Attendance Management System

Sustainable Goal: Quality Education (Goal Number-4)

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Content

Introduction to Project

We will be presenting the Attendance Management System project. This system addresses the challenges faced in manual attendance tracking within educational system and offering an efficient and automated solution. Our system will represent a significant leap forward from the manual methods that are still being used today in schools and colleges.

Problem Definition

- Inefficient attendance tracking
- Time-consuming manual processes
- Error-prone record-keeping
- Difficulty in monitoring attendance trends

Goals

- Automate attendance tracking
- Reduce manual effort for teachers
- Improve accuracy and reliability
- Enhance data analysis and reporting

Literature Survey

- Teachers taking attendance manually
- Inconsistent methods
- No automated reporting

Limitation of Existing system

- Human errors in data entry
- Difficulty in tracking previous data
- Lack of real-time insights
- Inability to handle large volumes

Hardware, Software & Tools

Hardware

- A system with following specs (minimum):
  RAM: 4GB
  Storage: 256GB
  Processor: Intel 7th Gen

- Reliable internet connection to support real-time updates.

Software

- Django Web Framework
- HTML, CSS & JavaScript for user interface development
- MySQL for secure data storage

Tools

- Git for effective version control

Proposed System

- Automation of attendance tracking
- Real-time data updates
- User-friendly interface
- Enhanced security measures

Architecture/ Framework (Block Diagram, Conceptual Diagram, ER Diagram)

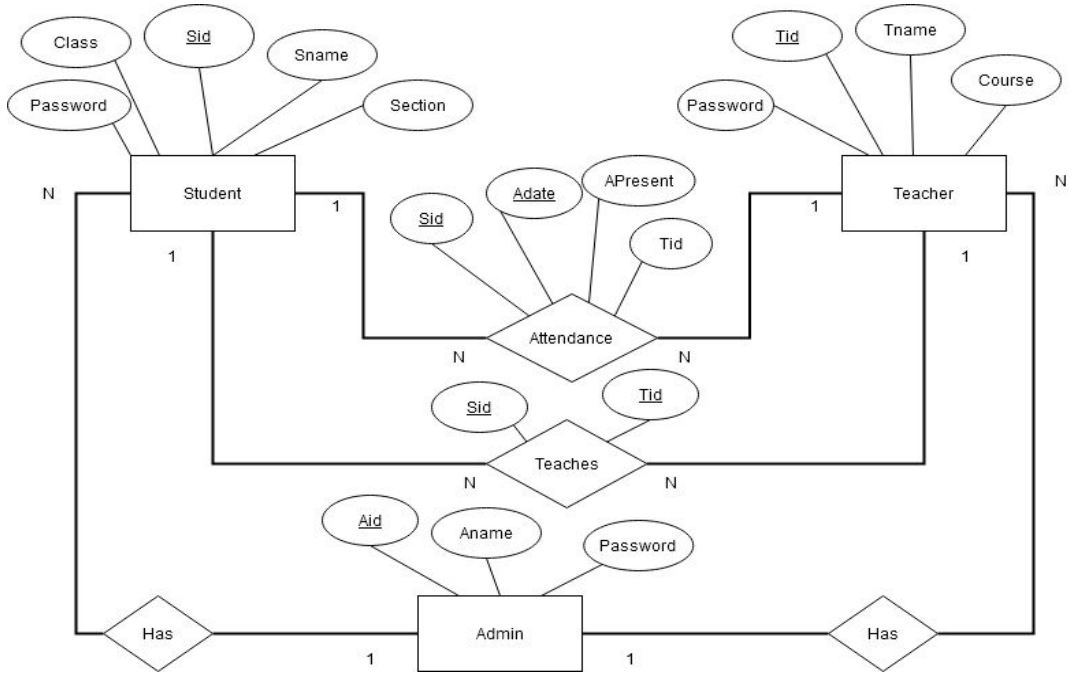


Fig 1. Entity Relation diagram of student attendance management system

Architecture/ Framework (Block Diagram, Conceptual Diagram, ER Diagram)

