

Assignment 1

POE

15009851

Dylan Matthews

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## Specifications

### Question 1

We were tasked with creating an android which will get the current device's current location using the GPS Location Provider. By using a Geocoder we can get the current street address. Update the street address when the device moves. The address must be limited to one result. This result must include a street address, locality, postcode and country. This information must be shown in a text view. Must ask the user for their permission to use their phone function, sms's, gps, access contacts. For 1B we must use a map activity to show the current gps location, with a marker and a heading for the marker. The marker location must update when the location. There is a navigation drawer to menu to each activity.

### Question 2

We are tasked to make up scenario. I made a specials app which will allow users to find local specials around them. The user would select their area on the screen. And keep clicking on what they want to find. I found all the info from instore, Facebook and other online services. The person would be able to get a polyline on a map to the place from their current location, share the special via sms or whatsapp, phone the store.

There is a navigation drawer to menu to each activity. There is a how to use, reading of database info, methods with parameters.

## UML Diagrams

<b>Card</b>
- line1 : String - line2 : String - line3 : String - image : String
+ Card (name : String, des : String, time : String) + Card (line1 : String) + Card (location : String, des : String, img : String, n : int) + getImage () : String + getLine1() : String + getLine2() : String + getLine3 () : String

<b>cardarray2</b>
- TAG : String - cardList : List<Card>
+ cardarray2 (context: Context, textViewResourceId : int) + add (object : Card) : void + getCount () : void + getItem (index : int) : Card + getView (position : int, convertView : View, parent : ViewGroup )

<b>CardArrayAdapter</b>
- TAG : String - cardList : List <Card>
+ CardArrayAdapter (context : Context, textViewResourceId : int) + add (object : Card) : void + getcount () : int + Card (index : int) : Card + getView (postion : int, convertView : View, parent : ViewGroup ) : View

<b>navlogin</b>
- mAuth : FirebaseAuth - mAuthListener : FirebaseAuth.AuthStateListener - em : EditText - pa : EditText - loginpref : SharedPreferences - login : SharedPreferences - email : String - password : String - navigationView : NavigationView
#onCreate (savedInstanceState : Bundle ) : void - loginshared () : void + onSignUp (view : View) : void + toast (t : String) : void + onLoginSaved (view : View) : void + onResume () : void + onPause () : void + onBackPressed () : void + onNavigationItemSelectedListener (item : Menu) : boolean

<b>navcategory</b>
<ul style="list-style-type: none"> <li>- database : FirebaseDatabase</li> <li>- myRef : DatabaseReference</li> <li>- mAuth : FirebaseAuth</li> <li>- mAuthListener : FirebaseAuth.AuthStateListener</li> <li>- cardArrayAdapter : CardArrayAdapter</li> <li>- listView : ListView</li> <li>- day : String</li> <li>- area : String</li> </ul>
<pre># onCreate (savedInstanceState : Bundle) : void + toast (t : String) : void + logging (t : String) : void - showData (dataSnapshot : DataSnapshot) + onResume () : void + onPause () : void + onBackPressed () : void + onNavigationItemSelected (item : Menu) : boolean</pre>

<b>navcopyright</b>
<ul style="list-style-type: none"> <li>- navigationView :NavigationView</li> <li>- copyright : TextView</li> <li>- database : FirebaseDatabase</li> <li>- myRef : DatabaseReference</li> </ul>
<pre># onCreate (savedInstanceState : Bundle) : void - showData (dataSnapshot : DataSnapshot) + onBackPressed () : void + onNavigationItemSelected (item : Menu) : boolean</pre>

<b>navDay</b>
<ul style="list-style-type: none"> <li>- cardArrayAdapter : cardarray2</li> <li>- listView : :ListView</li> <li>- text [] [] : String</li> <li>- day : String</li> <li>- area : String</li> <li>- category : String</li> <li>- mAuth : FirebaseAuth</li> <li>- mAuthListener : FirebaseAuth.AuthStateListener</li> <li>- naigationView : NavigationView</li> </ul>
<pre># onCreate (savedInstanceState : Bundle) : void + toast (t : String) : void + logging (t : String ) : void - showData (dataSnapshot : DataSnapshot) : void + onResume () : void + onPause () : void + onBackPressed () : void + onNavigationItemSelected (item : Menu) : boolean</pre>

<b>navDays</b>
<ul style="list-style-type: none"> <li>- cardArrayAdapter : CardArrayAdapter</li> <li>- database : FirebaseDatabase</li> <li>- myRef : DatabaseReference</li> <li>- listView : :ListView</li> <li>- days [] : String</li> <li>- area : String</li> <li>- category : String</li> <li>- naigationView : NavigationView</li> </ul>
<pre># onCreate (savedInstanceState : Bundle) : void + logging (t : String ) : void - showData (dataSnapshot : DataSnapshot) : void + onResume () : void + onPause () : void + onBackPressed () : void + onNavigationItemSelected (item : Menu) : boolean</pre>

<b><u>navdelete</u></b>
<pre># onCreate (savedInstanceState : Bundle) : void + onDelete (view : View) : void + onBackPressed () : void + onNavigationItemSelected (item : Menu) : boolean</pre>

<b>navdrawer</b>
<ul style="list-style-type: none"> <li>- cardArrayAdapter : CardArrayAdapter</li> <li>- listView : ListView</li> <li>- database : DatabaseReference</li> <li>- navagtionView : NavigationView</li> <li>- dl : DrawerLayout</li> <li>- toolbar : Toolbar</li> <li>- user : FirebaseUser</li> <li>- myAuth : FirebaseAuth</li> <li>- popUp : DatabaseRef</li> <li>- storageRef : StorageReference</li> <li>- iv : ImageView</li> </ul>
<pre>#onCreate (savedInstanceState : Bundle) : void - showPopUp (dataSnapshot : DataSnapshot ) :void + onResume () : void + onStop () : void - showData (dataSnapshot : DataSnapshot) : void + logging (t : String) : void + onBackPressed () : void + onNavigationItemSelected (item : Menu) : boolean</pre>

<b>navQ1a</b>
<ul style="list-style-type: none"> <li>- tvAddress : TextView</li> <li>- locationManager : LocationManager</li> <li>- listener : LocationListener</li> <li>- address : List&lt;Address&gt;</li> <li>- gc : Geocoder</li> </ul>
<pre># onCreate (savedInstanceState : Bundle) : void + onLocation (view:View) : void + onBackPressed () : void + onNavigationItemSelected (item : Menu) : boolean</pre>

<b>navresetpassword</b>
<ul style="list-style-type: none"> <li>- mAuth : FirebaseAuth</li> <li>- etEmail : EditText</li> </ul>
<pre>#onCreate (savedInstanceState : Bundle) : void + onPassReset (view : View) void + onBackPressed () : void + onNavigationItemSelected (item : Menu) : boolean</pre>

<b>navsignup</b>
<ul style="list-style-type: none"> <li>- mAuth : FirebaseAuth</li> <li>- mAuthListener : FirebaseAuth.AuthStateListener</li> <li>- login : SharedPreferences</li> <li>- prefName : String</li> <li>- email : String</li> <li>- password : String</li> <li>- em : EditText</li> <li>- pa : EditText</li> <li>- cpa : EditText</li> <li>- progressDialog : ProgressDialog</li> </ul>
<pre>#onCreate (savedInstanceState : Bundle) : void - loginshared () : void + onSignUp (view : View) : void + toast (t : String) : void + onLoginSaved (view : View) : void + onResume () : void + onPause () : void + onBackPressed () : void + onNavigationItemSelected (item : Menu) : boolean</pre>

<b>navSubmit</b>
<ul style="list-style-type: none"> <li>- cbMonday : CheckBox</li> <li>- cbTuesday : CheckBox</li> <li>- cbWednesday : CheckBox</li> <li>- cbThursday : CheckBox</li> <li>- cbFriday : CheckBox</li> <li>- cbMonday : CheckBox</li> <li>- cbMonday : CheckBox</li> </ul>
<pre># onCreate (savedInstanceState : Bundle) : void + onSubmitSpecial (view View) void + onBackPressed () : void + onNavigationItemSelected (item : Menu) : boolean</pre>

<b>navwelcome</b>
<ul style="list-style-type: none"> <li>- database : FirebaseDatabase</li> <li>- mRef : DatabaseReference</li> <li>- help : TextView</li> </ul>
<pre># onCreate (savedInstanceState : Bundle) : void - showData (dataSnapshot : DataSnapshot) + onBackPressed () : void + onNavigationItemSelected (item : Menu) : boolean</pre>

<b>Question1B</b>
<ul style="list-style-type: none"> <li>- mMap : GoogleMap</li> <li>- locationManager : LocationManager</li> <li>- listener : LocationListener</li> <li>- gc : Geocoder</li> </ul>
<pre># onCreate (savedInstanceState : Bundle) : void + onMapReady ( googleMap : GoogleMap ) : void - isLocationPermissionGranted () : boolean</pre>

<b>ScrollingActivity</b>
<ul style="list-style-type: none"> <li>- number : String</li> <li>- name : String</li> <li>- des : String</li> <li>- area : String</li> <li>- day : String</li> <li>- time : String</li> <li>- p : String</li> <li>- l :String</li> <li>- RESULT_PICK_CONTACT : int</li> <li>- navigationView : NavigationView</li> <li>- tv : TextView</li> </ul>
<pre># onCreate (savedInstanceState : Bundle) : void - sendSMS () void # onActivityResult (requestCode: int, resultCode: int, data : Intent) : void - contactPicked (date : Intent) void - isSMSPermissionGranted () : boolean - isLocationPermissionGranted () : boolean - locationg () : void + call_action () void + isPermissionGranted () : boolean # onRequestPermissionsResult (resultCode : int, permissions : String [], grantResults : int []) + onNavigationItemSelected (item : Menu) : boolean</pre>

