OPEN ACCESS INTERNATIONAL JOURNAL OF SCIENCE & ENGINEERING

Augmented Reality Based Student ID (ARSID)

Bhargav Mhaske, Chirag Nawghare, Adesh Borkute,
Vedpal Hattimare, Kaustubh Deshkar

Department of Electronics and Telecommunication Engineering
G H Raisoni Institute of Engineering and Technology, Nagpur
Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur

---

Abstract: ***Conventional student identification cards offer limited functionality and are susceptible to loss, duplication, and manual verification errors. To overcome these limitations, this paper presents an Augmented Reality Based Student ID (ARSID) system that enhances traditional identification methods by overlaying digital student information onto a physical ID card using augmented reality technology. The proposed system utilizes an AR marker embedded within the student ID card, which is scanned using a mobile application to retrieve and display verified student details such as name, roll number, department, academic year, and photograph in real time. A centralized database ensures secure storage and quick access to student information. Experimental evaluation demonstrates that the ARSID system significantly reduces verification time and improves authentication efficiency compared to conventional ID systems. The proposed solution is suitable for smart campus environments and enhances security, automation, and user experience.***

Keyword:Augmented Reality, Student Identification, AR Marker, Smart Campus, Mobile Application

---

I. INTRODUCTION

Student identification plays a vital role in academic institutions for access control, attendance monitoring, and identity verification. Traditional ID cards rely on visual inspection, which is time-consuming and prone to human error. Augmented Reality (AR) technology enables interactive visualization by superimposing digital information onto real-world objects. The proposed ARSID system integrates AR technology with student identification to provide fast, secure, and automated verification.

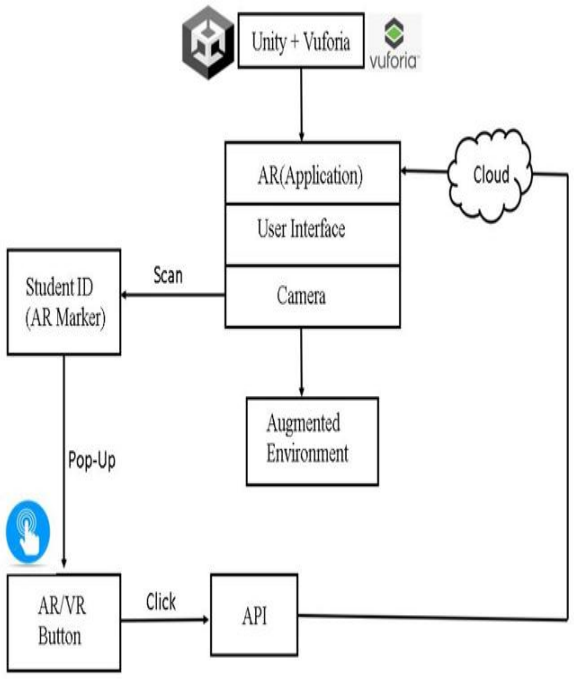
II. RELATED WORK

Various identification systems such as QR codes, RFID-based cards, and biometric authentication have been proposed in the literature. While these systems improve security, they require additional hardware or suffer from scalability issues. Recent studies demonstrate that AR-based systems offer intuitive visualization and improved user interaction without requiring specialized equipment.

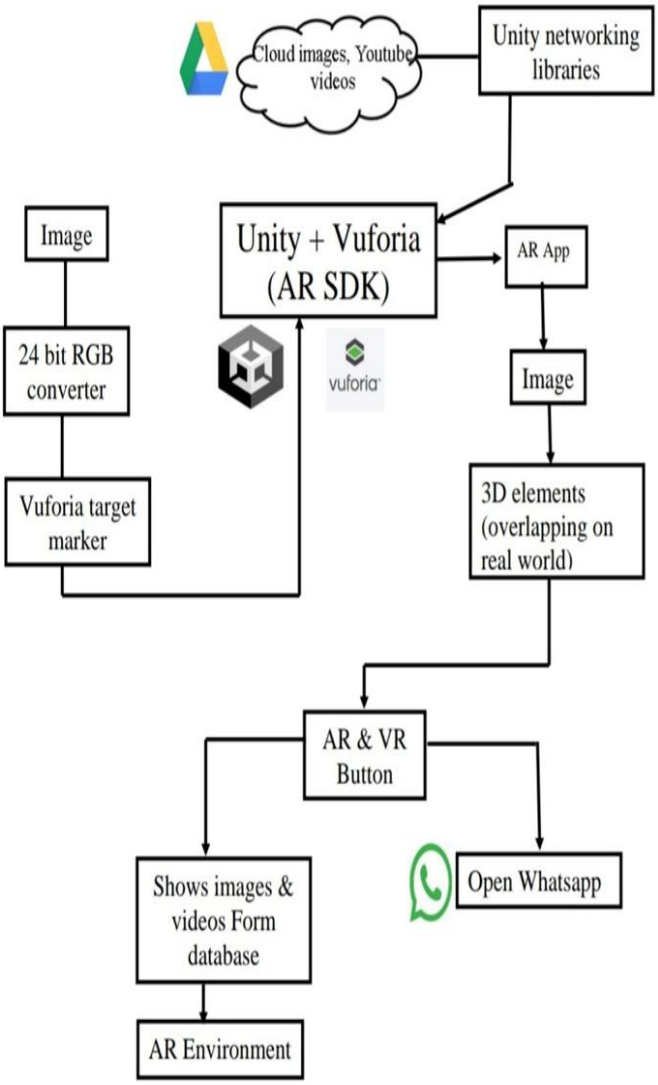
III. PROPOSED SYSTEM

The ARSID system consists of an AR-enabled student ID card, a mobile application, and a centralized database server. The ID card acts as an AR marker. When scanned, the mobile application retrieves corresponding student data from the database and displays it in an augmented format on the screen.

IV. BLOCK DIAGRAM /FLOWCHART



Flowchart Steps:



V. RESULTS AND DISCUSSION

Experimental results indicate that the proposed system reduces verification time by more than 60% compared to manual methods. The ARSID system also minimizes identity fraud and improves overall campus security.

VI. CONCLUSION AND FUTURE SCOPE

This paper presented an Augmented Reality Based Student ID system that enhances traditional identification mechanisms. Future work includes integrating facial recognition, blockchain-based data security, and large-scale campus deployment.

VII.REFERENCES

[1] R. Azuma, “A survey of augmented reality,” Presence: Teleoperators & Virtual Environments, vol. 6, no. 4, pp. 355–385, 1997.

[2] S. Feiner, “Augmented reality: A new way of seeing,” Scientific American, 2002.