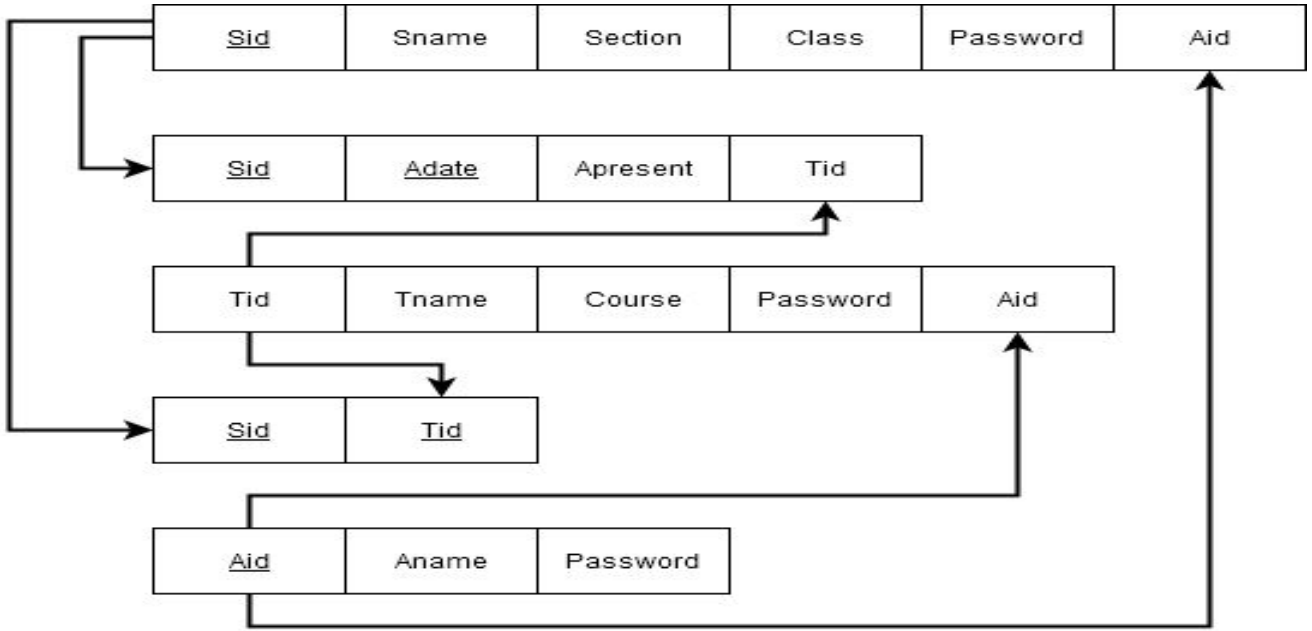


Fig 2. Relationship schema diagram of attendance management system

Methodology & Block Diagram / Conceptual

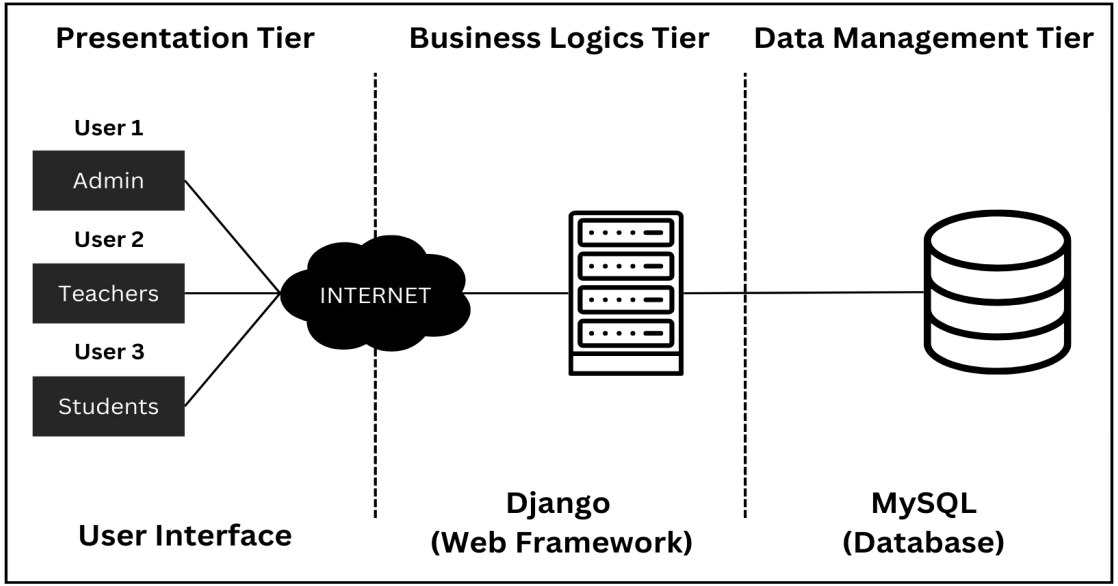
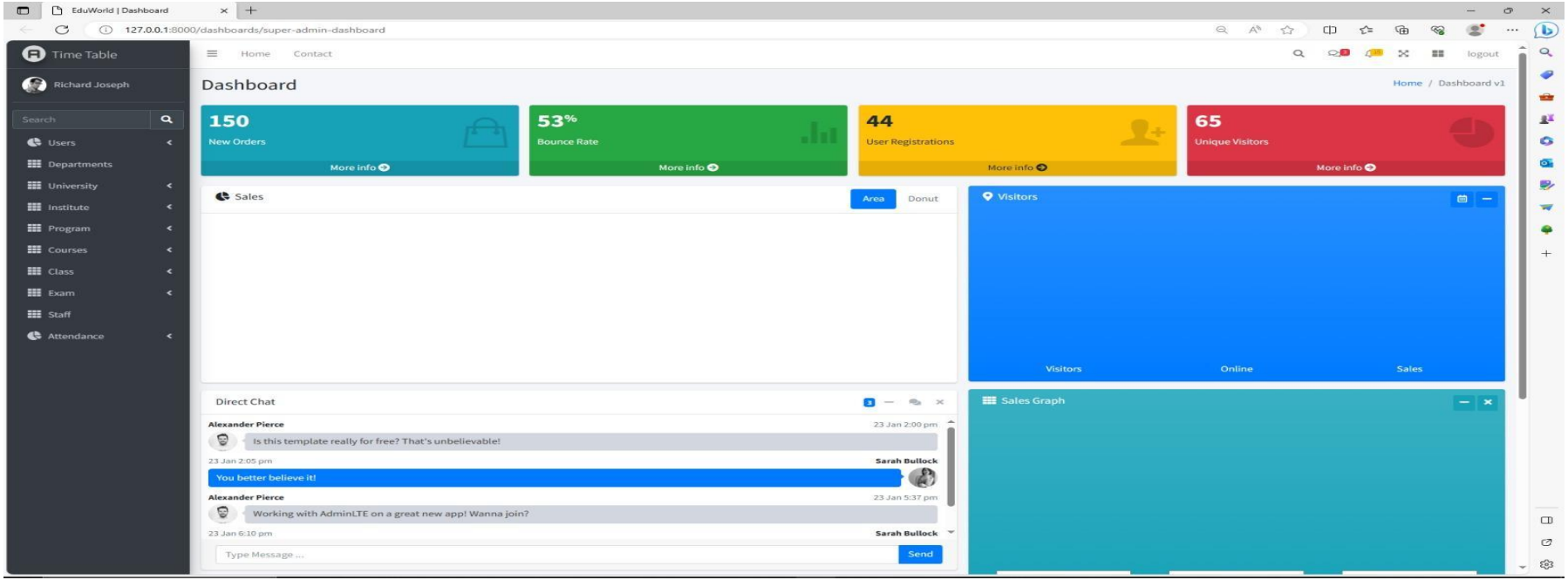


Fig 3. 3-tier architecture of student attendance management system

Methodology : Algorithm and Process Design

- **Requirement Gathering:** identify the requirements of the users.
- **Designing:** designing the interface.
- **Development:** backend or framework development using Django.
- **Testing:** testing the system’s functionality, usability, and performance.
- **Deployment:** deploying the system to the user’s.
- **Maintenance:** once the system is deployed, it can maintained to ensure that it functions smoothly.

