UNIVERSITI TEKNIKAL MALAYSIA MELAKA

FAKULTI TEKNOLOGI MAKLUMAT DAN KOMUNIKASI

BITM 2313

HUMAN COMPUTER INTERACTION

FINAL PROJECT

TITLE:

AUTOMATIC TELLER MACHINE (ATM)

LECTURER:

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INTRODUCTION

Automatic teller machine is a computerized machine that permits bank customers to gain access to their accounts with a magnetically encoded plastic card and a code number. The system allows the customers to perform several banking operations without the help of the teller, such as to withdraw cash, make deposits, pay bills, obtain bank statements, and effect cash transfers. It is also called as automated banking machine, automatic till machine or remote service unit.

The automatic teller machine consists of mainly two input devices and three output devices. The input devices are card reader and keypad. The card reader mainly functions to read data from a card. The keypad is use when the user needs to key in the details such as pin number and for menu directions and selections. The output devices are display screen, receipt printer and cash dispenser. Display screen displays the transaction information. The receipt printer prints all the details recording the withdrawal, date, and time of withdrawn and shows the balance of the account on the receipt. The cash dispenser will count each bill and give out the required amount of money.

As for our project, we are going to study the current existing ATM and redesigning the prototype of the new one considering its position, arrangement, function, and the user interface design. We should consider a user-friendly ATM such as features in terms of software and hardware that support the disabled people to use it.

To conclude, this project is designed to boost the automated teller machine to be more efficient in many aspects. Besides, we take this opportunity to apply the Information and Technology skills that we have learnt before to the system so that the system could meet the objectives that we created.

OBJECTIVE

1. To design an enhancement of ATM machine
2. To develop an ATM machine simulator
3. To test an enhancement of ATM machine

PROBLEM STATEMENT

A functional and user friendly automatic teller machine are really important features that need to be considered in building and designing it. As from the research that we have made, most of the ATM still got lack here and there. It should be improvised. So, we are looking forward to accomplishing it. The problem statements are as follow:

- **There is no security in terms of accessibility of the automatic teller machine.**

  Most of the existing automatic teller machine are lack of security whenever the customers want to access it. Currently, the customers are just using a card and they just need to enter the pin number for them to be able to access to their account details. We should think deeper in case if the card has been stealing and the person who stole the card can simply enter the original user's pin number. Is it secure enough? Therefore, we are looking forward to implementing a biometric accessibility to the ATM so that it is more secure.

- **The automatic teller machine has an improper user interface.**

  Some of the ATM that we analyzed have an improper design interface. The menu selections are not well organized. This might cause the customers to consume more time for them to study and understand the flow of the system implemented at the ATM. Therefore, we are going to create a more organized and easy to understand menu selections so that it can reduces the time taken for the customers to do their businesses.

METHODOLOGY

In developing ATM machine, the system uses methods of system development life cycle (SDLC) that is the waterfall model. The first phase of the SDLC is planning. In this phase, the first make a discussion with a team member about the final project. The developer also thinks about the problem that is going to face while developing the ATM machine. The developer also determines the sources that need and scope of the system and produce a specific plan for this project.

The second phase is analysis. Developer gather requirement for this project by interview, questionnaire and gather operating use documents. The developer also got to gather the operating use document from the previous ATM machine. After gathering the requirement, developer

observes the system. In this phase developer also produce a report for the system. Then, developer studies the requirement and the structure of the system and make a comparison of compatible hardware and software for the system.

The third phase is the design. During this phase developer convert the description of the recommended alternative solution into logical and then physical specification. The developer also designs all aspect of the system from the input and output process. The developer creates the module and produces a prototype for the system.

The fourth phase is implementation. This phase is where to turn the system specifications into a working system that is tested and then put into use. Implementation includes coding, testing, and installation.

The last phase of SDLC is maintenance. Maintenance is the longest phase in SDLC. In this phase have four major activities. First is obtaining maintenance request that is receiving a request for changes in the system. Second is transforming the request into changes, the third is designing the new changes and the last one is implementing the changes that are testing the new changes.

LITERATURE REVIEW

ATM machines are used to facilitate users to make transactions such as withdrawing money and transferring money to other banks. Additionally, users can also pay bills and save money to their own banks via ATMs.

To renew existing ATMs to more sophisticated to facilitate and save users time. Users only need to scan cards and use finger as a password. In addition, users can make transactions such as withdrawing money or transferring money to other banks. Next, the user can continue to transfer money using the same ATM as entering the account number and selecting the bank to transfer money to make the transaction. It can also make bill payments because the ATM can be used as a machine to transfer money.

This ATM is safer because it has more secure security features like card and finger to scan as a password. If the card is missing the user does not need to worry because if using the card only the ATM will not receive it as a password. With this ATM, users can perform various transactions without having to waste time by going to another bank to make money transfer and so on.

