Intelligent Lock System

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INTRODUCTION



PROBLEM STATEMENT



LITERATURE REVIEW

Mechanical Door Looks:

Door Lock Control Based on a





DIAGONSTIC / ANLAYSIS

Fish Bone Diagram

Mind Map



CONCLUSION



REFERENCES

Table of Contents

INTRODUCTION

Benefits of keys

Issue with the keys

Nowadays technology

Different kinds of lock system



PROBLEM STATEMENT

- Losing Keys
- Carrying keys
- Sharing keys
- Breaking Keys
- Copying Keys



LITERATURE REVIEW

- 1. Mechanical Door Locks
- 2. Door Lock Control Based on NFC Technology

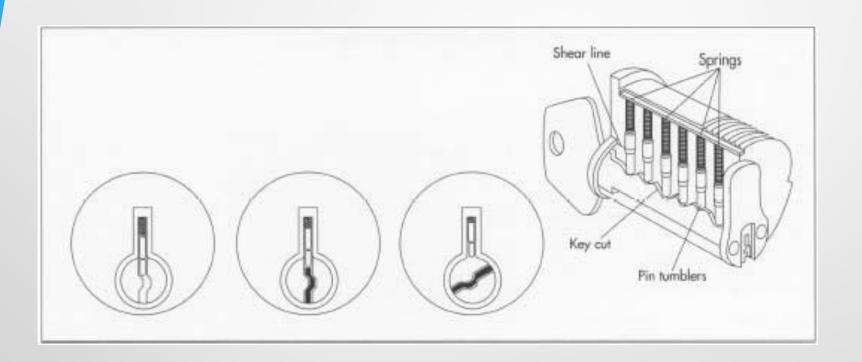




Mechanical Door Looks

• Main components of the mechanical door lock are:

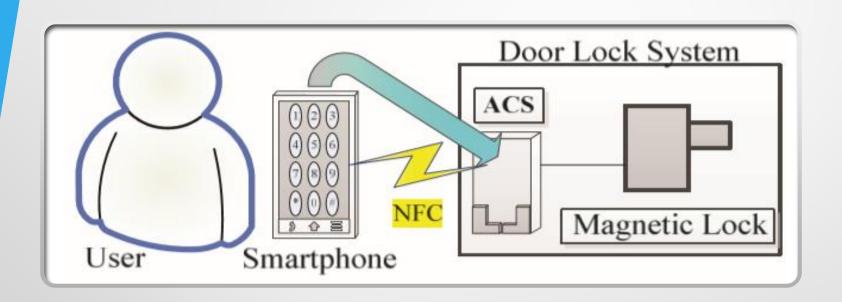
- **1.** Key
- 2. Cylinder
- 3. Bolt



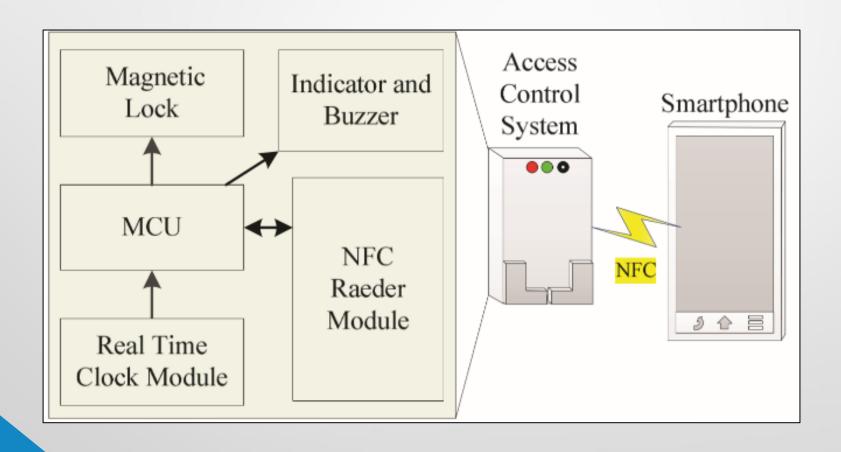
Drawbacks of mechanical door locks:

- 1. No authentication mechanism.
- 2. If key is lost it is difficult to open the door.
- 3. Sharing is not feasible.