Implementation details(GUI Screenshot, Dataset Used)



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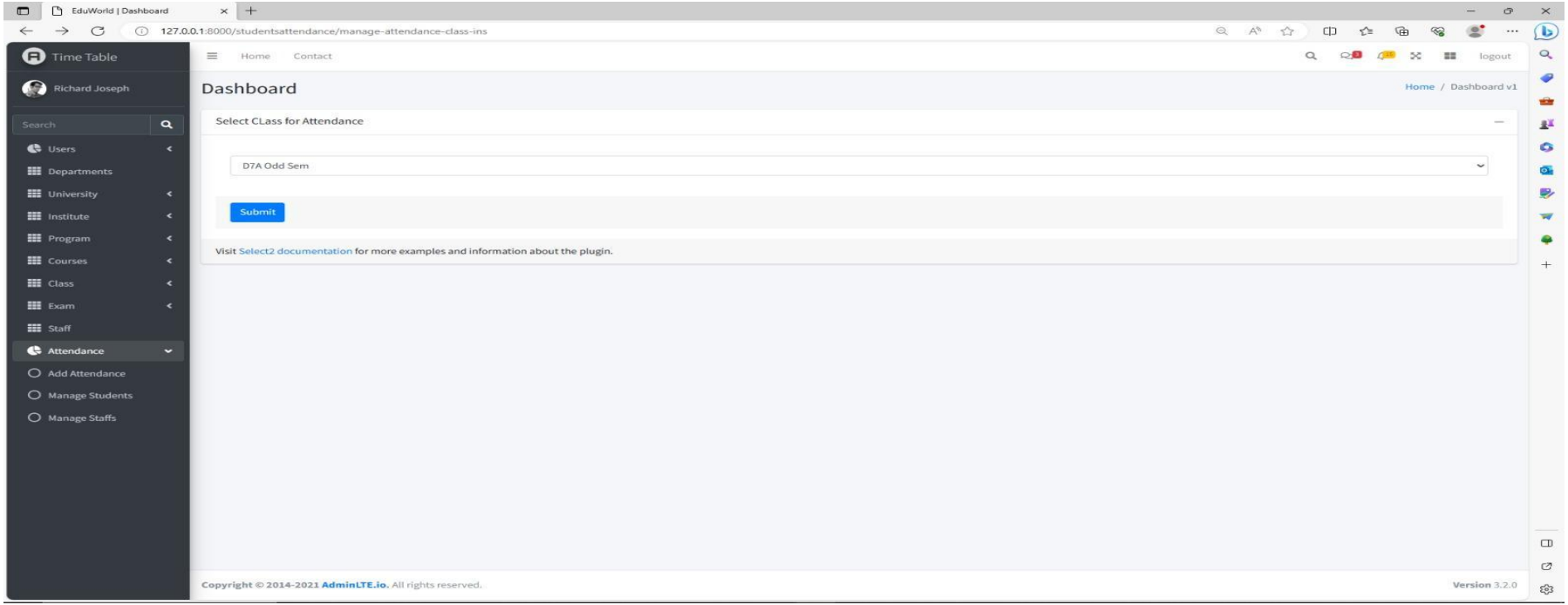