DEVELOPMENT DESIGN

STORYBOARD

First screen of Red Bank

Figure 1: First screen Red Bank

To choose the language screen

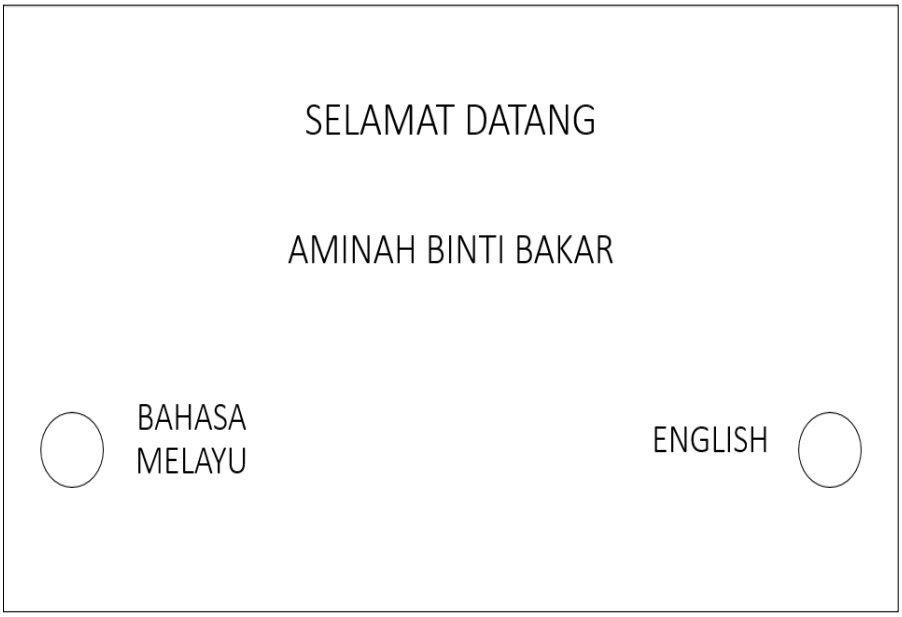


Figure 2: Second Screen

To choose the option

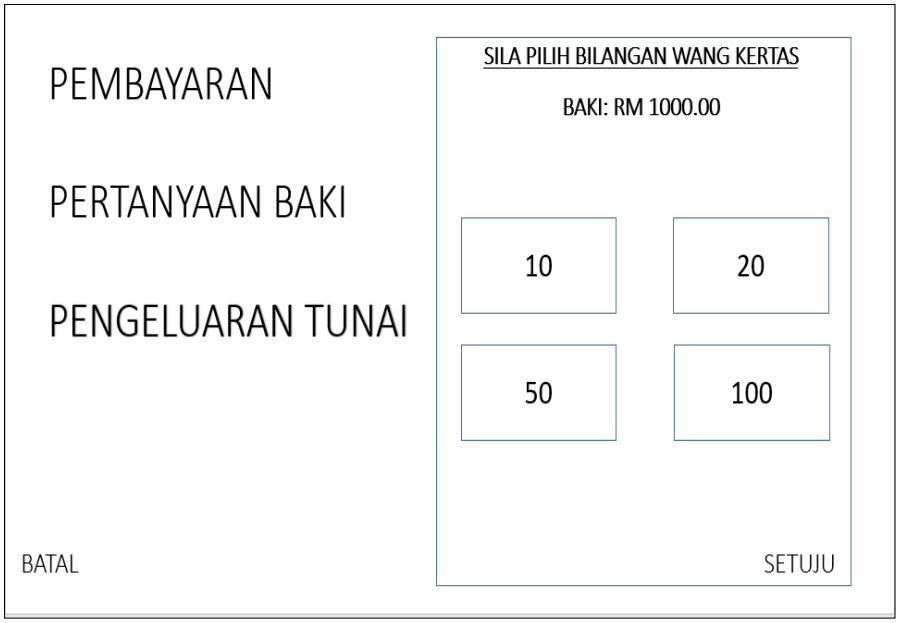


Figure 3: Third Screen

Confirmation screen to received receipt?

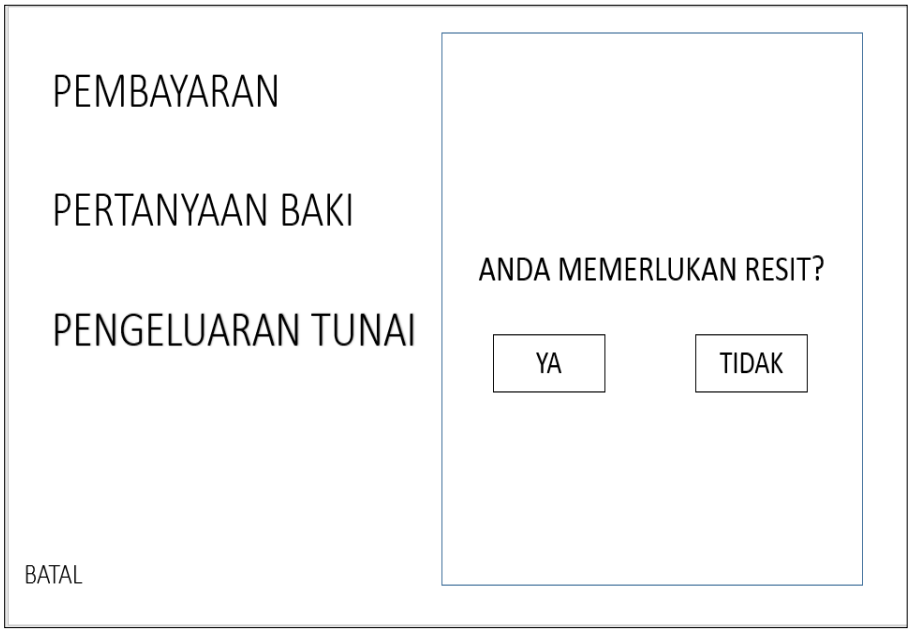


Figure 4: Fourth Screen

Confirmation screen to continue the transaction?

