

SE 3910

Home Security

The Group:

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- Monis Ahmed Khan
- Manthan Kale

Background

A home security system is basically installed in each home to prevent against possible theft. There are many homes that have primitive systems installed and a few of the modern homes are being equipped with high end technologies. Some homes still use simple locks and keys. Security is paramount in houses today, and to achieve this, many latest technologies like facial recognition, fingerprint scanner, pin codes, etc. have been developed.

Team

Kishan Polekar

Team Leader

Data Science minor. Good at speaking, listening, innovating. Loves programming.

Monis Ahmed Khan

Research Lead

Software engineering minor. Loves to explore new things in various fields. Good at preparing things to present.

Manthan Kale

Documentation Expert

Software engineering minor. Senior year. Loves to write and take notes. Good at documentation.

Home Security
Team

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The Problem



Locks can be broken



Keys stolen



Keys duplicated



Face not recognised



Incorrect Fingerprint

Traditional locks can be broken easily.

Thieves can steal your keys.

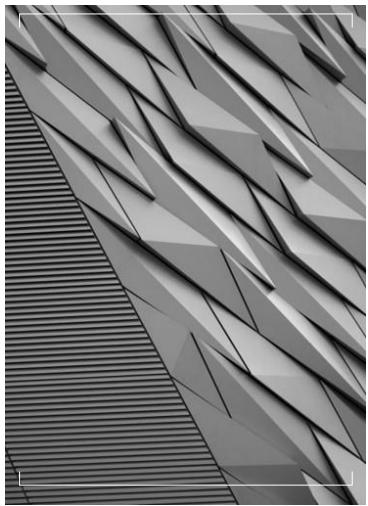
For a cheap cost, many copies can be made for your house keys.

Latest technology can fail and it can refuse to recognise your face.

Your finger might be wet which can result in your biometric not being registered.

Home Security
The Problem

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Solution

In addition to using the latest technology, we can make the house more secure by modifying the existing systems. This would mean updating or replacing some of the things in addition to installing new software and hardware for enhanced security.



Biometrics



Central Locking



Cameras

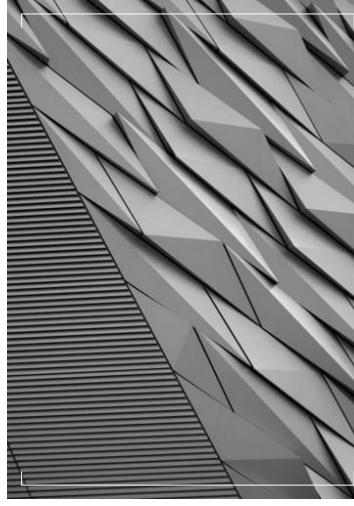
We can use advanced facial, voice, and fingerprint systems that will learn and improve by updating its system each time a registered user is identified.

A manual system can be used to further verify who gets access to what.

Normal cameras can be replaced with cameras that have night and thermal vision that detects any human presence.

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Solution

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Solution (cont.)

Each user will be registered in one of three categories: owner, guest, servant. Owner will have complete access to the house while the other two will have permissions set by the owner. There will also be a vacation mode.

LIVE Feed

Vacation Mode

Break In

A 24-hour feed will be installed around the house that will keep track of people in the house and learn their behaviours.

When the owners are out, vacation mode is used to keep everything safe.

In case of a break in despite of all this, the security system will act accordingly. There are different settings for normal and vacation mode.

Home Security
Solution

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Product

The product will aim at reducing costs of installation by updating already in place systems. It will also require several hardware equipment that are connected to the central security system. A database will be provided to store live feed which can be retrieved anytime. Traditional locks will also be in place in case of emergencies. These will be controlled using a software too.



Home Security
Product

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Product (cont.)

Our product will target customers that live in almost all types of environments. There will be different plans to chose from.



Home

Small homes.



Professional

Small businesses or medium homes.

Advance

Big homes and sizeable businesses.



Premium

Large businesses.

Home Security
Product

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Challenges

Software

At any given time, due to various reasons, software might fail. Some reasons are failing to update, no internet access, etc.

Hardware

Hardware can go bad due to bad weather, tampering, lack of proper care.

Cost & Maintenance

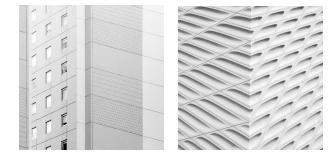
A product like this requires careful planning and a lot of time. It will also need a hefty amount of money for installation as well as maintenance.

Home Security
Challenges

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Our product, in addition to being one of its kind, is also very simple and basic. It will ensure that your house is secure at all times while learning the environment on a constant basis which will minimize the chances of theft.

https://www.researchgate.net/profile/Mohammed_Mynuddin/publication/293173717_Design_and_Implementation_of_Smart_Home_Security_System/links/56b610a608ae5ad360598bfb/Design-and-Implementation-of-Smart-Home-Security-System.pdf?origin=publication_detail



Summary

References

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Summary

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Thank You

