

# Designing Financial Record Application on iOS Platform

Nidia Badzlin Adlina, Mohamad Ariaui Akbar, Putri Ayu Wulansari

*Bina Nusantara University*

**Abstract—** In our daily life, we cannot doubt that is very important to do a financial arrangement. One of the ways to help arranging someone's financial is by writing their every financial activity and keeps it as financial records. By having financial records someone is able to arrange his or her own budget, to know where he or she spends his or her money and starts to think twice before he or she makes an expense. The most effective way to make a financial record is by writing his or her every single financial activity right after he or she has done the transaction. On the other hand, the media that uses to write the financial activities, such as pen and paper, is not come in handy in this modern life. That's because of the fast development of technology nowadays. It causes an appearance of some electronic medias, which not only can replace the main function of non-electronic one, but also more sophisticated. That's why the electronic medias are use more often. One of the most important electronic media nowadays is smartphone. There are a lot of smartphone applications that more than enough to replace other media, electronic and non-electronic, which usually use. Therefore, writers try to search some solutions to make an application that helps user to keep their financial activities more easily in their own smartphone, in this case, smartphone with iOS platform. In this application, the users can make an expense record, income record, and add goal to save by using their own handheld mobile device. They are able to write the financial activities right after they have done the transaction in a lot easier, effective and efficient way.

## I. INTRODUCTION

Nowadays, it is important to everybody to do a financial arrangement to make a better living. Somebody needs a way on how to arrange their income budget to fulfill his or her needs. One of the ways to control somebody's expenses is by arranging the financial budget monthly then make his/her financial records by writing their every single financial activity. By having financial records someone is able to arrange their own budget, to know where he or she spends his or her money and starts to think twice before he or she makes an expense. There are two patterns, which people usually do in writing their financial activity. First, right after they have done the financial activity. But sometimes, they are not able to write

it right away because they don't bring the media to write such as pen and paper. The second pattern, they write their financial activity at the end of the day after they make sure there is no financial activities anymore during that day. The most common media to use at this time is Microsoft Excel. But not every people can remember every single detail of their transaction activities that day.

In this modern life, smartphone is one of the most important electronic medias because it brought people to easier and simpler life. Smartphone not only helps the user to keep in touch with other people, but also has a lot of applications, which can be very useful in their daily life. Smartphone application is more than enough to replace many other non-electronic media that usually use. Therefore, the difficulties to write a financial records can be solved by making a financial record application on smartphone, in this case smartphone with iOS platform.

In this journal, the discussion will be about mobile application on iOS smartphone platform and the application itself.

## II. MOBILE APPLICATION

The development of mobile phone technology grows so fast. It has become one of multifunction devices, which recently is use to operate mobile applications as the media to access and process information.

The segment of mobile application is a segment of global mobile phone market, which is still growing. Mobile application consists of software, which operates on mobile device and can do certain task for the mobile phone users. Mobile application is a common thing in most mobile phone. Mobile application is widely used because of many functions, including showing interface to telephone service and text messaging, not to mention the sophisticated service such as games and videos. Besides that, application mobile is often used because of its affordable price.<sup>[6]</sup>

According to Whitten, System Design, the definition of the application itself is 'A Process which the user's need is changed to the form of software package and or into specification inside the computer based on information system.' On the other hand, mobile can be defined as the easy movement from one place to another, for example mobile phone means the phone terminal which can move easily from one place to another without communication disconnection. Therefore mobile application system is an application that can be used for the user with the high mobility without having troubles is communication. This application can be accessed by wireless device such as mobile phone, PDA, and smartphone.

Nidia Badzlin Adlina, Bina Nusantara University, Jl. Kebon Jeruk Raya No. 27, Kebon Jeruk, Jakarta Barat 11530. Majoring in Computer Science, minoring in Database Technology. (e-mail: nidiabadzlin@gmail.com)

Mohamad Ariaui Akbar, Bina Nusantara University, Jl. Kebon Jeruk Raya No. 27, Kebon Jeruk, Jakarta Barat 11530. Majoring in Computer Science, minoring in Software Engineering. (e-mail: me@ariauakbar.com)

Putri Ayu Wulansari, Bina Nusantara University, Jl. Kebon Jeruk Raya No. 27, Kebon Jeruk, Jakarta Barat 11530. Majoring in Computer Science, minoring in Interactive Multimedia. (e-mail: putriayuwulansari@gmail.com)

### III. SMARTPHONE

#### A. About Smartphone

Smartphone is a device, which provides us to communicate (such as calling or text messaging) including Personal Digital Assistant function and its ability as a computer has.<sup>[7]</sup>

The abilities, which a smartphone has, are:

- Having an operating system, which provides someone to operate many application, such as iOS, Windows Mobile, Android, Symbian or BlackBerry operating system.
- Can be use to access web or net and content served on browser, almost as a person accesses web via computer.
- The ability to processes messages on smartphone has been completed by the ability to send e-mail and even synchronization process among the local computers or internet server, so the user can access the same messages easily both via smartphone and computer.