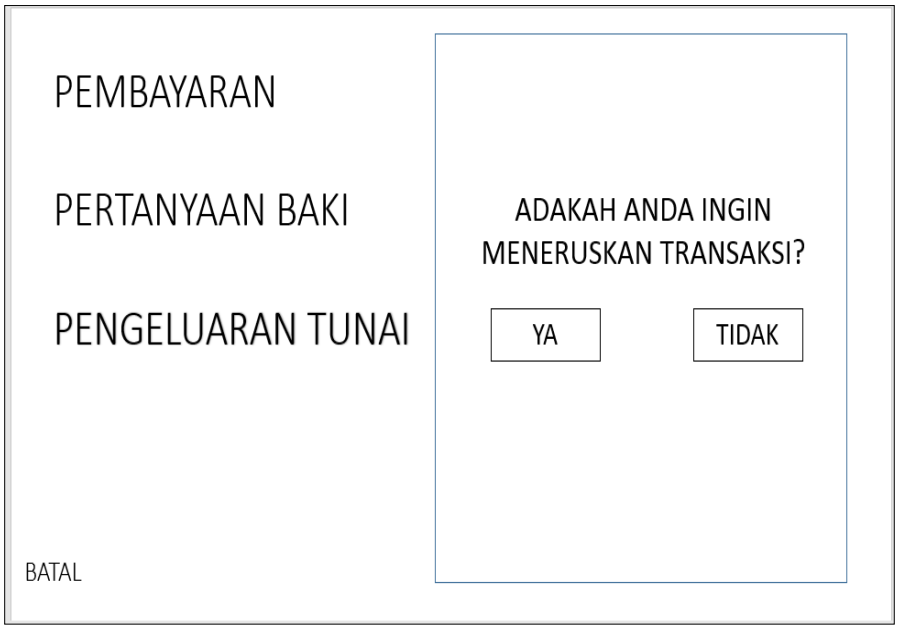


Figure 5: Fifth Screen

Screen show check balance

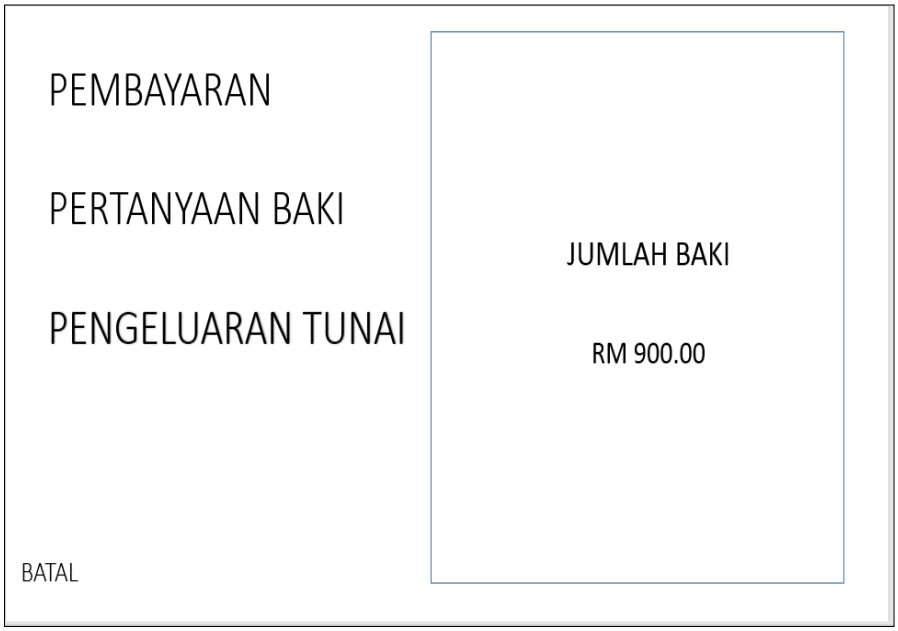


Figure 6: Sixth Screen

Confirmation screen to continue the transaction?

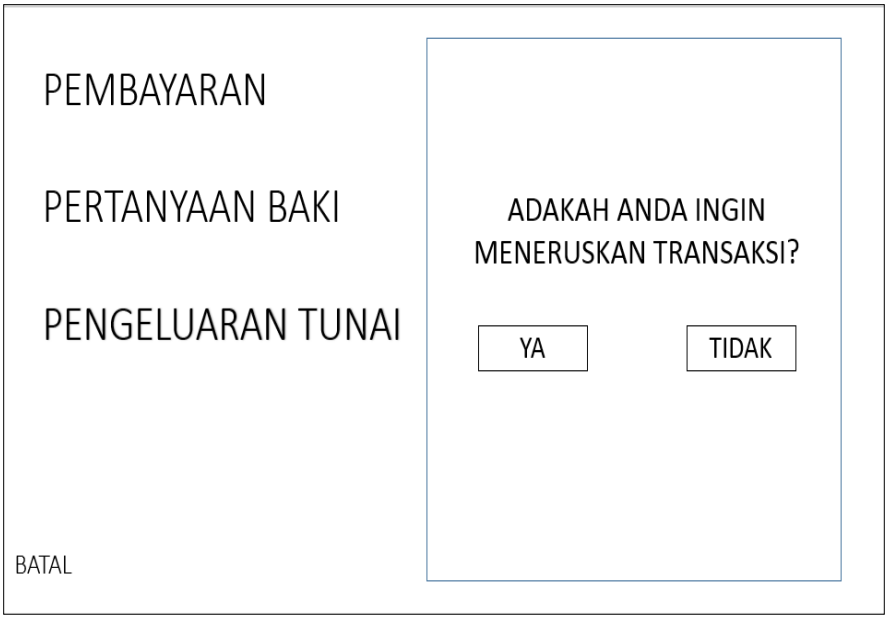


Figure 7: Seventh Screen

Last Screen Thank you.

