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## Design And Implementation Of Android-Based Personal Money Monitoring Application

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### ABSTRACT

Managing personal finances is something that must be faced by everyone. Someone must be able to manage his personal finances and household well. This is done in order to be able to balance income and expenses, meet the necessities of life, and not get caught up in financial difficulties. By applying the correct way of financial management, a person is expected to get the maximum benefit from the money he has. Based on the problems that have been mentioned, it is need to build a personal financial monitoring application. The platform used by this software is Android. This software development is expected to be good solution to support everyone's daily life. Purpose of making this application is expected to provide convenience in recording personal finances. In addition, this application is expected to provide a recapitulation report which is according to user's needed. Some of these activities include filling in the incoming money data, filling out the outgoing money data, monitoring recaps in accordance with user's wishes, and making financial recap reports within a certain period of time. Advantage of this application is that it can do recapitulation with pdf file format outputs.

Keywords: Android, Money Monitoring

### 1. INTRODUCTION

Electronic gadget allows us to carry out tasks wherever and whenever. This mobile device can be a cellphone, tablet or mobile computer device. By using electronic gadgets, we can do various activities. These activities include entertainment, learning, office work, and others. Android is one of operating systems that we often encounter on mobile devices. Currently there are many studies that develop android-based applications. Mobile applications are built with several mobile programming languages.

Android is an operating system that is open source based on Linux. Android is designed for touch screen mobile devices such as smartphones and tablet computers. Android was originally developed by Android, Inc., with financial support from Google, then Google bought Android in 2005. This operating system was officially released in 2007. This release coincides with the founding of first Android phone in October 2008. In development of Android operating system, Open Handset Alliance was formed. This is a consortium of 34 hardware, software and telecommunications companies.

Money is an important factor in daily life. One reason people doing work hard is to earn money. Many ways are used to manage personal finances. It aims to be able to sustain one's economic life. Learning how to manage money is as important as getting it. Financial management is a classic problem in life. There are some people who often experience financial crises. For example, the person always feels inadequate with income or monthly money. The financial crisis occurred because of improper financial arrangements.

Managing personal finances is something that must be faced by everyone. Someone must be able to manage his personal finances and household well. This is done in order to be able to balance income and expenses, meet the necessities of life, and not get caught up in financial difficulties. By applying the correct way of financial management, a person is expected to get the maximum benefit from the money he has.

Along with the development of technology and information, currently there are various kinds of applications developed. Applications developed more to development of mobile applications. In addition to office needs, mobile applications are also needed for personal activities. Personal needs in question are not just about entertainment, but also the needs in managing daily life.

Personal financial management is an activity that can be done manually. At present, this process that is done manually can be developed using a mobile application. This development makes it easier for people to do something. Making personal financial records applications can make people more disciplined. Financial records are better organized. This implementation makes recording records that can be monitored as needed.

Based on the problems that have been mentioned, it is need to build a personal financial monitoring application. The platform used by this software is Android. This is based on android platform smartphone users, which is 94% of the market share in the Southeast Asian region. With this software development is expected to be good solution to support everyone's daily life. Purpose of making this application is expected to provide convenience in recording personal finances. In addition, this application is expected to provide a recapitulation report which is according to user's needed.

## **2. LITERATURE REVIEW**

### **2.1 Personal Financial Monitoring**

Brigham and Coopeland (1990), stated that financial management consists of 3 interrelated fields. First is the money market and capital market. The second is investment, this focuses on the decision of money users in choosing the specified investment. Third is financial management, this is also related to someone's financial management in carrying out daily life. Financial management has changed over the years. In the past, financial management is usually only recorded manually. Even the bad thing is that someone doesn't record his financial activities at all. Personal financial planning is a process of achieving personal goals through structured and appropriate financial management. Many people do not have financial planning to achieve their financial goals, they always hope the future is always

good or they surrender. It is not possible to plan everything but with good planning, every individual has the opportunity to make more informed decisions so that the results are better. Individual financial planning includes several plans, including the following. Investment planning, aims at accumulating personal wealth. For example, in the form of allocating funds into investment instruments such as; bank savings, mutual funds, life insurance policies, stocks and property. Personal financial goals are unique and not the same for everyone. Two people of the same age at the same time do not necessarily have the same financial goals. Financial ability and lifestyle (lifestyle) someone distinguishes the financial goals of each individual. Good financial management and records will make someone better prepared for the future. For this reason, a person must start managing his financial records.

## 2.2 Android

Android is an operating system for cellular phones based on Linux. Android provides an open platform for developers to create their own applications for use by a variety of mobile devices. Initially, Google Inc. buy Android Inc., a newcomer who makes software for mobile phones. Then to develop Android, the Open Handset Alliance was formed, a consortium of 34 hardware, software and telecommunications companies including Google, HTC, Intel, Motorola, Qualcomm, T-Mobile, and Nvidia. Android operating system has advantages of switching and multitasking. Since developing Honeycomb version, users can easily switch applications just by touching an icon on system bar. Improved Drag and Drop and Multitouch facilities on a larger screen size, requires Google to increase this capability in Android.

