Graduation Project
hello

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Introduction

There are many patients who want to search for their drugs to know the nearest pharmacy containing their drugs …..

From here came the idea to implement an application to specify the location of the pharmacies that have the required drug and the timetable of each pharmacy "Medical Online" is required to solve such this problem.

" Medical Online" will be a good solution to facilitate the way to get what we want easily and determine the nearest pharmacy to you …. So this application can help you to solve the problem of finding drugs and saving time and effort ..

Android Technology

1.1 Introducing Android

The mobile development community is at a tipping point. Mobile users demand more choice, more opportunities to customize their phones, and more functionality. Mobile operators want to provide value-added content to their subscribers in a manageable and lucrative way. Mobile developers want the freedom to develop the powerful mobile applications users demand with minimal roadblocks to success. Finally, handset manufacturers want a stable, secure, and affordable platform to power their devices. Upuntil now single mobile platform has adequately addressed the needs of all the parties. Enter Android, which is a potential game-changer for the mobile development community. An innovative and open platform,Android is well positioned to address the growing needs of the mobile marketplace. This chapter explains what Android is, how and why it was developed, and where the platform fits in to the established mobile marketplace.

A Brief History of Mobile Software Development

To understand what makes Android so compelling, we must examine how mobile development has evolved and how Android differs from competing platforms.

Way Back When

Remember way back when a phone was just a phone? When we relied on fixed landlines? When we ran for the phone instead of pulling it out of our pocket? When we lost our friends at a crowded ballgame and waited around for hours hoping to reunite? When we forgot the grocery list (Figure 1.1) and had to find a payphone or drive back home again?

Those days are long gone.Today, commonplace problems like these are easily solved with a one-button speed dial or a simple text message like "WRU?" or "20?" or "Milk and?"

Android Platform Differences

Android is hailed as "the first complete, open, and free mobile platform."
Complete: The designers took a comprehensive approach when they developed
the Android platform.They began with a secure operating system and built a robust software framework on top that allows for rich application development
opportunities. Open: The Android platform is provided through open source licensing.
Developers have unprecedented access to the handset features when developing
Applications. Free: Android applications are free to develop.There are no licensing or royalty fees to develop on the platform. No required membership fees. No required testing fees. No required signing or certification fees.Android applications can be distributed and commercialized in a variety of ways.

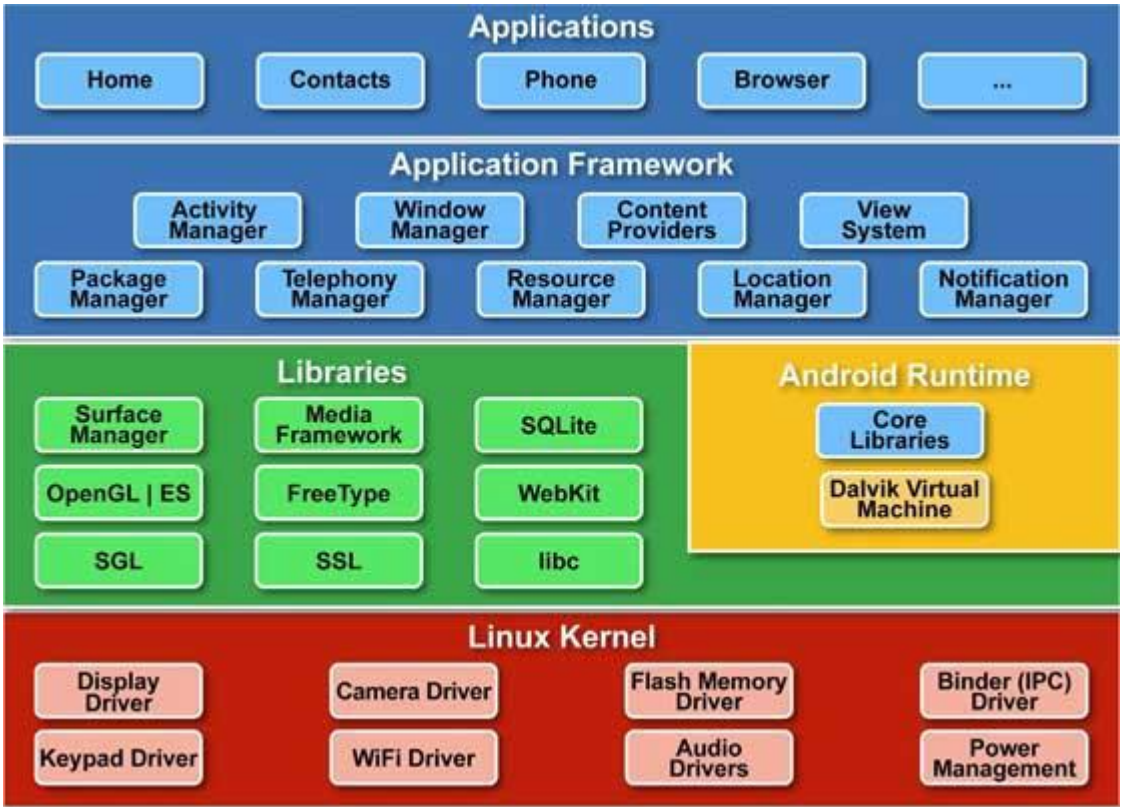
Android: A Next Generation Platform

Although Android has many innovative features not available in existing mobile
Platforms, its designers also leveraged many tried-and-true approaches proven to work in the wireless world. It's true that many of these features appear in existing proprietary platforms, but Android combines them in a free and open fashion, while simultaneously addressing many of the flaws on these competing platforms.
The Android mascot is a little green robot, shown in Figure 1.6.You'll see this little
guy (girl?) often used to depict Android-related materials.
Android is the first in a new generation of mobile platforms, giving its platform

developers a distinct edge on the competition.Android's designers examined the benefits and drawbacks of existing platforms and then incorporate their most successful features.
At the same time,Android's designers avoided the mistakes others suffered in the past.

- Architecture of Android

In order to understand how Android works, take a look at Figure 1-1, which shows the various layers



that make up the Android operating system (OS).

to users in October 2008. Using the Market application that is preinstalled on their Android device, users can simply download third-party applications directly onto their devices. Both paid and free applications are supported on the Android Market, though paid applications are available only to users in certain countries due to legal issues. Similarly, in some countries, users can buy paid applications from the Android Market, but developers cannot sell in that country. As an example, at the time of writing, users in India can buy apps from the Android Market, but developers in India cannot sell apps on

the Android Market. The reverse may also be true; for example, users in South Korea cannot buy apps, but developers in South Korea can sell apps on the Android Market.

- Java Jdk

The Android SDK makes use of the Java SE Development Kit (JDK). Hence, if your computer does not have the JDK installed, you should start by downloading the JDK from www.oracle.com/technetwork/java/javase/downloads/index.html and installing It prior to moving to the next section.
Obtaining the Required Tools

- Eclipse IDE

The first step towards developing any applications is obtaining the integrated development environment (IDE). In the case of Android, the recommended IDE is Eclipse, a multi-language software development environment featuring an extensible plug-in system. It can be used to develop various types of applications, using languages such as Java, Ada, C, C++, COBOL, Python, etc. For Android development, you should download the Eclipse IDE for Java EE Developers (www.eclipse .org/downloads/packages/eclipse-ide-java-ee developers/ heliossr1). Six editions are available: Windows (32 and 64-bit), Mac OS X (Cocoa 32 and 64), and Linux (32 and 64-bit). Simply select the relevant one for your operating system. All the examples in this book were tested using the 32-bit version of Eclipse for Windows. Once the Eclipse IDE is downloaded, unzip its content (the eclipse folder) into a folder, say C:\Android\. Figure 1-7 shows the content of the eclipse folder.

- Android SDK

The next important piece of software you need to download is, of course, the Android SDK. The Android SDK contains a debugger, libraries, an emulator, documentation, sample code, and tutorials. You can download the Android SDK from http://developer.android.com/sdk/ index.html. Once the SDK is downloaded, unzip its content (the android-sdk-windows folder)
into the C:\Android\ folder, or whatever name you have given to the folder you just created.

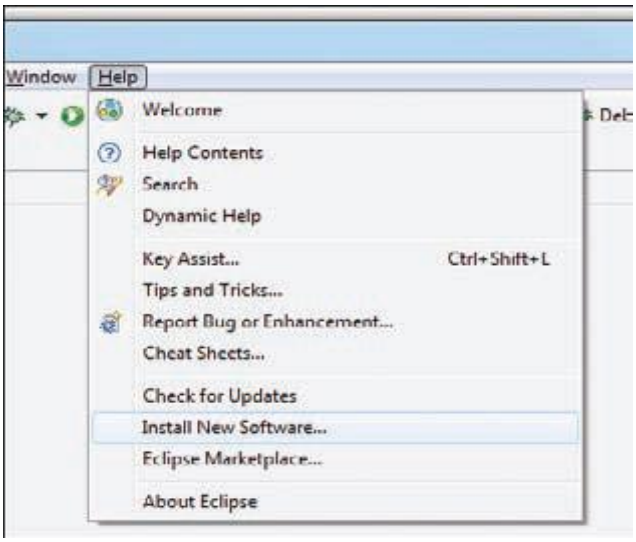
- Android Development Tools (ADT)

The Android Development Tools (ADT) plug-in for Eclipse is an extension to the Eclipse IDE thatsupports the creation and debugging of Android applications. Using the ADT, you will be able to dothe following in Eclipse:

➤➤Create new Android application projects.
➤➤Access the tools for accessing your Android emulators and devices.
➤➤Compile and debug Android applications.
➤➤Export Android applications into Android Packages (APK).
➤➤Create digital certificates for code-signing your APK.

To install the ADT, first launch Eclipse by double-clicking on the eclipse.exe file located in theeclipse folder.

