**Attendance And Task Monitoring System**

# Abstract

Attendance And Task Monitoring System aims to help keep track of students lab attendance. It’s the system used to track how much time the student spends time and how much in-time and out-time. It also lessens the use of paper, spreadsheets, or register books, but with attendance software. This system prohibits students from stealing time. There is a real-time Attendance And Task Monitoring System that connects the main admin to multiple lab computer systems.

The Attendance And Task Monitoring System’s goal is to assist administrators in keeping track of students. This software is automated and can save time and money for administrators. A solution like this also saves teachers workload and boosts efficiency. An Attendance And Task Monitoring System allows Admin to observe who is logged in and when they are logged out. The Attendance And Task Monitoring System provides a precise view of the students lab practical records. It is a requirement of the Lab department.

# Objective

The objective of this project is to develop an Attendance And Task Monitoring System based on Desktop Application with structured Query language as the back-end database. This software will help the teachers to be more efficient in handling the daily practicals of their students. The purpose of this project is to give a complete requirement for documentation, design, and implementation of the software. It also explains the user interface, hardware and software and different models that could be used to develop software such as this.

Keeping track of all the practicals and their attendance records and task records on paper is very cumbersome. It also is a very time-consuming process Observing the continuous increase in the number of daily practicals. Recording and maintaining all these records is highly unreliable and inefficient. Thus keeping the working of the manual system as the basis of our project. We have developed an automated version of the manual system, named as “Attendance And Task Monitoring System for colleges.

The main aim of our project is to provide paperless practicals. It also aims at providing low-cost reliable automation of the existing systems. The system also provides excellent security of data at every level of user-system interaction and also provides robust & reliable storage and backup facilities.

# Course Outcome covered in project

As we are studying for technical education with our technical course and in this course we studied various technologies and languages and these languages gives us an opportunity to learn and develop some innovative things like our project “Attendance And Task Monitoring System based” which is based on JAVA technology and its components.

This project will have so many benefits such as a system based on all student data and its practicals. Also teachers can monitor his/her students' practical records. The main outcome of this project is for teachers and lab administrators to automatically get all data about students' daily practices and also can monitor any student with his system screenshots.

# Working Methodology

In the present system all work is done on a register or notebook. The whole practical attendance is stored in a register or book and at the end of the practical the register needs to update. We are not interested in update registers in the middle of the session or as per the requirement because it takes more time. So, We are not able to get students and lab administrators regularity reports and take necessary action on students whenever we want because of a very time consuming process.

## Weaknesses in Current System

1. Not User Friendly:

The existing system is not user friendly because the retrieval of data is very slow and data is not maintained efficiently.

2. Difficulty in report generating:

We require more calculations to generate the report so it is generated at the end of the session. And the students does not get a single chance to improve their Attendance.

3. Manual control:

All calculations to generate reports are done manually so there is greater chance of errors.

4. Lots of paperwork:

Existing system requires a lot of paperwork. Loss of even a single register/record led to a difficult situation because all the papers are needed to generate the reports.

5. Time consuming:

Every work is done manually so we cannot Generate reports in the middle of the session or as per the requirement because it is very time consuming.

**The User requirements for the new system are to make the system fast, flexible, less prone to errors and reduce expenses and save time.**

1. Time can be saved in automating the practical session and students can be used as per required.
2. A system that can automate student data which are pre-stored so that results can be generated as soon as the Students submit the form with his practical information.
3. A facility that can show all students details like screenshots and which practical and what in and out time without manual interference for providing how a task is to be done instead only asking what is to be done.
4. The system should have Admin & its student records on hand which can be used as per required only by authorized personnel.
5. The New system should be more secure in managing Student Practical records and reliable enough to be used in any condition.
6. Finally, it should prove cost effective as compared to the current system.

# Front end and back end Development tools

| Operating System | Windows 10 and above |
| --- | --- |
| Database | MYSQL 8 |
| Frontend Technologies | JAVA - AWT, Swing |
| Backend Technologies | JAVA |
| Development Tool | NetBeans 12.0 and above |

# Advantages

* Cost-effective
* Time saving
* Accuracy in work
* Eliminating manual error
* Easy accessibility to data
* Workplace mobility
* Simple to operate
* Serve as a helping hand to administrative tasks
* Student cannot cheat during practicals

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# Limitations

* Keyboard and printing errors
* Incorrect Entry of Times
* System is ineffective if there is no power supply

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# Conclusion

The main aim of this system was to put what we learnt in our software engineering class into practice. The Attendance And Task Monitoring System designated to our team allowed us to fully exercise the techniques of the system.

We were able to attain our set objectives, and this helped us again confidence in writing our own code and our own applications. In addition, the use of serialization was an experimentation to cut down the time taken in designing.

The front-ends and back-ends of applications separately. With our OOP approach and serialization, we only concentrated on designing the objects/classes, and then just serialized them on disk. So we did not spend any time on designing how to store data.

We also worked as a team, and gained some experience on how professional programmers work in the industry.

There is always room for improvement, and the software we created can also be improved. This is especially because we had to create it within a limited time. With more time, the software can be improved to include security and different types of users. This would be the first step in marking the software network-enabled, and eventually web-enabled.

# References

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