In addition, Android operating system also has weaknesses. Continuous internet connection, most Android phones require a simultaneous or continuously active internet connection, that means you have to be ready to subscribe to internet packages. Android can indeed get various facilities easily and for free, but the consequences are in many applications and facilities, there will always be advertisements posted.

Android Software Development Kit (Android SDK) includes a comprehensive set of development tools. Android SDK consists of debuggers, libraries, handset emulators, documentation, sample program code and tutorials. Currently Android already supports x86 architecture on Linux (any Linux distribution for modern desktops), Mac OS X 10.4.8 or greater, and Windows operating systems. With this developers can use IDEs to edit Java and XML documents and use command line tools to create, build, debug Android applications and control Android devices (for example rebooting, installing software packages).

Android Development Tools is the link between Eclipse IDE and Android SDK. Eclipse can be used to develop android applications by using Android Development Tools which have several functions. First function is can create, test and compile Android applications that run on Android smartphones. It also can simulate the entire online and offline user experience for various types of Android smartphones from the desktop.

### 3. METHOD

System design is needed as a reference of system that is being build. In designing this application, a path is formed which describes the flow of data on the system. This application can be used with 1 device with 1 user access. If user switches devices, the application will start over. The first thing that is needed is login form. As a security for a system, a login page is required. This application is stand alone, so this system will be designed to have a static login. After installing application on gadget, system can be used by logging in with the default password that system has prepared. While start this system, user can change the password as desired. This is useful as a security system that is built.

In addition to login page, in this application there are core activities for purpose of making this application. Some of these activities include filling in the incoming money data, filling out the outgoing money data, monitoring recaps in accordance with user's wishes, and making financial recap reports within a certain period of time. Advantage of this application is that it can do recapitulation with pdf file format outputs.

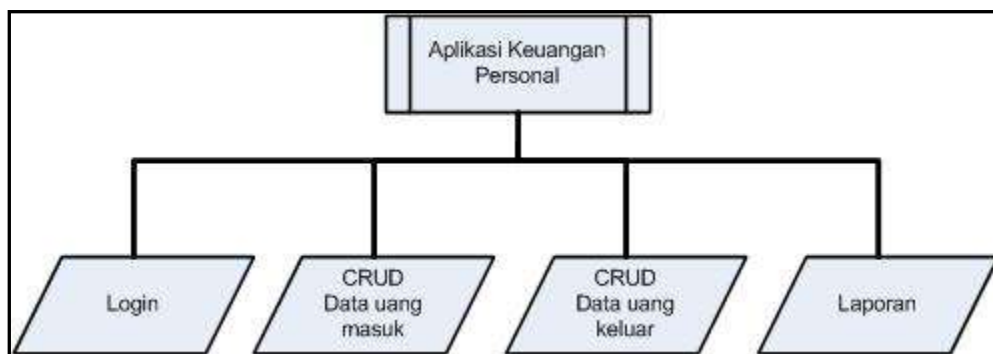


Figure 1: General System Design.

In this system, users can doing record incoming money data, starting with entering the date, giving information on the transaction of incoming money, and writing down amount money. In this method data can be entered and monitored through application. In addition to recording incoming money data, users can also doing record outgoing money data. The same process is as writing data for incoming money, the difference is selected menu is writing out money. This application is expected to be flexible. For this reason, this system is designed to be able to make changes and delete recorded data. This is useful if the user makes a mistake when recording financial transaction data.

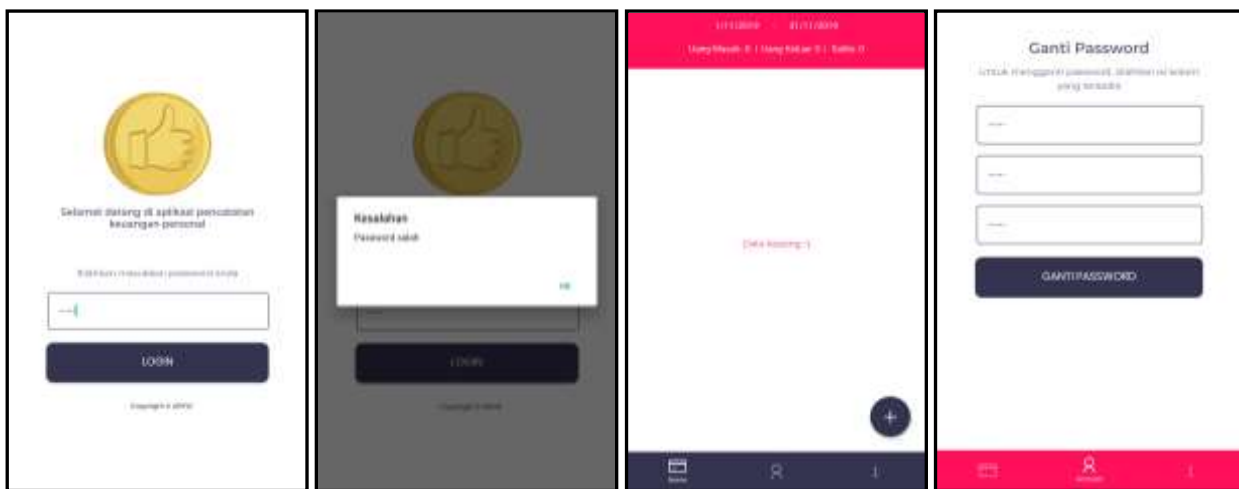
### 4. RESULT AND DISCUSSION

#### 4.1 Login Form

Login Form is used to restricting access for users to view and interact with data. Only registered users can access data in this application. Before logging in, users cannot record financial data or view financial reports. Login form contained in this application is static.