Figure 1-7



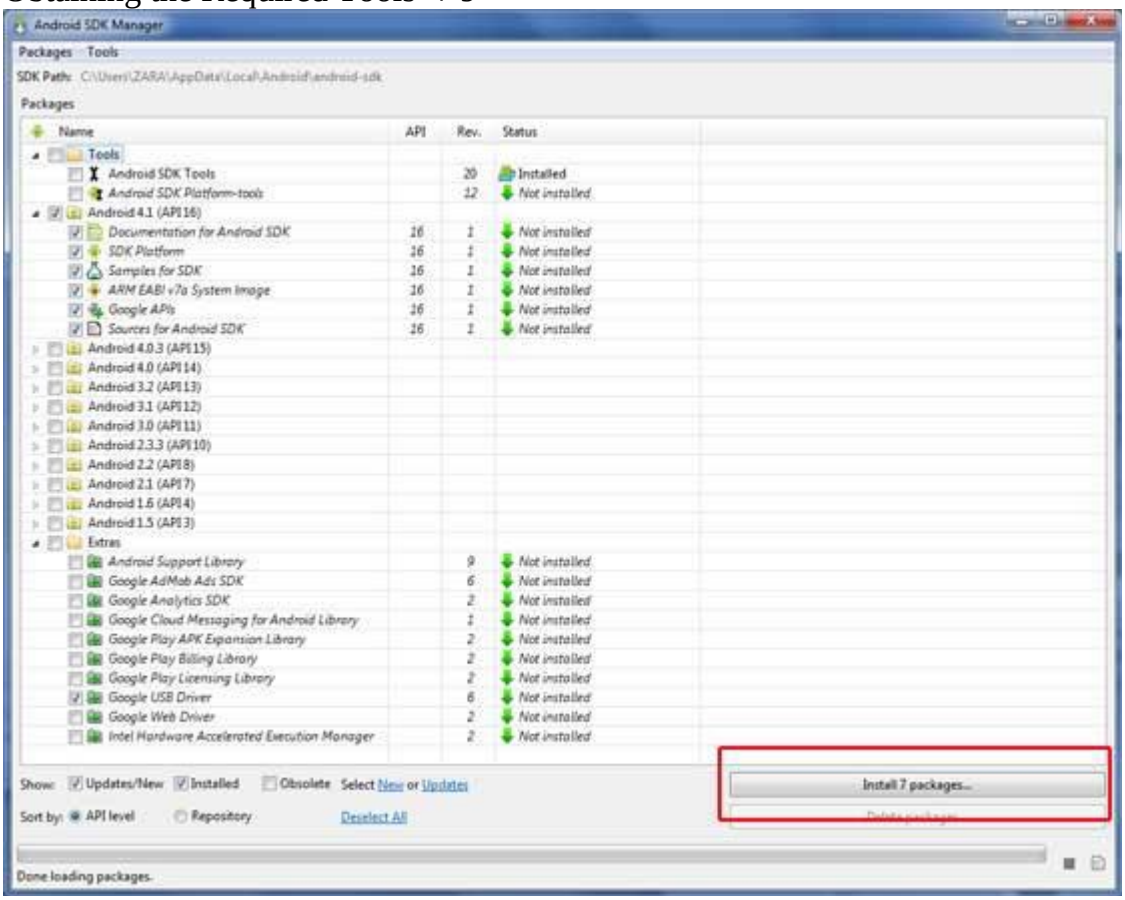
When Eclipse is first started, you will be prompted for a folder to use as your workspace. In Eclipse, a workspace is a folder where you store all your projects. Take the default suggested and click OK. Once Eclipse is up and running, select the Help ➪Install New Software… menu item (see

In the Install window that appears, type http://dl-ssl.google.com/android/eclipse in the text box (see

After a while, you will see the Developer Tools item appear in the middle of the window (see

Expand it, and it will reveal its content: Android DDMS, Android Development Tools, and Android

Hierarchy Viewer. Check all of them and click Next.
Obtaining the Required Tools ❙ 9



When you see the installation details, as shown in Figure 1-11, click Next.
You will be asked to review the licenses for the tools. Check the option to accept the license agreements

Eclipse will now proceed to download the tools from the Internet and install them (see Figure 1-This will take some time, so be patient.

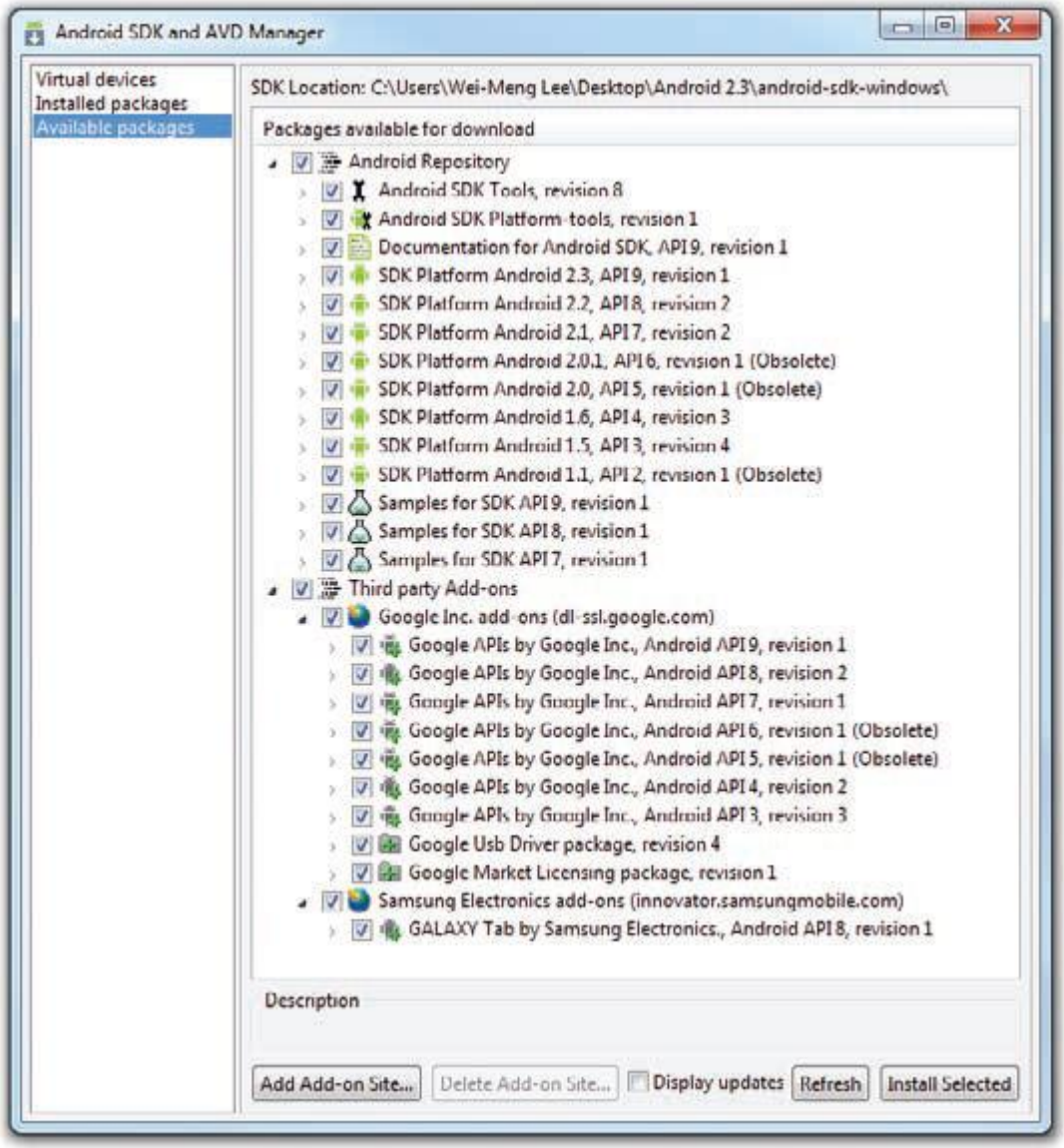
NOTE If you have any problems downloading the ADT, check out Google's help at http://developer.android.com/sdk/eclipse-adt.html#installing.
Once the ADT is installed, you will be prompted to restart Eclipse. After doing so, go to Window ➪
Preferences (see Figure 1-14).

Obtaining the Required Tools ❙ 11
Figure 1-14
In the Preferences window that appears, select Android. You will see an error message saying that
the SDK has not been set up (see Figure 1-15). Click OK to dismiss it.

/
Enter the location of the Android SDK folder. In this example, it would be C:\Android\ android-sdk-windows. Click OK.

- Creating Android Virtual Devices (AVD s)

The next step is to create AVD to be used for testing your Android applications. AVD stands for
Android Virtual Devices. An AVD is an emulator instance that enables you to model an actual device. Each AVD consists of a hardware profile, a mapping to a system image, as well as emulated storage, such as a secure digital (SD) card.You can create as many AVDs as you want in order to test your applications with several different confi gurations. This testing is important to confi rm the behavior of your application when it is run on different devices with varying capabilities. NOTE Appendix B will discuss some of the capabilities of the Android Emulator.
To create an AVD, go to Windows ➪ Android SDK and AVD Manager. Select the Available packages option in the left pane and expand the package name shown in the right pane. Figure 1-16 shows the various packages available for you to create AVDs to emulate the different versions of an Android device. Check the relevant tools, documentation, and platforms you need for your project.



Once you have selected the items you want, click the Install Selected button to download them. Because it takes a while to download from Google's server, it is a good idea to dow\y whatever you need immediately, and download the rest when you have more time.

