FocusLock : an Android Application to Generate Distraction Free Classroom Environment

Kiran Macwan, Dev Joshi, Kishan Patel, Shubham Savaliya and
Priya Shah

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Proff. Kiran Maccwan
Computer Science And
Engineering
Parul Institute Of Engineering An
Technology(Vadodara,Gujarat)
kiran.macwan270171@parulunive
sity.ac.in

Joshi Devkumar
Computer Science And
Engineering
Parul Institute Of Engineering And
Technology(Vadodara,Gujarat)
200303105078@paruluniversity.ac.
in

Patel Kishan
Computer Science And
Engineering(Cyber Security)
Parul Institute Of Engineering And
Technology(Vadodara,Gujarat)
200303126034@paruluniversity.ac.
in

Shubham Savaliya
Computer Science And
Engineering
Parul Institute Of Engineering And
Technology(Vadodara,Gujarat)
200303105083@paruluniversity.ac.
in

Shah Priya
Computer Science And
Engineering(AI)
Parul Institute Of Engineering And
Technology(Vadodara,Gujarat)
210303124905@paruluniversity.ac.
in

Abstract — **Mobile phones have grown in popularity over the years, and they are now commonplace in schools. Students' use of cell phones during class, on the other hand, might lead to reduced productivity and attention, impairing their academic achievement. The goal of this project is to create a system that can lock students' phones during class to reduce distractions and increase their attention on academics. The suggested method operates by connecting the phones of the students to a host device over a local wireless network using WiFi direct technology. The host device gets the enrollment numbers of the students, which are used to authenticate their attendance. After the students' attendance is confirmed, the system locks their phones, prohibiting them from using their devices during class. The system is user-friendly, and the host device shows a list of linked students for quick attendance verification. The system also contains a way for unlocking the phone in the event of an emergency or other justifiable cause. By eliminating distractions that result from cell phone use, the suggested solution has the possibility of enhancing the learning environment in schools. The system's capacity to automatically collect attendance minimizes the stress on lecturers, making it an effective method for regulating student attendance. The project's goal is to create a dependable and efficient mechanism that can be applied in schools and universities to improve student's learning experiences.**

Keywords: **Phone lock, host,Wifi direct, attendance, Technology adoption,distraction**

1. INTRODUCTION

In the digital era, mobile phones have become an indispensable component of our daily life. While these gadgets offer numerous advantages, they may also be a significant source of student distraction, particularly during class. Students may find it difficult to concentrate on their schoolwork owing to their phones' continual ringing, buzzing, and beeping. To solve this issue, we are creating a technology that can lock students' cell phones during class. This technology connects students' phones to a host device,[29] which collects their MAC addresses and enrolment numbers. To determine attendance, the instructor can utilize the list of connected students shown on the host device. Our research attempts to reduce distractions generated by mobile phones and increase students' attention to their academics. The technique ensures that students are not distracted and can focus better by locking their phones during class. Furthermore,[17] the attendance function assists teachers in keeping track of students who are present in class, making it simpler for them to monitor and analyze their students' progress. The system is intended to be user-friendly and efficient for both teachers and students. It is an excellent solution to a frequent problem encountered by academic institutions today, and we believe it will improve student learning results.[16] The project's goal is to create a system that can assist eliminate distractions and enhance concentration on studies by locking students' phones in class. The system operates by connecting the phones of the students to a host device, which gets the students' MAC addresses and enrolment numbers. This enables the system to track student attendance using the list of linked devices presented on the host device. Both students and instructors will find the system to be user-friendly and simple to utilise. Teachers will be able to manually lock and unlock phones with the help of a function that will be included. Several technologies, including Wi-Fi and mobile device management (MDM) software, will be used to build the system. The host device will be able to remotely manage and control the linked devices thanks to the MDM software.[21]To safeguard user data and stop illegal access to the system, the system will also employ encryption and security procedures. The project's overall goal is to develop a system that can support a constructive and

distraction-free learning environment for kids while simultaneously improving the efficiency and accuracy of instructors' attendance tracking. The initiative's purpose is to help students focus on their studies while avoiding distractions caused by mobile phones. As cell phones have been more extensively utilized, students' ability to concentrate on their studies has become increasingly difficult. Phone notifications, messages, and social media alerts easily distract many students, which may have a significant influence on their academic performance. Students will be better able to concentrate on their studies and remember knowledge if a mechanism is created to lock mobile phones during class. This approach can also assist teachers in upholding order in the classroom and preventing students from using their phones for non-academic activities while in class.[22]The technology will also give users an effective means to take attendance, doing away with the necessity for manual attendance-taking techniques. The host device will automatically receive the MAC addresses and enrollment numbers of the students, improving the accuracy and efficiency of collecting attendance. In general, this effort is driven by the desire to increase academic performance among students by reducing distractions and encouraging attention in the classroom.

The objective of this project are:

A. to create and implement a system that can recognize and connect with students' mobile devices in the classroom.

B. to provide a reliable and secure communication channel for locking and unlocking between the linked phones and the host device.

C. To put process for authentication to guarantee that only authorized students can unlock their phones.

D. to create a user-friendly interface for the host device that enables the instructor to manage and keep an eye on the system with ease.

E. to assess the system's efficiency in reducing distractions and raising pupils' academic achievement.Equations

The goal of our design is to provide a practical tool that, by locking students' cell phones, can help them stay focused in class. The strategy aims to cut down on interruptions and increase classroom productivity. The method will work by connecting the students' phones to a host device using Wi-Fi Direct to a device. To ensure that only authorized parties can access the host device will obtain the MAC addresses and registration numbers of the students' phones across the network. Preceptors will be capable of quickly managing the network-connected bias and determining tight deadlines for each student thanks to the interface's stoner-friendly design of the system. The setup of the system will ensure that the only when class is in session are biases locked.

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