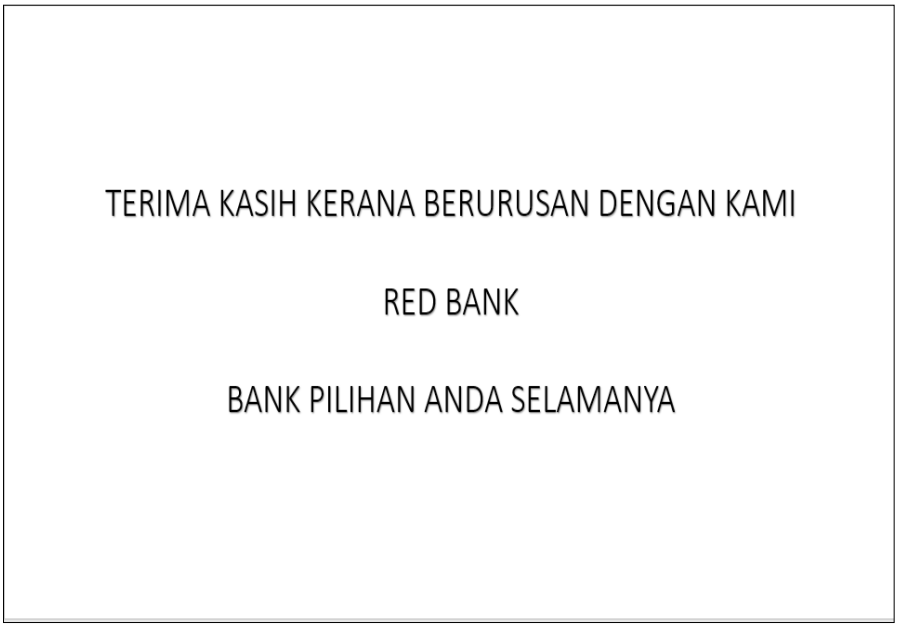


Figure 8: Last Screen

User Manual

Step 1: Touch your finger on the screen. Has been Verified.

Figure 9: Intro Screen

Step 2: Choose language. Malay language.

Figure 10: Welcome Screen

Step 3: Select withdrawal. Select how much money to withdraw. Press the button YES. Take the money.

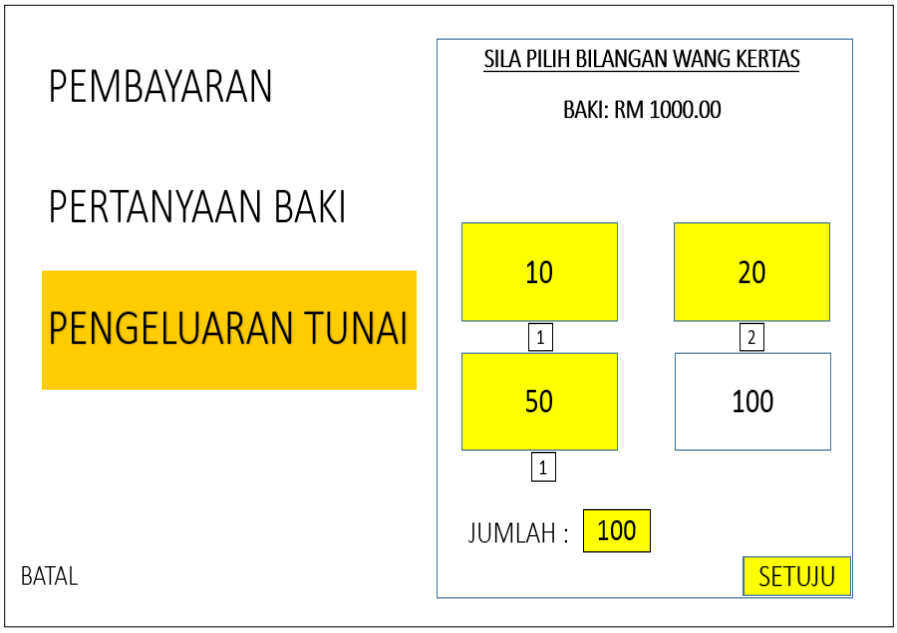


Figure 11: Withdrawal Screen

Step 4: If you want the receipt press YES.

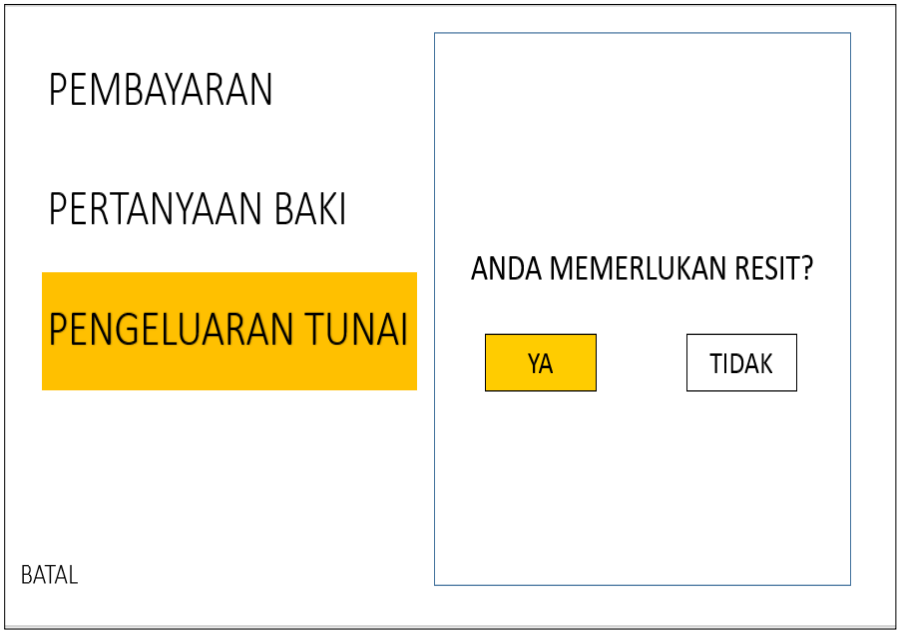


Figure 11: Confirmation Screen

Step 5: If you want to continue the transaction press YES.

