EasyShop

A Mini-Project Report
Under
Project Workshop

Submitted by

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CERTIFICATE

This is to certify that the project entitled "easy shop" is the bonafide work carried out by Jaidev Kulkarni(B048) Ankit Yadav(B063) Rahul Jain(B065) Vidit Desai(B069) of B.Tech (Computer Engineering), MPSTME (NMIMS), Mumbai, during the VI semester of the academic year 2014, in partial fulfillment of the requirements for the award of the Degree of Bachelors of Technology as per the norms prescribed by NMIMS. The mini-project work has been assessed and found to be satisfactory.

Uday Nayak

Internal Mentor

Examiner 1

Examiner 2

Dean

Dr. S. Y. Mhaiskar

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Place:

Date:

ACKNOWLEDGEMENT:

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ABSTRACT

The application will have a user-friendly interface. The users will be able to scan a product and thus the information of the product like its price & quantity will be added to their cart or account list to be billed.

The list of all account lists will be stored in a database on web server which a retailer will refer to during the bill payment. The application will pass a reminder to user if they forget any product from the list prepared by user to be purchased.

Abbreviations

Abbreviation	Description
SDK	Software Development Kit
IDE	Integrated Development Environment
DFD	Data Flow Diagram
AVD	AndroidVirtual Device

1. INTRODUCTION

1.1 Project Overview

EasyShop is an application developed to simplify users experience in retail shopping. The application is developed to save user's time and efforts. The application is developed keeping in mind the security of the retailers end also and thus the information of every transaction will be also delivered to the retailers.

EasyShop is an application to make a consumer's shopping time saving and effortless payment solutions. It helps retailers and super markets to manage many consumers at a time.

1.2 Hardware Specifications

Recommended 4 GB memory for Eclipse Integrated development Environment and its various plugins.

1.3 Software Specifications

Operating Systems

- Windows Vista (32- or 64-bit), Windows 7 (32- or 64-bit)

- Mac OS X 10.5.8 or later (x86 only)
- Linux (Ubuntu Linux)

Eclipse IDE

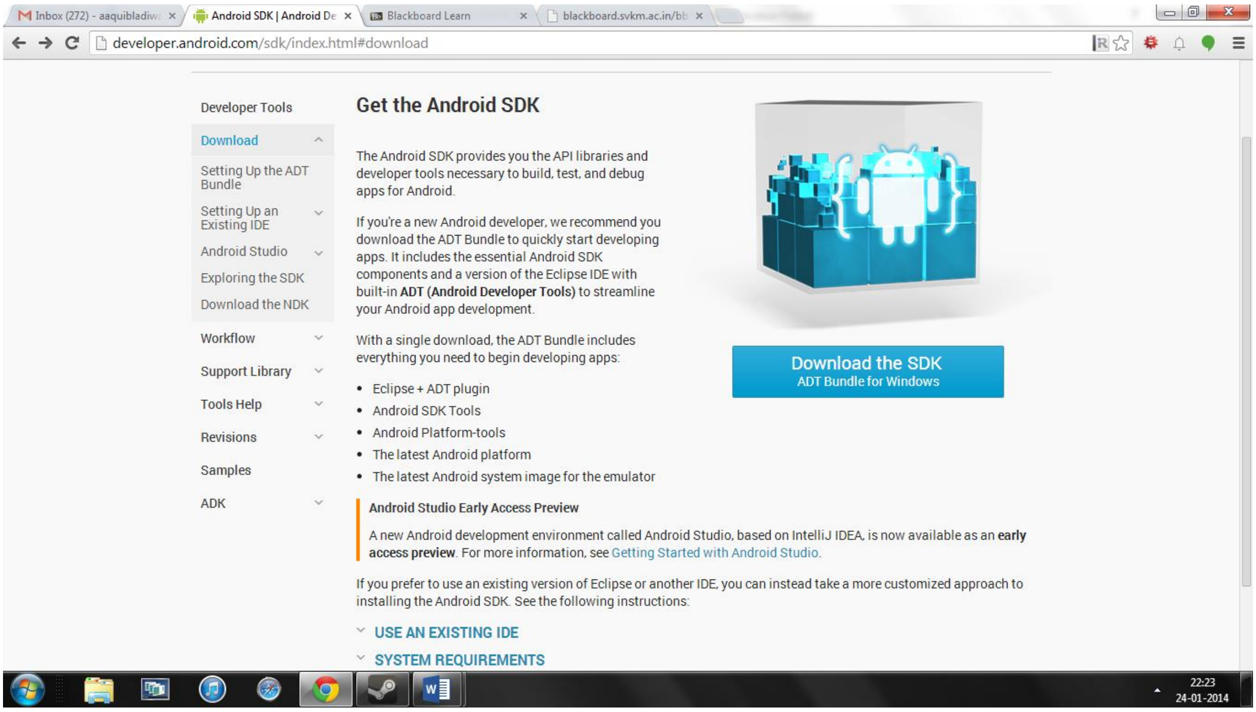
- Eclipse 4.0 or higher
- Eclipse JDT plugin
- JDK 6 and JRE
- Android Development Tools plugin

2. INSTALLATION AND SETUP

2.1 Installing ADT Bundle (Android SDK + Eclipse IDE)

Steps to install Android SDK and other important components:

Log on to http://developer.android.com/sdk/installing/bundle.html and download the SDK (ADT bundle).



