



International Journal of Innovative Research in Science Engineering and Technology (IJIRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)



Impact Factor: 8.699

Volume 15, Issue 3, March 2026

Phone Buddy - Offline Remote Device Control

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ABSTRACT: In today's digital world, smartphones are essential, and losing access to them can cause both inconvenience and security issues. Most existing remote control solutions rely on internet connectivity, which may not work in low or no network conditions. To address this problem, the proposed system Phone Buddy - Offline Remote Device Control is an Android-based application that enables users to control important phone functions through SMS commands without requiring internet access. It allows actions such as locking the device, changing ringer modes, retrieving contacts, and sending location details. The system ensures security by accepting commands only from trusted numbers with proper authentication. Overall, it provides a simple, reliable, and efficient offline solution for remote smartphone control, especially in emergency situations.

KEYWORDS: SMS Communication, Offline Remote Access, Android Application, Device Control, Authentication, SQLite Database, Security, Mobile Automation, SMS Manager API, Remote Monitoring.

I. INTRODUCTION

Nowadays, smartphones have become an important part of our daily lives, and losing access to them can create both inconvenience and security risks. Most existing solutions for tracking or controlling a phone depend on internet connectivity, which may not always be available, especially in low-network areas. To overcome this limitation, the Phone Buddy - Offline Remote Device Control system is developed as an offline solution that allows users to control key mobile functions using SMS commands. Through this application, users can perform actions like locking the phone, changing sound modes, retrieving contacts, and checking location without needing an internet connection. The system also focuses on security by allowing access only to trusted numbers and verifying commands with a passcode. By working silently in the background and using minimal resources, Phone Buddy - Offline Remote Device Control provides a simple, reliable, and practical way to manage smartphones remotely in emergency situations.

II. LITERATURE SURVEY

Recent studies show that mobile security systems are mainly designed to protect user data and help in tracking lost devices. The paper on Location-Based Access Control explains how a user's location can be used to decide whether access should be given or not. This method improves privacy by allowing data access only in trusted locations, but it focuses more on access control and does not support remote control of the device.

Another research work on an Anti-Theft Mobile Tracking System suggests a way to protect smartphones when they are stolen. It detects changes like SIM replacement or device restart and sends a password to a registered number. Using this, the user can lock the phone, track its location, or make it ring. However, this system works only in specific situations and does not provide flexible control at all times.

The study on Google's Find My Device Network shows how lost devices can be tracked using nearby Android devices. It uses advanced technologies like Bluetooth and encryption, but it also raises some concerns about security and privacy.

Overall, these studies improve mobile security in different ways, but they do not provide a simple and reliable offline solution. The proposed Phone Buddy - Offline Remote Device Control system overcomes these gaps by offering secure SMS-based control, allowing users to manage their device anytime without needing an internet connection.

III. METHODOLOGY

The proposed system, Phone Buddy - Offline Remote Device Control is an offline smartphone control application that works using SMS. It allows users to send commands from a trusted number to perform important actions on their device. The system first processes the incoming message to understand the command, then verifies the sender and passcode for security.

After authentication, it executes actions like locking the phone, changing ringer modes, retrieving contacts, or sending location details. Built using Android technologies like Java, SQLite, and SMS Manager API, the system works efficiently in the background. Finally, it sends a response back to the user via SMS, ensuring a simple, secure, and reliable solution without needing internet connectivity.