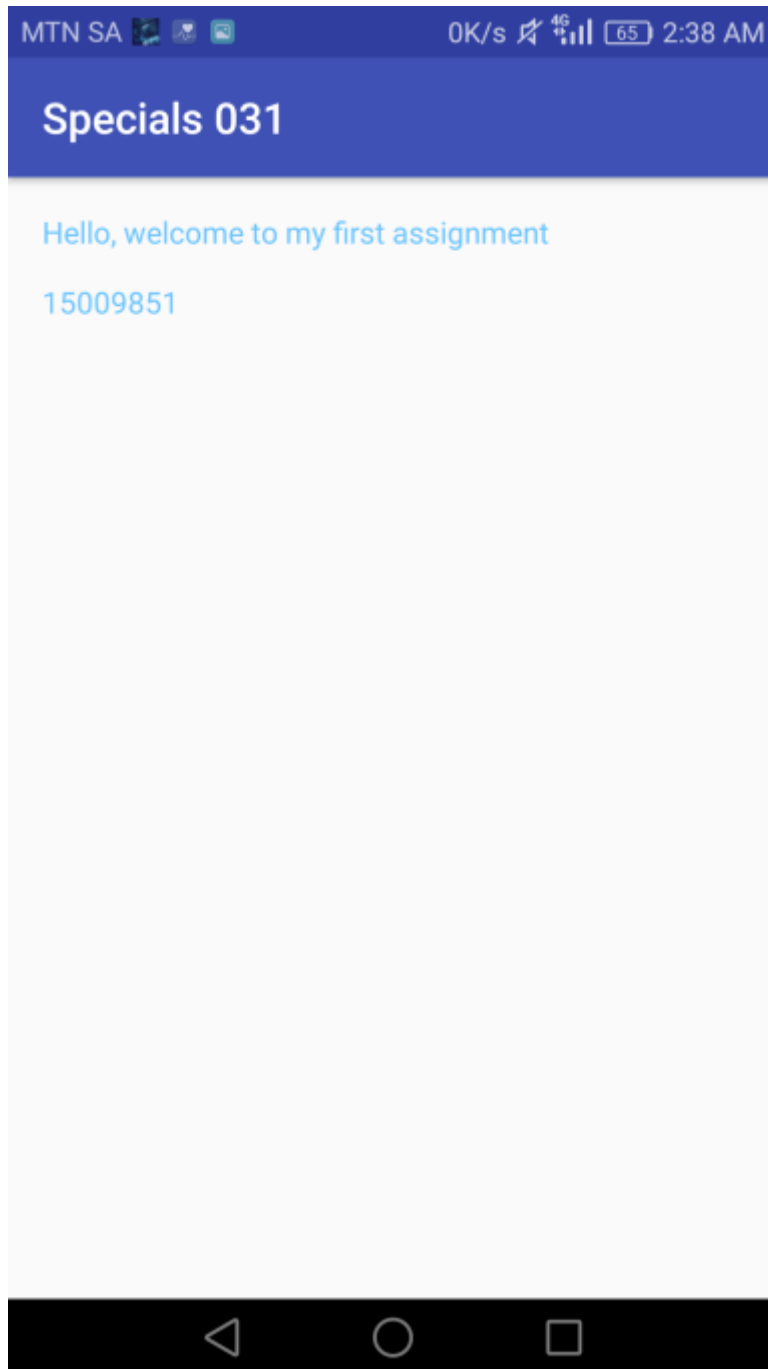
<b>splash</b>
<ul style="list-style-type: none"> <li>- SPLASH_TIME_OUT :int</li> </ul>
<pre># onCreate (savedInstanceState : Bundle) : void</pre>

## Flow Charts

They are pdf's... files are there.



## Screenshots and Test Data



splash screen, loads for 5 seconds, calls method to make offline...

MTN SA 1.7K/s 4G 65 2:38 AM

≡ Specials 031

Email

---

Password

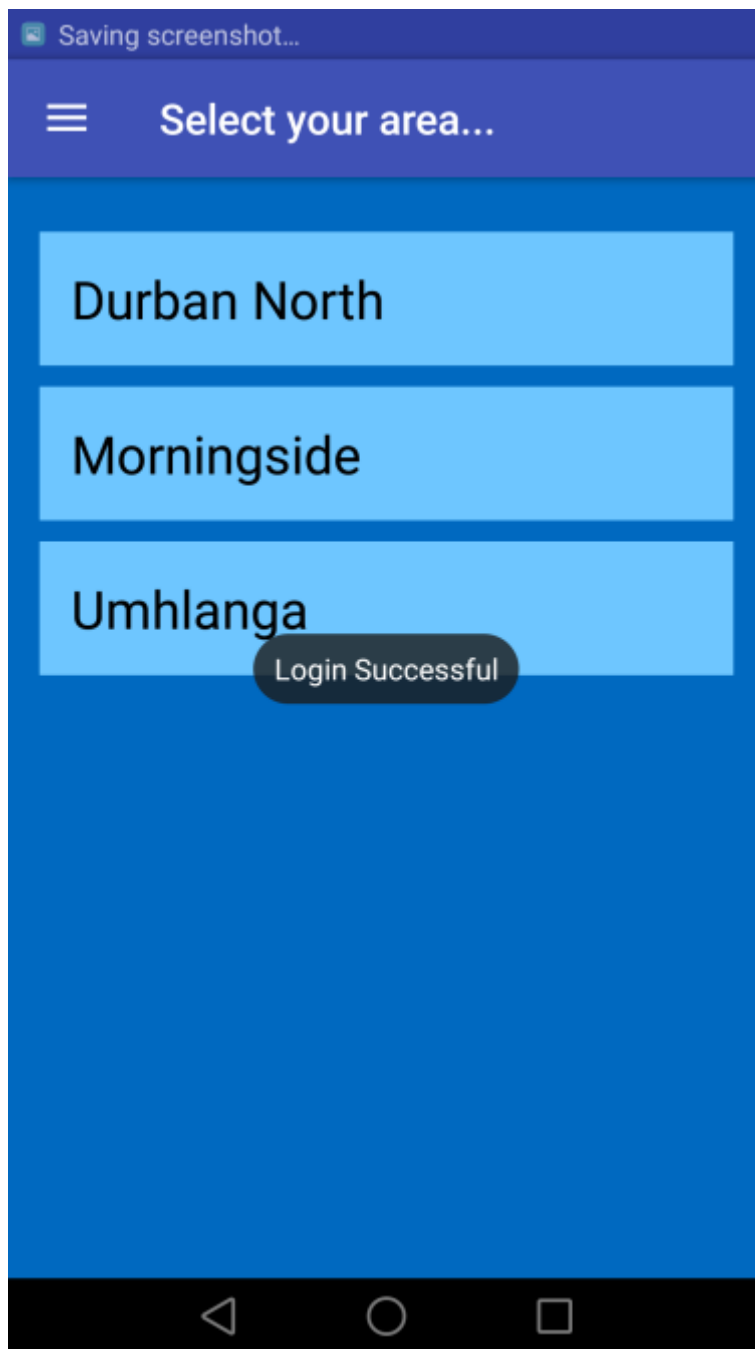
---

LOGIN WITH SAVED DATA

LOGIN

SIGN UP

Login Page, checks if data is saved, else type in details....



Login was successful, select area



Select your area...

Durban North

Morningside



**Connors pub**

half price on selected food all day

CLOSE

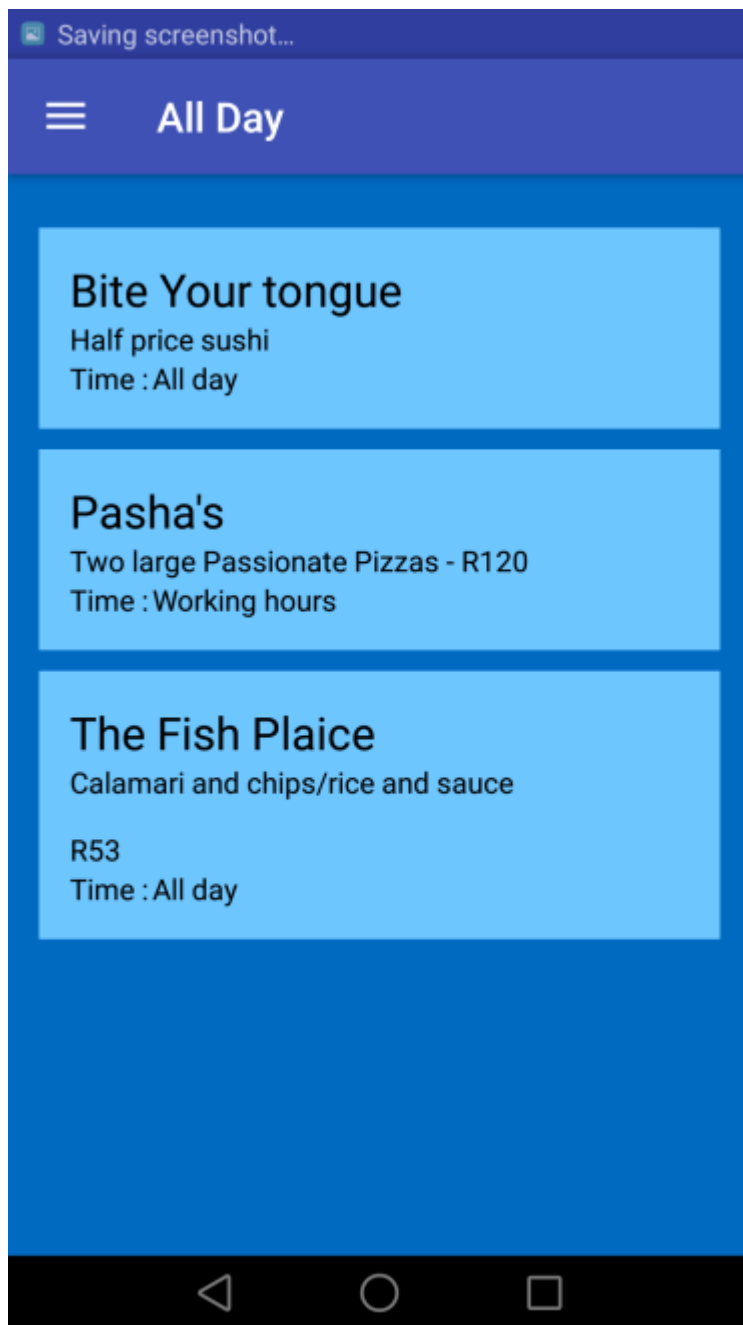
Pop up



Days which the specials are on



The different categories for Tuesday



Info about Tuesday's specails

 Saving screenshot...