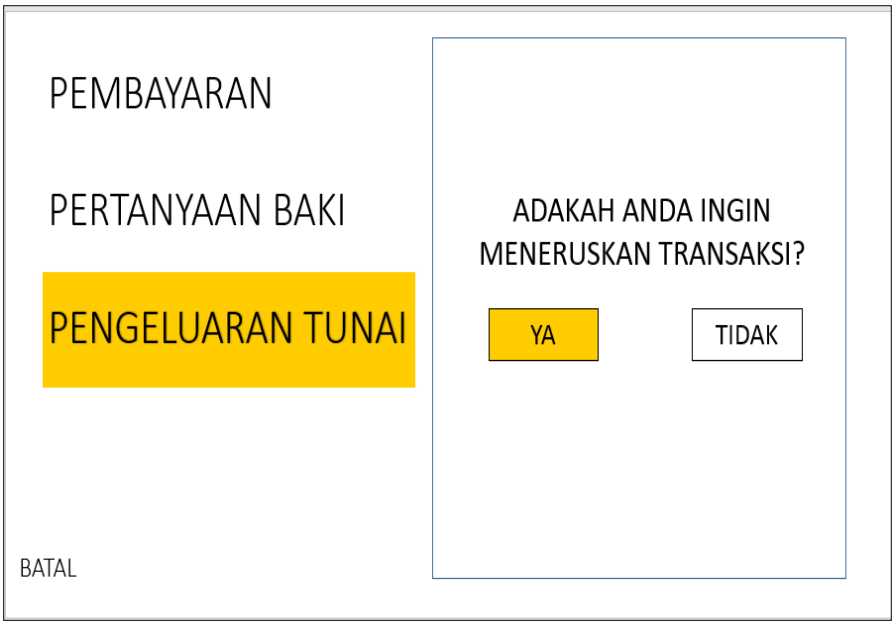


Figure 12: Confirmation Transaction Screen

Step 6: Select balance inquiry. Total balance in your account after withdrawing.

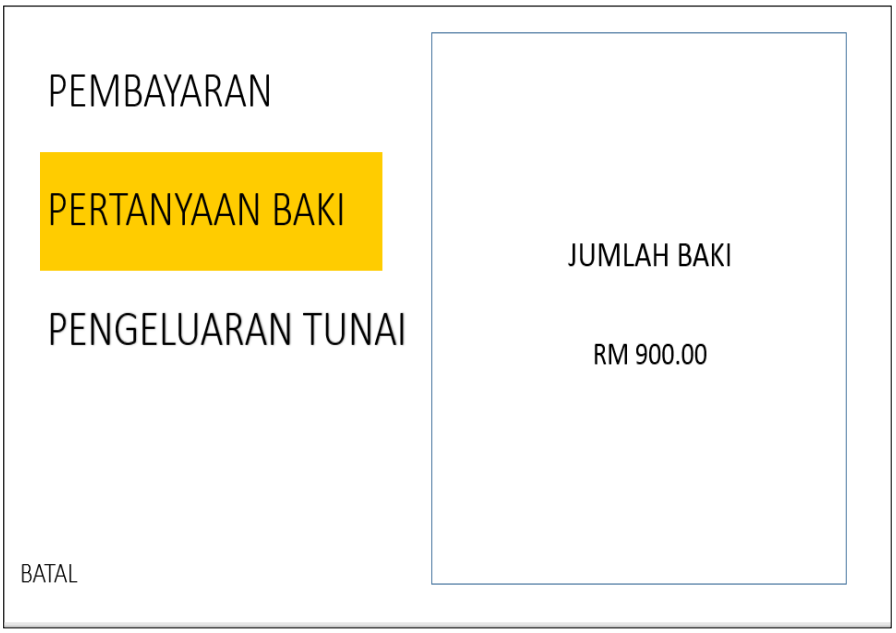


Figure 13: Check Balance Screen

Step 7: If you do not want to continue the transaction press NO.

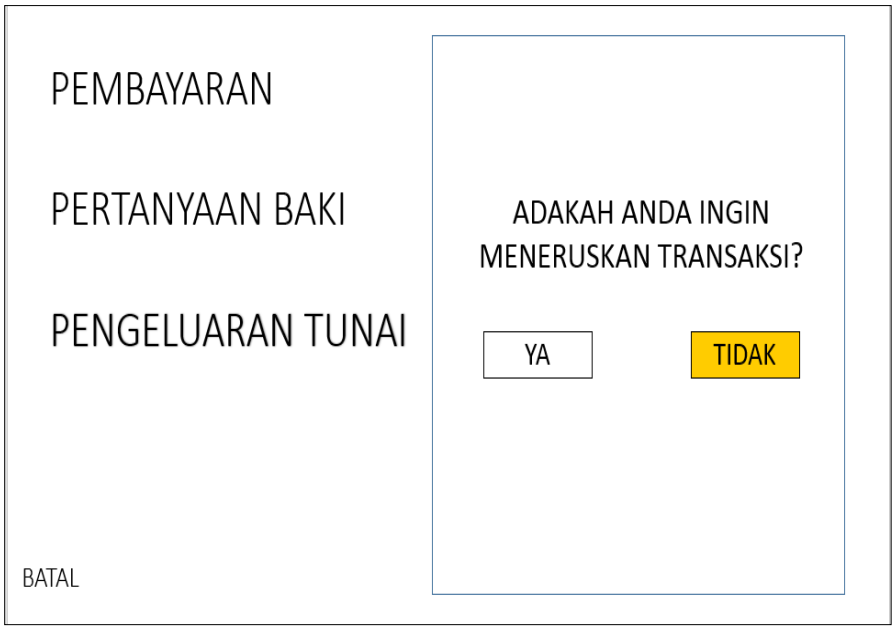


Figure 14: Confirmation Transaction Screen

Step 8: Thank you for dealing with Red Bank.