Obtaining the Required Tools

NOTE For a start, you should at least select the latest SDK platform. At the time of writing, the latest SDK platform is SDK Platform Android 2.3, API 9, revision 1. Each version of the Android OS is identifi ed by an API level number. For example, Android 2.3 is level 9 (API 9), while Android 2.2 is level 8 (API 8), and so on. For each level, two platforms are available. For example, level 9 offers the following:

➤➤SDK Platform Android 2.3

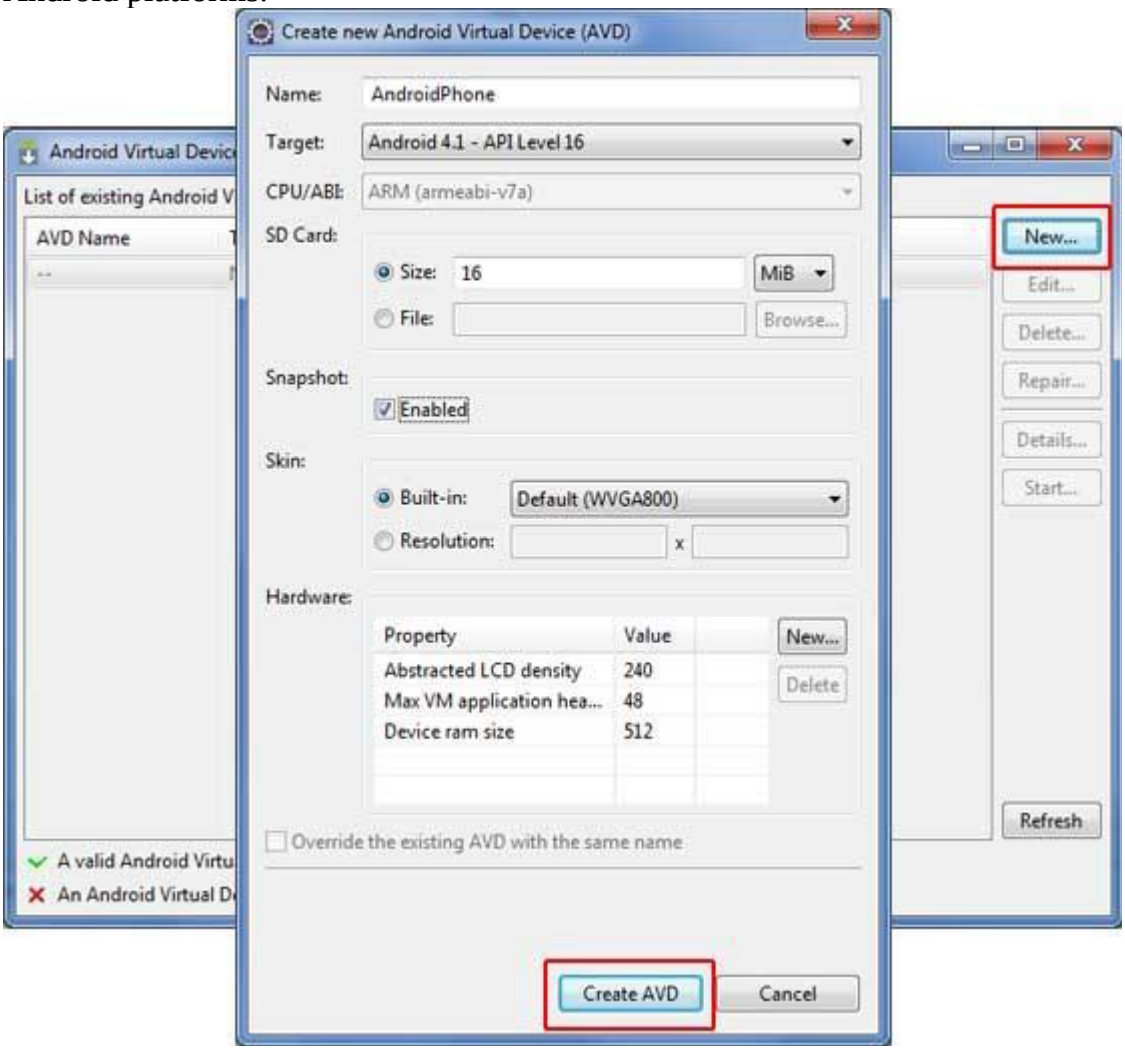
➤➤Google APIs by Google Inc.

The key difference between the two is that the Google APIs platform contains the Google Maps library. Therefore, if the application you are writing requires Google Maps, you need to create an AVD using the Google APIs platform (more on this in Chapter 9, "Location Based Services."

Click the Virtual Devices item in the left pane of the window. Then click the New… button located in the right pane of the window.

In the Create new Android Virtual Device (AVD) window, enter the items as shown in Click the Create AVD button when you are done.

In this case, you have created an AVD (put simply, an Android emulator) that emulates an Android device running version 2.3 of the OS. In addition to what you have created, you also have the option to emulate the device with an SD card and different screen densities and resolutions. NOTE Appendix B explains how to emulate the different types of Android devices. It is preferable to create a few AVDs with different API levels so that your application can be tested on different devices. The example shown in Figure 1-18 shows the many AVDs created to test your applications on a wide variety of different Android platforms.

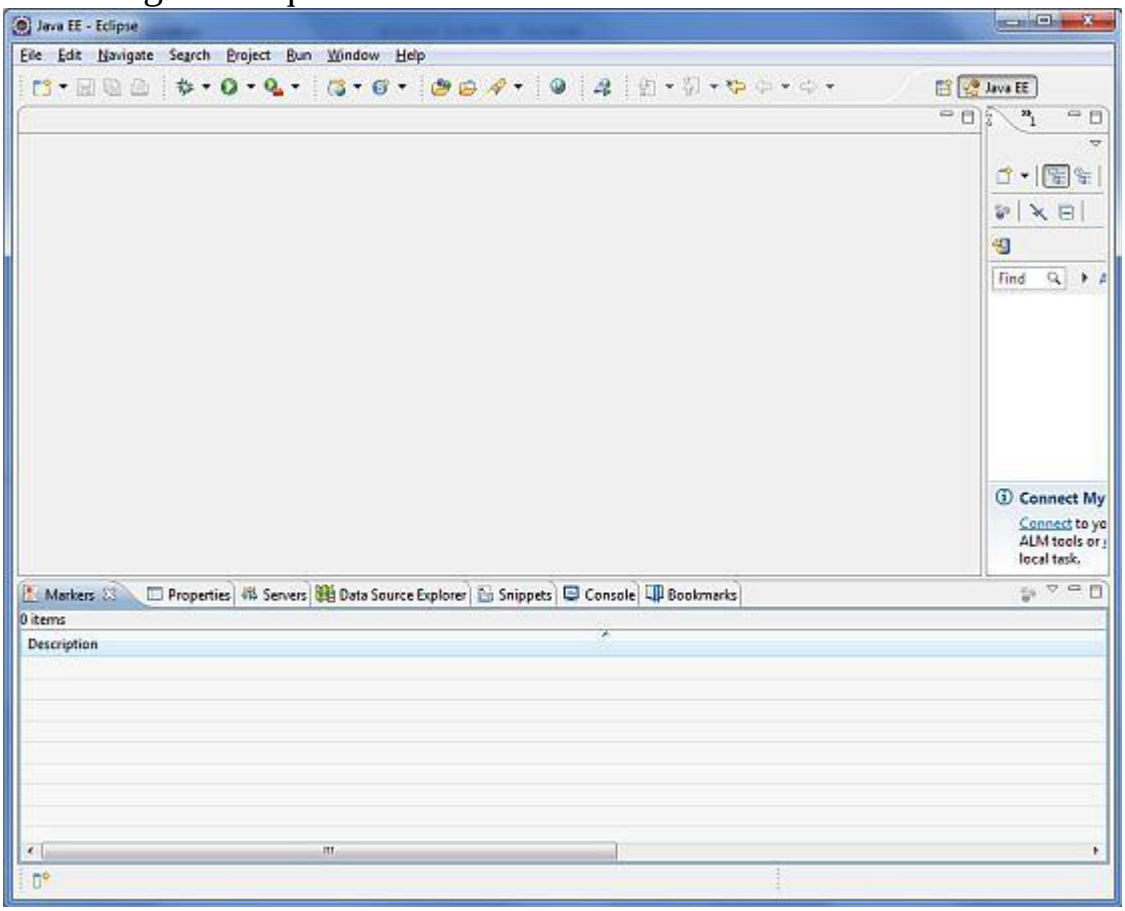


- creating your First Android Application

With all the tools and the SDK downloaded and installed, it is now time to start your engine! As
in all programming books, the fi rst example uses the ubiquitous Hello World application. This will enable you to have a detailed look at the various components that make up an Android project. So, without any further ado, let's dive straight in Creating Your First A try it out Android Application code fi le HelloWorld.zip available for download at Wrox.com

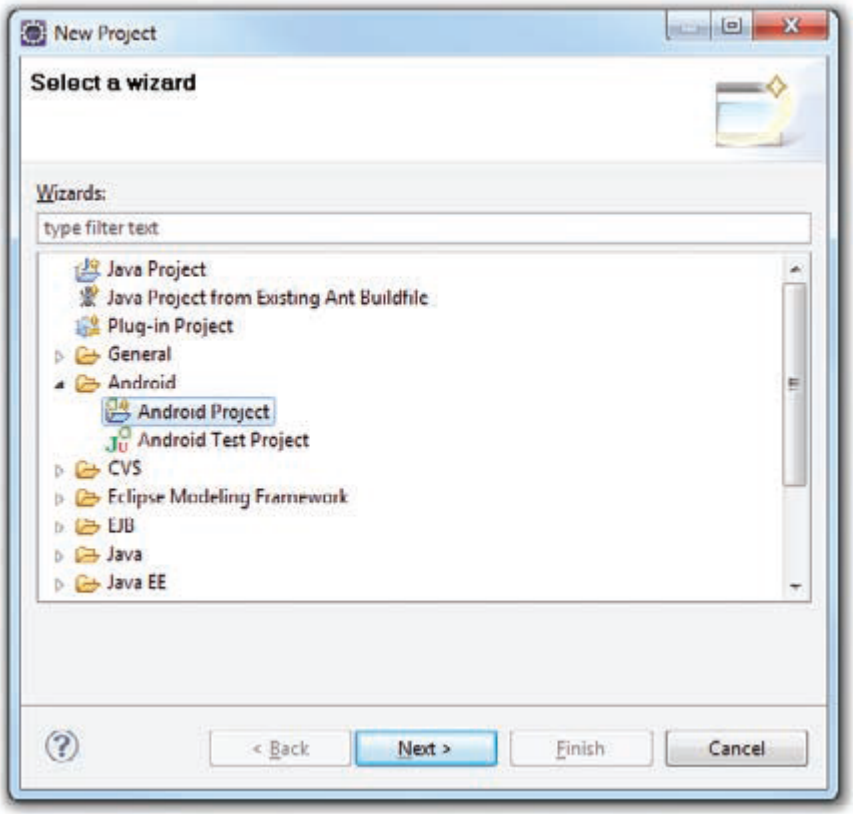
1- Using Eclipse, create a new project by selecting File ➪ Project…