Get the Android SDK

The Android SDK provides you the API libraries and developer tools necessary to build, test, and debug apps for Android.

If you're a new Android developer, we recommend you download the ADT Bundle to quickly start developing apps. It includes the essential Android SDK components and a version of the Eclipse IDE with built-in **ADT (Android Developer Tools)** to streamline your Android app development.

With a single download, the ADT Bundle includes everything you need to begin developing apps:

- Eclipse + ADT plugin
- Android SDK Tools
- Android Platform-tools
- The latest Android platform
- The latest Android system image for the emulator

Android Studio Early Access Preview

A new Android development environment called Android Studio, based on IntelliJ IDEA, is now available as an **early access preview**. For more information, see Getting Started with Android Studio.

If you prefer to use an existing version of Eclipse or another IDE, you can instead take a more customized approach to installing the Android SDK. See the following instructions:

Fig 2.1.1 Downloading Android SDK

After the download has been completed install the SDK and Eclipse IDE as follows:

1. Unpack the ZIP file (named adt-bundle-<os_platform>.zip) and save it to an appropriate location, such as a "Development" directory in your home directory.
2. Open the adt-bundle-<os_platform>/eclipse/ directory and launch **eclipse**.

After the SDK and Eclipse IDE has been installed the next step is to setup the IDE. This can be done by installing the eclipse plug-in and additional platforms and packages.

You should have already downloaded the Android SDK Tools. The SDK Tools package is not the complete SDK environment. It includes only the core SDK tools, which you can use to download the rest of the SDK packages.

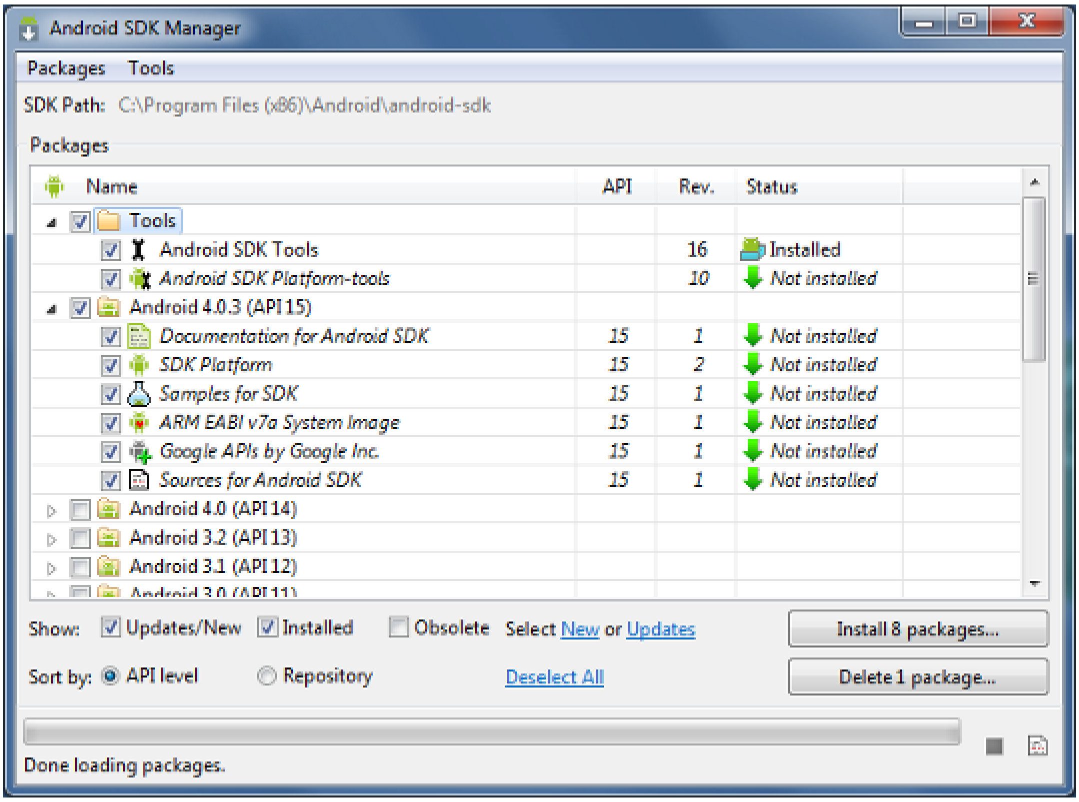
Your download package is an executable file that starts an installer. The installer checks your machine for required tools, such as the proper Java SE Development Kit (JDK) and installs it if necessary. The installer then saves the Android SDK Tools into a default location (or you can specify the location).