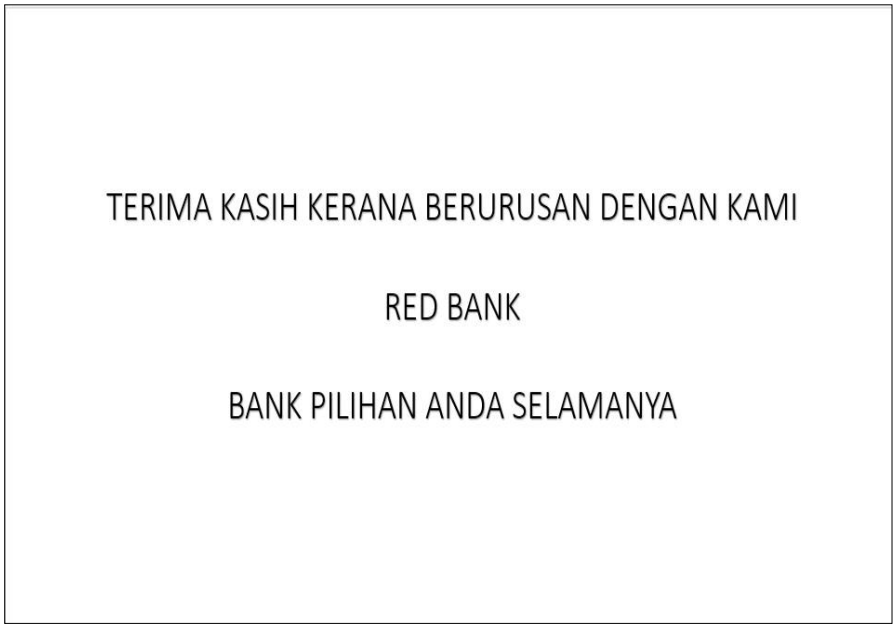


Figure 15: Closing Screen

DATA ANALYSIS

The total number of respondent that participate in the survey are 20 people and their response are divide into two section which is section A information about user and section B recommendation.

Section A: Information About User

Question 1: Gender of respondent involved.

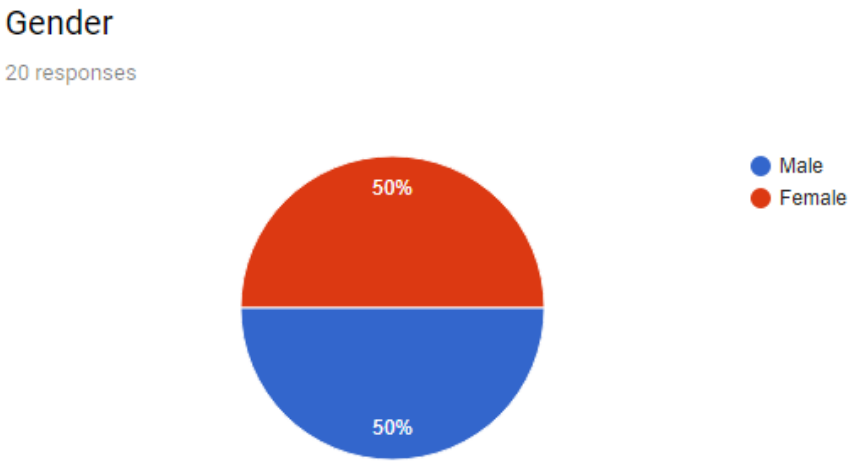


Figure 16: Gender

From figure 16, it stated that 20 responses involved in the survey about "User experience of ATM" that had been carried out. Besides, the result responded between male and female are balance which is 50% male and 50% for female.

Question 2: Age of respondent involved.

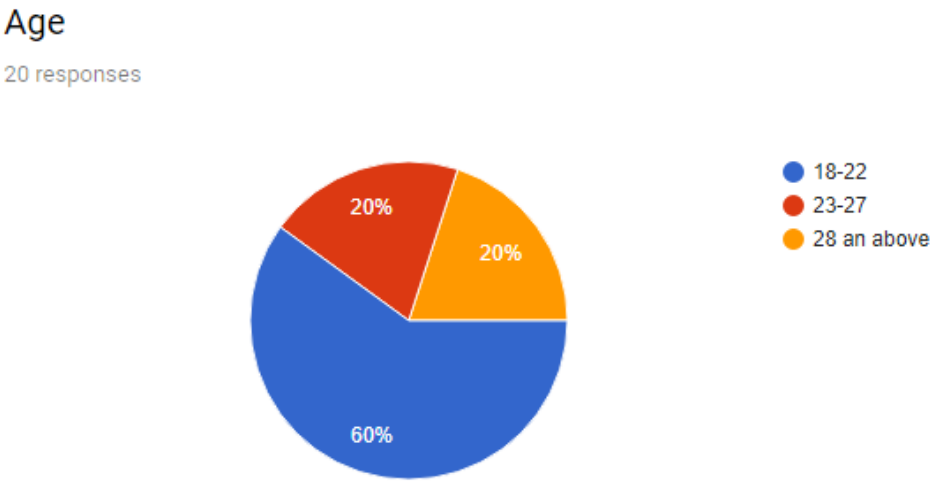


Figure 17: Age

From figure 17, 60% of the respondents are age in range 18-22. However, we can see that from the result the age in range 23-27 and 28 an above are almost the same respond which is 20%.

