

## Money-Money Android Based Application: A Way to Improve Financial Planning

Amelia Lita<sup>1</sup>, Fanggie Giant Iqrimavation<sup>1</sup>, Deztharesta Btari Gayatri<sup>1</sup>  
and Erwin Sutanto<sup>1,\*</sup>

<sup>1</sup>Biomedical Engineering, Universitas Airlangga, Mulyorejo, Surabaya, Indonesia

### ABSTRACT

An application related to financial literacy becomes important to be conceived and made. It is due to the fact that financial literacy is very important nowadays as the economy has grown further. A good financial literacy is necessary for every individual to manage their finances to achieve their goal. Especially those who has limited budget need to manage it in a smart behavior in order to pay the essential living expense, save for retirement and emergency situations, while keeping enjoyable lifestyle as personal choice. This behavior could be achieved through a process that starts in basic calculation from the budget itself. Therefore, to solve that problem, in this work a specific android application that calculate the 50/30/20 budget was built. It is called “Money-Money”. This work also discuss the method, designs, and its application views.

#### Program summary

Program title: Money money 503020

Program obtainable from:

[https://play.google.com/store/apps/details?id=com.web.erwins\\_fst.moneymoney](https://play.google.com/store/apps/details?id=com.web.erwins_fst.moneymoney)

Program source code: <https://github.com/erwins-fst/moneymoney>

Licensing provisions: MIT License

Operating system: Android 4.03 and above

**Keywords:** Financial Plan, Economical Budget, SDLC Method, UML Diagram, Android Application.

### INTRODUCTION

Financial literacy is important to learn especially in Indonesia (Dwiastanti, 2015). This could be understood as the economy has grown further. A good financial literacy is necessary for every individual to manage their finances to achieve their goal. Especially those who has limited budget, individuals

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E-mail addresses:

[amelia.lita@yahoo.com](mailto:amelia.lita@yahoo.com) (Amelia Lita)

[fanggiegiantiq@gmail.com](mailto:fanggiegiantiq@gmail.com) (Fanggie Giant Iqrimavation)

[deztha.btari@yahoo.com](mailto:deztha.btari@yahoo.com) (Deztharesta Btari Gayatri)

[erwin\\_sutanto@fst.unair.ac.id](mailto:erwin_sutanto@fst.unair.ac.id) (Erwin Sutanto)

\*Corresponding Author

need to manage it in a smart behavior in order to pay the essential costs for living, save for retirement or any emergency

situations, while keeping enjoyable lifestyle as personal choice. Managing those three categories could help us in all aspects of finance. Those aspects are like the money management, credit and debt management, saving and investment, and others. For example in the money management, the three categories could help on summarize the amount of money. With a better understanding of financial literacy, individuals will reach their goals faster. This is also shown at (Lantara and Kartini, 2015) where financial literacy among university students is also related to their education levels and academic disciplines.

A way to avoid financial problems is through a good financial planning. Financial planning is a comprehensive approach to evaluate the financial situation of each person now and in the future through integrated management. Financial planning includes budgeting, recording finance, money management, controlling investment, checking financial health conditions, and making a comparison of financial products. It is then advisable to apply the 50/30/20 budgeting rule, an idea coined by Harvard bankruptcy expert Elizabeth Warren with her 50/30/20 (Warren, 2005).

Here in this work, an Android Based Application (App) is designed and built. This is not just a trend of the program, moreover it is more about utilizing Information, and Communication Technology (Haristiani et. al., 2017). It should help us to make a budget on every amount of money which are acquired. It works similarly like a calculator. It helps us to find out the portion only. Then leave the realization to the user. The application is available for downloaded from google playstore. The source code is also made available as open source program so that it can be developed further. It could be accessed through the github open source repository. This android based application could be improved later on to have more features by following the suggestion from users.