Obtaining the Required Tools

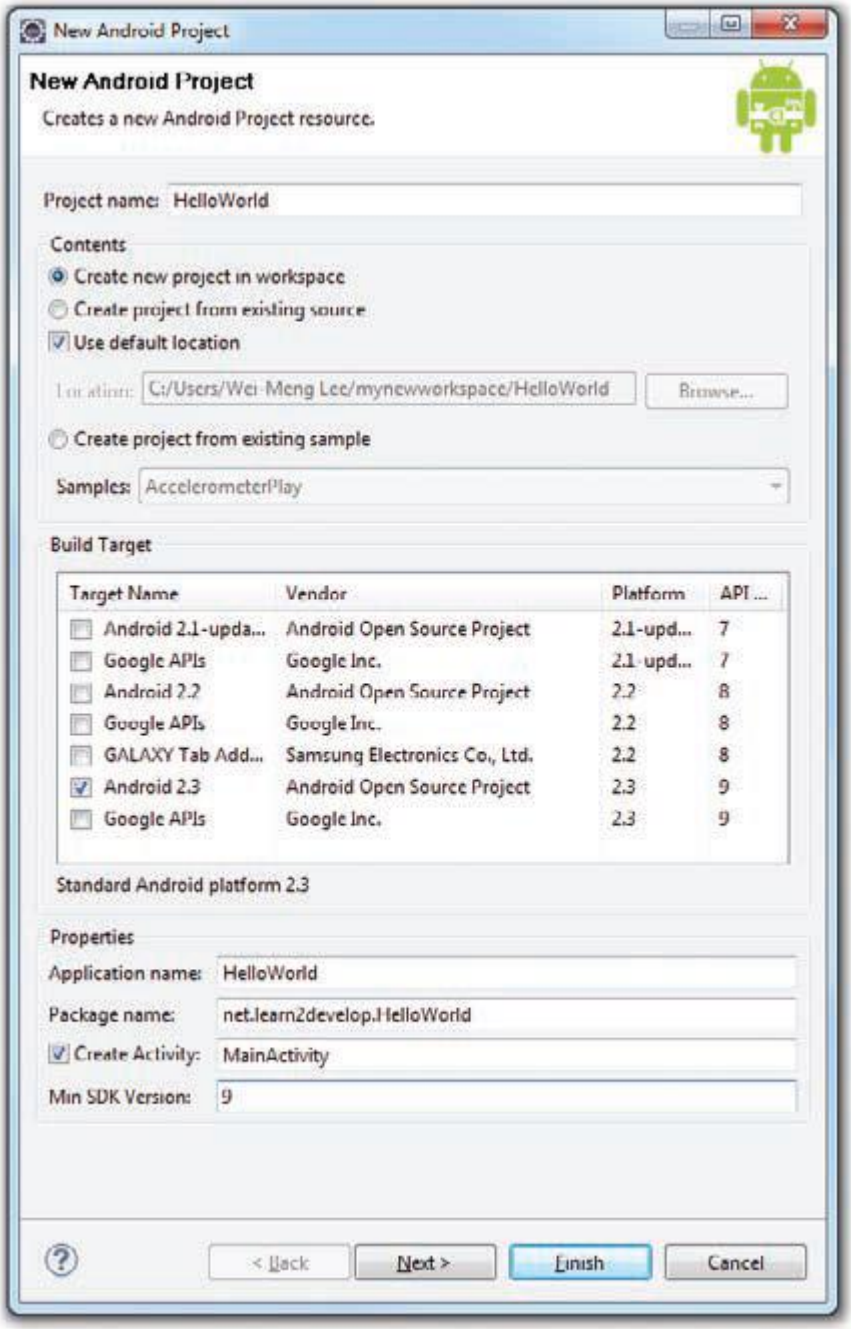


NOTE After you have created your first Android application, subsequent Android projects can be created by selecting File ➪ New ➪ Android Project.

2- Expand the Android folder and select Android Project (see Figure 1-20).



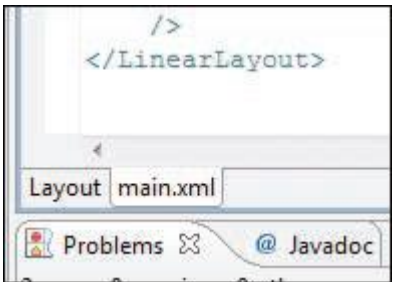
3 Name the Android project as shown in Figure 1-21 and then click Finish.



4- The Eclipse IDE should now look like Figure 1-22.

5- In the Package Explorer (located on the left of the Eclipse IDE), expand the Hello World project by clicking on the various arrows displayed to the left of each item in the project. In the res/layout folder, double-click the main.xml fi le (see Figure 1-23).

6. The main.xml file defines the user interface (UI) of your application. The default view is the Layout view, which lays out the activity graphically. To modify the UI, click the main.xml tab located at the bottom



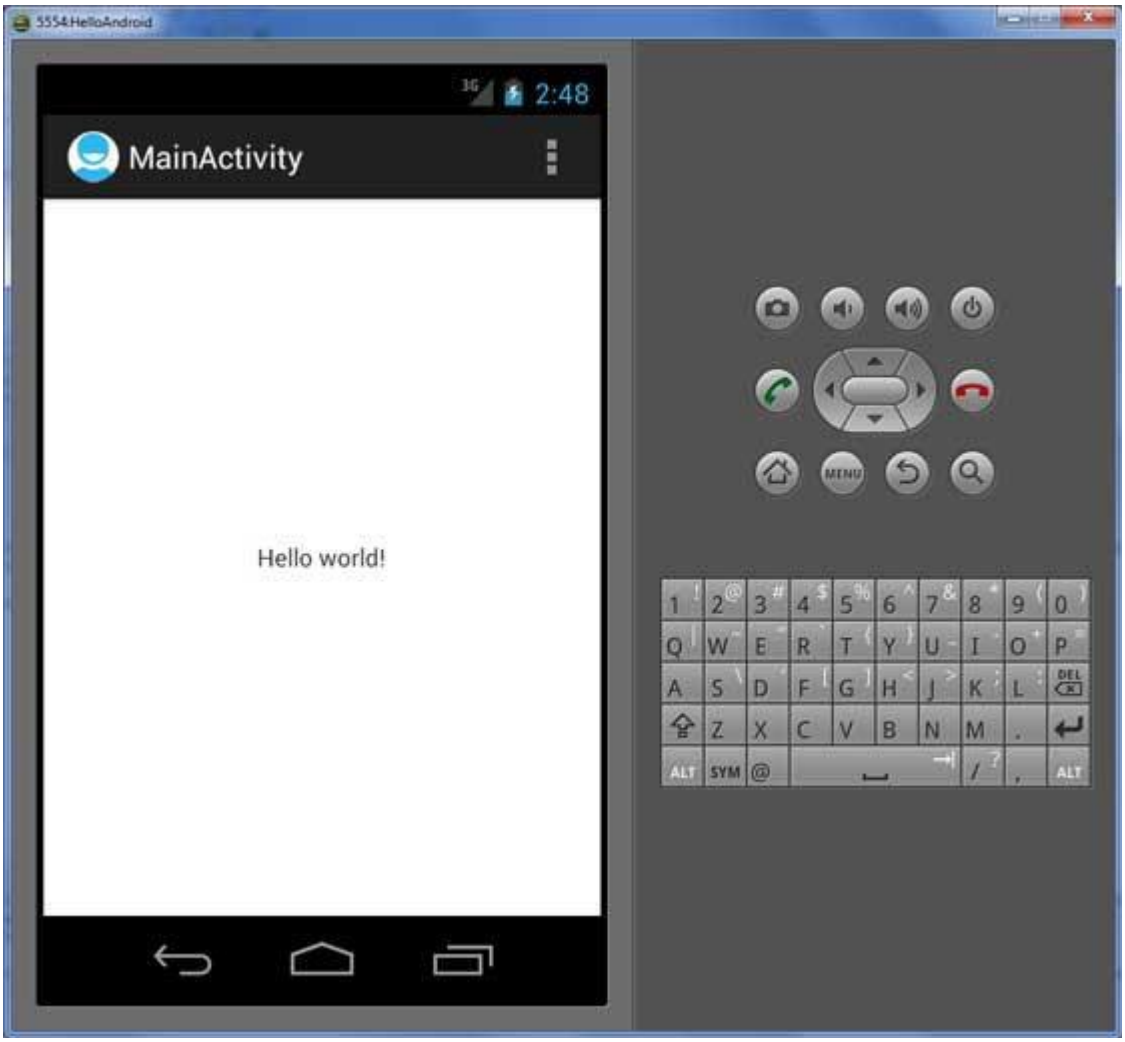
7- Add the following code in bold to the main.xml fi le:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
android:orientation="vertical"
android:layout_width="fill_parent"
android:layout_height="fill_parent" >
<TextView
android:layout_width="fill_parent"
android:layout_height="wrap_content"
android:text="@string/hello" />
<TextView
android:layout_width="fill_parent"
android:layout_height="wrap_content"
android:text="This is my first Android Application!" />
<Button
android:layout_width="fill_parent"
android:layout_height="wrap_content"
android:text="And this is a clickable button!" />
</LinearLayout>
```

8- To save the changes made to your project, press Ctrl+s.

9- You are now ready to test your application on the Android Emulator. Select the project name in Eclipse and press F11. You will be asked to select a way to debug the application. Select Android Application as shown in Figure 1-25 and click OK. NOTE Some Eclipse installations have an irritating bug: After creating a new project, Eclipse reports that it contains errors when you try to debug the application. This happens even when you have not modified any files or folders in the project. To solve this problem, simply delete the R.java fi le located under the gen/net .learn2develop.HelloWorld folder; Eclipse will automatically generate a new R.java fi le for you. Once this is done, the project shouldn't contain any errors. Obtaining the Required Tools

10-. The Android Emulator will now be started (if the emulator is locked, you need to slide the unlock button to unlock it first). Figure 1-26 shows the application running on the Android Emulator.


5554:HelloAndroid
2:48
MainActivity
Hello world!
MENU

2 - project details

2.1 Json technology
2.2 php language programming & MySql
2.3 google map Technology

2.1
JSON Overview :

Json or JavaScript Object Notation is a lightweight text-based open standard designed for human-readable data interchange. Conventions used by JSON are known to programmers which include C, C++, Java, Python, Perl etc.

- **JSON stands for JavaScript Object Notation.**
- **This format was specified by Douglas Crockford.**
- **This was designed for human-readable data interchange**
- **it has been extended from the JavaScript scripting language.**
- **The filename extension is .json**
- **JSON Internet Media type is application/json**
- **The Uniform Type Identifier is public.json**

Uses of JSON

- **It is used when writing JavaScript based application which includes browser extension and websites.**
- **JSON format is used for serializing & transmitting structured data over network connection.**
- **This is primarily used to transmit data between server and web application.**
- **Web Services and API.s use JSON format to provide public data.**
- **It can be used with modern programming languages.**

Characteristics of JSON :

- Easy to read and write JSON.
- **Lightweight text based interchange format**
- **Language independent.**

Simple Example in JSON

Example shows Books information stored using JSON considering language of books and there editions:

```
{
"book": [
{
"id":"01",
"language": "Java",
"edition": "third",
"author": "Herbert Schildt"
},
{
"id":"07",
"edition": "second"
"author": "E.Balagurusamy"
}]
}
```

After understanding the above program we will try another example, let's save the below code as json.htm:

```
<html>
<head>
<title>JSON example</title>
<script language="JavaScript" >
var object1 = { "language" : "Java", "author" : "herbert
schildt" };
document.write ("<h1>JSON with JavaScript example</h1>");
document.write ("<br>");
document.write("<h3>Language = " +
object1.language+"</h3>");
document.write("<h3>Author = " + object1.author+"</h3>");
var object2 = { "language" : "C++", "author" : "E-
Balagurusamy" };
document.write("<br>");
```

```
document.write("<h3>Language = " +
object2.language+"</h3>");
document.write ("<h3>Author = " + object2.author+"</h3>");
document.write ("<hr />");
document.write (object2.language + " programming language
can be studied " +
"from book written by " + object2.author);
document.write("<hr />");
</script>
</head>
<body>
</body>
</html>
```

Now let's try to open json.htm using IE or any other javascript enabled browser, this produces the following result: TUTORIALS POINT Simply Easy Learning

You can refer to JSON Objects chapter about more information on JSON objects.

JSON-Syntax

Let's have a quick look on JSON basic syntax. JSON syntax is basically considered as subset of JavaScript syntax, it includes the following:

 Data is represented in name/value pairs

 Curly braces hold objects and each name is followed by ':'(colon), the name/value pairs are separated by , (comma).

 Square brackets hold arrays and values are separated by ,(comma).

Below is a simple example:

```
{
"book": [
{
"id":"01",
"language": "Java",
"edition": "third",
"author": "Herbert Schildt"
},
{
"id":"07",
"language": "C++",
"edition": "second"
"author": "E.Balagurusamy"
}]
}
```

JSON supports following two data structures:

 Collection of name/value pairs: This Data Structure is supported by different programming language.

 Ordered list of values: It includes array, list, vector or sequence etc.

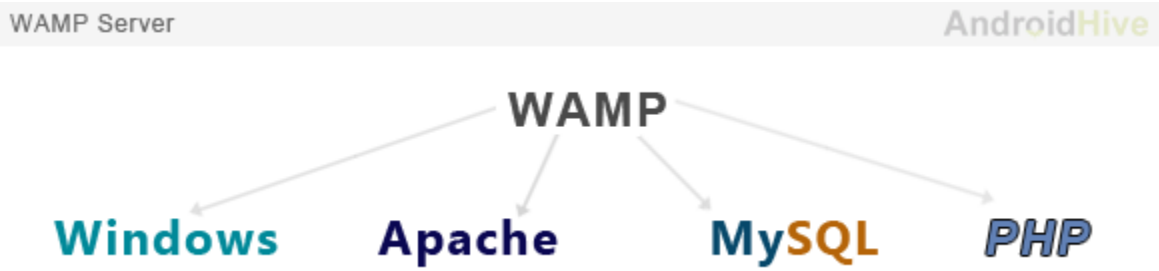
2.3 php & MYSQl

We are going see how to make a very simple Android app (in our case, a product inventory app) that will call a PHP script to perform basic CRUD(Create, Read, Update, Delete) operations. To brief you on the architecture, this is how it works. First your android app calls a PHP script in order to perform a data operation, lets say "create". The PHP script then connects to your MySQL database to perform the operation.
So the data flows from your Android app to PHP script then finally is stored in your MySQL database. All right, let's dig deeper.

Please note that the purpose of the code that I have provided here is to, ease you (beginner level) into connecting an Android app with PHP, MYSQL. You should not take this as a standard or secure coding practice. In production environment, you ideally need to avoid any code that will potentially inject vulnerabilities (like MYSQL Injection). MySQL injection itself is a huge topic and cannot be covered in this single post and that is not the agenda of this post either.

1. What is WAMP Server

WAMP is acronym for Windows, Apache, MySQL and PHP, Perl, Python. WAMP software is one click installer which creates an environment for developing PHP, MySQL web application. By installing this software you will be installing **Apache**, **MySQL** and **PHP**. Alternatively you can use XAMP Server also.



2. Installing and Running WAMP Server

Download & Install WAMP server from www.wampserver.com/en/. Once you have installed wamp server, launch the program from Start -> All Programs -> WampServer -> StartWampServer.

You can test your server by opening the address http://localhost/ in your browser.
Also you can check phpmyadmin by opening http://localhost/phpmyadmin

Following is a screen cast of Downloading and Installing WAMP Server.

3. Creating and Running PHP Project

Now you have the environment ready to develop a PHP & MySQL project. Go to the location where you installed WAMP server (In my case i installed in **C:\wamp**\) and go to **www** folder and create a new folder for your project. You have to place all your project files inside this folder.

Create a folder called **android_connect** and create a new php file called **test.php** and try out simple php code. After placing following code try to open http://localhost/android_connect/test.php and you should see a message called "**Welcome, I am connecting Android to PHP, MySQL**".

test.php

```
<?php

    echo "Welcome, I am connecting Android to PHP, MySQL";

?>
```

Following is a screen cast of Creating and Running a simple PHP project.

4. Creating MySQL Database and Tables

In this tutorial i am creating a simple database with one table. Through out this tutorial i am using same table to perform example operations. Now open **phpmyadmin** by opening the address http://localhost/phpmyadmin/ in your browser. You can use the PhpMyAdmin tool to create a database and a table.

I am creating a database named androidhive and a table called products.

```
CREATE DATABASE androidhive;

CREATE TABLE products(

pid int(11) primary key auto_increment,

name varchar(100) not null,

price decimal(10,2) not null,

description text,

created_at timestamp default now(),

updated_at timestamp

);
```

Following is a screen cast of Creating database and tables in phpmyadmin

5. Connecting to MySQL database using PHP

Now the actual server side coding starts. Create a PHP class to connect to MySQL database. The main purpose of this class is to open a connection to database and close the connection whenever its not needed. So create two files called **db_config.php** and **db_connect.php**

db_config.php – will have database connection variables
db_connect.php – a class file to connect to database

Following is code for two php files

db_config.php

db_config.php

```
<?php


/*
 * All database connection variables
 */


define('DB_USER', "root"); // db user
define('DB_PASSWORD', ""); // db password (mention your db password here)
define('DB_DATABASE', "androidhive"); // database name
define('DB_SERVER', "localhost"); // db server
?>
```

db_connect.php

db_connect.php

```
<?php
```

```
/**
 * A class file to connect to database
 */
class DB_CONNECT {

    // constructor
    function __construct() {
        // connecting to database
        $this->connect();
    }

    // destructor
    function __destruct() {
        // closing db connection
        $this->close();
    }

    /**
     * Function to connect with database
     */
    function connect() {
        // import database connection variables
        require_once __DIR__ . '/db_config.php';

        // Connecting to mysql database
        $con = mysql_connect(DB_SERVER, DB_USER, DB_PASSWORD) or
```

```
die(mysql_error());


        // Selecing database

        $db = mysql_select_db(DB_DATABASE) or die(mysql_error()) or
die(mysql_error());


        // returing connection cursor

        return $con;

    }


    /**
     * Function to close db connection
     */
    function close() {

        // closing db connection

        mysql_close();

    }


}


?>
```

Usage: When ever you want to connect to MySQL database and do some operations use the db_connect.php class like this

```
$db = new DB_CONNECT(); // creating class object(will open database
connection)
```

6. Basic MySQL CRUD Operations using PHP

In this tutorial i am covering basic **CRUD (Create, Read, Update, Delete)** operations on MySQL database using PHP.
If you are a novice about PHP and MySQL i suggest, you to learn basic PHP and SQL here.

6.a) Creating a row in MySQL (Creating a new product row)

In your PHP project create a new php file called **create_product.php** and place the following code. This file is mainly for creating a new product in products table.

In the following code i am reading product data via POST and storing them in products table. At the end i am echoing appropriate JSON as response.

create_product.php

```
<?php


/*
 * Following code will create a new product row
 * All product details are read from HTTP Post Request
 */


// array for JSON response
$response = array();


// check for required fields
if (isset($_POST['name']) && isset($_POST['price']) &&
isset($_POST['description'])) {


    $name = $_POST['name'];
    $price = $_POST['price'];
```

```
    $description = $_POST['description'];

    // include db connect class
    require_once __DIR__ . '/db_connect.php';

    // connecting to db
    $db = new DB_CONNECT();

    // mysql inserting a new row
    $result = mysql_query("INSERT INTO products(name, price,
description) VALUES('$name', '$price', '$description')");

    // check if row inserted or not
    if ($result) {
        // successfully inserted into database
        $response["success"] = 1;
        $response["message"] = "Product successfully created.";

        // echoing JSON response
        echo json_encode($response);
    } else {
        // failed to insert row
        $response["success"] = 0;
        $response["message"] = "Oops! An error occurred.";
```

```
        // echoing JSON response
        echo json_encode($response);
    }
} else {
    // required field is missing
    $response["success"] = 0;
    $response["message"] = "Required field(s) is missing";

    // echoing JSON response
    echo json_encode($response);
}
?>
```

For the above code JSON response will be like

When POST param(s) is missing

```
{
    "success": 0,
    "message": "Required field(s) is missing"
}
```

When product is successfully created

```
{
    "success": 1,
    "message": "Product successfully created."
}
```

When error occurred while inserting data

```
{
```

```
    "success": 0,

    "message": "Oops! An error occurred."