## Bite Your tongue

The time for this special, for Bite Your tongue is All day

You'll find Bite Your tongue at  
62 Astra Centre Adelaide Tambo Drive Broadway,  
Durban North Kwazulu-Natal.

The specials are :  
Half price sushi

Currently the specials are submitted by users.

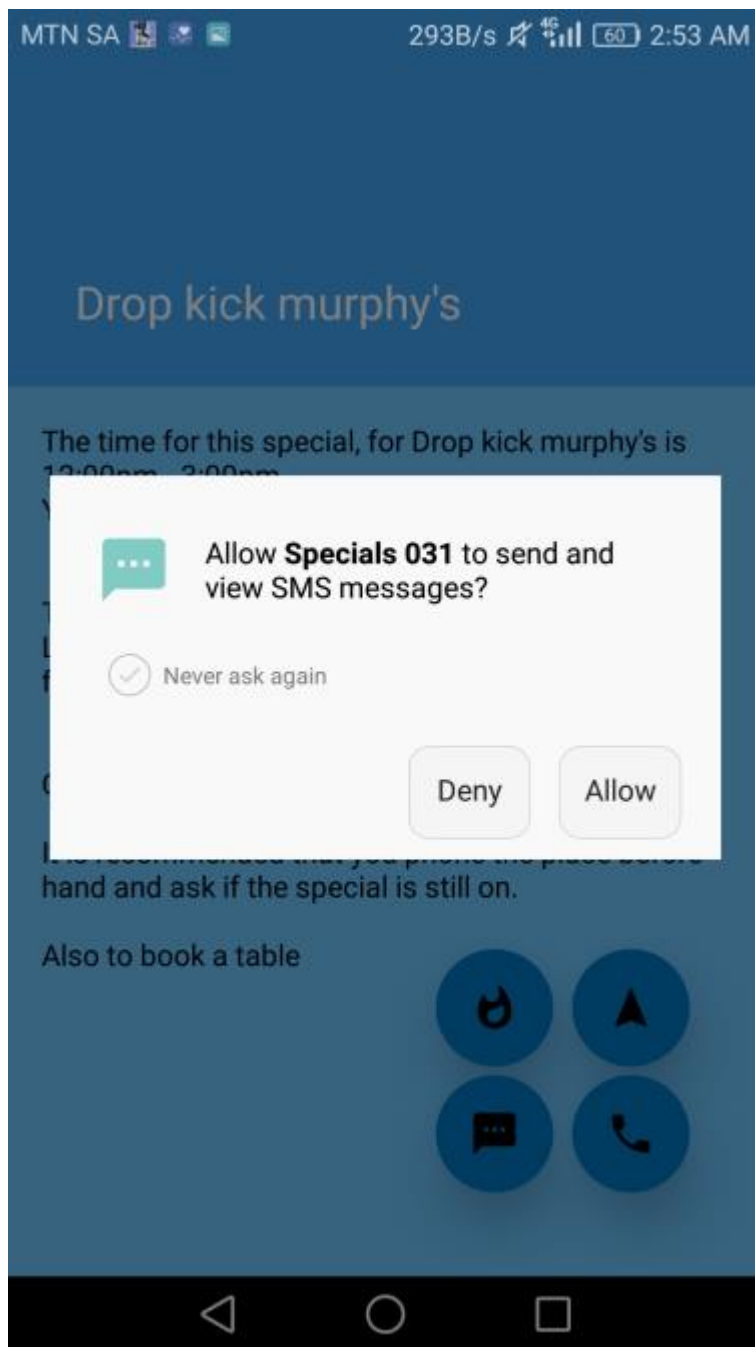
It is recommended that you phone the place before  
hand and ask if the special is still on.

Also to book a table

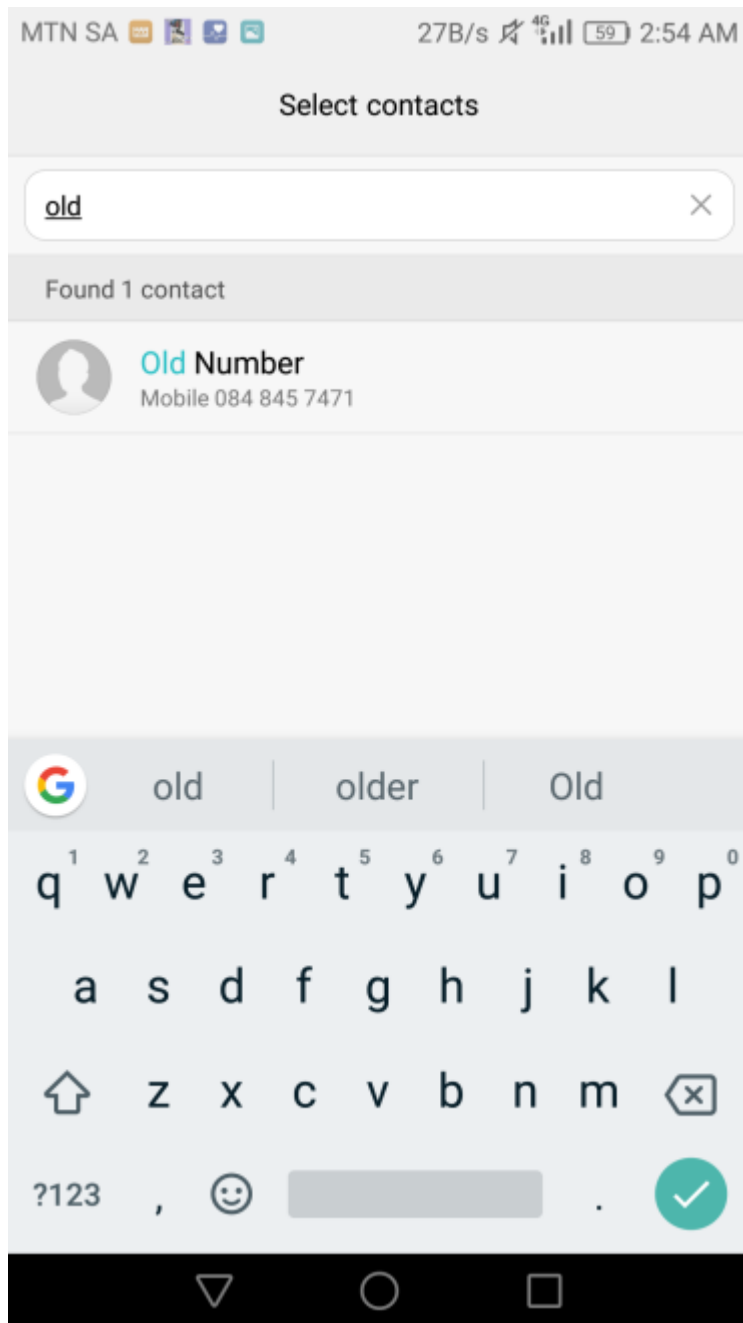


Scroll view of the special, can phone the place, share it via whatsapp, navigate to it, phone them





on click for sms buton



select your contact to send to

## Drop kick murphy's

The time for this special, for Drop kick murphy's is  
12:00pm - 3:00pm  
You'll find Drop kick murphy's at  
219 Florida Road Durban, KwaZulu-Natal.

The specials are :  
Lunch Special: Beef or Chicken burger and fruit juice  
for R49. Chicken salad and fruit juice R39

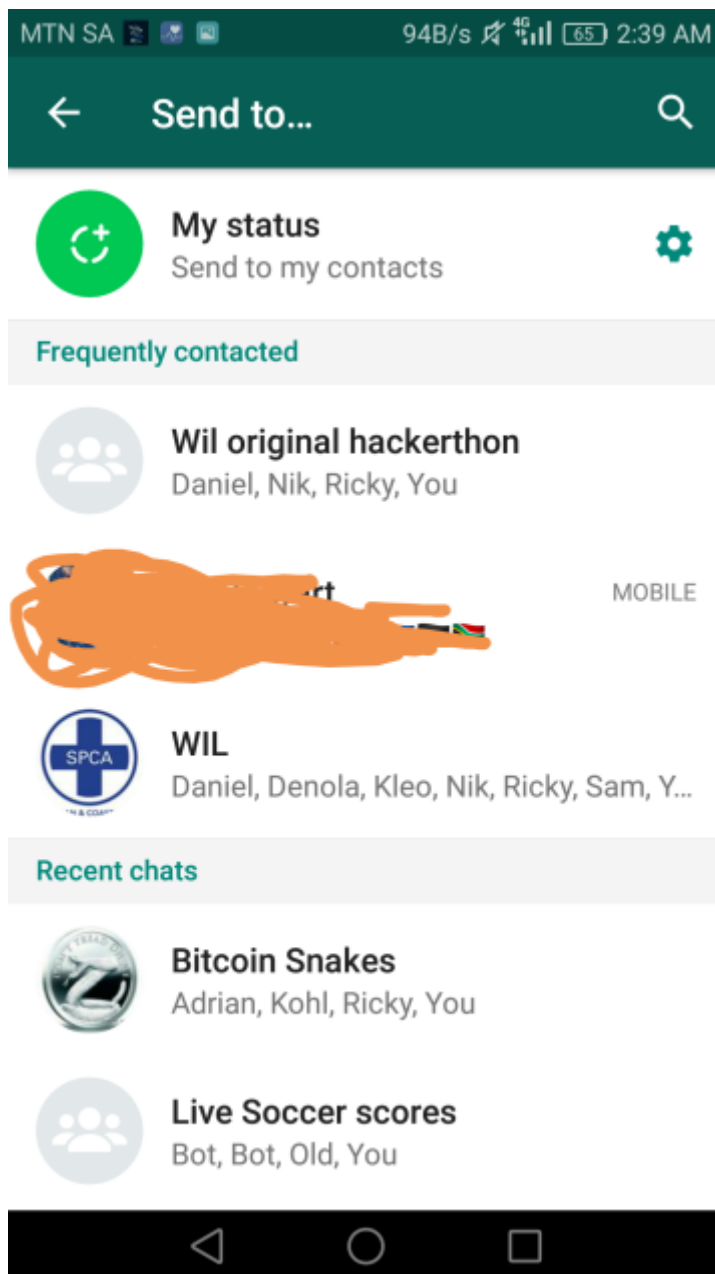
Currently the specials are submitted by users.