1. Double-click the executable (.exe file) to start the install.
2. Make a note of the name and location in which it saves the SDK on your system—you will need to refer to the SDK directory later, when setting up the ADT plugin and when using the SDK tools from the command line.
3. Once the installation completes, the installer offers to start the Android SDK Manager. If you'll be using Eclipse, **do not** start the Android SDK Manager, and instead move on to installing the Eclipse Plugin.

The installation of eclipse plug-in can be done as follows:

Android offers a custom plugin for the Eclipse IDE, called Android Development Tools (ADT). This plugin provides a powerful, integrated environment in which to develop Android apps. It extends the capabilities of Eclipse to let you quickly set up new Android projects, build an app UI, debug your app, and export signed (or unsigned) app packages (APKs) for distribution.

Run the SDK Setup File



SDK Path: C:\Program Files (x86)\Android\android-sdk

Name	API	Rev.	Status
☑ Tools			
☑ Android SDK Tools		16	Installed
☑ *Android SDK Platform-tools*		*10*	*Not installed*
☑ Android 4.0.3 (API 15)			
☑ *Documentation for Android SDK*	*15*	*1*	*Not installed*
☑ *SDK Platform*	*15*	*2*	*Not installed*
☑ *Samples for SDK*	*15*	*1*	*Not installed*
☑ *ARM EABI v7a System Image*	*15*	*1*	*Not installed*
☑ *Google APIs by Google Inc.*	*15*	*1*	*Not installed*
☑ *Sources for Android SDK*	*15*	*1*	*Not installed*
□ Android 4.0 (API 14)			
□ Android 3.2 (API 13)			
□ Android 3.1 (API 12)			
□ Android 3.0 (API 11)			

Show: ☑ Updates/New ☑ Installed □ Obsolete Select New or Updates

Sort by: ● API level ○ Repository Deselect All

Done loading packages.

Fig 2.1.2 Run the SDK Setup File

Test your installation:

1. Download HelloWorld project and extract the contents to a folder.

2. Create an Android Virtual Device (AVD)

   - In Eclipse, you can access the "**Android Virtual Device (AVD)**" in Eclipse toolbar. Click "new" to create an AVD.

   - Choose a AVD Name and set a Target listed in the drop down and click on Create AVD.

Later, Eclipse will deploy the application into this AVD.

1. Choose the AVD device and click on Start button to launch it. If the emulator launches then your installation is successful.

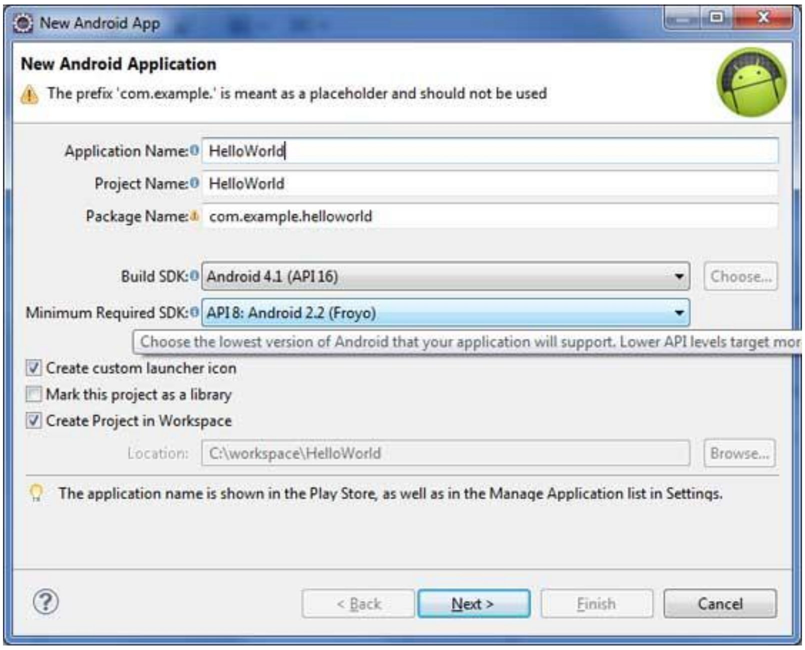
2. Next, open Eclipse. Click on **File -> Import -> General -> Existing Projects into Workspace ->** Browse to the HelloWorld folder. Then click Finish.