}
```

6.b) Reading a Row from MySQL (Reading product details)

Create a new php file called get_product_details.php and write the following code. This file will get single product details by taking product id (pid) as post parameter.

get_product_details.php

```
<?php


/*

 * Following code will get single product details

 * A product is identified by product id (pid)

 */


// array for JSON response

$response = array();


// include db connect class

require_once __DIR__ . '/db_connect.php';


// connecting to db

$db = new DB_CONNECT();


// check for post data

if (isset($_GET["pid"])) {
```

```
$pid = $_GET['pid'];

// get a product from products table
$result = mysql_query("SELECT *FROM products WHERE pid = $pid");

if (!empty($result)) {
    // check for empty result
    if (mysql_num_rows($result) > 0) {

        $result = mysql_fetch_array($result);

        $product = array();
        $product["pid"] = $result["pid"];
        $product["name"] = $result["name"];
        $product["price"] = $result["price"];
        $product["description"] = $result["description"];
        $product["created_at"] = $result["created_at"];
        $product["updated_at"] = $result["updated_at"];
        // success
        $response["success"] = 1;

        // user node
        $response["product"] = array();

        array_push($response["product"], $product);
```

```
            // echoing JSON response
            echo json_encode($response);
        } else {
            // no product found
            $response["success"] = 0;
            $response["message"] = "No product found";

            // echo no users JSON
            echo json_encode($response);
        }
    } else {
        // no product found
        $response["success"] = 0;
        $response["message"] = "No product found";

        // echo no users JSON
        echo json_encode($response);
    }
} else {
    // required field is missing
    $response["success"] = 0;
    $response["message"] = "Required field(s) is missing";

    // echoing JSON response
```

```
    echo json_encode($response);
}
?>
```

The json response for the above file will be

When successfully getting product details

```
{
    "success": 1,
    "product": [
        {
            "pid": "1",
            "name": "iPHone 4S",
            "price": "300.00",
            "description": "iPhone 4S white",
            "created_at": "2012-04-29 01:41:42",
            "updated_at": "0000-00-00 00:00:00"
        }
    ]
}
```

When no product found with matched pid

```
{
    "success": 0,
    "message": "No product found"
}
```

6.c) Reading All Rows from MySQL (Reading all products)

We need a json to list all the products on android device. So create a new php file named **get_all_products.php** and write following code.

get_all_products.php

```
<?php


/*

 * Following code will list all the products

 */


// array for JSON response

$response = array();


// include db connect class

require_once __DIR__ . '/db_connect.php';


// connecting to db

$db = new DB_CONNECT();


// get all products from products table

$result = mysql_query("SELECT *FROM products") or die(mysql_error());


// check for empty result

if (mysql_num_rows($result) > 0) {

    // looping through all results
```

```
    // products node
    $response["products"] = array();

    while ($row = mysql_fetch_array($result)) {
        // temp user array
        $product = array();
        $product["pid"] = $row["pid"];
        $product["name"] = $row["name"];
        $product["price"] = $row["price"];
        $product["created_at"] = $row["created_at"];
        $product["updated_at"] = $row["updated_at"];

        // push single product into final response array
        array_push($response["products"], $product);
    }
    // success
    $response["success"] = 1;

    // echoing JSON response
    echo json_encode($response);
} else {
    // no products found
    $response["success"] = 0;
    $response["message"] = "No products found";
```

```
    // echo no users JSON
    echo json_encode($response);
}
?>
```

And the JSON response for above code

Listing all Products

```
{
    "products": [
        {
            "pid": "1",
            "name": "iPhone 4S",
            "price": "300.00",
            "created_at": "2012-04-29 02:04:02",
            "updated_at": "0000-00-00 00:00:00"
        },
        {
            "pid": "2",
            "name": "Macbook Pro",
            "price": "600.00",
            "created_at": "2012-04-29 02:04:51",
            "updated_at": "0000-00-00 00:00:00"
        },
        {
            "pid": "3",
            "name": "Macbook Air",
```

```
            "price": "800.00",
            "created_at": "2012-04-29 02:05:57",
            "updated_at": "0000-00-00 00:00:00"
        },
        {
            "pid": "4",
            "name": "OS X Lion",
            "price": "100.00",
            "created_at": "2012-04-29 02:07:14",
            "updated_at": "0000-00-00 00:00:00"
        }
    ],
    "success": 1
}
```


When products not found


```
{
    "success": 0,
    "message": "No products found"
}
```

6.d) Updating a Row in MySQL (Updating product details)

Create a php file named **update_product.php** to update product details. Each product is identified by pid.

update_product.php

```
<?php


/*
 * Following code will update a product information
 * A product is identified by product id (pid)
 */


// array for JSON response
$response = array();


// check for required fields
if (isset($_POST['pid']) && isset($_POST['name']) &&
isset($_POST['price']) && isset($_POST['description'])) {


    $pid = $_POST['pid'];
    $name = $_POST['name'];
    $price = $_POST['price'];
    $description = $_POST['description'];


    // include db connect class
    require_once __DIR__ . '/db_connect.php';
```

```
    // connecting to db
    $db = new DB_CONNECT();

    // mysql update row with matched pid
    $result = mysql_query("UPDATE products SET name = '$name', price =
'$price', description = '$description' WHERE pid = $pid");

    // check if row inserted or not
    if ($result) {
        // successfully updated
        $response["success"] = 1;
        $response["message"] = "Product successfully updated.";

        // echoing JSON response
        echo json_encode($response);
    } else {

    }
} else {
    // required field is missing
    $response["success"] = 0;
    $response["message"] = "Required field(s) is missing";

    // echoing JSON response
    echo json_encode($response);
```

```
}

?>
```

The json reponse of above code, when product is updated successfully

```
{

    "success": 1,

    "message": "Product successfully updated."