Question 3: Do you have an ATM card?

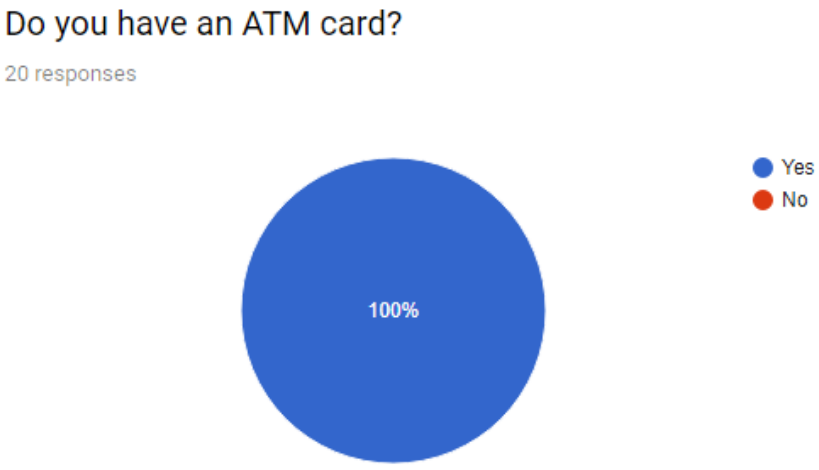


Figure 18: ATM card

From figure 18, 100% of respondents usually have an ATM card.

Question 4: Do you prefer using the ATM rather than going to the Branch?

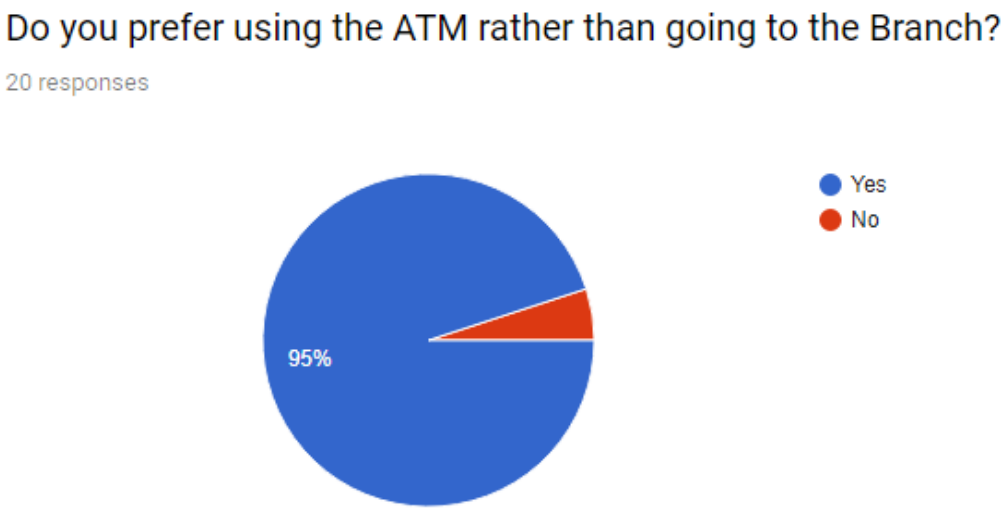


Figure 19: using ATM or going to the Branch

From figure 19, 95% respondents usually agree with the statement that respondents prefer to use the ATM rather that going to the branch. While, only 55 of the respondents are preferring to go to the branch rather than using the ATM.

Question 5: Do you use your ATM card for shopping?

Figure 20: ATM card for Shopping

From figure 20, 75% of the respondents usually used ATM card for shopping. While, only 25% of the respondents are not used ATM card for shopping purposes.

Question 6: if yes, choose your bank ATM card?

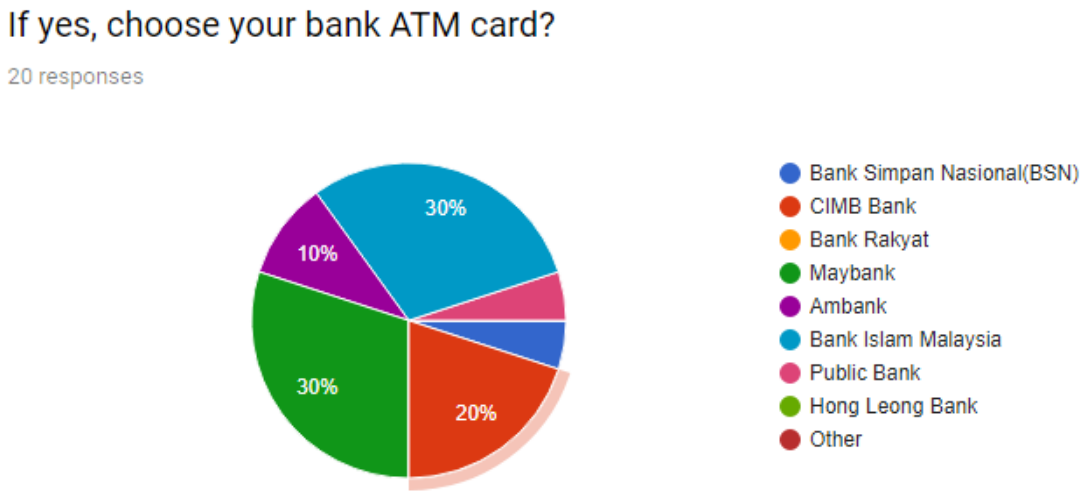
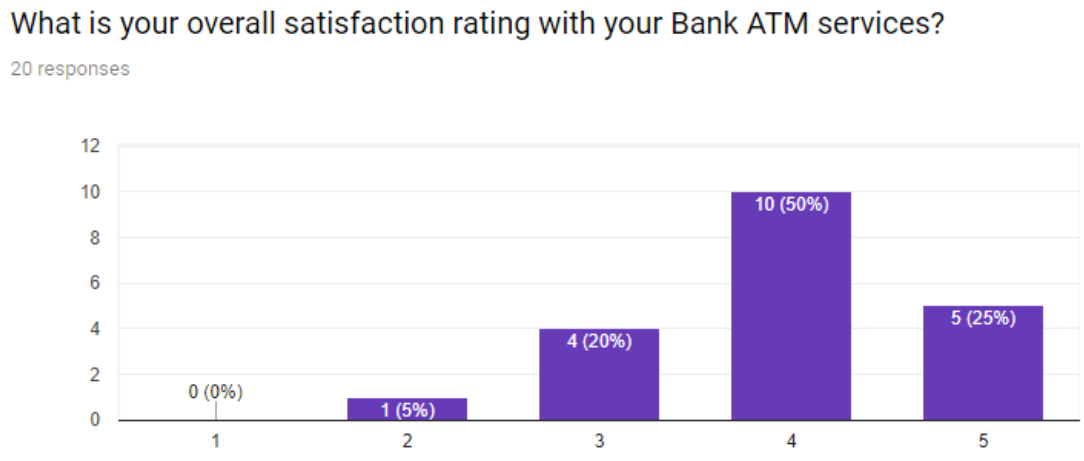