#### B. Smartphone with iOS Platform

Some of the special qualities of iPhone are<sup>[2]</sup>:

- Having a 3.5" capacitive touch screen with 480x320 pixel resolution.
- Safari browser can provide Chinese fonts and characters, and accommodate 16 different languages.
- Using built in speaker so it is able to served loud and clear sound.
- Having comfortably virtual keyboard
- Having menu interface, which can be shifted so it can show many applications on an iPhone Screen.
- Integrated GPS
- Having 4,8,16,32,64 GB internal memory
- Having Wi-Fi network, 3G, GPRS and EDGE facilities

Beside those qualities, based on the research done by Millennial Media<sup>[5]</sup>, from the list of 15 electronic manufacturers, Apple is on the first position, 32%, which produces iPhone (Smartphone), iPad (tablet PC) and iPod. Apple iPhone itself is on the top list from the best 20 mobile phone list. Those facts make the writers choose to develop application on iOS platform.



### IV. DESIGNING

Financial records application on iOS platform is a mobile application, which is developed using objective-C programming language designed to help the users in doing their financial record.

By using this application, the users can make an expense record, income record, and add goal to save by using their own handheld mobile device. They are able to write the financial activities right after they have done the transaction in a lot easier, effective and efficient way.

#### A. Use Case Diagram

Use case diagram visualizes the functionality expected from a system. The stress is on 'What' can be done by the user, not 'How'. A use case represents an interaction between actor and system. Use case is a certain task. An actor is an entity of human or machine, which interact to a system to do certain tasks.<sup>[3]</sup>

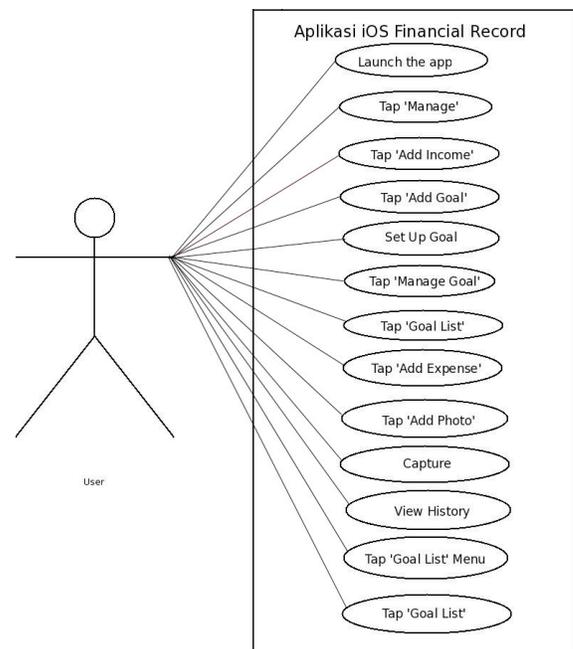


Fig 2. Use Case Diagram

On the use case diagram above, it can be seen that interaction which the user can do are launch app, tap manage button, tap add income, tap add goal, set up goal, manage goal, tap goal list, tap add expense, add photo, capture, view history, tap goal list menu and tap the goal list.

#### B. Data Flow Diagram (DFD)

Data flow diagram or DFD is a visual graphic from the system, which uses some symbols to describe how the data flows within a connected process. Even though this diagram name stresses on data, actually on the other hand the situation stresses on the process.