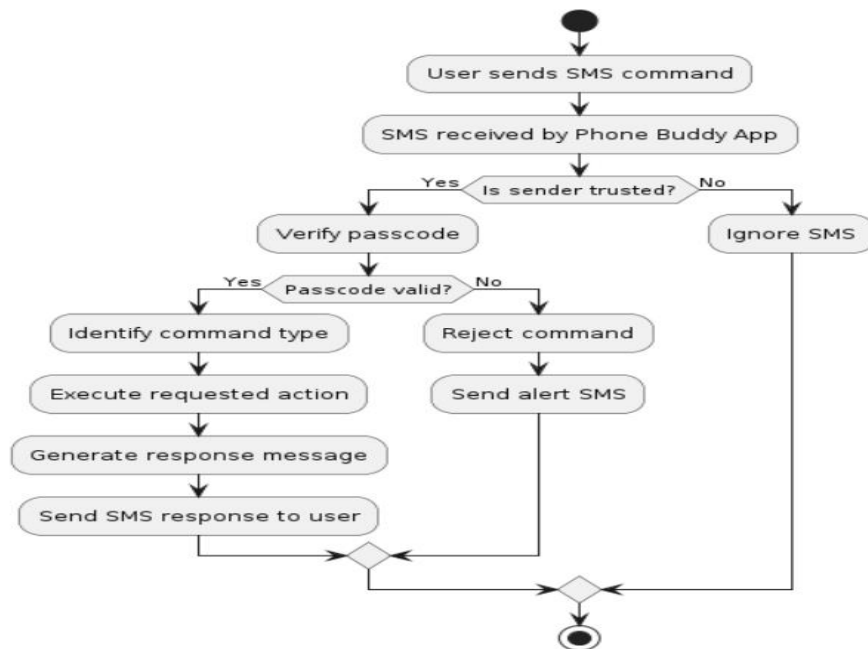


Fig 3.1 Phone Buddy Methodology

IV. SYSTEM ARCHITECTURE

The Phone Buddy - Offline Remote Device Control system is designed to provide secure and efficient offline remote control of smartphones through SMS communication. The process begins when a user sends a command from a trusted mobile number, which is received by the SMS Receiver module in the application. The message is then forwarded to the authentication module, where the sender’s number and passcode are verified to ensure that only authorized users can access the system.

Once validated, the command is passed to the command processing module, which identifies the requested action. The system controller then executes the appropriate operation, such as locking the device, changing ringer modes, retrieving contacts, or sending location details.

The SQLite database is used to store trusted numbers, passcodes, and other necessary data. After execution, the SMS Manager generates a response and sends it back to the user. This architecture ensures reliable, secure, and smooth functioning even without internet connectivity.

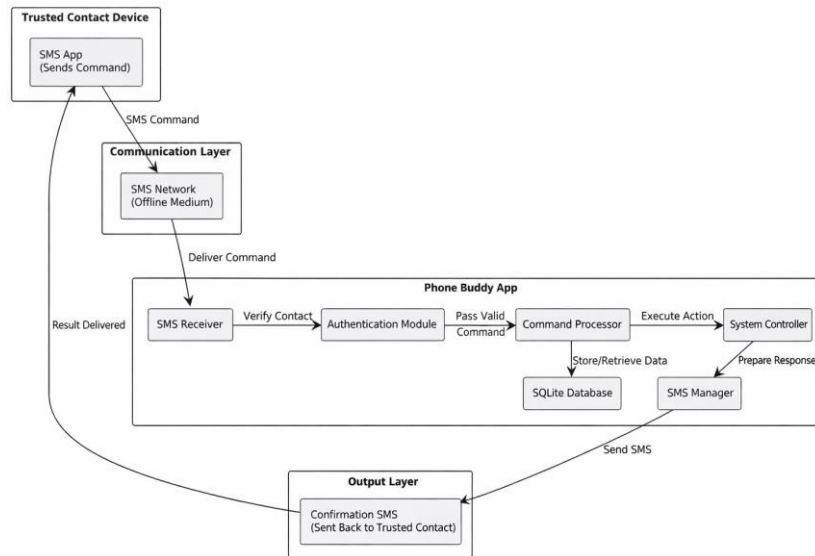


Fig 4.1 System Architecture

V. RESULTS

The Phone Buddy - Offline Remote Device Control system allows users to control their smartphone remotely by sending SMS commands from a trusted number. When a user sends a command, the system processes it and performs the required action on the device.

The system reads and verifies the message using authentication methods and then executes the appropriate function such as locking the phone, changing ringer modes, retrieving contacts, or sending location details. After completing the task, a response message is sent back to the user through SMS.

