Smart Shopping Application for Android Users

H.M.O.A. Pilapitiya *and* M.J. Ahamed Sabani
Uva Wellassa University, Badulla, Sri Lanka

Introduction

With the development of the technology, most of the people tend to use electrical items for their day to day activities. Mobile phone is the most popular electrical item among them. Most of the people use smart phones now. On the other hand shopping has become an intrinsic part of everyday life.

With the advent of the mobile phone era and the frequent use of mobile apps to perform everyday tasks, the trend to use apps for creating and managing shopping lists is becoming more popular by the day. The purpose of creating price comparison application is to efficiently manage time and money while shopping. This application includes electrical items like mobile phones, Televisions, laptops, *etc*. By using this application users can identify the lowest price providers in Sri Lanka for the selected item and information about them.

Methodology

This application basically related with mobile application development with web services (Code on cloud, 2013). The development of the application was started with the UI designing. Eclipse Android Development Tool Kit *(ADT)* was used to design the application interfaces. The Jellybean was used as the android version, sdk and Samsung galaxy and android virtual devices (AVDs) as the testing devices. Android API level was 2.2 to 4.2.

For the data mining purpose, some websites which are publishing electrical items' prices and detail were selected. Using *PHP* and *cURL* library, data were extracted from those selected websites. *DOM* Document and *xpath* helped to find the location where the details were located. It was sent *XML* type data. The methods trim and slice were used to find correct values. Then it was converted into the *JSON* arrays. Those data were stored and hosted by using the *000webhosting*free webhosting. When user requested data, through the web services, it was parsing to the android application. *AsyncTask was used* to fetch data from web service. Application was decoded the *JSON* data and displayed on the User interface. It was tested several times to find bugs and was fixed the bugs found during the test phase.

Figure 1 depicts the simple architecture of the application with all the modules described above.

Result and Discussion

It was easy to use eclipse ADT bundle to develop android applications. The emulator provided different types of virtual devices to test application. However, the actual devices run time period speed was faster than the emulator. cURL library and PHP was very useful for web mining processes. Using xpath it can easily be identified the correct path to the value. Sometime it was difficult to fetch data as most of the websites use their own structure. According to above designs, web services were developed even though it was difficult to handle.

Conclusions

Here prototype of the application has been developed. It was successfully fetched data from websites and displayed on android application. With that, anyone can engage with the dealers and develop the application for them. Then easily we can update the data and can maintain the updated information. It will help the user to get correct decisions when buying electrical items.

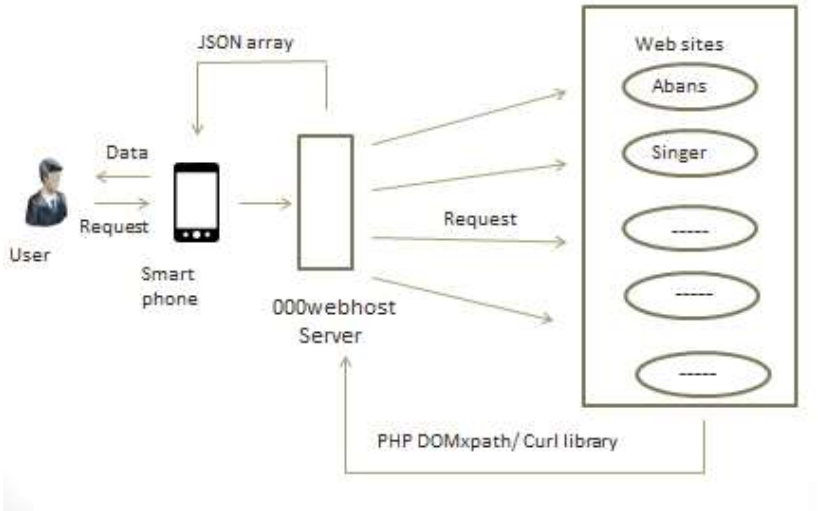

Figure 1. Simple architecture of the application.

Reference

Android development user guide, Retrieved3 May 2013 from World Wide Web :http://developer.android.com/index.html

Code on cloud(2013).Android web service Retrieved 20 July2013 from World Wide Web: http://codeoncloud.blogspot.com/search/label/Android()