It is recommended that you phone the place before  
hand and ask if the special is still on.

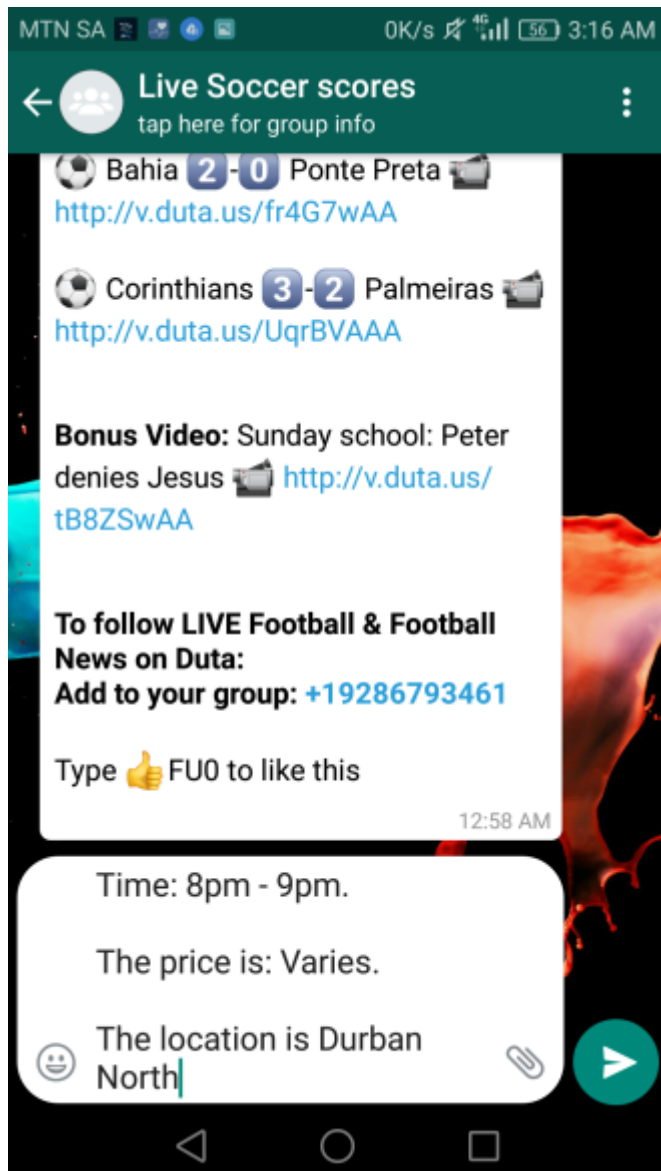
Also to book a table

Sms has been sent

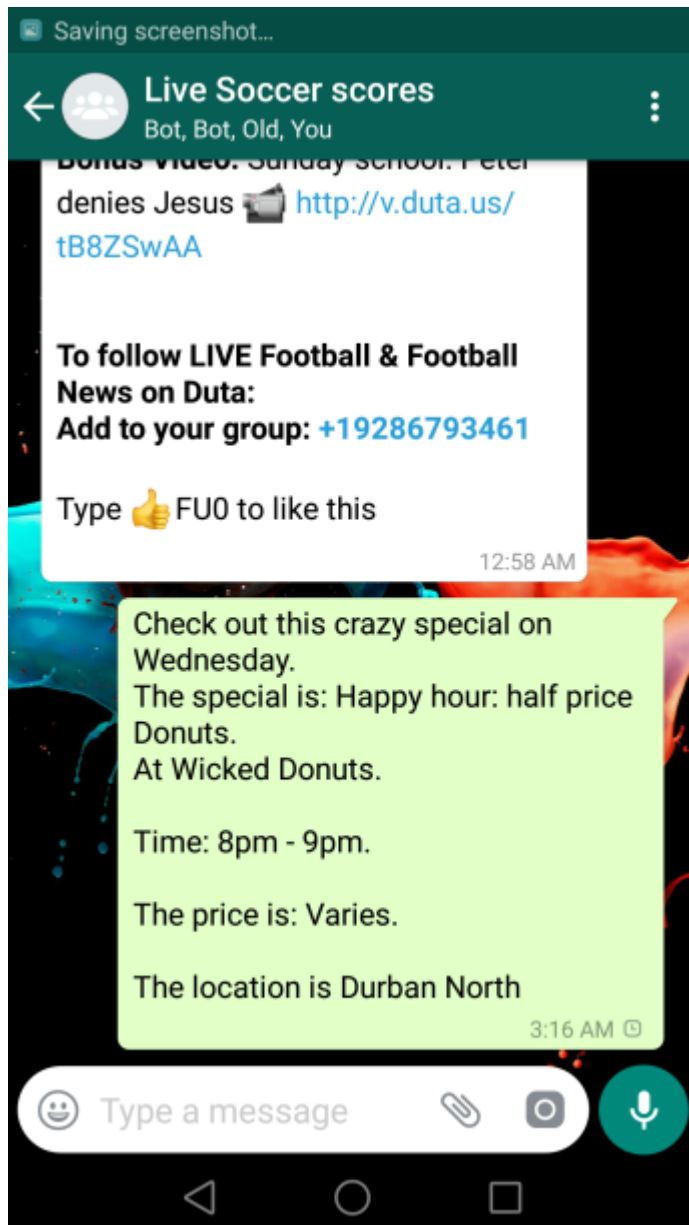
Sms has been sent



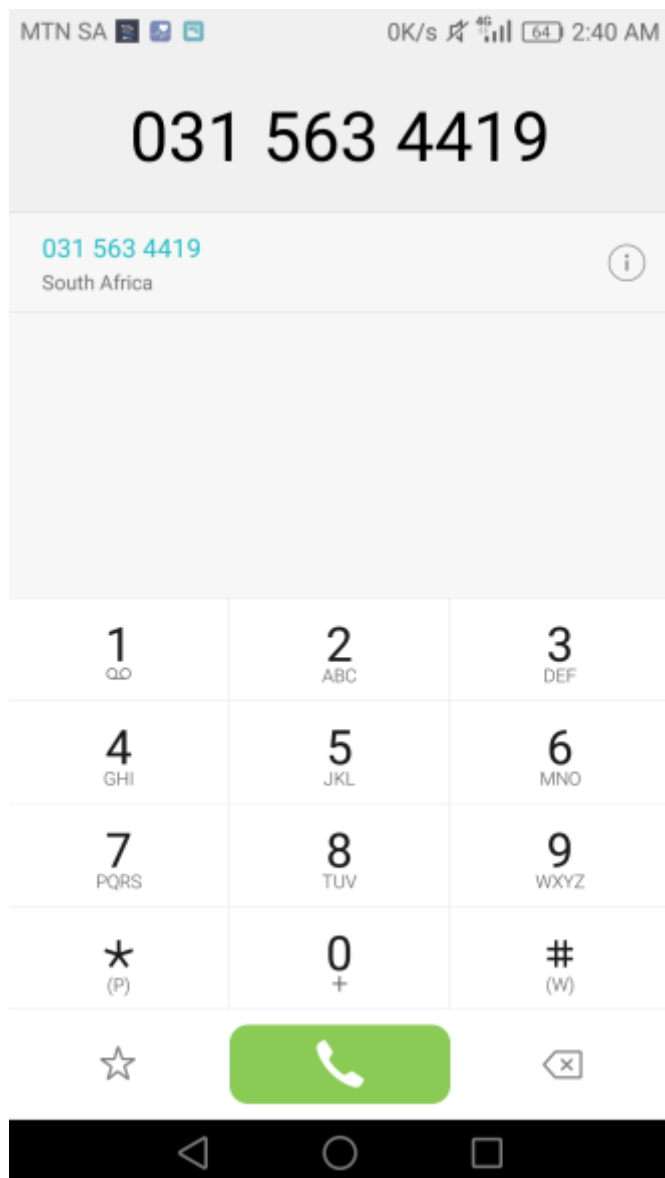
share to whatsapp



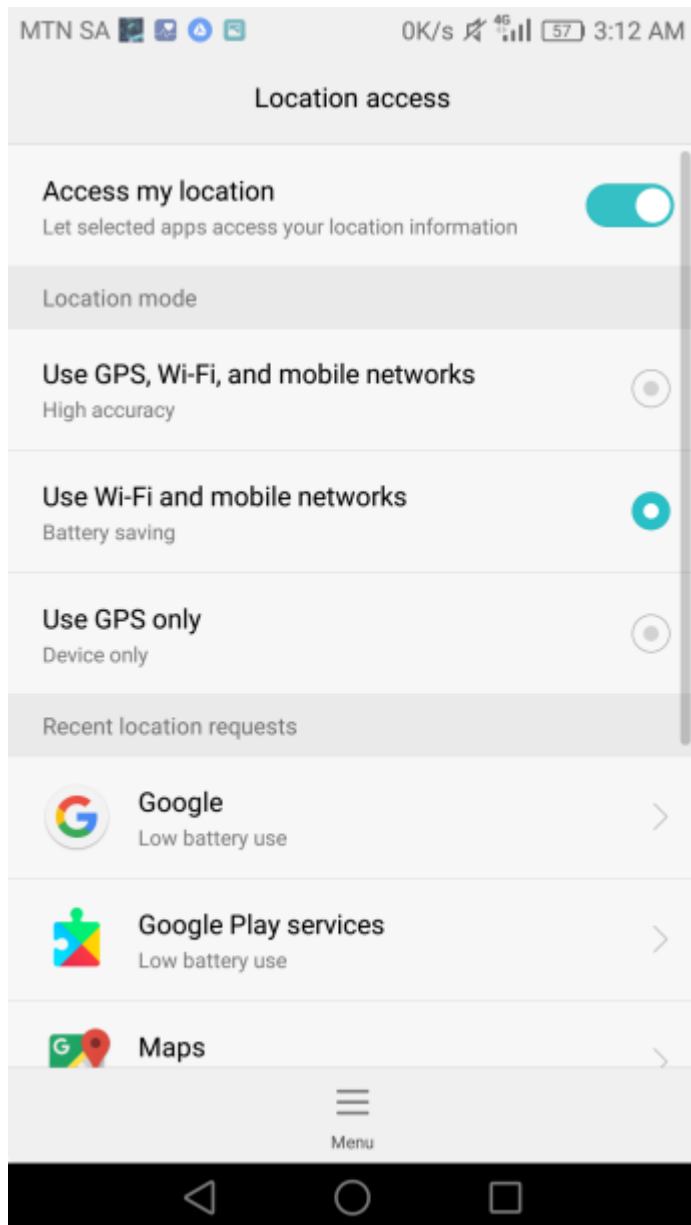
pre populates the message



