**Bangladesh University of Busines & Technology (BUBT)**

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**Proposed By Group**

**“Door lock”**

**Abu Oubaida -18191203020**

**Sahid Alam - 18191203028**

**Md.Atiqur Rahman- 18191203029**

**Shubrotto Kumar Hawlader - 18191203034**

**Akash Kumar Adhikary - 18191203039**

**PROJECT PROPOSAL**

**On “digital keypad security door lock using arduino ”**

**Proposed To:**

**Amir-Ul Haque Bhuiyan**

**Assistant Professor at Dept. of CSE (BUBT**)

**INTRODUCTION :** Door Access System Door access system is a type of control access system which control the opening and closing of the door. It is a system that is implemented on a building to keep the people and assets in the building to be safe from outsiders. The system is usually used during the activity of people entering and exiting the building. The door access system helps to differentiate unauthorized and authorized people as the system only allows the authorized person to enter the building. The door access system has a digital keypad security door lock.

**Objective**

1. To create a door access system using Arduino approach.

2. To test the accuracy of this device.

**Motivation**

The digital door lock system is made up of two important subsystems, which are the hardware subsystem and the software subsystem. The software subsystem is written in C

programming languages using Arduino IDE and uploaded to the microcontroller, which commands the functioning of the hardware subsystem. The hardware subsystem contains

microcontroller, which helps to incorporate the information from the code to the various hardware parts of the digital door lock. In this project, the Arduino Uno microcontroller and the

4x4 matrix keypad are the two main hardware components used.

**feature**

Since keypad and fingerprint scanner is the feature used in this project, therefore coding for these two features are created in the beginning. For fingerprint scanner it includes coding for enrolling and finger test. The output of the keypad and fingerprint scanner will be displayed using the serial monitor before it is displayed though LCD display. After each feature has its own programming, it is then been interface among the features itself. Below is the list of coding developed for this project

1. 4x4 keypad coding

2. 4x4 keypad interface with LCD display coding

3. Password coding interface with LCD display .

**Methodologies**

Often times, we need to secure a room at our home or office (perhaps a secret dexter’s laboratory) so that no one can access the room without our permission and ensure protection against theft or loss of our important accessories and assets. There are so many types of [security systems](https://circuitdigest.com/tags/security-system) present today but behind the scene, for authentication they all relay on fingerprint, retina scanner, iris scanner, face id, tongue scanner, RFID reader, password, pin, patterns, etc. Off all the solutions the low-cost one is to use a password or pin-based system. So, in this project, I have built an **Arduino Keypad Door Lock** which can be mounted to any of your existing doors to secure them with a digital password.

**Limitation:**

1.Forgetfull.

2. **Keep the PIN code safe and the lock clean.**

**3. Limit the PIN Code Length.**

**Advantage:**

1.Convenience of a Keyless System

### 2. Enhanced Durability

### 3. Integration with Access Control Systems