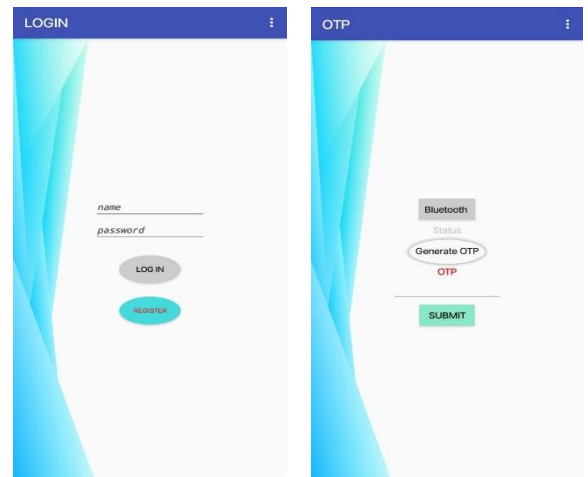
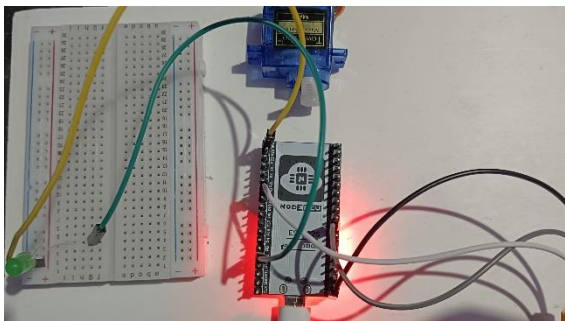


IOT BASED LOCKING SYSTEM USING OTP GENERATING SOFTWARE

ABSTRACT

Security is a major concern in today's digital world, and traditional locks are vulnerable to unauthorized access. This project presents an IoT-based locking system that enhances security using OTP verification over Bluetooth. The system uses an ESP-32S V1.1 microcontroller to generate and verify one-time passwords (OTP) before granting access. A mobile app (Blue Lock) is used for user authentication and OTP handling. If the OTP matches, a servo motor unlocks the lock and a green LED indicates successful access.



FUTURE ENHANCEMENT

- **Low Power Mode:** Optimize power consumption for longer battery life.
- **Tamper Detection:** Add sensors to detect and alert if the lock is tampered with.
- **Offline Functionality:** Ensure OTP verification works without an internet connection.
- **Dual Authentication:** Require both OTP and a secondary PIN for added security.
- **User Activity Logs:** Maintain a record of lock/unlock events in the app.