}
```

Run your project and test the application. You might get lot of errors. Always use **Log Cat** to debug your application, and if you couldn't solve your errors please do comment here.

2.3 - Google Map

– Introduction To Google Maps?

Google Maps began as a C++ desktop program designed by Lars and Jens Eilstrup Rasmussen at Where 2 Technologies. In October 2004, the company was acquired by Google, who converted it into a web application. The same month, Google acquired Keyhole, a geospatial data visualization company whose marquee application suite, Earth Viewer, emerged as the highly successful Google Earth application in 2005 while other aspects of its core technology were integrated into Google Maps. In September 2004, Google acquired Zip Dash, a company that provided real time traffic analysis. Google Maps was launched shortly thereafter in February 2005.

Google Maps uses a close variant of the Mercator projection, and therefore cannot accurately show areas around the poles. The current redesigned version of the desktop application was made available in 2013, alongside the "classic" (pre-2013) version. Google Maps for mobile is the world's most popular app for smartphones, with over 54% of global smartphone owners using it at least once during the month of August 2013.[3]

2.0.3 Extensibility and customization

As Google Maps is coded almost entirely in JavaScript and XML, some end users have reverse-engineered the tool and produced client-side scripts and server-side hooks which allowed a user or website to introduce expanded or customized features into the Google Maps interface.

Using the core engine and the map/satellite images hosted by Google, such tools can introduce custom location icons, location coordinates and metadata, and even custom map image sources into the Google Maps interface. The script-insertion tool Grease monkey provides a large number of client-side scripts to customize Google Maps data.

Combinations with photo sharing websites, such as Flickr, are used to create "memory maps". [*clarification needed What are memory maps?*] Using copies of the Keyhole satellite photos, users have taken advantage of image annotation features to provide personal histories and information regarding particular points of the area.

- Google Maps API

After the success of reverse-engineered mash ups such as chicagocrime.org and housingmaps.com, Google launched the Google Maps API in June 2005[15] to allow developers to integrate Google Maps into their websites. It is a free service, and currently

does not contain ads, but Google states in their terms of use that they reserve the right to display ads in the future.[16]

By using the Google Maps API, it is possible to embed Google Maps site into an external website, on to which site specific data can be overlaid.[17] Although initially only a JavaScript API, the Maps API was expanded to include an API for Adobe Flash applications (but this has been deprecated), a service for retrieving static map images, and web services for performing geocoding, generating driving directions, and obtaining elevation profiles. Over 1,000,000[18] web sites use the Google Maps API, making it the most heavily used web application development API.[19]

The Google Maps API is free for commercial use, provided that the site on which it is being used is publicly accessible and does not charge for access, and is not generating more than 25 000 map accesses a day.[20][21] Sites that do not meet these requirements can purchase the Google Maps API for Business.[22]

The success of the Google Maps API has spawned a number of competing alternatives, including the Yahoo! Maps API, Bing Maps Platform, MapQuest Development Platform or Leaflet and Open Layers via self-hosting.[*citation needed*]

In September 2011, Google announced it would discontinue a number of its products, including Google Maps API for Flash.[23]

-Google Maps for mobile and other devices

In October 2005,[24] Google introduced a Java application called Google Maps for Mobile, intended to run on any Java-based phone or mobile device. Many of the web-based site's features are provided in the application.[25]

On November 4, 2009, Google Maps Navigation was released in conjunction with Google Android OS 2.0 Eclair on the Motorola Droid, adding voice commands, traffic reports, and street view support.[26] The initial release was limited to the United States.[27] The service was launched in the UK on 20 April 2010 and in large parts of continental western Europe on June 9, 2010.[28]

In March 2011 Google Vice President of Location Service, Marissa Mayer said that Google provided map services to 150 million users.[29]

In June 2012, Apple announced that they would replace Google Maps with their own maps service from iOS 6. However, on December 13, 2012, Google announced the availability of Google Maps in the Apple App Store, starting with the iPhone version.[30][31] Just hours after the Google Maps iOS app was released, it became the top free app in the App Store.[32]

It was announced on December 6, 2012 that Google Maps would make its way to the Wii U, Nintendo's eighth generation video game home console.[33] Accessibility to a variant of Google Street View on the Wii U was released in February 14, 2013 as an initially free downloadable app available via the Nintendo eShop. As of October 31, 2013, the app is no longer available for free.

- Google Maps and Street View parameters

A sharable parametrized split view. In the bottom half the *Street Maps* is shown, while in the top half the *Street View* view is shown. A user can zoom-in and out either of them independently of the zoom level of each. This feature is only available in classic Google Maps, and is missing in the redesigned new Maps.

In Google Maps, URL parameters are sometimes data-driven in their limits and the user interface presented by the web may or may not reflect those limits. In particular, the zoom level (denoted by the *z* parameter) supported varies. In less populated regions, the supported zoom levels might stop at around 18. In earlier versions of the API, specifying these higher values might result in no image being displayed. In Western cities, the supported zoom level generally stops at about 20. In some isolated cases, the data supports up to 23 or greater, as in these elephants or this view of people at a well in Chad, Africa. Different versions of the API and web interfaces may or may not fully support these higher levels.

As of October 2010, the Google map viewer updates its zoom bar to allow the user to zoom all the way when centered over areas that support higher zoom levels. In the classic version, customized (split) Map and Street View views can be saved as parametrized URL links and shared by users. In the 2013 redesigned version, a much smaller overview window becomes interactive upon hovering it and enables a user to change the location and rotate the Street View and save a parametrized view, as well.

Google biking directions

On March 10, 2010, Google added the possibility to search for biking directions on Google Maps. Optimal routes are calculated from traffic, elevation change, bike paths, bike lanes, and preferred roads for biking. An optional layer also shows different types of biking paths, from bike-only trails to preferred roads. This service is available in the US[109][110] and Canada,[111] and is in beta testing in some other countries such as Singapore. In May 2013, Google Map's biking direction added 6 more European countries: France, Ireland, Germany, Liechtenstein, Luxembourg and Poland.[112]

further functionality to their maps.[113] This has been resolved with version 2.78.[*citation needed*]

Google Street View

Main article: Google Street View

On May 25, 2007, Google released Google Street View, a new feature of Google Maps which provides 360° panoramic street-level views of various locations. On the date of release, the feature only included five cities in the US. It has since expanded to thousands of locations around the world. In July 2009, Google began mapping college campuses and surrounding paths and trails.

Street View garnered much controversy after its release because of privacy concerns about the uncensored nature of the panoramic photographs.[114][115] Since then, Google has begun blurring faces and license plates through automatic and face detection.[116][117] As a by-product, many unrelated characters (traffic signs, road information, street advertising etc.) have often been blurred.

Google Underwater Street View

In late 2014, Google launched Google Underwater Street View, including 2,300 kilometres (1,400 mi) of the Australian Great Barrier Reef in 3D. The images are taken by special cameras which turn 360 degrees and shoot in every 3 seconds.[118]

My Places

Previous versions of Google Maps (now called "classic maps") had a feature called 'My Places', allowing users to create maps with many locations saved as markers or 'pins'. These maps were used to reference places frequently visited or planned to be visited, planning or recording trip itineraries, etc. For example a person could create a map of their favorite restaurants and share it with friends. Users could customize the look of markers, add comments to each marker, create routes, etc. These maps could easily be shared and were accessible from any browser when signed in, and from the mobile app for android. Multiple users could also collaborate on editing maps, and formerly maps could be made public to search by other users.

In 2013 Google started phasing out the 'My Places' features, including 'my maps'. My Places is not included in the 'New Google Maps' for browsers, or in the Android app since version 7 launched in July 2013. Currently users can revert to 'Classic Maps' from web browsers to access, edit, and download their maps, this will not be possible once the option to revert to classic maps is removed. Google initially stated that the feature would be returned to future versions of the mobile app when version 7 was launched.[131] However, since then there have been no indications that google plans to do so, and as of version 7.7 in March 2014, the feature has not been added. Many users have complained

about the lack of this feature, with no response from Google.[132] Some users have downloaded prior versions of the Google Maps app, before version 7, which still support 'My Maps', though the feature can be unreliable.[133]

Currently users can download their maps as .kml files which can be used by Google Earth and third-party apps, and also import the maps into Google Maps Engine.

Maps data

Google Maps has difficulty processing ZIP code data when dealing with cross-boundary situations. For example, users are unable to obtain a route from Hong Kong to Shenzhen via Shatoujiao, because Google Maps does not display and plan the road map of two overlapping places.[142]

Sometimes the names of geographical locations are inaccurate. An example of this type of error could be found in Google Maps Laona, Wisconsin. In this instance Google Maps identified one of the town's two major lakes as "Dawson Lake";[143] the USGS, State of Wisconsin, and local government maps all identify that map feature as "Scattered Rice Lake".[144] Another example was Samoa, labeled with "Western Samoa", accurate only as recently as 1997.

In 2011, Google Maps mislabeled the entire length of US Route 30 from Astoria, Oregon to Atlantic City, New Jersey as being concurrent with Quebec Route 366.[145]

According to Google Maps, there is Via Mussolini in Padova, Italy. In fact, the street is called IV novembre.[146]

Business listings

Google collates business listings from multiple on-line and off-line sources. To reduce duplication in the index, Google's algorithm combines listings automatically based on address, phone number, or geocode,[147] but sometimes information for separate businesses will be inadvertently merged with each other, resulting in listings inaccurately incorporating elements from multiple businesses.[148]

Google has also recruited volunteers to check and correct ground truth data.[149]

Google Maps can easily be manipulated by businesses which aren't physically located in the area they record a listing.[150] There are cases of people abusing Google Places to overtake their competition where they place a number of unverified listings on online directory sites knowing the information will roll across to Google (duplicate sites). The people that update these listings do not use a registered business name. Keywords and location details are placed on their Google Places business title which overtake credible business listings. In Australia in particular, genuine companies and businesses are noticing a trend of fake business listings in a variety of industries.[*citation needed*]

Imagery

Street map overlays, in some areas, may not match up precisely with the corresponding satellite images. The street data may be entirely erroneous, or simply out of date: "The biggest challenge is the currency of data, the authenticity of data," said Google Earth representative Brian McClendon. As a result, in March 2008 Google added a feature to edit the locations of houses and businesses

Restrictions have been placed on Google Maps through the apparent censoring of locations deemed potential security threats. In some cases the area of redaction is for specific buildings, but in other cases, such as Washington, D.C the restriction is to use outdated imagery. These locations are fully listed on Satellite map images with missing or unclear data.

3-project implementation

- user search by medical drug name and the app return coordinates of each pharmacy that has this drug

- first we use MySQL DataBase 

  we used MySQL in order to be available for each pharmacist to determine If the drug is exist in his pharmacy or not , and also add pharmacy information such as name, address, phone number and coordinates.

- Android 

Android is an open source OS which is spearded widely.

Most of mobile phone runs using this OS.

We used android because most of people have android mobile phones.

Android application is easier to publish than IOS

GooglePlay allow anyone to publish his app freely without any charge.

AppStore need to pay in order to publish their apps , so these apps are not free.

- Google Maps.

We implement Google maps API in android to show a marker

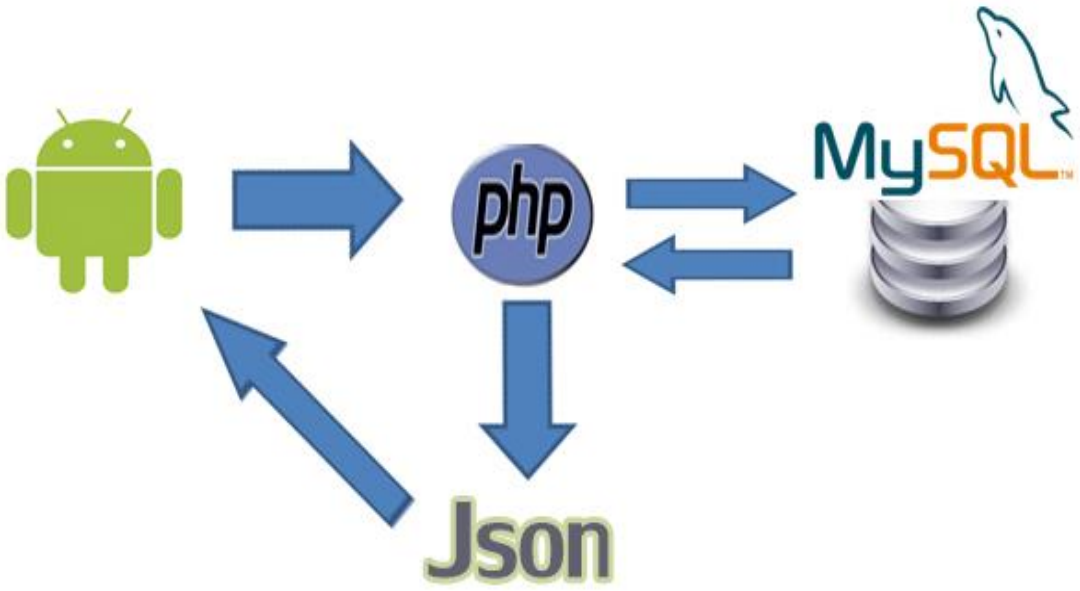
Of each pharmacy and show details for each pharmacy on its marker.

Google maps are an awesome way to reach any location you want.

They define routes , locations and also transportation means.

-in our application each marker has information name , address and phone number of each pharmacy

- Connection between android and MySQL



There's no direct connection between android and MySQL

But we can make connection by using intermediate element

Php and Json.

First user enter medical drug name .

Android get that name and send drug name to php and make query and return pharmacy name , address and phone number to php again .

Then php formats this data into json formate

Android receives that data and add markers with these details.

-Php 

Is light and free language that easily connect to database and also to android using json, its server more cheap than other languages

-Json

JavaScript Object Notation

It has two formats jsonArray and jsonObject

jsonArray is array of objects each object contains information about each pharmacy

jsonObject is an object of data about each pharmacy.

- Code from the project
- Method used in connection

```
// check for request method
if(method == "POST"){
    // request method is POST
    // defaultHttpClient
    DefaultHttpClient httpClient = new DefaultHttpClient();
    HttpPost httpPost = new HttpPost(url);
    httpPost.setEntity(new UrlEncodedFormEntity(params));

    HttpResponse httpResponse = httpClient.execute(httpPost);
    HttpEntity httpEntity = httpResponse.getEntity();
    is = httpEntity.getContent();

