

Enhanced Biometric and RFID Integrated Security System for ATM (EBRIS)

Priyanka Manohar Borse¹, Shivaraj Sunil Deshmukh², Atharva Sunil Ghogare³,
Nikhil Babasaheb Gunjal⁴, Shubham Dadasaheb Shinde⁵, Prof. P. S. Aswale⁶

Students, Department of Electronics & Telecommunication^{1,2,3,4,5}

Assistant Professor, Department of Electronics & Telecommunication⁶

Amrutvahini College of Engineering, Sangamner, MH, India

Abstract: *This security system architecture integrates various components through a laptop and an ESP32 microcontroller to enhance the security of Automated Teller Machines (ATMs). The laptop serves as the main processing unit, interfacing directly with the Camera Module and the LCD Display, while the ESP32 handles auxiliary tasks and communicates with the laptop. This setup establishes a comprehensive security framework utilizing biometric, RFID technologies, and real-time communication. The system captures and processes visual information, interacts with its environment through wireless communication and RFID technology, and offers a flexible and versatile solution for applications including surveillance, monitoring, data logging, and automation..*

Keywords: ATM Security, Biometric Authentication, RFID Technology, Real-Time Communication, ESP32 Microcontroller