

SECURE AND EFFICIENT CLASS ATTENDANCE



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Introduction

The University of Zambia (UNZA) faces significant challenges with its current manual attendance systems, which are time-consuming, prone to error, and vulnerable to academic dishonesty [1]. Our modern attendance system utilizes QR codes, Bluetooth, and fingerprint technology to ensure secure, efficient, and contactless tracking. With just a simple scan or touch, students can seamlessly check-in to classes, eliminating long queues and enhancing the overall learning experience. This innovative approach not only saves time but also promotes a safer environment for everyone. Furthermore, this project should be able to cater for secondary schools as well as growing business entities.

Figure 1. Bluetooth Low Energy



Figure 2 Qr Code Technology

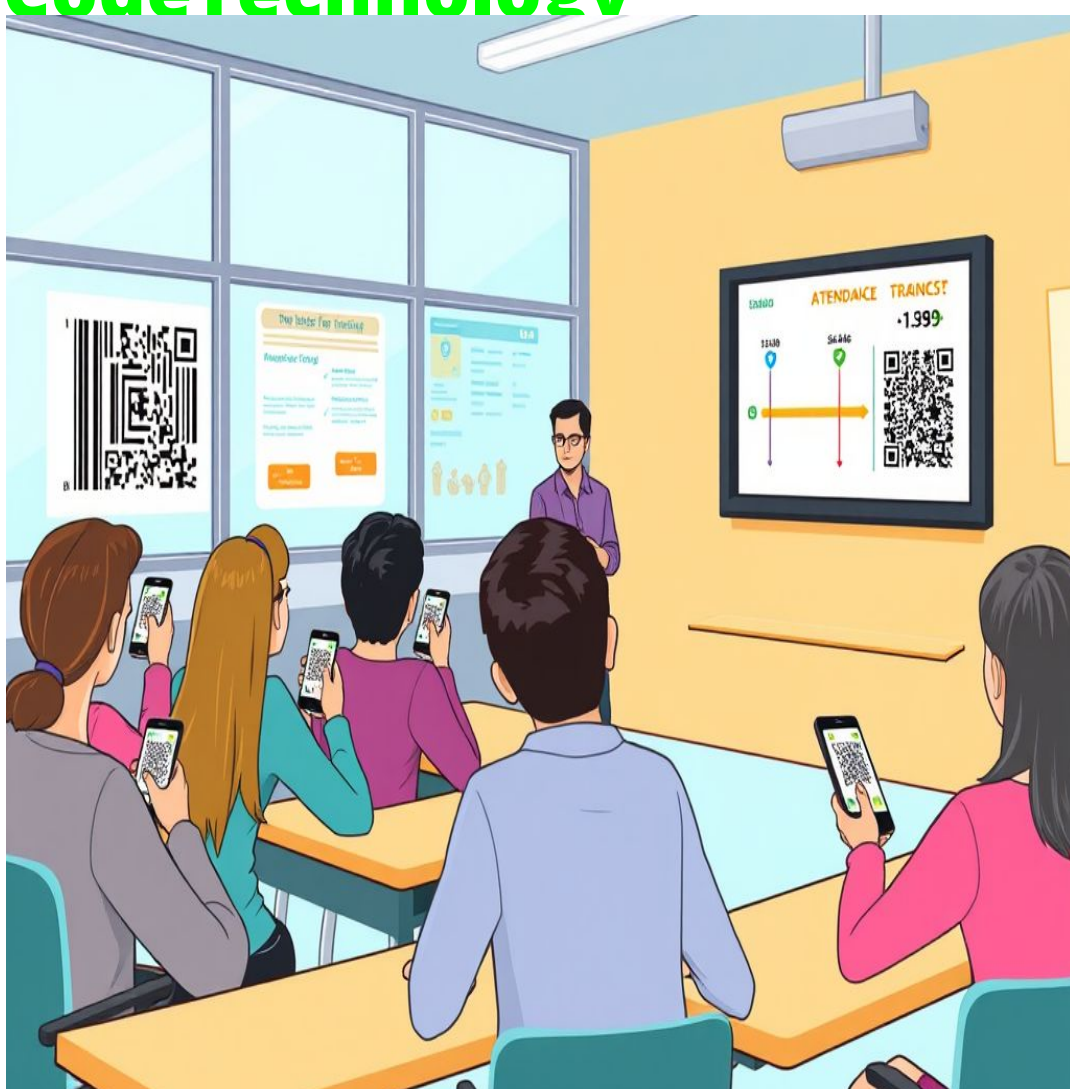


Figure 3 Fingerprint Technology



Design & Implementation

This project follows a phased, Agile methodology to ensure a thorough evaluation. The core of our investigation is a comparative analysis framework that scores each technology based on key criteria established from existing literature [1].

Related Work

This study is informed by existing local technology implementations. Fingerprint biometrics have been successfully integrated for security by the Zambia Army [2], and tested for student attendance in the eSchool 360 Program [3]. Furthermore, the commercial availability of biometric hardware in Zambia [4] indicates a feasible supply chain for implementing such technologies.

Bibliography

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