}else if(method == "GET"){
    // request method is GET
    DefaultHttpClient httpClient = new DefaultHttpClient();
    String paramString = URLEncodedUtils.format(params, "utf-8");
    url += "?" + paramString;
    HttpGet httpGet = new HttpGet(url);

    HttpResponse httpResponse = httpClient.execute(httpGet);
    HttpEntity httpEntity = httpResponse.getEntity();
    is = httpEntity.getContent();
}
```

There's two methods POST and GET.

POST send data hidden and can post multiple elements at once

But GET send data normally and send and receive one element at once

- Any pharmacist can add his pharmacy information using our app

```
private void initViews() {
    name_tv = (TextView) findViewById(R.id.name);
    address_tv = (TextView) findViewById(R.id.address);
    latitude_tv = (TextView) findViewById(R.id.latitude);
    longitude_tv = (TextView) findViewById(R.id.longitude);
    phone_tv = (TextView) findViewById(R.id.phone);
    availability_tv = (TextView) findViewById(R.id.availability);
}
```

This code take name ,address ,coordinates and phone number for each pharmacy and store this information in database

- Get data form json

```
try {
    success = json.getInt(TAG_SUCCESS);
    JSONArray pharmacies = json.getJSONArray("pharmacies");

    if (success == 1) {
        for (int count = 0; count < pharmacies.length(); count++) {
            JSONObject pharmacy = pharmacies.getJSONObject(0);
            pharmaciesNames.add(pharmacy.getString("name"));
            double lat = Double.parseDouble(pharmacy
                    .getString("latitude"));
            double lng = Double.parseDouble(pharmacy
                    .getString("longitude"));

            locationsLatLng.add(new LatLng(lat, lng));
            Log.d("pharmacy id : ", pharmacy.getString("id"));
            Log.d("pharmacy name : ", pharmacy.getString("name"));
        }
```

Json data is array of objects so we make counter in or loop to loop on each object and extract information about each pharmacy.

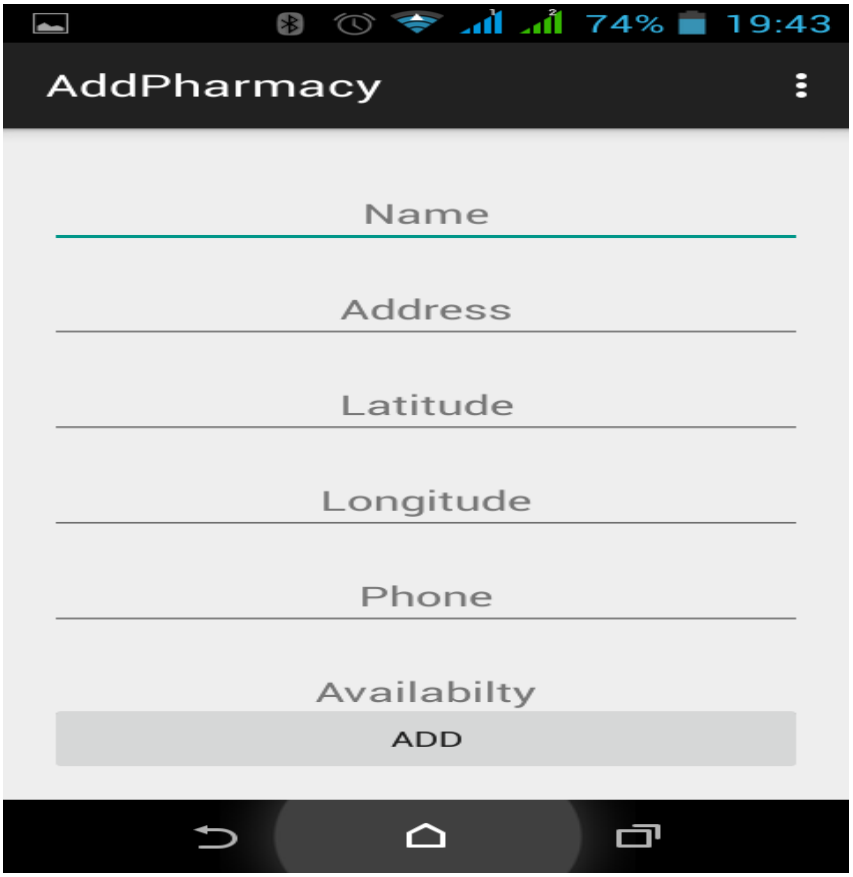
- Add marker

```
public void addMarkersToMap() {
    for (int i = 0; i < pharmaciesNames.size(); i++) {
        MarkerOptions pharmacyMarker = new MarkerOptions();
        pharmacyMarker.position(locationsLatLng.get(i));
        pharmacyMarker.icon(BitmapDescriptorFactory
                .defaultMarker(BitmapDescriptorFactory.HUE_MAGENTA));
        pharmacyMarker.title(pharmaciesNames.get(i));
        map.addMarker(pharmacyMarker);
    }
}
```

Here we make marker for each pharmacy with its information

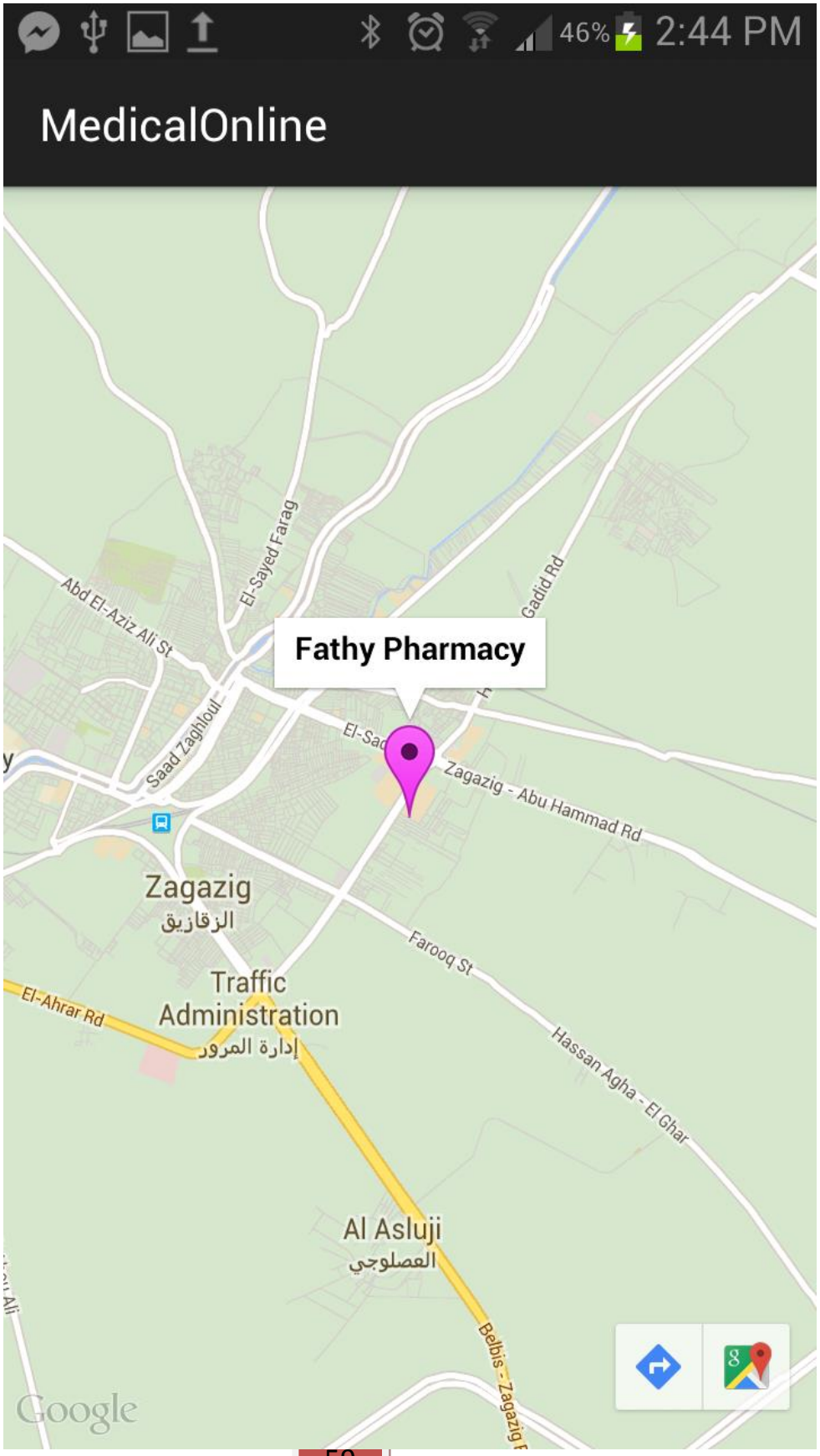
And add the marker to the map.

-The user logs all places that sell drugs and recording the coordinates to which they relate to indicate its location on the map



- As shown in front of you it has been registered by the pharmacy on its title and its coordinates on MAB and clarified and marked the place where located


49%
3:32 PM
MainPoint
panadole
FIND


46% 2:44 PM
MedicalOnline
Fathy Pharmacy
El-Sayed Farag
Abd El-Aziz Ali St
Gaddid Rd
Saad Zaghloul
Zagazig - Abu Hammad Rd
Zagazig
الزقازيق
Farooq St
Traffic
Administration
إدارة المرور
El-Ahrar Rd
Hassan Agha - El Ghar
Al Asluji
العصلوجي
Google

- Problems

1- Connect android to MySQL

We find difficulty in connecting android to MySQL as there isn't and direct connect between them.

So we use php and Json as intermediate between them.

2- Adding marker to map , the buffer was reading one line and return

Null pointer instead of reading other lines so we make the code ignore spaces.

3- The app wasn't showing the map because of map key.

- Future work

Our app is a good start for a much more useful and time saver application that can save more time and effort.

For future development on our app , there are many items that would make the app better.

1- Add form to make each pharmacist specify work timetable of

The pharmacy

2- Another form for adding quantity of the drug for quantities sales

3- Form for drug delivery

Refrences & conclusion

-Man can help himself and help others using technology and there is no help is the highest disease to spend their treatment by the simplest ways to connect them to the whereabouts of medicines and facilitate the procurement process

- In the future we can activate this application as a buyer in pharmacies to facilitate the circulation of medicines between them and the patients process

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