AN IOT ENABLED SMART LOCK FOR ADVANCED HOME SECURITY
An IoT Enabled Smart Lock for Advanced Home Security

About Client:
The client is a mobile app development company based in New York, USA.

Challenges:
Our client proposed us to develop smart lock which should be IoT based and stores data on a cloud with anytime access. Client provided us with a mechanical lock to turn it into a smart lock.

- Client needed a lock which can increase the safety of homes.
- A smart lock which can store the data entrances and exits from the house.
- A smart lock which can be accessed through a mobile application providing keyless entrance.
- A smart lock which holds alternative access ways. Low power consuming locks.
- Tracking and storage of data on a cloud with any time access.

Our Solution:
Prompt worked as per the required need of the client and gave the optimal solution matching within a budget. The smart lock developed and designed by Prompt has the following features:

- Prompt developed an embedded-IoT enabled smart lock which tracks use of a lock.
- It provides locking and unlocking access through mobile app using Bluetooth or Wifi.
- It stores the data of entrances and exits with time and user name on cloud.
- It allows multiple user access to the lock.
- It provides other alternative ways to lock or unlock the lock.

Benefits:
- **Security-Upgraded**: The smart lock watches the number of people coming in and out. It even alarms you if someone tries to open the door in your absence.
- **No keys Needed**: An IoT enabled smart lock has ended the keys related fuss.
- **Bluetooth and Wifi connected**: The smart door are handled through a mobile application. One can connect the app either using Wifi or Bluetooth for locking and unlocking the smart door lock.
- **Multiple-users**: A smart lock offers for multi-user facility, which means 2-3 people can access the lock, but every access will be notified to all the other users.
- **Lock Time recorded**: Every time you use the lock, the timing gets stored in the cloud. It records the timings and stores it on the cloud while providing any time access right.
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- **No editing allowed:** Once the data is lodged, no one can edit it. This assures accuracy and genuinity to the data available on the cloud. You can check the timing and the mobile phone used to unlock the lock.
- **Other Options to Use:** The alternative ways to unlock the door are fingerprint impression and voice recognition (a unique code to speak). All the entries will be stored on the cloud while notifying the other users.
- **Alerts:** It notifies you when someone tries to unlock the door without having access. It captures the image and shares it with all the users.

**Technology Stack:**

- Bluetooth5.0 cypress open SDK
- Wiced Studio IDE
- Cypress Bluetooth5.0 Module
- DC Motor Driver
- Fingerprint Module
- Touch Keypad
- Battery power monitoring
- Android mobile application
- IOS mobile application
- Secure Bluetooth 5.0
- Custom Wifi stack
- CySmart