PARENTAL CONTROL FOR MOBILE APPLICATION

CHEONG YONG JIAN

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Faculty of Computer Systems & Software Engineering
UNIVERSITI MALAYSIA PAHANG

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ABSTRACT

Nowadays, it is not weird that almost everyone have a mobile device. This statement also refer to the children nowadays. Children can be easily access internet just with a few touch of finger. This action may bring to unsafe exposure to our children. They would learn something bad from internet. Sometimes, parents are busying for life, they may not care about their children. Even though like this, they still worrying about their children. But too much care may lead to rebel of children. To prevent it from happening, a control application on mobile device will be very handful to every parents. Simple Launcher serves as a controlling app to ease the parents in monitoring their children' activities without interfering them and to check the record of their children when and where their children spent on past time. The methodology used in this project is Software Development Life Cycle (SDLC). Basically, Simple Launcher has PIN lock function that lock the app from the children. It can also filter the application which parents can select certain application installed to be allowed to their children to use. Furthermore, parents can use Simple Launcher to check the call log and message log to track their children' activities.
ABSTRAK

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CHAPTER 1

INTRODUCTION

1.1 Introduction

In this era of technology, it is not weird that almost everyone have a mobile device. This statement also refer to the children nowadays. Children can be easily access internet just with a few touch of finger. This action may bring to unsafety exposure to our children. They would learn something bad from internet. Sometimes, parents are busy for life, they may not care about their children. Even though like this, they still worrying about their children. But too much care may lead to rebel of children.

To prevent this happening, parental control is the best way to minimize this worse case. The best way is parental control should be implemented into mobile devices such as smartphone, tablets and so on. By using this application, parents can monitor their kids in real time, so that kids can be bold and independent and their parents can always keep an eye through this device whether their kid has trouble or doing wrong. This can also ensure that kids are obeying what their parents tell them to do. This application would be useful to every parent.
1.2 Problem Statement

- Parents tend to forget to care about children
- Parents want to care about children but antipathy by children
- Children tend to access inappropriate content

1.3 Objectives

- To ease the parents in monitoring their children's activities without interfering them
- To check the record of their children when and where their children spent on past time
- To control the content accessed by children

1.4 Scopes

- This environment of this application is based on Java programming language
- This application is based on Android operating system
- This application should have two main features: content filtering and content blocking
- This system will be developed using Eclipse, SQLite, Java Decompiler, Android Development Tools (ADT) plug-in for Eclipse, and Adobe Creative Suite 5.5
CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

In this chapter, I am going to discuss about the literature review based on the development of parental control application for Android platform. There are 3 existing system, which related to the application, will be reviewed to make comparison about their function and features. The other aspects that will be discussed include the specification of the application.

The 3 existing systems that provide parental control are:

i) Kids Place – Parental Control by Kiddoware
ii) Norton Family Parental Control by NortonMobile
iii) Parental Control by Erel Hansav

The source for these applications are taken from Google Play Store for Android. Any information is referred to Play Store.
2.2 Kids Place – Parental Control

Kids Place is an application which is also an app launcher with parental controls & child lock that protects your personal data and restricts kids to apps you have approved. Basically, this app focus on app launcher which displays only apps that parents/administrator have authorized. By setting a PIN-number, the original app launcher is locked and Kids Place app launcher is used. (Figure 2.2.1)

![Figure 2.2.1 Setting PIN-number](image-url)
In main menu, there are only 2 buttons, which are "Lock Home Button" and "Select Apps for Kids Place". (Figure 2.2.2).

Figure 2.2.2 Main menu
This application allows parents/administrator to manually select which apps will be exposed to their children. For example, Calculator, Camera, and Contacts are set only for children to access. Therefore, only these 3 apps will appear in the Kids Place app launcher. (Figure 2.2.3)

Figure 2.2.3  Apps allowed by parents
2.3 Norton Family Parental Control

Norton Family Parental Control is a useful app which used to block access to inappropriate websites. With this app, parents can see which websites kids visit, or attempt to visit. This app is not come with an app launcher. Below are the figures showed that inappropriate websites and apps were blocked while someone trying to access it. (Figure 2.3.1 & 2.3.2)

![Inappropriate website blocked](file:///mnt/sdcard/norton)

**Figure 2.3.1** Inappropriate website blocked
Norton Family blocked this app because it's restricted by your House Rules.