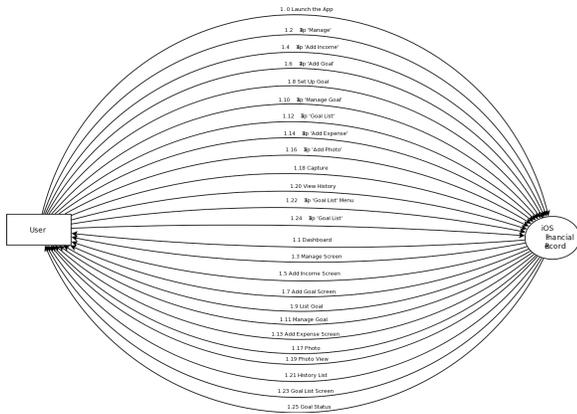


Fig 3. Data Flow Diagram

## V. IMPLEMENTATION

### A. How to Add Expense

From Dashboard screen, tap '+' button in the top right corner of the screen to switch to the Add Expense screen. Then user can insert the value of expenses in the field, and also tap the camera icon in the top of keyboard to insert the photo of item. Tap the Save button in the top right corner to save the expenses.

### B. How to Add Income

From Dashboard screen, tap Manage button in the top left corner of the screen to switch to the Manage screen.

Then select Add Income button to switch to Add Income Screen. Then user can insert the value of expenses in the field. Tap the Save button in the top right corner to save the expenses.

### C. How to Add Goal

From Dashboard screen, tap Manage button in the top left corner of the screen to switch to the Manage screen. Then select Add Goal button to switch to Add Goal Screen. User can input what item they want to buy (to be their goal) and what price it is. Also user can insert the photo of the goal item by tapping the camera button in the top of keyboard. Tap the Next button in the top right corner to go to next screen, which is Set Up Goal screen. User can insert the income, the target and change the slider to decide how much they want to put aside (in percent). The value of Amount will change if the value of the slider is changed. And then the prediction of how long you will reach the goal will appear. After you filled the field, then tap the Done button to save the goal.

### D. How to View History

From Dashboard screen, user can see the latest 3 of their financial records. If the user wants to see all of the history, user can tap the last list to switch to History Screen. User can

tap every list of this screen to see the History Detail on the History Detail screen.

### E. How to Manage Goal

From Dashboard screen, tap Manage button in the top left corner of the screen to switch to the Manage screen. Then select Manage Goal button to switch to Goal List Screen. Tap the goal you want to change on the list and it will switch to Manage Goal Screen. User can change what item they want to buy (to be their goal) and what price it is. Also user can change the photo of the goal item by tapping the camera button in the top of keyboard. Tap the Next button in the top right corner to go to next screen, which is Manage Goal screen. User can change the income, the target and change the slider to decide how much they want to put aside (in percent). The value of Amount will change if the value of the slider is changed. And then the prediction of how long you will reach the goal will appear. After user finished changing the field, then tap the Done button to save the goal.

### F. How to see Goal List

From Dashboard Screen, tap the Goal List button on the tab bar to go to Goal List Screen. It will show all of the user's goals and how much they want to put aside (in percent). They can tap the list to switch to Goal Status Screen to see the details of goal. If the user wants to edit or manage the goal, they can tap the Edit button in the top right corner of the screen and then it will switch to Edit Goal Screen.

## VI. CONCLUSIONS AND SUGGESTIONS

From the design of application, it can be concluded that: By using this application, the users can make an expense record, income record, and add goal to save by using their own handheld mobile device. They are able to write the financial activities right after they have done the transaction in a lot easier, effective and efficient way.

Suggestions to be considered to continue developing the application to become more useful related to the user's need are:

- Adding more features that could help the user to remember their expenses such as memo or notes.
- Launch the application into some user in order to get the feedback and make some improvements.

## REFERENCES

- [1] Weirich, J. L. (1983). *Personal Financial management*. Toronto: Little, Brown and Company.
- [2] Agung, G. (2009). *Step by Step iPhone*. Jakarta: PT. Elex Media Komputindo.
- [3] Dharwiyanti, S., & Wahono, R. S. (2003). *Pengantar Unified Modeling Language (UML)*. ilmuKomputer.com.

- [4] Kapoor, J. R., Dlabay, L. R., & Hughes, R. J. (1988). *Personal Finance*. Illinois: Irwin.
- [5] Media, M. (2011, April). Mobile Mix: The Mobile Device Index.
- [6] Mobile Application. (2008, September).
- [7] Rikez. (2010, January 31). *Apakah Smartphone itu*. Retrieved June 7, 2011, from [http://www.tasikisme.com/index.php?option=com\\_content&view=article&id=39...](http://www.tasikisme.com/index.php?option=com_content&view=article&id=39...)