3. Check if the project successfully imports into your workspace without any errors.

STEPS TO CREATE THE HELLO WORLD APPLICATION.

Create Android Application

The first step is to create a simple Android Application using Eclipse IDE. Follow the option **File -> New -> Project** and finally select **Android New Application** wizard from the wizard list. Now name your application as **HelloWorld** using the wizard window as follows:



New Android App

New Android Application

⚠ The prefix 'com.example.' is meant as a placeholder and should not be used

Application Name: HelloWorld

Project Name: HelloWorld

Package Name: com.example.helloworld

Build SDK: Android 4.1 (API 16) Choose...

Minimum Required SDK: API 8: Android 2.2 (Froyo)

Choose the lowest version of Android that your application will support. Lower API levels target mor

☑ Create custom launcher icon

☐ Mark this project as a library

☑ Create Project in Workspace

Location: C:\workspace\HelloWorld Browse...

The application name is shown in the Play Store, as well as in the Manage Application list in Settings.

Fig 2.1.3 Making A New Project

Next, follow the instructions provided and keep all other entries as default till the final step. Once your project is created successfully, you will have following project screen:

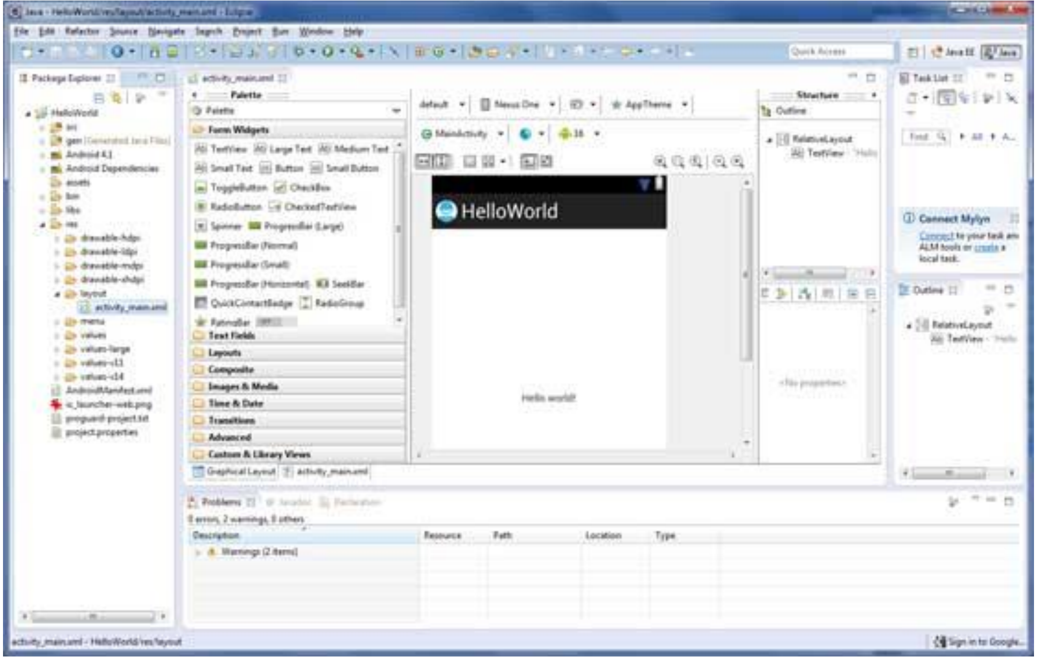
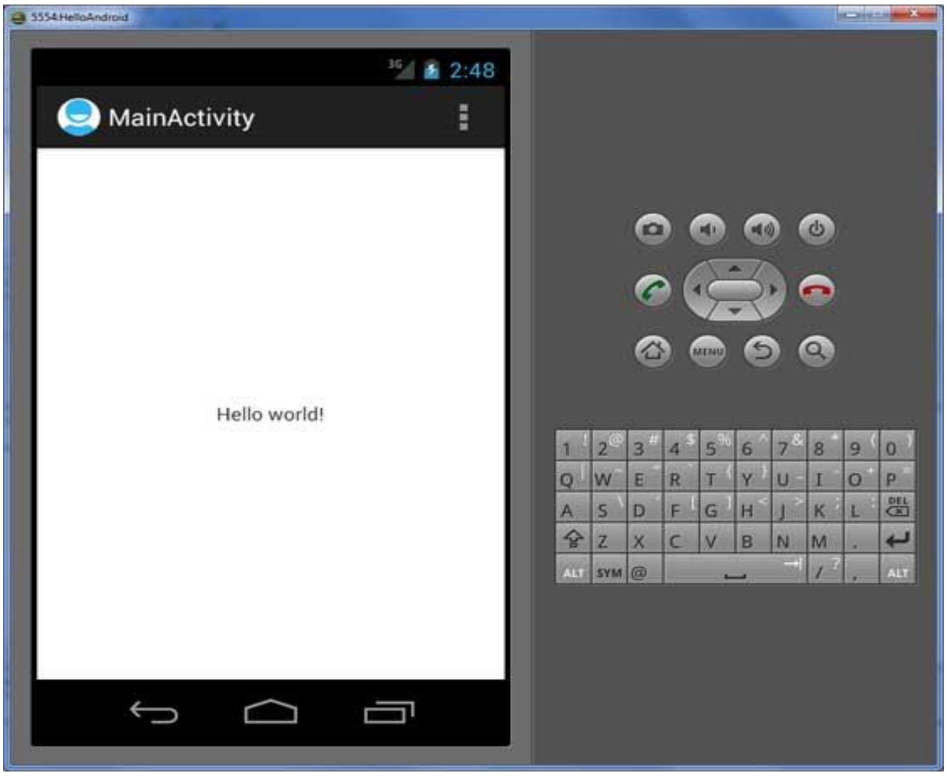