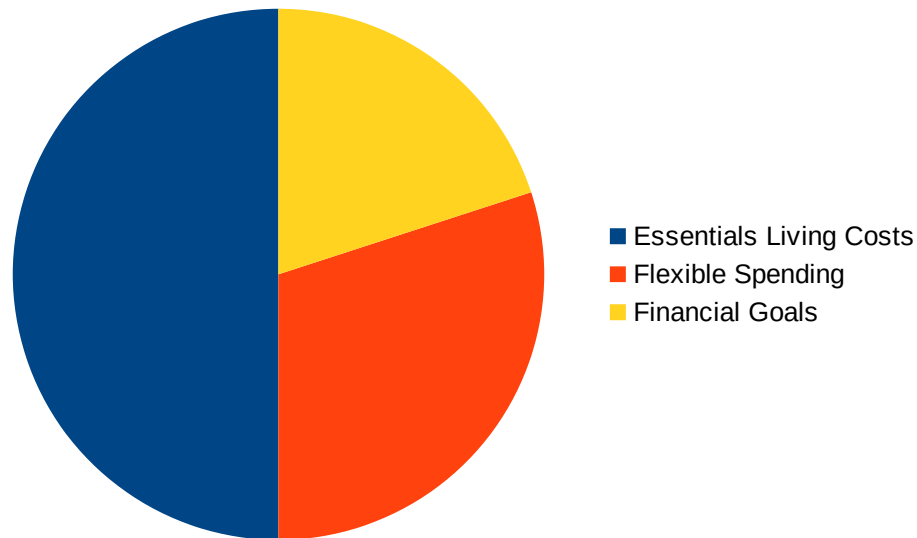
## **METHOD**

### **Financial Planning**

Financial Planning is the process through which an individual moves towards the meeting between the personal needs and the financial goals through the development and implementation of a comprehensive financial plan. A comprehensive financial plan could improve the quality of an individual life and increase an individual satisfaction by reducing uncertainty of the future needs and resources. This helps an individual to set realistic plans, evaluate alternatives, and take effective measures. There are many strategies that could be followed for that financial plan. One of them is the 50/30/20 Rule.

### 50/30/20 Rule

The 50/30/20 Rule is basic approach in financial planning where a person could classify his expenses into three categories. This will help him in order to achieve his financial goals (Warren, 2005) and also for student athletes (Yates, 2017). Three categories can be expressed in Figure 1.



*Figure 1. The Proportion of Three Categories*

In this pie chart diagram, the 50 percent belongs to essentials living expenses. Meanwhile the rest of 30 percent could be used for personal expenses. Last, 20 percent should be put into savings. This guideline could be written in simple equation (1).

$$Income_{after\ tax} = Living\ Expenses_{essential} + Goals_{financial} + Spending_{flexible} \quad (1)$$

The goal of this rule is to break down the monthly nett income into three broad categories: essential living expenses, financial goals, and the flexible spending (Fisher, 2018). First category is essentials portion. This category includes unavoidable monthly expenses needed for day to day activities. Second category is personal portion. This category depend on each individual lifestyle and usually consists of money spent on things that are not necessarily needed but more on what each individual 'wants'. Last category is savings. This category are considered after all the essentials living and personal expenses are taken care of. It usually consists of savings for retirement, and as an emergency fund.

Looking at those budgeting, it is easily seen that the application would need discipline. It request us to prioritize on important categories by following the order. Thus, the important thing to apply this rule is to know first the portions. In fact, this is the easiest thing to develop for a beginning of Android based Application.

### **SDLC (Systems Development Life Cycle)**

This application development uses common SDLC (Systems Development Life Cycle) method. It follows a simple waterfall development model. This development model is the best model in order to make a clear and structured development process. It is just following through the sequence of SDLC stages. They are plan, design, implementation, and maintenance (Denis et al., 2009).

In this work, system plan and design were built using UML Diagrams. The system analysis aims to identify the problems that exist in the system and determine the needs of the system built. There were three steps in this phase. The first was to plan the features that would be mostly used by the user. The next step would be studying and arrange how the user would navigate through the app. Finally the third step is to identify the structure of the app. It would be a scratch design of app implementation. All of these steps are well described with the UML Diagrams (Rumbough et al., 2004).

## UML Diagrams

There are three diagrams used for the plan and design from the app. They are Use-case diagram, Activity diagram, and the class diagram.

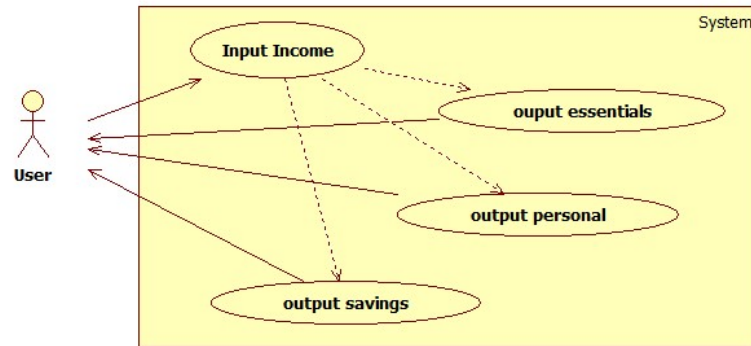


Figure 2. Use Case Diagram

In this use-case diagram, the relationship between the user and the system is shown. The figure shows that the user input their after-tax income. Then the system would compute the portions of the budget following the 50/30/20 rule. They are the essentials, personal, and savings according to the rule, and show the results back to the user.