Results Obtained

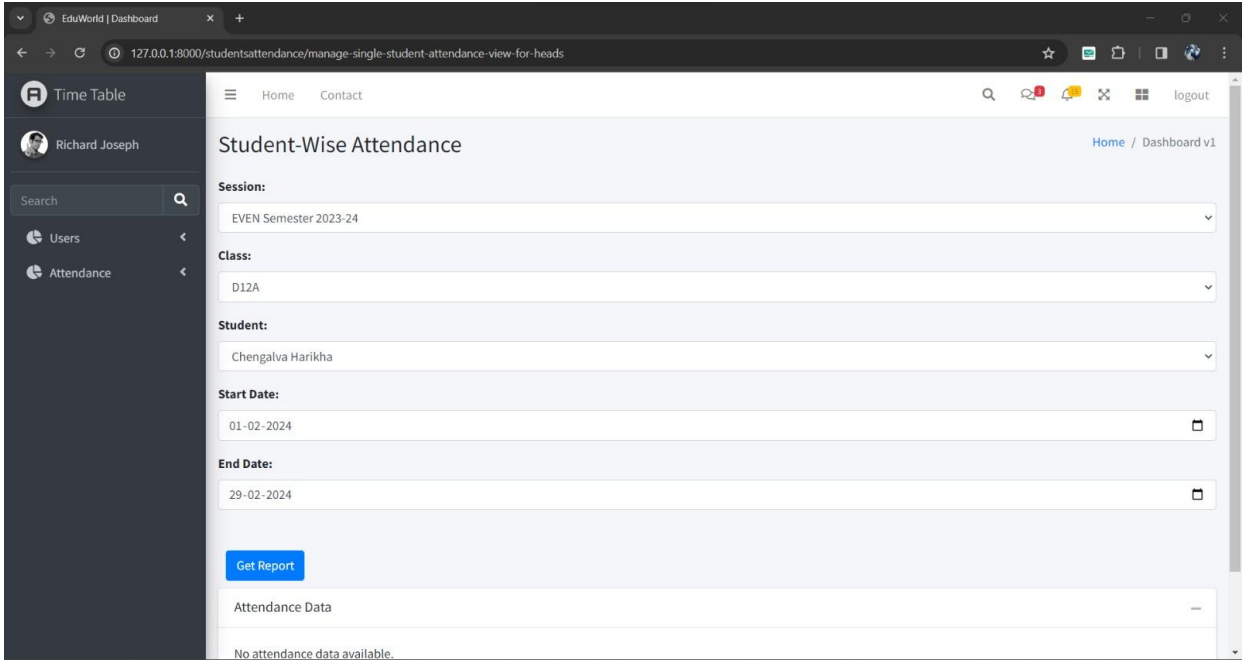

Fig 3A. Report generation (Student-wise view)

Results Obtained

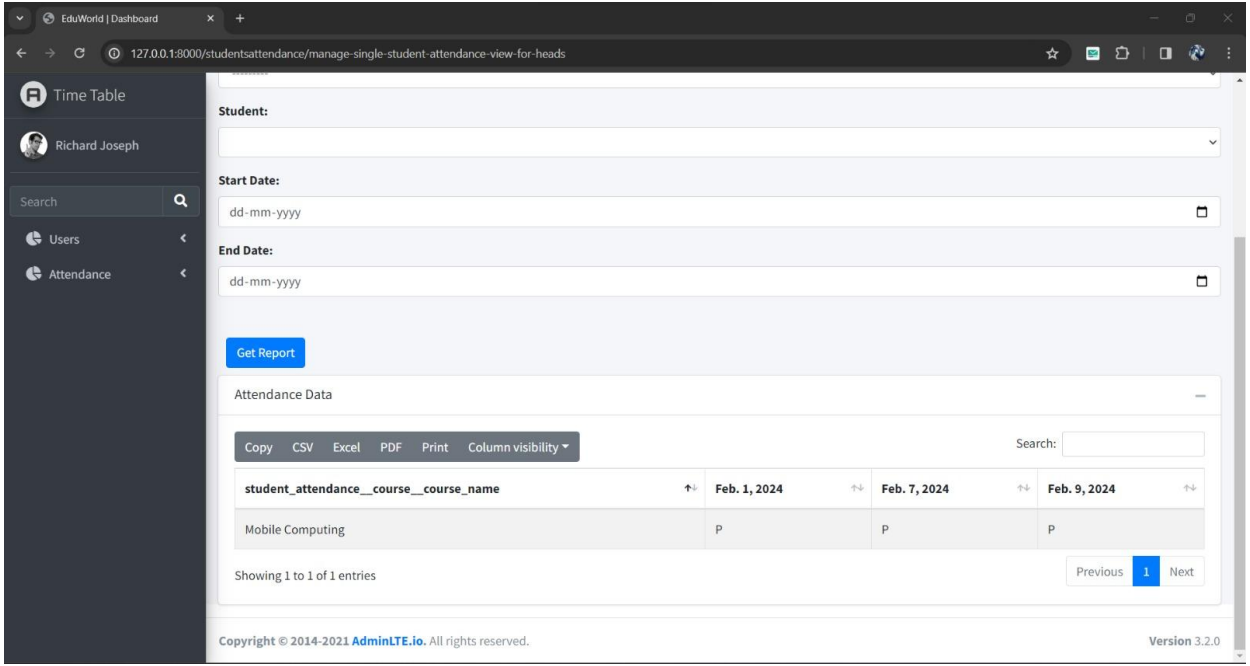

Fig 3B. Report generation (Student-wise view)