Fig 2.1.4 Launching Eclipse

2.2 Set-up (Running Test App)

Running the Application:

Let's try to run our **Hello World!** application we just created. I assume you had created your **AVD** while doing environment setup. To run the app from Eclipse, open one of your project's activity files and click Run ▶ icon from the toolbar. Eclipse installs the app on your AVD and starts it and if everything is fine with your setup and application, it will display following Emulator window:



Hello world!

Fig 2.2.1 Running The Application

3. ANALYSIS AND DESIGN

3.1 EXTERNAL INTERFACE REQUIREMENTS

3.1.1 User Interfaces

The user will be an active entity participating in the usage of EasyShop regularly and using the application to his advantage in Shopping Efficiently. The system is programmed to make the user interface friendly.

3.1.2 Software Interfaces

The system is programmed to be user friendly and as easy as possible for users so that people who haven’t used android can use it without any pain and efforts required.

3.2 FUNCTIONAL REQUIREMENTS

1. The user’s device should be equipped with Android 4.4 Kitkat to 2.3 Gingerbread.

□ A working inbuilt phone camera.

□ Internet connectivity

- Application switching

3.3 ANALYSIS MODELS

3.3.1 Use Case

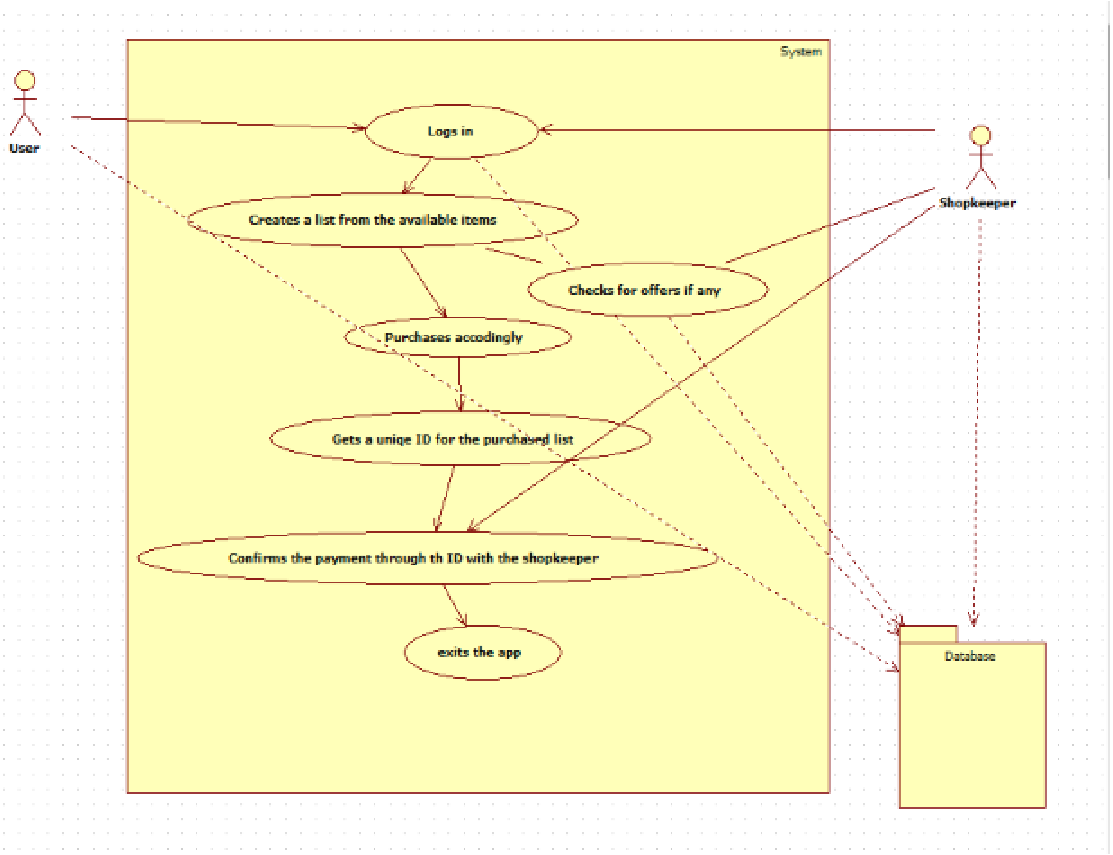

System
User
Shopkeeper
Logs in
Creates a list from the available items