Figure 21: Chosen Bank ATM Card

From Figure 21, 30% of the respondents usually used Maybank and Bank Islam Malaysia as bank ATM card. However, we can see that from the result, respondents also choose CIMB Bank 20% as the bank ATM card with the second-high percentage and 10% for Ambank. While, only 5% of respondents are looking for Public bank and Bank Simpanan Nasional (BSN) as the bank ATM card.

Section B: Recommendation

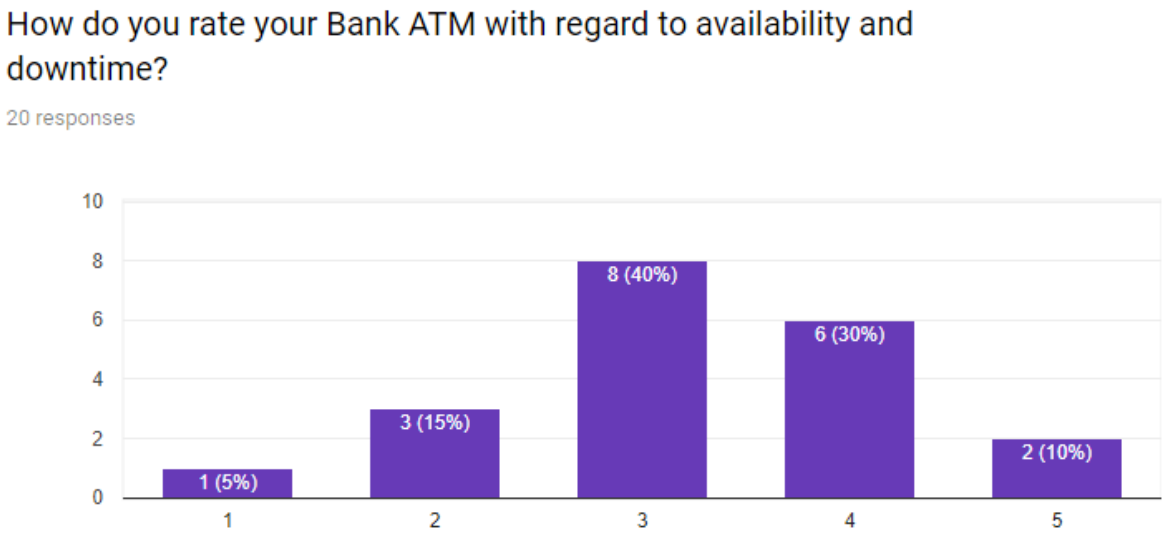
Question 1: What is your overall satisfaction rating with your Bank ATM services



Graft 22: Satisfaction Rating

From Figure 22, shown above, most of the respondent say that they satisfaction rating with Bank services are 4 which is 50% of respondents also second majorly answer satisfaction rating are 5 which is 25% of respondents follow by 3 which is 20% of respondents. Minority answering of satisfaction rating are 2 which is only 5% of respondents.

Question 2: How do you rate your bank ATM about availability and downtime?



Graph 23: Availability and Downtime

From graph 23, it shows that most of the respondents participated are rate average which is 3 which is 40% for availability and downtime also second majorly choose the rate 4 which is 30% of respondents follow by 2 which is 15% of respondents. While only 10% of respondent's rate 5 to availability and downtime. Minority answering of the availability and downtime of bank ATM are 1 which is only 5% of respondent.

CONCLUSION

In conclusion, evaluation by *Jakob Nelson* is a usability inspection method that helps to identify usability problems in the user interface (UI) design. Its specifically involves evaluator in examining the interface and judging its compliance with recognize usability principles. By understanding the Heuristics usability, the development of the machine interface can be more useful and efficient. In this project, we evaluate a machine named Automatic teller machine (ATM) by using this method. After completing the questionnaire, we experienced and learned more about

Heuristics usability. Based on the results, most users are satisfied with this machine interface but there still minor disagreement after all. We can't hope to satisfy everyone's need but based on the suggestion of the mass we will create accordingly. We do hoped that this machine's interface can be improved according to the user's suggestion to lead a better user experience of this machine. This machine can be further improve with the flow of time and the increase in need of users.