

CHAPTER 17

Smartkey Management

Rozaini bt Rahi, Mohd Zaiham bin Hamzah, Mohd Atifin bin Abdul Jamil,
& Mohd Ashraf bin Mohd Ridzwan *

*Port Dickson Polytechnic, KM 14, Jln Pantai 71050 Si Rusa, Negeri Sembilan,
Malaysia*

Abstract

Smartkey Management is an interesting and innovative project. This project does not only give convenience to the users but the design is modern and it can operate automatically. Usually, the key system used is not effective enough because it uses conventional method. With this project, users can use it easily and it can prevent key loss and also save users' time. Users only need to key in their ID on keypad provided and select the key that they want to use, the servo lock will automatically open and they can take the key. Users also can know which user is using the key or has not returned the key only by watching the LCD display. Overall, this project provides one key management systems which is smart, effective and time-saving.

Introduction

Every educational organization would deal with key management. Classrooms, lecture halls and computer labs are locked because of the LCD projectors and other valuable asset placed in the respective locations. The importance of systematic and effective key management is to make sure the key does not go missing and is in place when other users want to use. According to Treasury Instruction 129, 130 and 135 (2008) we can conclude that the management of good lock system will produce a safe and conducive condition. Secure conditions will produce a harmonious working environment, thus further improve the quality of service. This excerpt below is an example of a conversation among a group of people in What's App regarding key loss.



Fig. 1: An example of Conversation in What's App group regarding key loss in Port Dickson Polytechnic (PPD) and Polytechnic Malacca (PMK)

From the conversation, we can see that the conversation took place as nobody knows or able to trace the last person who used the key. Based on the situation mentioned, a system should be developed with features that can identify the last user who had the key and how we could be in touch with that individual.

Problem Statement

Among the problems that are often encountered in the use of the same key is: -

- i. The user does not return the key to their original place after use.
- ii. Often they lose the key, especially when involving the use of key late in the evening (last class).
- iii. Other users do not know the individual who was using the key or individuals who have used it last when the key is not returned to its original place.
- iv. Irregular lock storage system.

The difference between the existing systems with Smartkey Management

There is the differences of the existing system with Smartkey Management. The figures below show the comparison of key systems that exist in PPD and PMK with Smartkey Management.

The use of Smartkey Management also saves space because it does not require large space as compared to conventional key management system. Perspex use also makes it more beautiful, Neat And Transparent. It Also Saves Time Because Users Can Find Out Who Is The Final User Using The Key. Smartkey Management is easy to use and it is able to deal with the problem of lost keys and saves time.



Fig. 2: Key Box and name tags used in PPD



Fig. 3: Key Box and name tags used in PMK

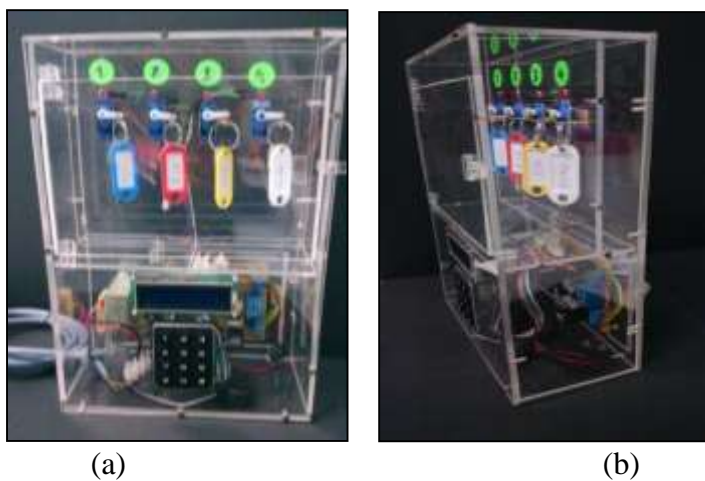


Fig 4 : Smart Key Management from front view (3 a) and rear view (3b)

Element Of Inovation

There are five elements implemented in innovation of Smartkey Management. The element of innovation is accuracy of information, security, user friendly, easy to upgrade and giving time allowance to change consumers' attitudes.

Element 1: Accuracy of information

Users can find other users who have yet to return the keys by referring to the LCD display only.

Element 2: Security

Only registered users can access this system because each user is given different PIN number.

Element 3: User friendly

Users can use this system by following the simple instructions on the LCD display.

Element 4: Easy to upgrade

This system can be improved by increasing the number of keys and change the program.

Element 5: Giving time allowance to change consumers' attitudes

Consumers should return the keys taken at the right place, or the name of the user who has not returned the key will not be deleted.

Conclusion

Project Smartkey Management can definitely create a harmonious working environment as users are not only able to trace the person who last used the key but also to reduce the feelings of anger that lead to frustration when the keys are not found when needed. Key loss problems and difficulty to trace who did not return the keys is a major problem when it involves the use of the same key. Hence, this project is proposed to solve problems internally within the organizations. In short, this project provides a smart, effective, time-saving and environmentally friendly key management system for every user in the educational organization..

References

- Arahan Perbendaharaan (2008). Arahan Perbendaharaan 129 (Penyimpanan Anak Kunci), 130 (Kehilangan anak kunci) dan 135 (Anak kunci ganti bagi peti Besi, peti atau bilik kebal) . Percetakan Nasional Malaysia Berhad Kuala Lumpur. Pp 58 – 61
- Peraturan Keselamatan Kunci Dan Penggunaan Ruang. Retrieved from <http://registrar.utm.my/security/panduan-tips/peraturan-keselamatan-kunci-dan-penggunaan-ruang/>

- (2015). Secure Larger Objects with SmartKey® Lockers. Retrieved from <http://www.morsewatchmans.com/product/smartkey-locker-systems/>
- (2016). The Smart Key System. Retrieved from <http://securitykeysystems.com/products/keybank-auto-key-control-system/the-smart-key-system/>