Checks for offers if any
Purchases accodingly
Gets a uniqe ID for the purchased list
Confirms the payment through th ID with the shopkeeper
exits the app
Database

Fig 3.3.1 : Use Case Diagram

3.3.2 Data Flow Diagram (DFD)

4. DATA FLOW DIAGRAMS (DFD)

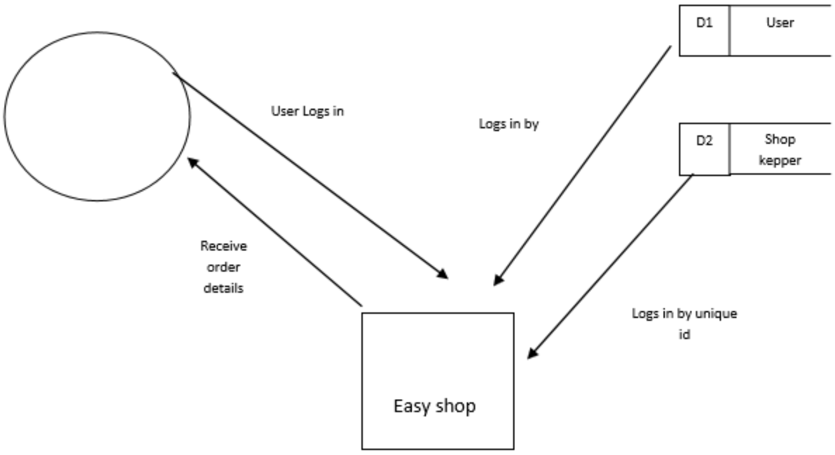


Fig 3.3.2 Data Flow Diagram

3.4 NON-FUNCTIONAL REQUIREMENTS

3.4.1 Performance

The performance depends upon the usage of the app by the user

3.4.2 Reliability

It is reliable & knows the basic math operations , so calculation mistakes wont be occurring.

3.4.3 Availability

It is available on appstore.

3.4.4 Security

A very secure & data corruption or altering is avoided by storing the information in the database.

3.4.5 Maintainability

No maintenance is required, only update on a regular basis is expected

3.4.6 Portability

Easily portable & does not need much memory for storage.

3.5 DESIGN CONSTRAINTS

There are a lot of features which are required to be added .Time is a major constraint as even user manuals, documentations will be needed to be made.

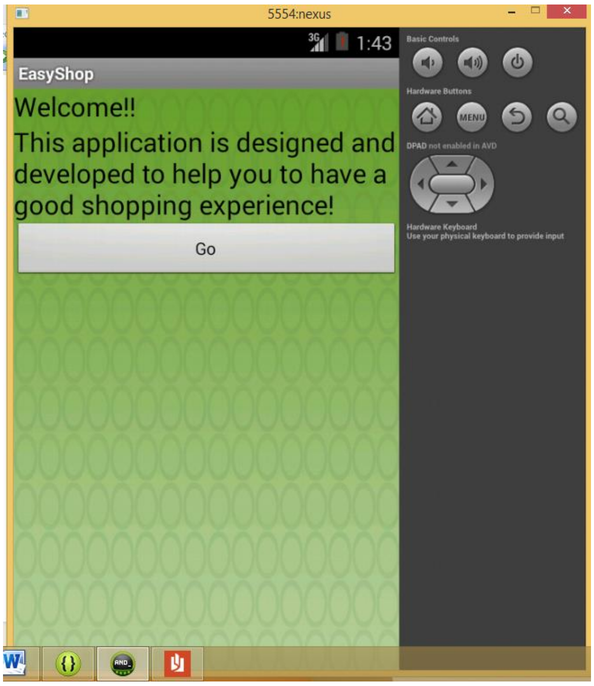
3.5.2 Knowledge of android

As it’s an android application, knowledge of android needs to be more than basic to implement functions of alarm and to make it a successful application so times needed again to polish android programming skills.