whatsapp message then sent after user clicks send

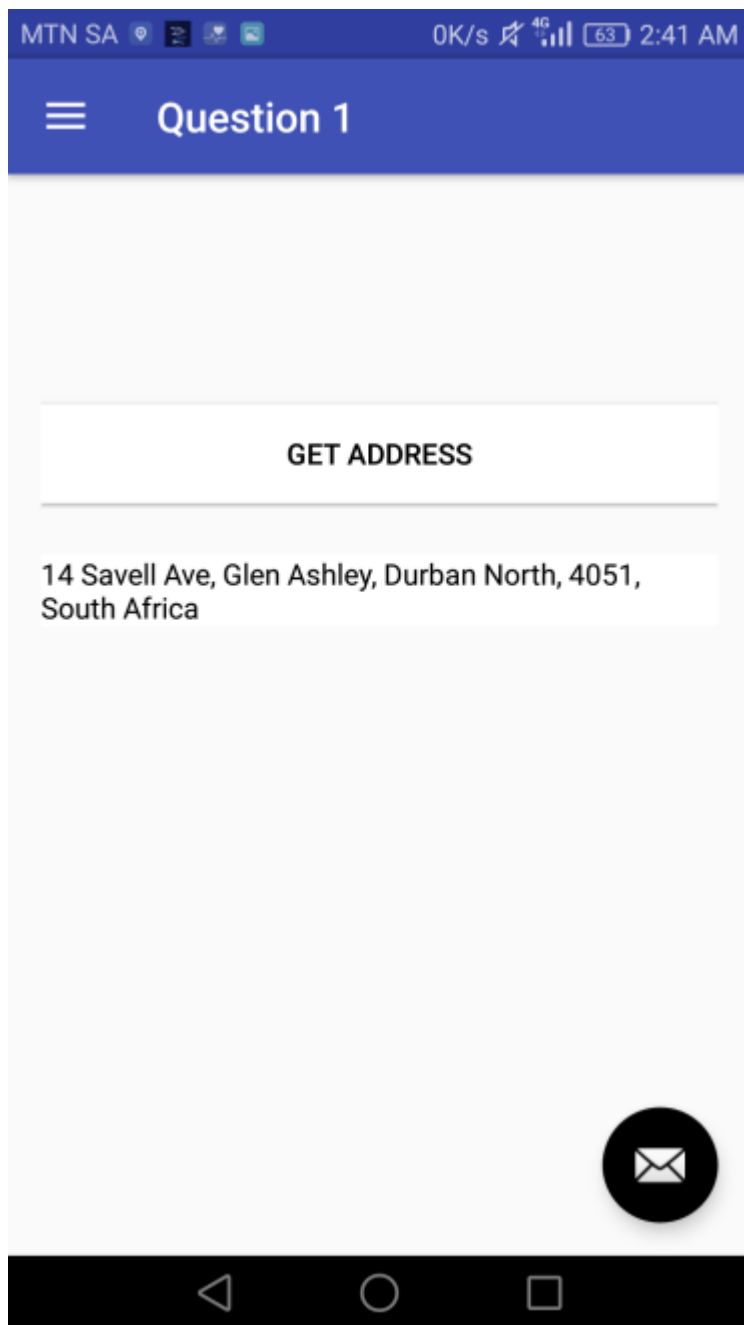


when you click call



if location is switched off, user will get taken here

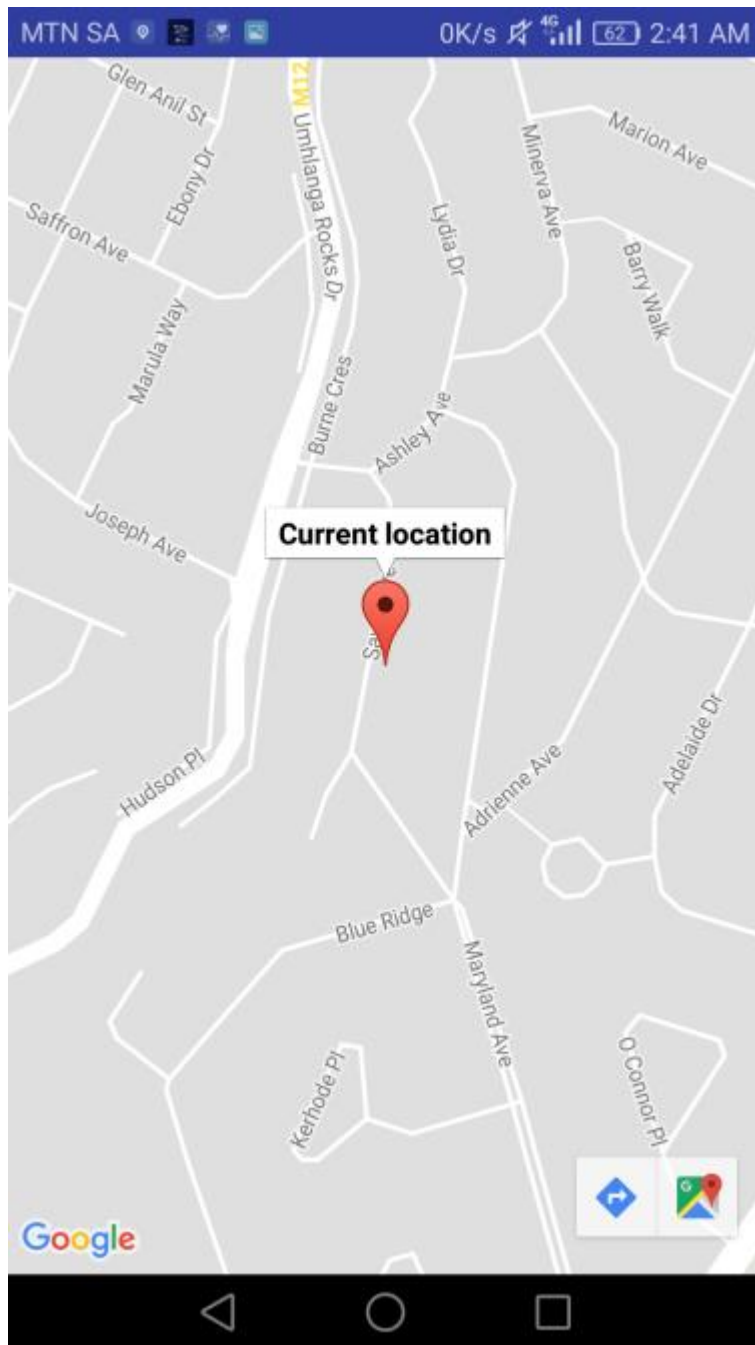




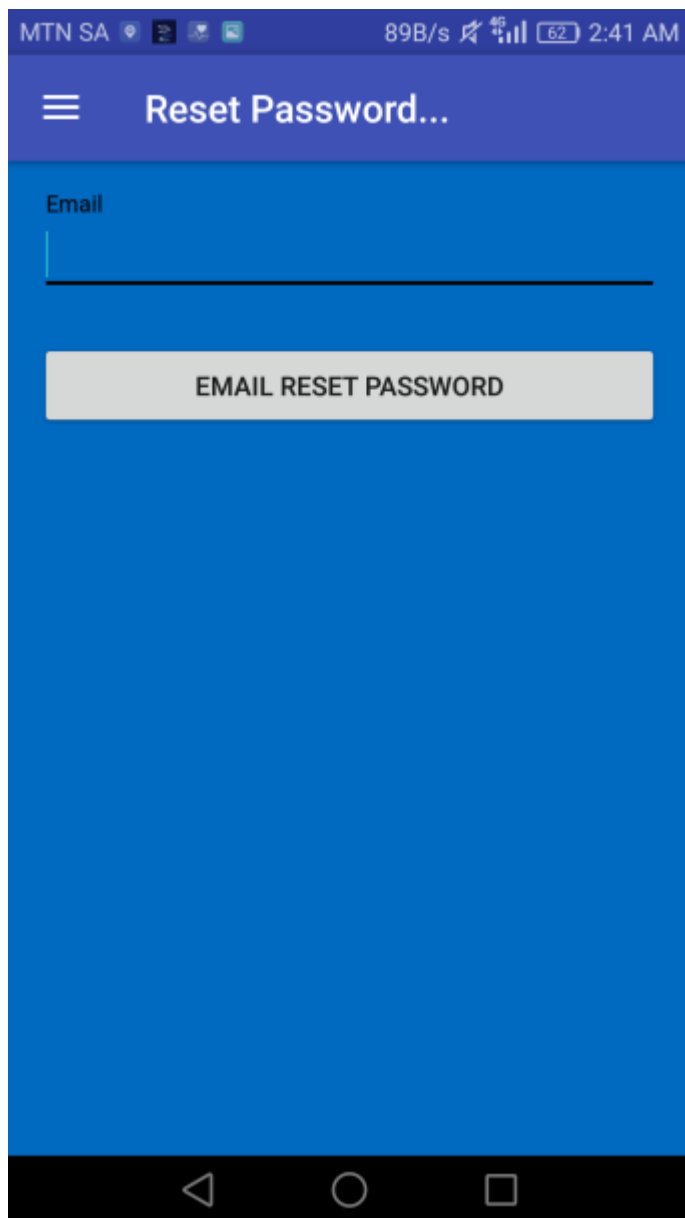
Current street address



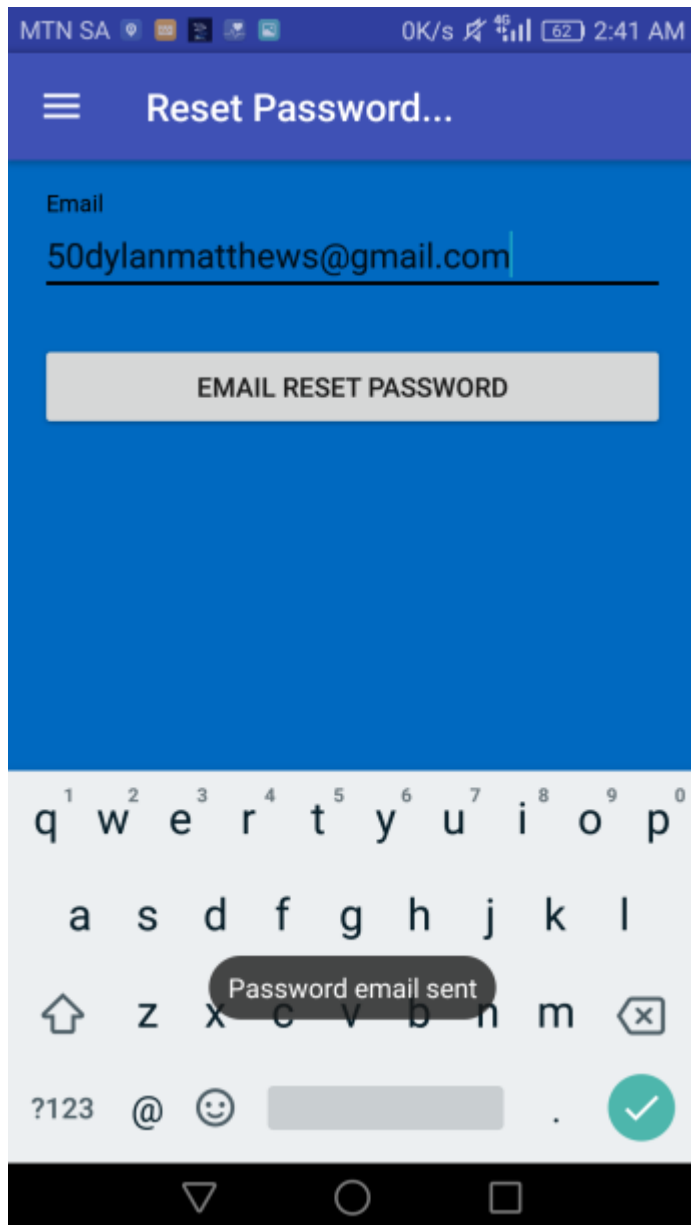
Shows current location on map and updates as user moves.