Figure 2.3.2 Inappropriate apps blocked
2.4 Parental Control for Mobile

This is an app which is used to track children. This application uses SMS as a media to communicate (by using phone number). (Figure 2.4.1)

![Parental Control App](image)

**Figure 2.4.1** Entering phone number
This application needed to be installed by both parents and children. The main function of this apps is to keep tracing the children movement. Below are some screenshot of the app: Main menu and the map of tracing. (Figure 2.4.2 & 2.4.3)
Figure 2.4.3  Map
2.5 Summary

Here are some critics for 3 systems above:

**Kids Place:** The interface is too simple. It only consists of monotone color. Furthermore, Kids Place only provide application filtering, which means only block applications. This doesn’t include inappropriate content blocking and the filtering of SMS and Email.

**Norton Family Parental Control:** Opposite of Kids Place, Norton Family Parental Control does not comes with app launcher.

**Parental Control for Mobile:** This application is mainly about tracking a mobile phone’s location only. This application doesn’t include any inappropriate content blocking or filtering.

Table 2.5.1 is the comparison table of these 3 systems:

<table>
<thead>
<tr>
<th></th>
<th>Kids Place</th>
<th>Norton Family Parental Control</th>
<th>Parental Control for Mobile</th>
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</thead>
<tbody>
<tr>
<td><strong>App Launcher</strong></td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Website</strong></td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td><strong>Blocking/Filtering</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SMS or Email</strong></td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td><strong>Tracking</strong></td>
<td></td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>

Table 2.5.1 Comparison between 3 existing systems

In a conclusion, three of above existing systems have their advantages and disadvantages. Therefore, my project will combine all the function in just one application. My application would have a simple app launcher which perfectly customized for kids, inappropriate content blocking in website, monitoring and so on.
3.1 Software Development Life Cycle (SDLC)

For my project, I'm going to use SDLC as my software development method. This is because SDLC is the most simplest and essential method that widely used in almost every software development. It describes the different stages involved in the project from the planning, through the completion of the project. Figure 3.1 show the model of SDLC.
3.2 The Steps of Software Development Life Cycle (SDLC)

3.2.1 Planning

Basically, to develop my project's mobile application, an Android-based device and a laptop are needed. This Android-based device must require Android 4.0 and above. The laptop is for the coding developing purpose.

The software which will be used in my development are Eclipse and Adobe CS5.5. Eclipse are mainly used to develop JavaScript coding and Adobe CS5.5 is used to design the application’s interface and some picture element.

For the Gantt chart, please refer to Appendix A.

3.2.2 Analysis

In this survey, 50 respondents were participated. For further information, please refer to Appendix B.

3.2.3 Design

![System Flowchart (Parents)](image)

**Figure 3.2.3.1** System Flowchart (Parents)
At first, Parents are required to set the option on startup page. A 4-Digit PIN is required to key in. These 4-Digit PIN are saved to the application database for further use. The next scene is to select allowed apps for their children. After done selecting apps, Parents can either go to Settings to change the PIN settings and reselect the allowed apps.

![System Flowchart (Children)](image)

**Figure 3.2.3.2** System Flowchart (Children)

This is the children accessible function. Children can only use the apps which are selectively filtered by parents. Children are not allowed to change the settings as it required PIN which only parents would know.
The only data flow that used in the application is the storage of 4-Digit PIN. Only parent can set and modify PIN. Every time PIN is changed, PIN will stored as a new entry.

Figure 3.2.3.3 Data Flow Diagram

This is the ERD for my project application. Only two entities are included in this application.

Figure 3.2.3.4 Entity Relationship Diagram

This is the ERD for my project application. Only two entities are included in this application.

<table>
<thead>
<tr>
<th>ATTRIBUTES</th>
<th>DEFINITION</th>
<th>DATA TYPE</th>
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<tbody>
<tr>
<td>PIN</td>
<td>Define the PIN used for administration</td>
<td>INTERGER</td>
</tr>
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</table>

Table 3.2.3.1 Database Table

The only database used is the storage for 4-digits PIN password.
4.1 User Interface

Figure 4.1 shows the starting page of the application when first time opened. By clicking "Proceed", it will redirect parent to set a 4-digits PIN for further administration. This alert dialog will only appear for once (after the parent had set the PIN).