INSIDE THE APP

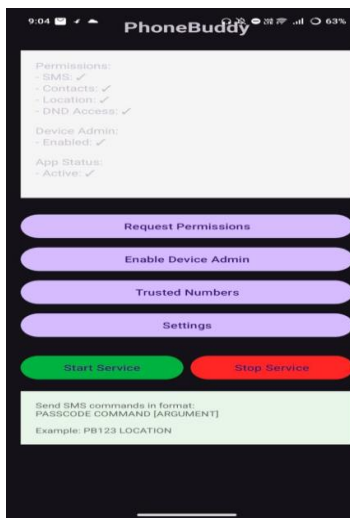


Fig 5.1

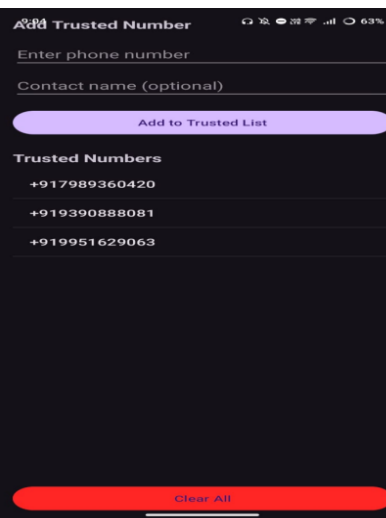


Fig 5.2

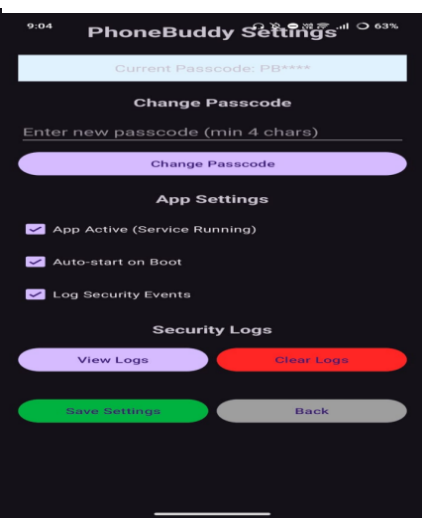


Fig 5.3

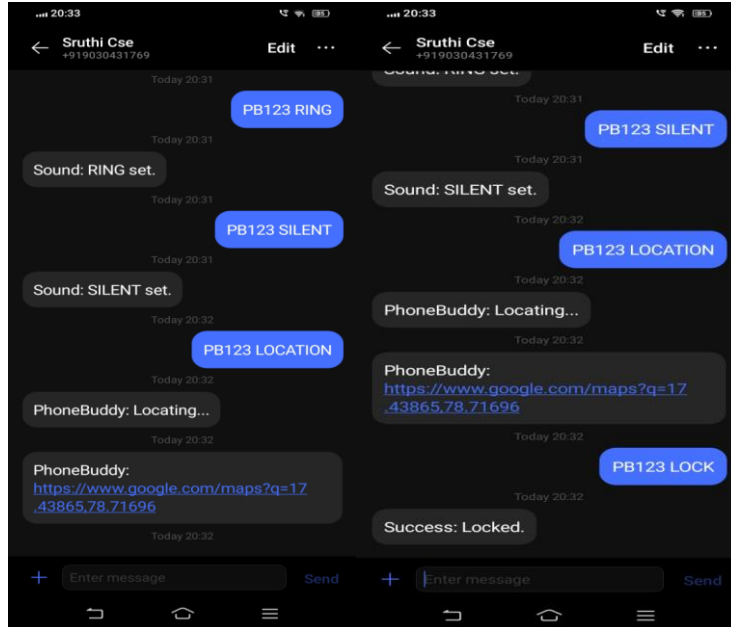


Fig 5.4

Fig 5.5

VI. CONCLUSION

Phone Buddy - Offline Remote Device Control is a simple and reliable solution for remotely controlling smartphones without the need for internet connectivity. By using SMS-based communication, it allows users to perform essential tasks like locking the device, changing ringer modes, retrieving contacts, and tracking location in a secure manner. The system ensures safety through authentication using trusted numbers and passcodes, preventing unauthorized access. It runs efficiently in the background with minimal resource usage, making it practical for real-time use. Overall, Phone Buddy serves as an effective backup solution for smartphone management, especially in emergency and low-network conditions.

VII. FUTURE SCOPE

In the future, Phone Buddy can be enhanced by adding more advanced features to improve functionality and security. The system can include options like remote data backup and selective data wiping to protect sensitive information. Security can be further strengthened by implementing encrypted SMS commands and multi-level authentication.

Additional features such as SIM change detection with automatic alerts can also be introduced. The application can be expanded to support cross-platform devices beyond Android, making it more flexible and widely usable. Overall, these improvements can make Phone Buddy more powerful, secure, and useful for real-world applications.

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