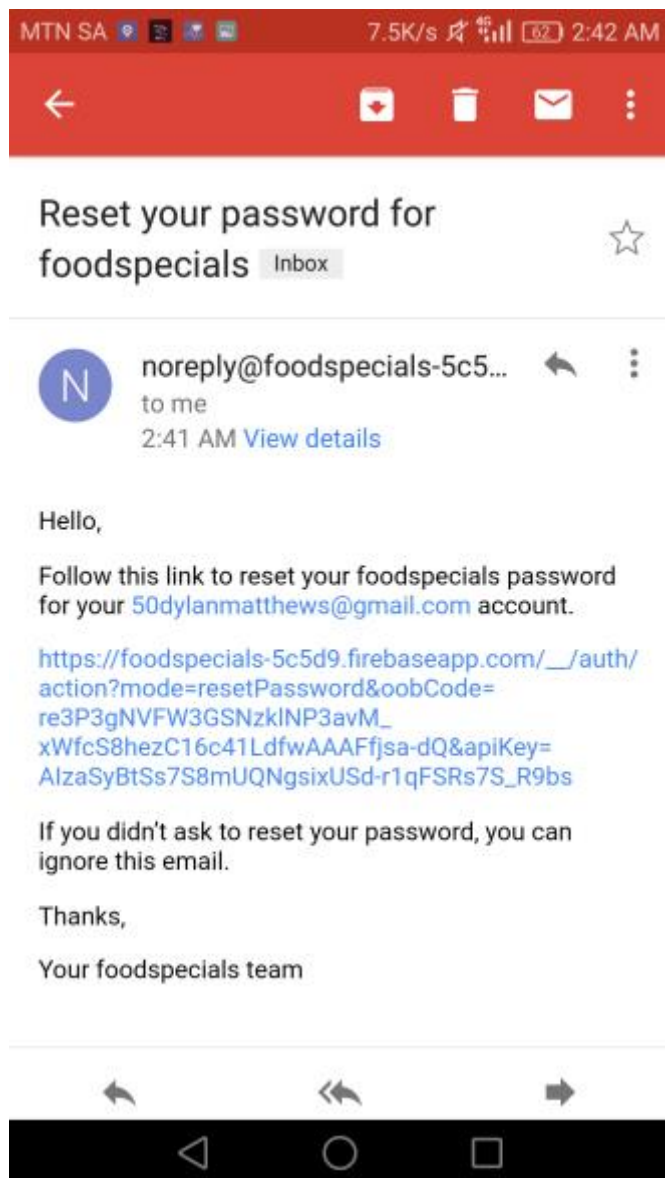
map zoomed In programmably



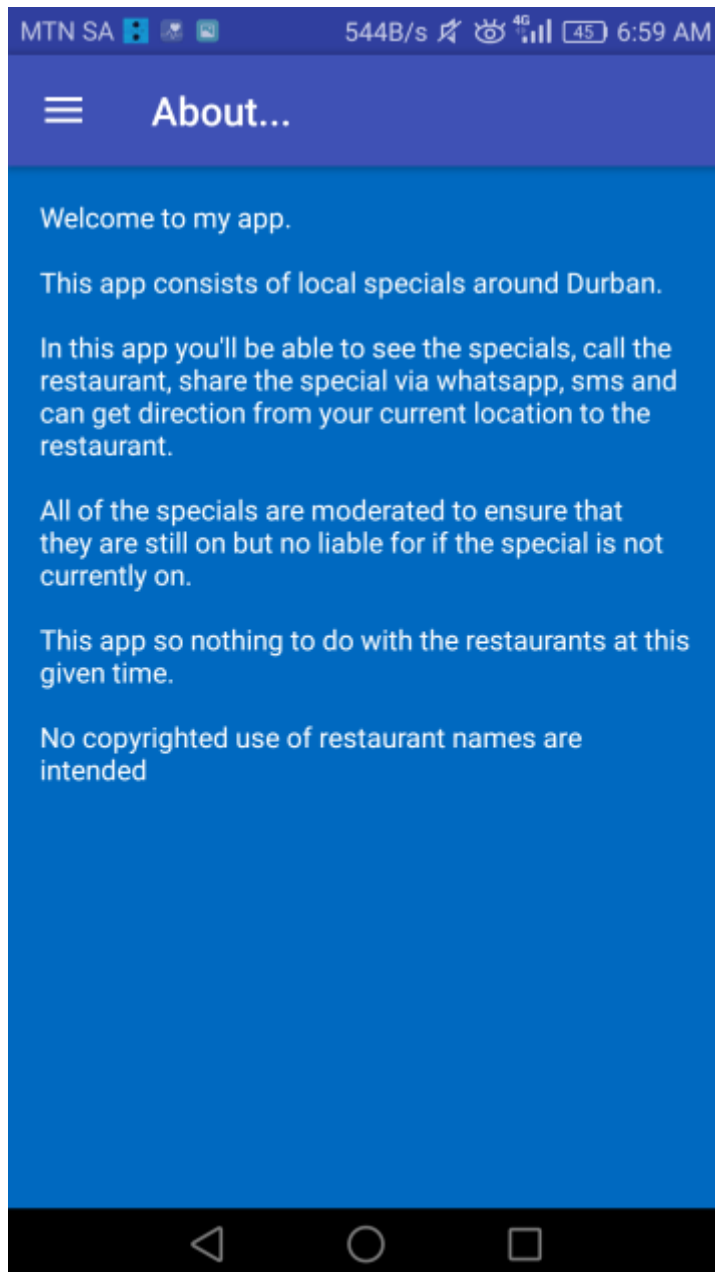
Rest password page



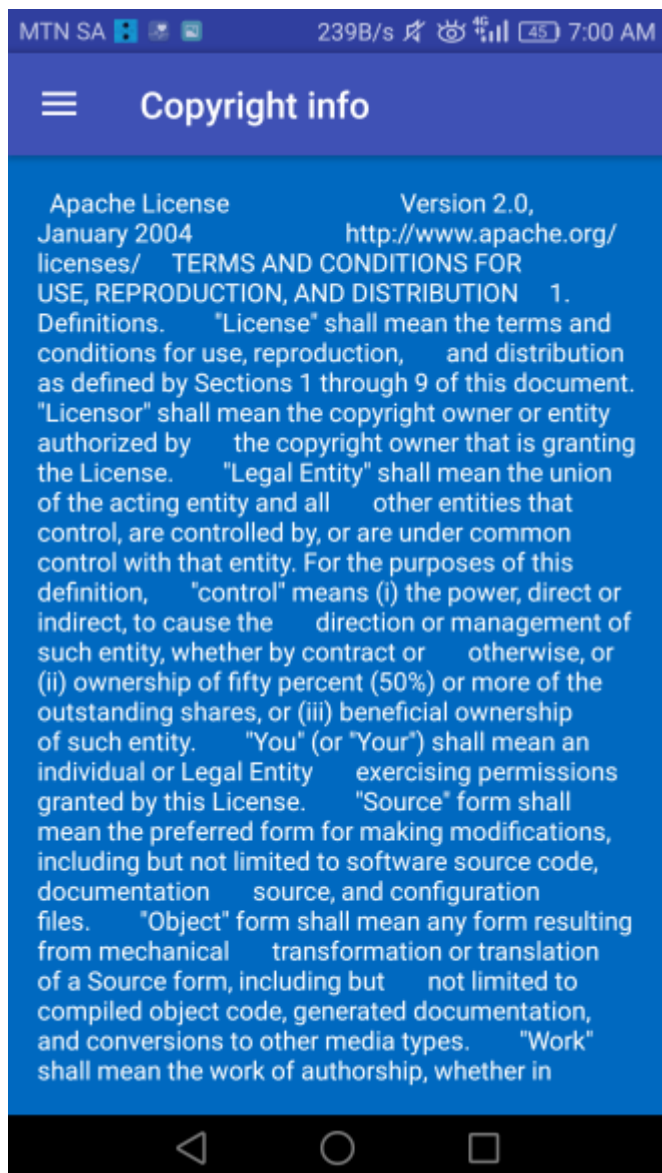
email has been sent, to the email address the user types in



The email the person receives.



Help/About



Copyright info



MTN SA 0K/s 4G 62 2:43 AM

## Submit A Special

Name of Area

Durban North

Name of Restaurant

Connors

Time of day or actual time of special

all day

Description Of Special

half price food on Mondays

Address

13 mackurtain avenue

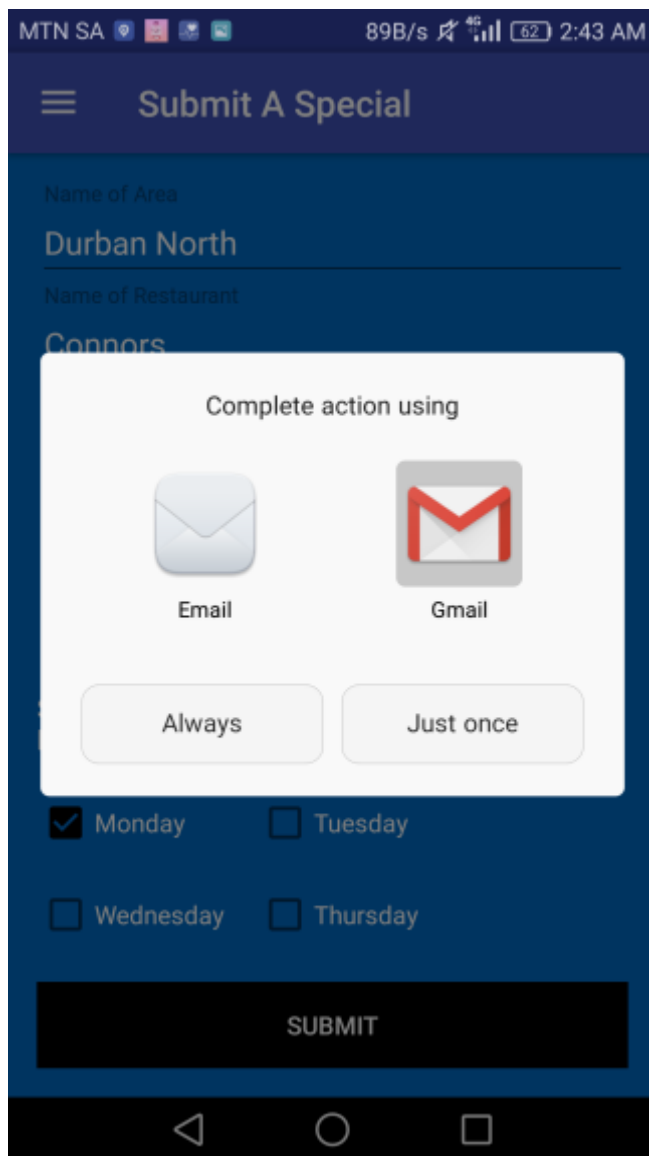
Select the day's of the week for the special you'd like to add