Door Lock Control Based on a (NFC)



Hardware Architecture



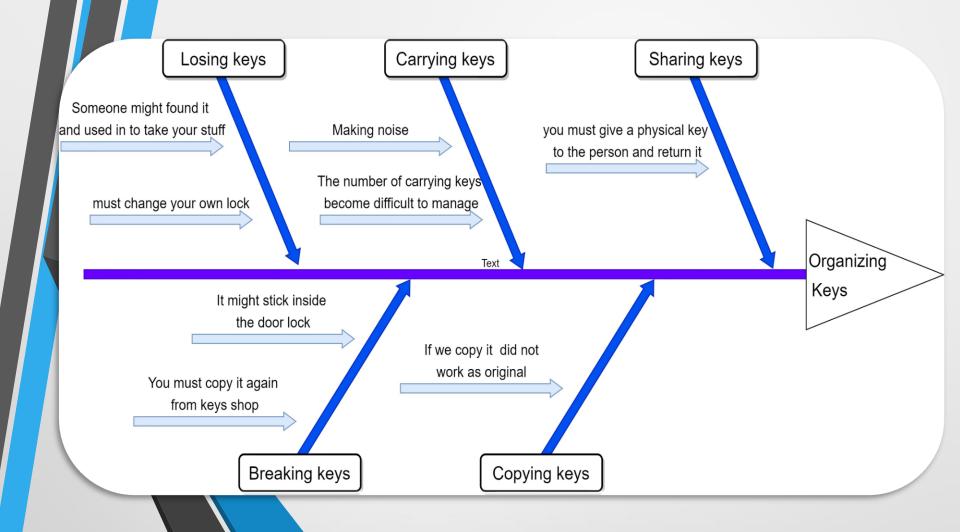
Software Design Implementation

 The design of the software is divided into two modules:

- 1. Smartphone
- 2.DLS operation module

DIAGONSTIC / ANLAYSIS





Fish Bone Diagram

Mind Map





REFERENCES

[1] S. Liao, "Why your brand-new smartphone will scratch just as easily as your old one," *The Verge*, 19-Oct-2018. [Online]. Available:

https://www.theverge.com/circuitbreaker/2018/10/19/17514 174/gorilla-glass-scratch-resistance-google-pixel-3samsung-galaxy-s9-note.

- [2] C. Vongchumyen *et al.*, "Door lock system via web application," *2017 International Electrical Engineering Congress (iEECON)*, Pattaya, 2017, pp. 1-4. doi: 10.1109/IEECON.2017.8075909\
- [3] Madehow.com. (n.d.). *How lock is made making, how to make, used, parts, components, steps*. [online] Available at: http://www.madehow.com/Volume-5/Lock.html.

[4] V. Pandit, P. Majgaonkar, P. Meher, S. Sapaliga and S. Bojewar, "Intelligent security lock," 2017 International Conference on Trends in Electronics and Informatics (ICEI), Tirunelveli, 2017, pp. 713-716.

doi: 10.1109/ICOEI.2017.8300795

- [5] "Smart Lock Market Size, Share, Trends: Industry Research Report 2027," Smart Lock Market Size, Share, Trends | Industry Research Report 2027. [Online]. Available: https://www.grandviewresearch.com/industry-analysis/smart-lock-market.
- [6] N. Saparkhojayev, A. Dauitbayeva, A. Nurtayev, and G. Baimenshina, "NFC- enabled access control and management system," 2014 International Conference on Web and Open Access to Learning (ICWOAL), 2014.
- [7] C.-H. Hung, Y.-W. Bai, and J.-H. Ren, "Design and implementation of a door lock control based on a near field communication of a smartphone," 2015 IEEE International Conference on Consumer Electronics Taiwan, 2015.

Work Distribution

Task Name	Person(s)	Description	Deliverables	Deadline
Gathering sources	Osama, Taqi, Ali.	Read the literature for sources about the problem.	Information fromthe literature.	26/2/2020
Introduction	Osama.	Editing the introduction.	Introduction section of the report.	26/2/2020
Problem Statement	Osama	Write the problem statement	The problem statement	26/2/2020
Diagnostic analysis	Taqi	Prepare the diagrams of the diagnostic analysis section	Fishbone and mind map diagrams.	26/2/2020
Conclusion	Osama, Taqi	Write the conclusion	Conclusion section of the report.	26/2/2020
Appendices	Ali	Prepare the meeting notes	The meeting notes.	24/2/2020