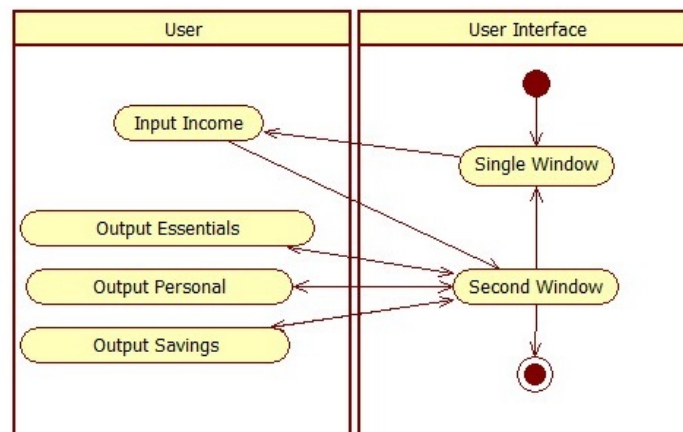


Figure 3. Activity Diagram

In this activity diagram, the relationships of the user with the user interface is shown. The first window would be the input window. It is where the user would input their after-tax income. The second window

would be the output window. It would show the results of the data based on the user's input on first window.

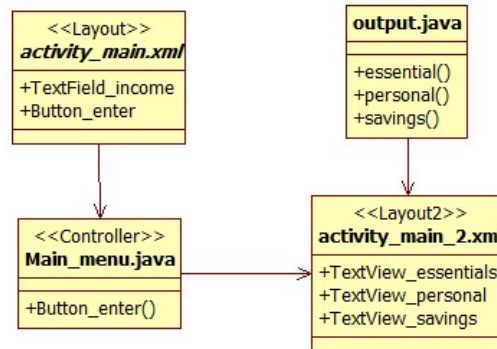
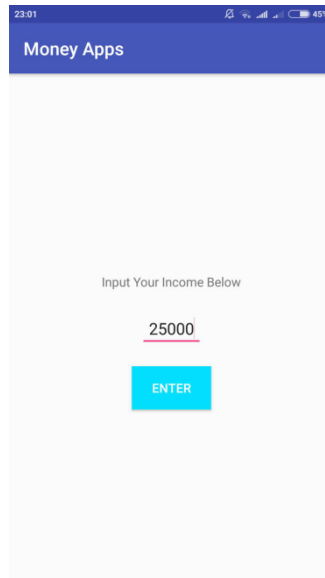


Figure 4. Class Diagram

Finally in the class diagram, two xml layouts and two java classes were designed. These files were following the previous activity diagram. Each window consists of one layout and one controller. The input window consists of the `activity_main.xml` and `Main_menu.java`. That window had one text field for users to input the income and one button for user to enter. The button would be used for initiation of the output window's process. The output window consists of `activity_main_2.xml` and `output.java`. Output window layout had three text view that will be used for showing the result of the budget. They are for the essentials, personal and savings portion. The `output.java` will compute this according to the 50/0 rule.

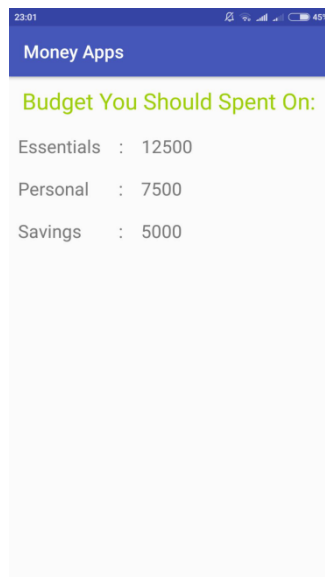
## RESULTS AND DISCUSSION

Below are the views of the Money-Money application that have been made using Android Studio. There are two windows for its usage.



*Figure 5. Input Window*

The input window only consists of a number based text field which requires the users to input their after-tax income. A button is available for the user to click on and proceed to the next window which will then calculate the budget that should be spent on according to 50/30/20 rule.



*Figure 6. Output Window*

The second window consists of the budgets that the user should spend on after entering their after-tax income. This includes essentials, which is 50

percentage of the income, personal is 30 percent, and lastly, savings which is only 20 percent.

Some of the features that can be added that could improve financial literacy is by making it like a virtual wallet. Besides the 50/30/20 budget, the app should record individual income and track expenses. Meanwhile it will keep the category of every expenses which are going into the essentials, personal or savings. Another potential feature is having kind of finance or investment news from a credible source. By having all those features, it is expected that the users will find it easier to manage their finances and also be more literate about financial situations.

## **CONCLUSION**

One of the solutions to financial literacy could be started with a proper budgeting. A well known budget rule is 50/30/20 rule. This work has successfully implemented it into an android application. This application will be a beginning of long term development. The development method, designs, and its application views have been discussed. They are using the SDLC, UML Diagrams, and the application's screenshots respectively. Last but not least, there are still many features which could be added in order to improve this Money-Money App. This could be done in the future as a long term development.

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