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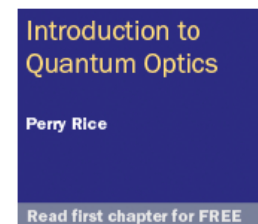
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Effectiveness of E-Learning Approach to Contextual Teaching and Learning in Improving Students 'Ability

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Face to Face Learning vs Blended Learning vs Online Learning (Student Perception of Learning)

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The development of blended media learning through google classroom to support teaching and learning in IAIN Takengon

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Jasiah, Arif Rakhman, Ardian Arifin, Riana Safitri, Indra Perdana and M. Khaidir Abdul Wahab

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Rima Rostyawati, Zulherman and Desvian Bandarsyah

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BCM PIN Read Conversion Application on Intelligent key Vehicle registration on Android Based

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Abstract. Intelligent-key registration is a process of registering smart remote vehicles so that the vehicle security system is not misused. The application of the conversion of pin-read BCM has been designed to run on android with a smart device that uses the media app developer inventor. This application made to allow intelligent-key registration was a conventional stage in registration in the process. But, using this application registration intelligent-key so more efficient and effective. Developed with an evolutionary prototyping method of development. With a model test in testing and behavior of testing was definitely black box uml. An application that is built enough to fulfill its sales target in the spare part, help when processing intelligent-key registration, and easily used for emergency service.

1. Introduction

In today's era of rapid technology, vehicle keys and remotes are increasingly being used and are more sophisticated (intelligent-key). One of the services carried out by the vehicle service department is registering or registering the vehicle key and remote if the customer complains that the vehicle key/remote is lost and or damaged. Android is a mobile operating system based on the Linux kernel developed by Android.Inc and later acquired by Google [1]. is a set of blocks containing commands for branch functions, loops, variables, arrays, and several classes that function as the Public Static Class, so we can immediately use these methods without needing instantiation (creating objects) first. When viewed from the available components, AI2 is sufficient for building complex applications [2].

Creating an Android application requires an IDE such as Android Studio, Eclipse, App Inventor, and many more. Here the author uses a block-based programming IDE, App Inventor 2 (AI2), which is the second generation IDE from App Inventor managed by the Massachusetts Institute of Technology (MIT) [3]. Java is known to have the motto "Write Once, Run Anywhere". This shows that any program code written in Java can be directly run on different platforms without the need to rearrange [4]. Intelligent Key utilizes antennae that transmit signals between the car and the key, and a tuner that receives the signals. Pressing the Request Switch transmits a signal from the car antenna, and the key that receives the signal then automatically returns a signal. The car tuner receives this signal and then locks or unlocks the vehicle [5]. Visual modeling for object-oriented system design tools, or the definition of UML, is a language that has become a standard in visualizing, designing, and documenting software systems. Currently, UML has become the standard language in writing blueprint software [6].



Adding sensors and modules such as face detection recognition sensors or iris scans [7] Therefore, Smart Door Lock research can be categorized as an Internet of Things based system. In the implementation of the system, buttons are used as manual controls for the process of opening, and locking the Smart Door Lock [8] uses the C ++ based CodeBlock programming language for simple technical encounters of engineering design. This research is taken from many references that helped me in studying this journal assignment [9][10]

2. Methodology

The software development life cycle starts with the development of the project plan, then a quick analysis is carried out, after which the database, user interfaces are created, and the necessary functions are developed. As a result of this work, we have obtained a document that contains some of the requirements specifications for the software product. This document is the basis for a rapid prototyping iteration cycle [11]. The development of the Pin-Read BCM conversion application uses the Prototype model. The prototype model used in the development of this system is the Evolutionary prototype model, that is, a prototype that is continuously being developed [12].

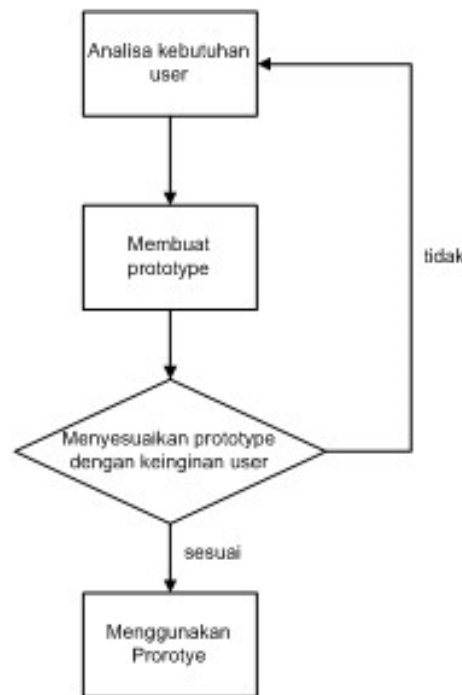


Figure 1. Evolutionary Prototyping Model

The method used in designing a prototype for this Pin-Read BCM conversion application is a flowchart and is described previously in the system architecture. Where the system architecture explains how the Pin-Read code is obtained and will later be processed into a special code that functions to assist in the new intelligent-key registration process stage. Before going further into the system architecture, we need to understand how the vehicle Scantool system will take the Pin-Read code on the BCM module.