☒ Monday ☐ Tuesday

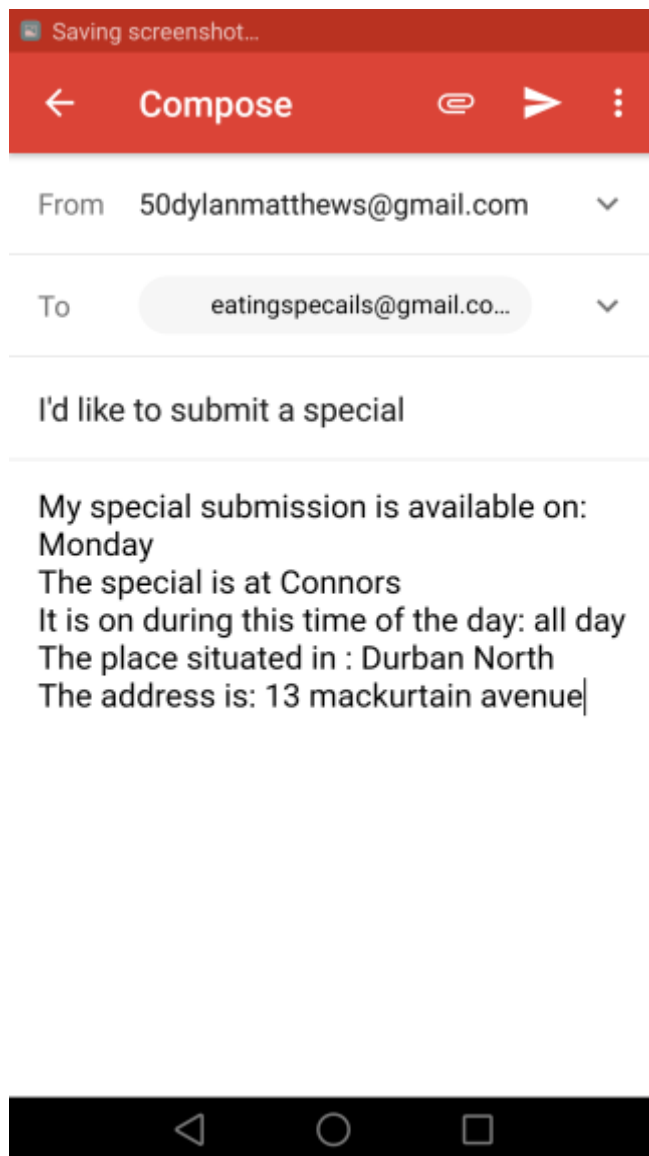
☐ Wednesday ☐ Thursday

SUBMIT

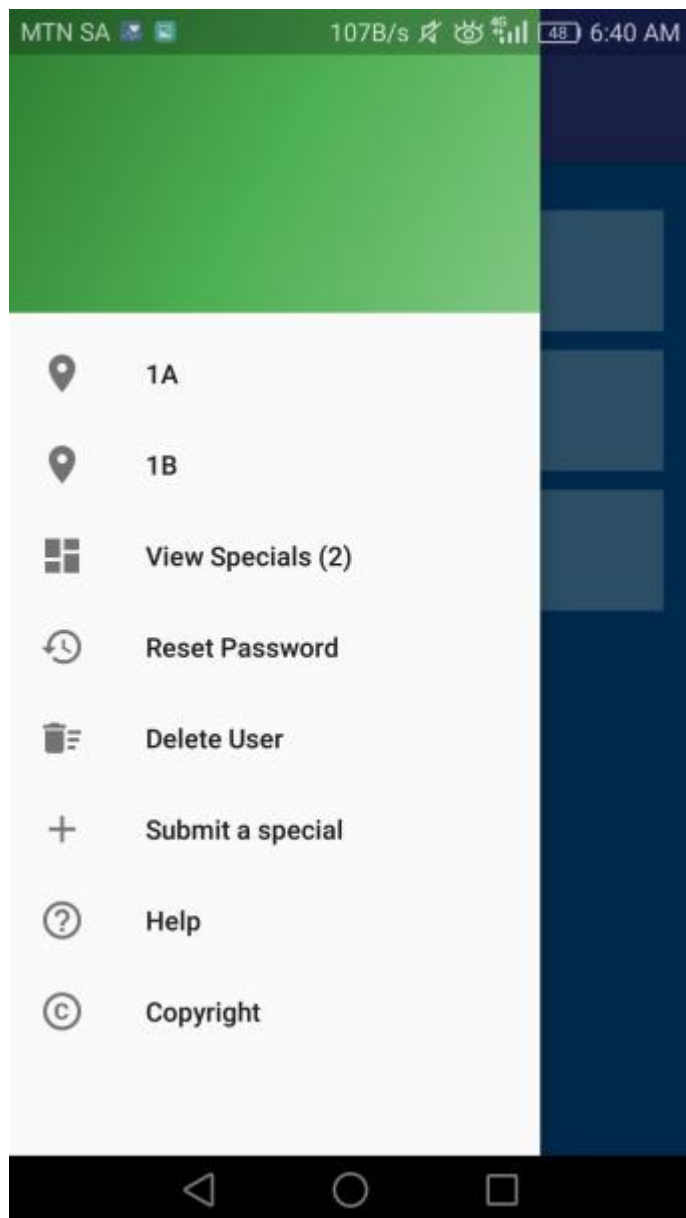
Submit a special page



Prompts user for which email app they want to use



All info is pre populated



Nav drawer

## Help

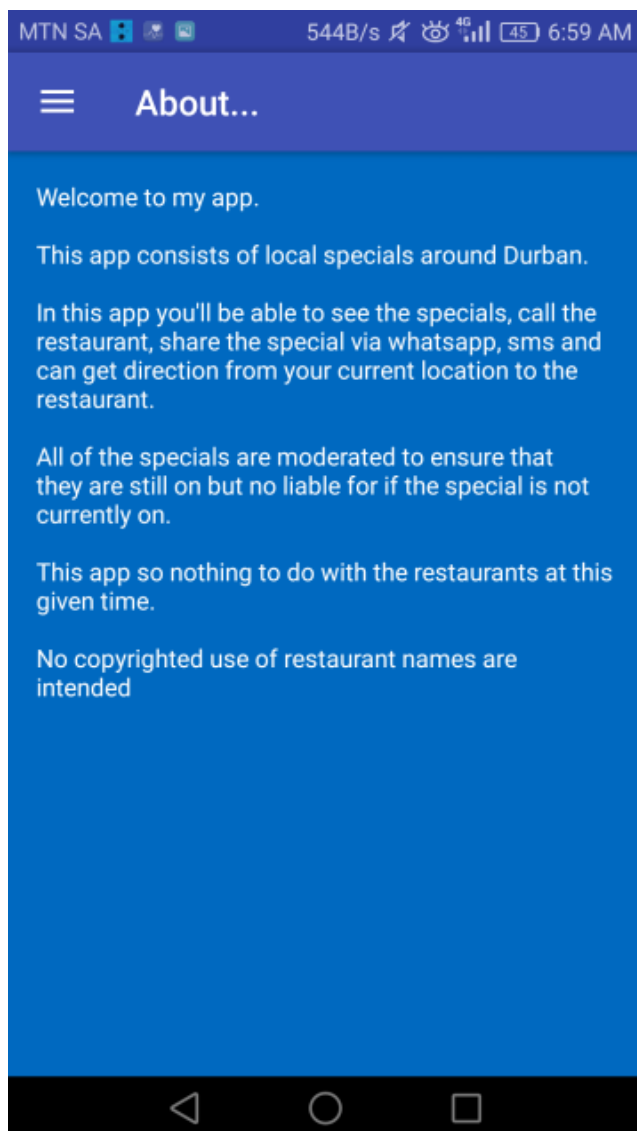
It is a very simple app to use. You just click around...

When you sign up, password must be more than 8 characters, valid email address.  
After you sign up, it auto remembers your login details. From here every time you load the app, it will sign you in hassle free.

To use all the functionality, you must accept the permissions.

You can even load this app in on airplane mode, and it will load the online data.

This app will get your current street address, show your current location on a map and update for both as you move



# App Development

## Feedback

MODULE NAME:	MODULE CODE:
OPEN SOURCE CODING (Intermediate)	DPSC7312
Student Name: <u>D. J. S.</u>	Student Number:

**General Requirements:** (10 marks)

Award marks to this section AFTER you have marked the entire assignment. These marks are awarded for the student's general compliance with programming standards and efficiency.

Writing maintainable code in industry is vital. Therefore, you are required to:

- Follow good programming practices by ensuring that the following are correct:
  - the variable types;
  - the variable scope; and
  - the Class and Method naming standards.
- Insert comments to show logic and design for the support of code maintainability; and
- Code efficiently. Redundant code must be avoided.

Requirement	Maximum Mark	Marker	Moderator
Good programming practice (Naming standards, indentation, variable types and scope.) <ul style="list-style-type: none"><li>Not followed at all = 0</li><li>Some standard adhered to (at least 2) = 1</li><li>Most standards adhered to (at least 3) = 2</li><li>Excellent - all standards adhered to = 3</li></ul>	(3)	2	
Code efficiency <ul style="list-style-type: none"><li>Poor - multiple instances where code is duplicated = 0</li><li>Average - some redundant code exists = 1</li><li>Excellent - code very efficient = 2</li></ul>	(2)	2	
Comment statements <ul style="list-style-type: none"><li>Poor - No comments = 0</li></ul>	(3)	2	

• More com  
is needed  
so sporadic

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<ul style="list-style-type: none"> <li>Few comments (only describing methods/variables) = 1</li> <li>Some comments (only describing logic) = 2</li> <li>Excellent – all necessary comments given to explain variables, methods and logic = 3</li> </ul>			
Program compiles and executes <ul style="list-style-type: none"> <li>No – Many changes required = 0;</li> <li>Average – Minor changes required = 1;</li> <li>Yes – No changes required = 2.</li> </ul>	(2)	2	
<b>Total Marks</b>	<b>10</b>	9	

(Marks: 40)

**Question 1**

**Memo** This question is very open and generic therefore there can be many variations in the solutions. Consider all the student's submissions and the implementation of their solution. Please provide detailed feedback so they can incorporate the feedback and use it to improve their submissions for the PoE

Ref: LU1 to LU4

Chapters 1,2 ,4, 5, 14, 15, 11, 17 and 18

Marking Guideline	Maximum Mark	Mark Obtained
<b>Variables:</b> <ul style="list-style-type: none"> <li>Not declared or initialised; (0)</li> <li>Some variables declared and initialised; (2) and</li> <li>All variables declared and initialised. (3)</li> </ul>	(3)	3
<b>Calling of method and parameters:</b> <ul style="list-style-type: none"> <li>Methods not used; (0)</li> <li>Some methods used, but called incorrectly, no parameters passed; (2)</li> <li>Some methods used and called correctly passing parameters; (3) and</li> <li>Methods used where requested and parameters passed correctly when called. (5)</li> </ul>	(5)	5

<b>GUI Designs:</b> <ul style="list-style-type: none"> <li>GUI not user friendly or aesthetically pleasing; (3) and</li> <li>GUI user-friendly and aesthetically pleasing. (5)</li> </ul>	(5)	5
