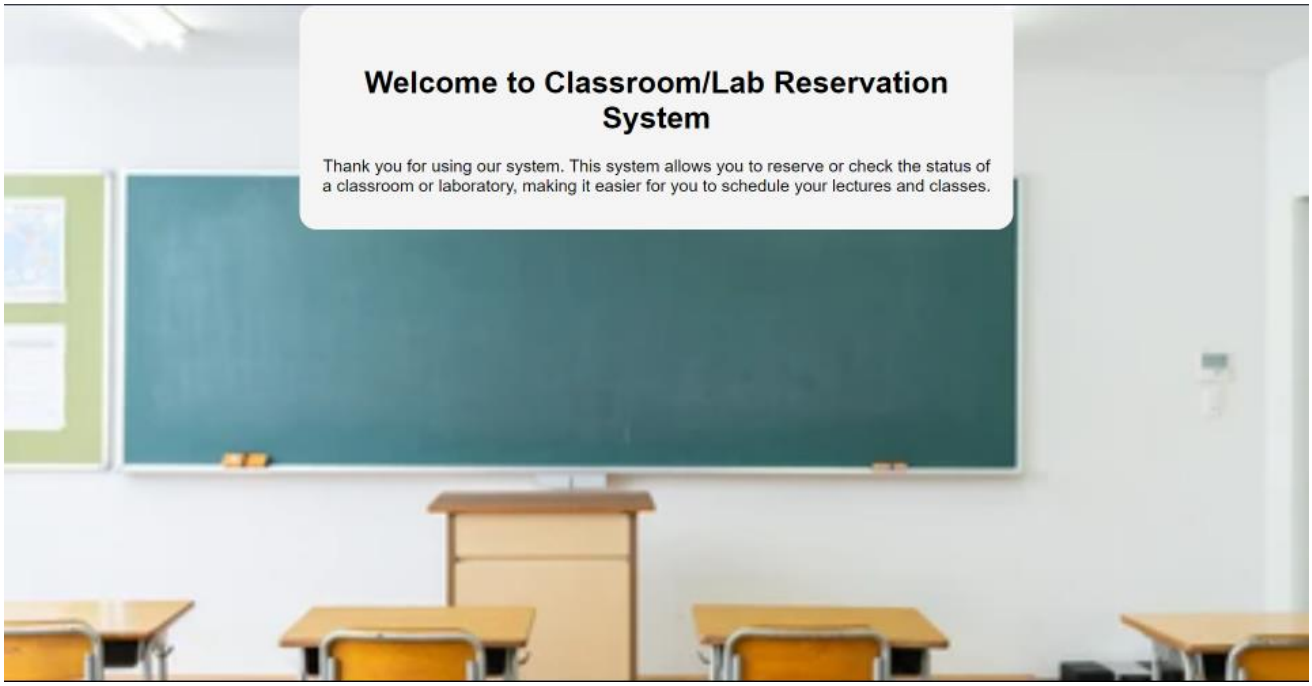
- **Login Page: -**



- **Welcome Page: -**



Thank you!