

## ABSTRACT

Traditional method of recording student bus attendance and managing fee payments are often manual, time consuming and prone to errors. To address these challenges, there is a need for an automated system that can streamline the process of student bus attendance and fee management. An innovative IoT-based solution for managing student attendance and fee verification on schools or college buses, integrating facial recognition technology. Efficient monitoring of student movements is crucial for ensuring safety. The core functionality of the system revolves around capturing student images upon boarding the college bus using IoT-enabled cameras. These images are then processed using facial recognition algorithms deployed on a Raspberry Pi device. Through this process, students' identities are matched with the database of enrolled students, enabling automated tracking and fee payment status. Moreover, the system cross-references student identities with their fee payment status, providing real-time verification of fee compliance. An integral component of this solution is its web-based interface, accessible by authorized personnel. Through this interface, administrators can monitor student presence in real time and receive alerts for fee payment issues. If a student is found boarding the bus he is not allotted or without paying fee can be intimated to the concerned superior with all the required details. Authorized personnel can monitor the system and view attendance data remotely from a computer on the network.