<b>Code to check the GPS co-ordinates and locate the street location:</b> <ul style="list-style-type: none"> <li>No method to instantiate a new Geocoder object; (0)</li> <li>Code correct to method which instantiates a new Geocoder object, and calls the getFromLocation method, passing to it the newly received location. Does not limit to one address or extract the specified fields; (10) and</li> <li>Code correct to update method which instantiates a new Geocoder object, and calls the getFromLocation method, passing to it the newly received location. Limits to one address and extracts the specified fields. (15)</li> </ul>	(15)	15
<b>Output of location:</b> <ul style="list-style-type: none"> <li>Display the string in the Text View. (3)</li> </ul>	(3)	3
<b>Code to show the location on a Map and update the Map:</b> <ul style="list-style-type: none"> <li>Location does not display on map or does not update on map; (0) and</li> <li>When device location changes, the map automatically re-centres on the new position. (5)</li> </ul>	(5)	5
<b>Extra functionality added:</b> <ul style="list-style-type: none"> <li>Any extra working functionality added. (4)</li> </ul>	(4)	4
<b>TOTAL</b>	<b>40</b>	<b>38</b>

• Nothing extra added for this question  
 • Prompting for app permission is good



Please use the marking scheme below. Mark each student's work on its own merit. This question is very open and generic therefore there can be many variations in the solutions. Consider all the student's submissions and the implementation of their solution. Please provide detailed feedback so they can incorporate the feedback and use it to improve their submissions for the PoE.

Ref: LU1 to 4

Chapters 1, 2, 4, 5, 14, 15, 11, 17 and 18

Marking Guideline	Maximum Mark	Mark Obtained
<b>Variables:</b> <ul style="list-style-type: none"> <li>Not declared or initialised; (0)</li> <li>Some variables declared and initialised; (3) and</li> <li>All variables declared and initialised. (5)</li> </ul>	(5)	5
<b>Calling of method and parameters:</b> <ul style="list-style-type: none"> <li>Methods not used; (0)</li> <li>Some methods used, but called incorrectly, no parameters passed; (2)</li> <li>Some methods used and called correctly passing parameters; (3) and</li> <li>Methods used where requested and parameters passed correctly when called. (5)</li> </ul>	(5)	5
<b>GUI Designs:</b> <ul style="list-style-type: none"> <li>GUI not user friendly or aesthetically pleasing; (3) and</li> <li>GUI user-friendly and aesthetically pleasing. (5)</li> </ul>	(5)	4
<b>GPS/ SMS concept and research:</b> <ul style="list-style-type: none"> <li>Concept not new; (3) and</li> <li>Original and well thought out logic. (5)</li> </ul>	(5)	5

• Spend some time making navigating the menu more intuitive

<b>Code for app:</b> <ul style="list-style-type: none"> <li>• App does not run – errors – attempt made to write app; (5)</li> <li>• App runs with errors; (10) and</li> <li>• App runs, no errors. (15)</li> </ul>	(15)	15
<b>"How to" documentation:</b> <ul style="list-style-type: none"> <li>• Summary of functionality and "how to" guide provided; (3) and</li> <li>• Detailed documentation of "How to" guide and functionality. (5)</li> </ul>	(5)	5
<b>Extra functionality added:</b> <ul style="list-style-type: none"> <li>• Individual effort made and at lecturer discretion – extra features, efficiency of code, originality, etc. (10)</li> </ul>	(10)	8 9
<b>TOTAL</b>	<b>50</b>	48

Not convinced that the side menu is more practical than a standard screen with tiles, or another option, similar to how the app is once logged in

[TOTAL MARKS: 100]

## Application development

For my application development, I took my 1sts assignment and re designed it. By using navigation drawer activates, to make it easier and more appealing to use than before. I've also added in extra functionality.

### Improvements

- Added in more comments
- Google maps zooming in, asking user to enable gps if its disabled
- Added in a better navigation drawer for better GUI an some new screens.
- I've enabled the app to work with no internet required after one run. – extra functionality.
- Enabling a user to submit a post
- I've added in pop ups to help users find specials