Figure 2. Data Communication Consult 3 with v12 using Bluetooth connection

Explanation of the image above:

1. The user opens the application to convert the pin-Read according to customer complaints regarding the damage/replacement of intelligent-key vehicles.
2. The application (on the device) retrieves a read-pin code that will be converted from the BCM that has been read by the scan tool via Bluetooth / USB or manually typed by the user.
3. Scantool is in charge of reading the pin-read code directly from BCM via the Vehicle Interface-2 connection via Bluetooth. Also functions to register new intelligent-keys.
4. BCM and Intelligent-key are the two objects that will be synchronized via the vehicle's Security System / Anti-theft System.

The principle of Scantool Consult III plus is simple. The scanner gets number codes in the form of binary numbers (0/1) sent by the ECU, then the scanner translates the codes into numbers, graphics, and so on.

3. Result and Discussion

Architecture in the design of the system to be built, where the first time the user will be faced with an Android-based user interface, as in the picture in this below:



Figure 3. Application System Architecture

The picture above can be explained as follows:

1. The user opens the application to convert the pin-Read according to customer complaints regarding the damage/replacement of intelligent-key vehicles.
2. The application (on the device) retrieves a read-pin code that will be converted from the BCM that has been read by the scan tool via Bluetooth / usb or typed manually by the user.
3. The scan tool is in charge of reading the pin-read code directly from BCM via the Vehicle Interface-2 connection via Bluetooth. Also functions to register new intelligent-keys.
4. BCM and Intelligent-key are the two objects that you want to synchronize via the vehicle's Security System / Anti-theft System.

Henceforth, the system will describe how the system runs by modeling it into a flow chart as follows:

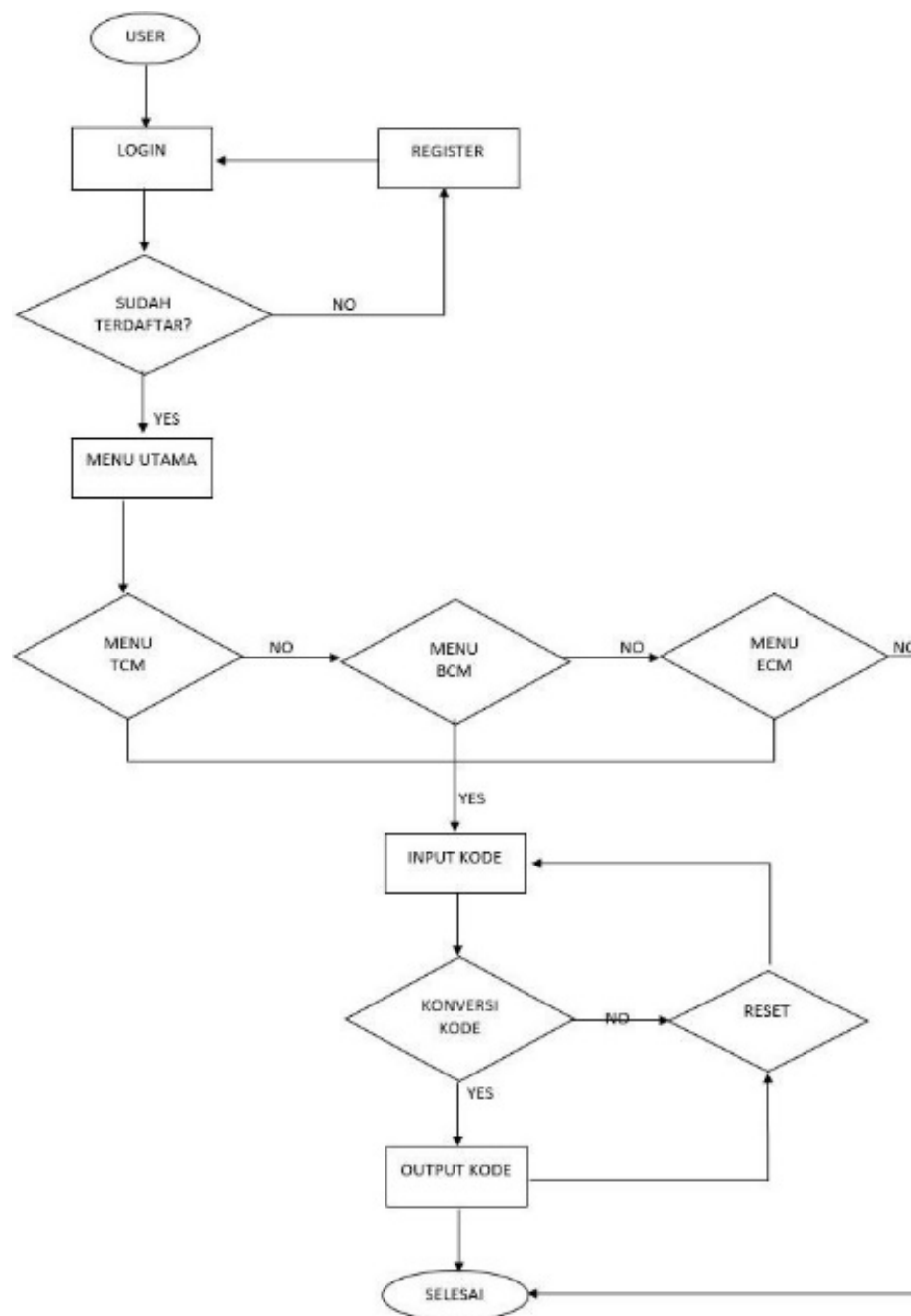


Figure 4. Flow Chart System

At this stage the system can be explained as follows:

1. Users must log in first to use the application. If the login is successful, the main menu will appear. However, if the user does not have an account, the user must first register at registration. After that, the user can try to log in again.
2. When the user has finished logging in, the main menu will appear. In this menu, the user can select the menus in this application.
3. If the user chooses to open the TCM Menu, the user can go to TCM Pin-Read Conversion. In this TCM Menu, the user can convert the TCM pin-read code.
4. If the user chooses to open the BCM Menu, the user can go to Pin-Read BCM Conversion. In this BCM Menu, the user can convert the BCM pin-read code.

5. If the user chooses to open the ECM Menu then the user can go to ECM Pin-Read Conversion. In this ECM Menu, the user can convert the ECM pin-read code.
6. In the Menus above there is a reset button, if after conversion the user clicks the reset button, the code and the output will be blank as before.

Software testing using the UML behavior model can determine the quality of the software in the system being built. This UML Behavior Model is divided into several diagram parts such as use case diagrams, activity diagrams, and sequence diagrams. The following applications will be tested accompanied by several diagrams.

The tester diagrams used with the UML behavior model are derived such as use case diagrams, activity diagrams, and sequence diagrams. The following is the tester diagram that is provided

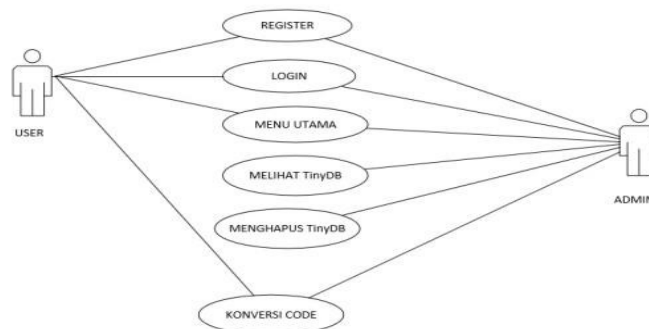


Figure 5. Use Case Diagram

From the use case image above, it can be explained how the use case scenario is.

1. In the use case diagram above, it is illustrated that when the user first opens the application, the user interface immediately displays the Login page in which there is a Register page shortcut which if selected will open the Register page.
2. The second case is the Register page, the user wants to open the application by entering the user id and password, but cannot. The solution. Users must select the Register Page shortcut in the column below the Login button.
3. After entering the page Register, the user is required to input personal data in the form of User Name, User ID, and Password. After everything is successful, user input is required to select the save button so that user data is stored in the application.

4. Conclusion

The Pin-Read BCM conversion application that was built can mostly help the key and remote registration process (intelligent-key) more efficiently and effectively by using android media as a pin-read code conversion tool obtained from the Consult tool 3. Pin-Read Conversion App BCM is built to support the use of emergency service when customers need service at home or an emergency. For example, if a customer complains that the intelligent-key is missing or has an error while in a certain location, then using this application can simplify the process of registering a new intelligent-key if it is lost, or registering. reset for intelligent-key errors at the customer's location (emergency).

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