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Users can use this application by using default password. When the application is successfully installed on the device, there is already a default password that can be used. Users can change their password when successfully logging in. Password change can be through the password modifier form. The process of changing a password is very easy. The user can enter the previous password, then continue entering the new password. After making a password change, users can log in this application with a new password. Automatically, old passwords cannot be used anymore.



(2.a)

(2.b)

(2.c)

(2.d)

Figure 2: a. Login Form, b. Login Fail, c. Login Success, d. Change Password

## 4.2 Recording Financial Data

### 4.2.1. Create New Data



(3.a)

(3.b)

(3.c)

Figure 3: a. Create New Data, b. Choose Date, c. List of Financial Data

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The main access to this financial application is obtained after logging in. Users can add, change or delete data. Addition of data can be incoming money data or expenditure money data. This data is filled in according to date of incoming money data or expenditure money data. Data that has been recorded will be displayed on the transaction record page. Incoming money data or expenditure money data are sorted by transaction date. Data recapitulation is presented at the top of the transaction record page. This certainly makes it easier for users to monitor money balances that are managed.

## 4.2.2. Edit and Delete Record

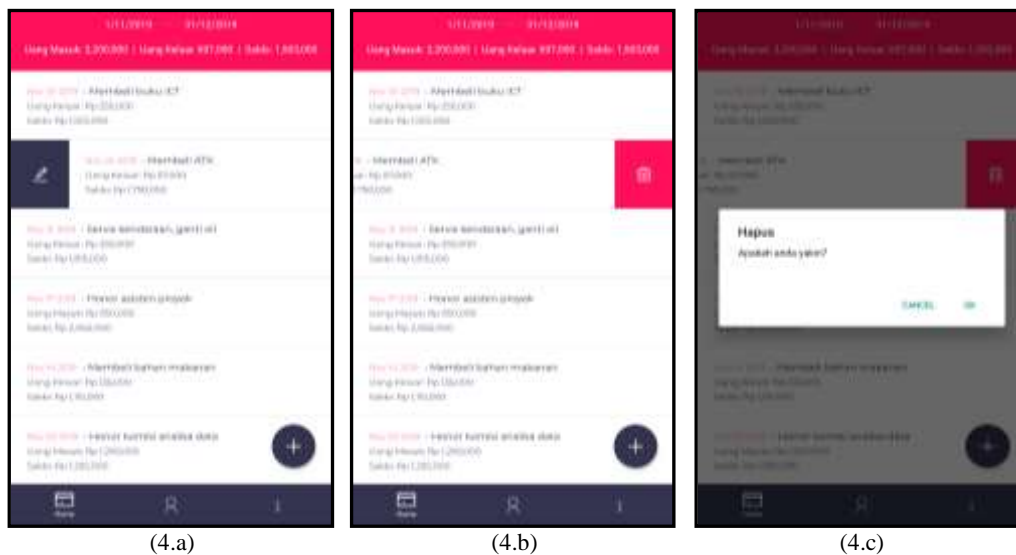


Figure 4: a. Edit Data Menu, b. Delete Data Menu, c. Delete Data Confirmation

This financial application has various facilities. In addition to recording new data, users can make data changes, and delete data. This is needed when user mistakenly recording new data. Users can make changes to data by sliding to the right on the data in question. Users can make data changes same as when entering new data. Users can erase data by sliding left on the data in question. Before the data is erased, the user will be confirmed for data deletion.

## 4.2.3 Report Form



(5.a)



(5.b)

Figure 4: a. Create Report Menu, b. PDF Formated Report

Reports are a requirement for every application. Users can make a recap of financial transaction within a certain time period. Ease has been given to making this application. Users can choose a certain period of time to make this report. Then users can select the "Print Report" button. This application will automatically generate reports in PDF file format. With this report model, it will be easier for users to monitor money being managed. Reports created with this PDF file format can be stored in mobile storage, or stored elsewhere.

## 5. CONCLUSIONS

Based on testing this application, this financial application can be used properly. This application can record incoming money data or expenditure money data. Incoming money data or expenditure money data can be captured properly so that users can monitor money that is managed. Data in this application can be printed reports in the form of PDF files. This application can be developed by creating an online model. Another example of development is limitation of monthly expenditure money data. This system can also be added giving warnings system to users in financial management.



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