4.PROJECT DETAILS:

4.1 Home Screen

When we click on the alarm application we are directed to the home screen of the application.



EasyShop

Welcome!!

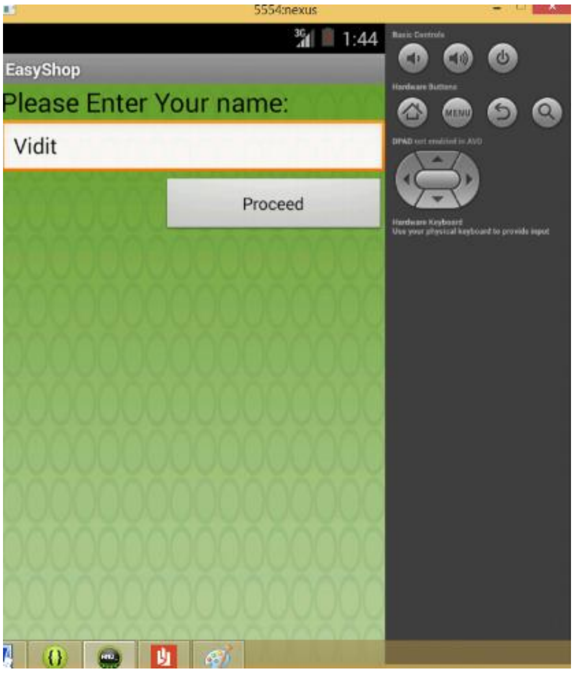
This application is designed and developed to help you to have a good shopping experience!

Go

Fig 4.1.1 Home Screen

4.1.1 Working of the application

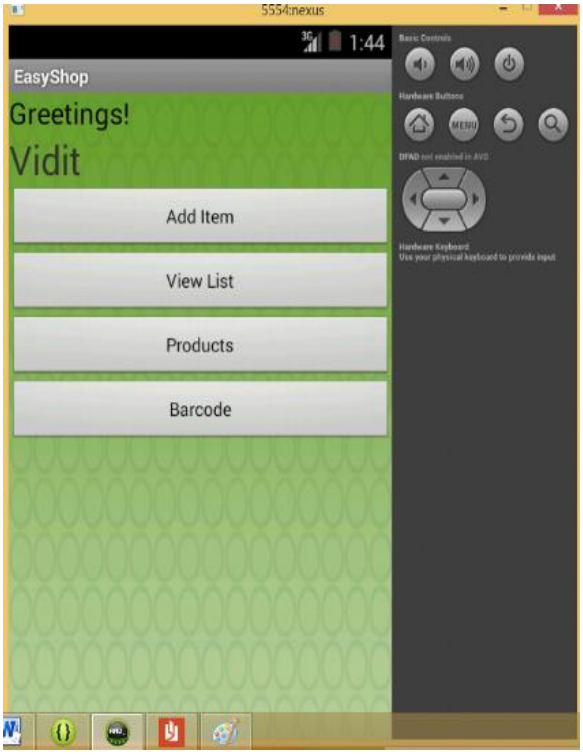
The working of the application is very user friendly and straightforward.



Please Enter Your name:

Vidit

The system asks the user to input the name by which he/she is registered.



Greetings!

Vidit

- On writing the name, the system checks for its validity & proceeds further. In the above example the username used is “Vidit” which is accepted by the system.

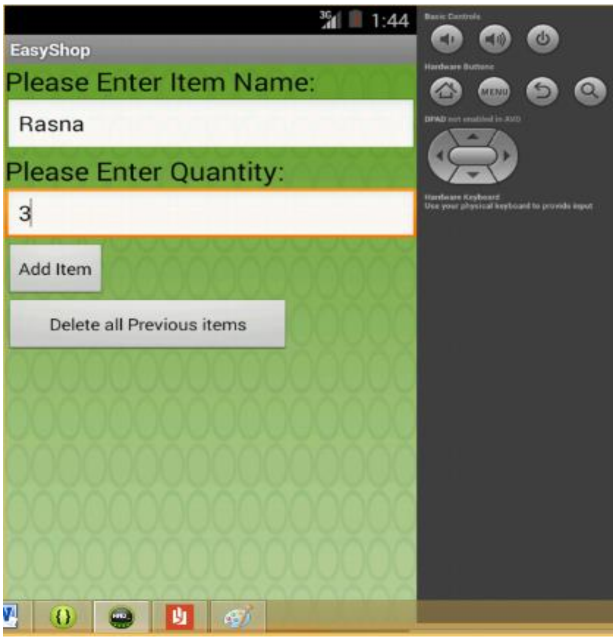
- After logging in, the user is subjected to multiple options like **‘Add Item’, ’View list’, ‘Products’, ’Barcode’.**

- The **Add Item** provides the user to add different types of items present in the database to his/her cart.