Results Obtained

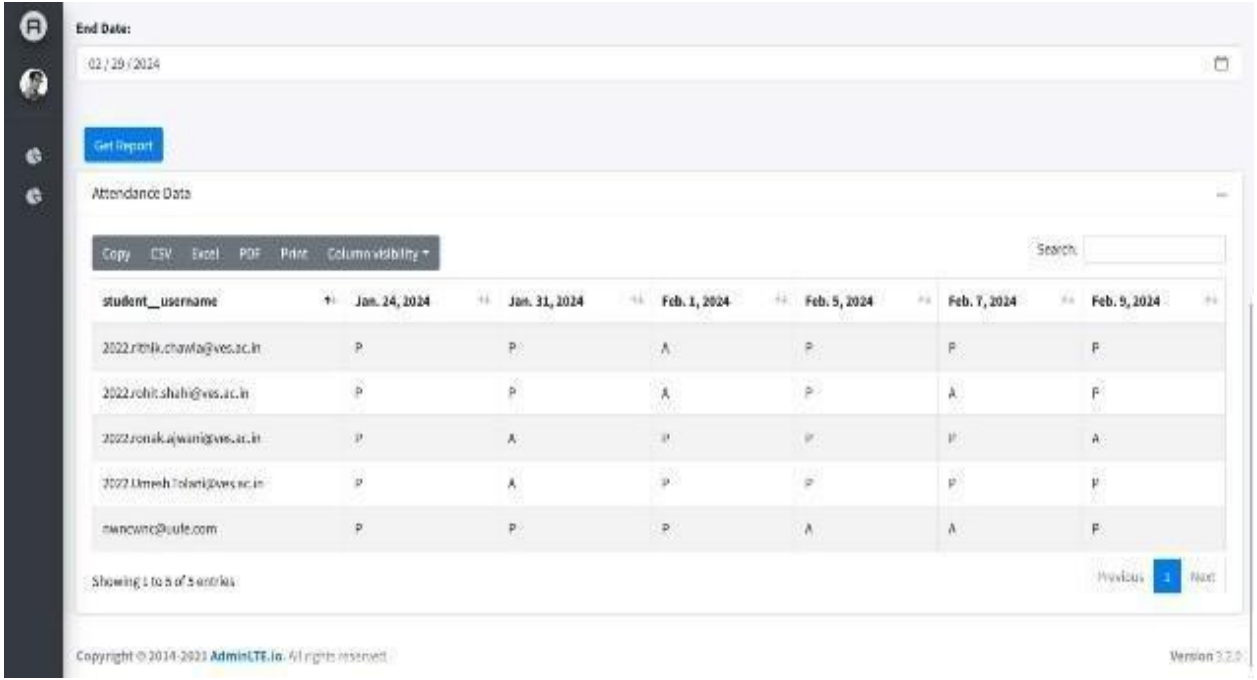

Fig 4. Report generation (Course-wise view)

Evaluation Measures

- **Customization:** Offer customization options to adapt the system to different organizational needs or preferences. This includes configurable settings for attendance rules, reporting formats, and user permissions. Like we can scale it for other institutions of ves and not only restricting it to VESIT depending and customising according to their needs.

- **Scalability:** Ensure the system is scalable to accommodate future growth in the number of users or locations. This could involve optimizing database structures, improving network infrastructure, and adopting cloud-based solutions.

Conclusion and Future Scope

In summary, our project addresses the shortcomings of manual attendance tracking by introducing an automated and accurate solution. By leveraging the DJANGO framework, we ensure efficiency, security, and flexibility in managing attendance. This not only improves processes for instructors and students but also signifies a shift towards modern management strategies. While our system meets current departmental needs, there remains scope for future enhancements and refinements.

References

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