- The **View List** option allows the user to view the list of item he/she has selected for purchasing.

- The **Products** option allows the user to view the different types of products present for purchasing.

- The **Barcode** option provides the user to see the respective barcode of the product he/she has selected.



1:44

EasyShop

Please Enter Item Name:

Rasna

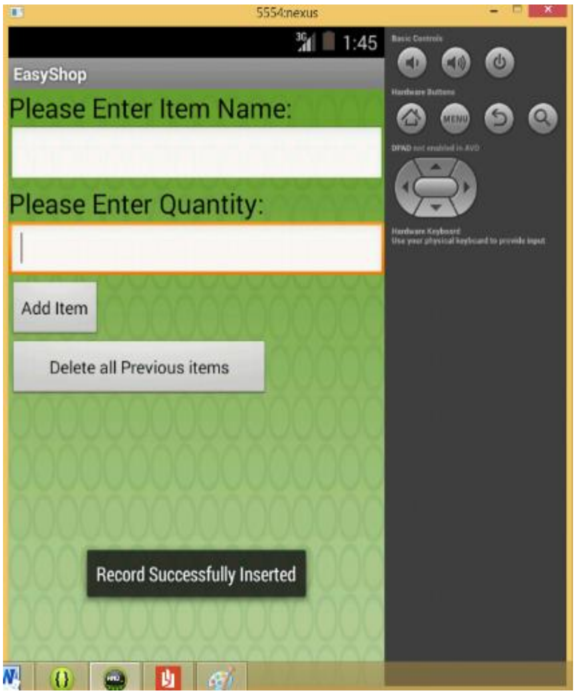
Please Enter Quantity:

3

- After logging in , the system allows the user to enter the name of the item which he/she requires along with the quantity of the desired product.

- On selecting the item name & quantity the user has to click on the ’**Add item’** for further actions.

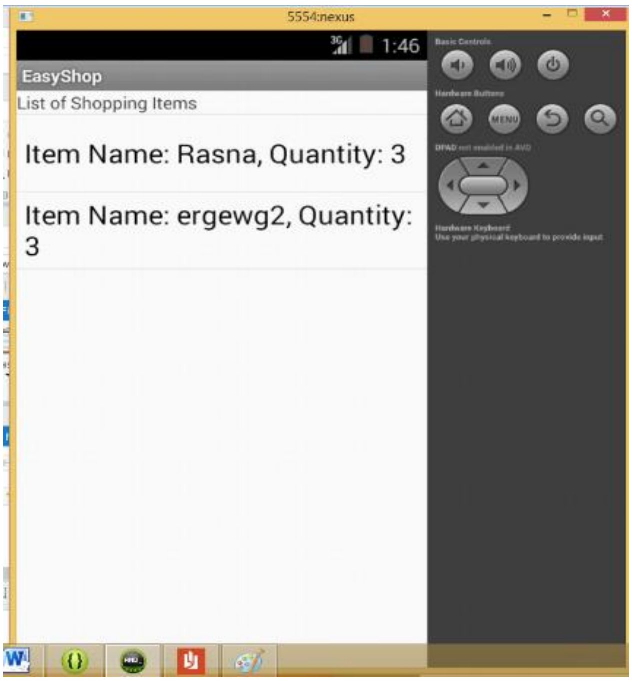
The User can also delete the previous item selected by selecting the '**Delete all previous item'** option.



Record Successfully Inserted

- The system shows a successful insertion of record after selecting the add item .

- The record is saved in the database of the application.



EasyShop

List of Shopping Items

Item Name: Rasna, Quantity: 3

Item Name: ergewg2, Quantity: 3

- The application thus saves the list of the data (items) entered by the user.
- The above dialog box shows the list of the item selected by the user.
- The item name along with its quantity is specified

5. CONCLUSION & FUTURE SCOPE

5.1 CONCLUSION

Thus we have created a user friendly shopping application which is one of its kind & unique by using the basic Android SDK & eclipse.

5.2 FUTURE SCOPE

- The application has a huge Future Scope
- As the Barcode Scanning part when affiliated with a supermarket will provide the user the option of scanning his products as he lifts them from the Shelf
- This will create a Bill on the Spot for the Customer who can Send it to the SuperMarket.
- This will reduce Queues at the Checkout Counter Drastically.

REFERENCES:

www.stackoverflow.com

www.androidtools.com

www.codetutsplus.net