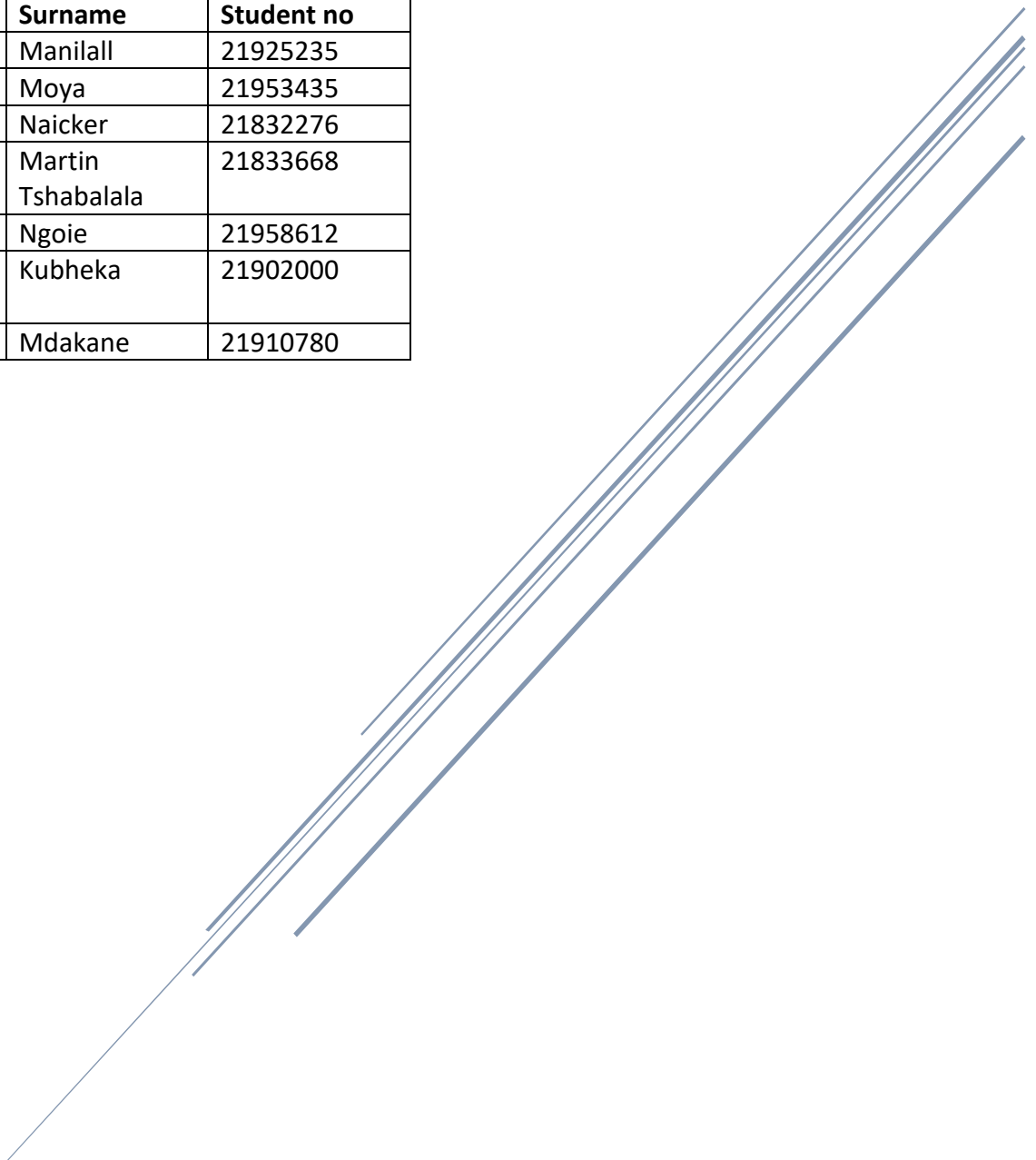


MOBILE COMPUTING GENIUES

Ayaat Bibi's Eats and Treats Project

First Name	Surname	Student no
Shavana	Manilall	21925235
Walter	Moya	21953435
Damien	Naicker	21832276
Tity Junior	Martin Tshabalala	21833668
Jonathan	Ngoie	21958612
Sinegugu Anele	Kubheka	21902000
Nelisiwe	Mdakane	21910780



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(Note: More pages due to the Screenshots)

Website Contribution

Name: Shavana Manilall (Team leader)

Student Number: 21925235

Task Completed: Sign Up Code, Login Code, Reset Password Code, Final project compile and Documentations

I was tasked with the coding to the firebase Authentication to add users to the system. I coded the Sign up, login and Reset Password. I did do documentation on the code that I did. Then I also did the final put together of all the app parts that I have received from my team.

Name: Sinegugu Anele Kubheka

Student Number: 21902000

Task Completed: Sign Up Design and Documentation

I had the task of designing the Sign Up View for the App as well the Documentation. I did the business Benefits.

Name: Damien Aldwyn Naicker

Student Number: 21832276

Task Completed: Design of the Home, More Info Page and documentation.

I had the duty of coding the design and the code for the home view in the app as well with the more information view and I did the documentation of my part of the app project. I was also given the task of doing the Project Description with Tity.

Name: Walter Moya

Student Number: 21953435

Task Completed: Reset Design and Documentation

Designing of the Reset Password View for the App was the task that I had been given. I did the business Benefits with Anele as well.

Name: Tity Junior Martin Tshabalala

Student Number: 21833668

Task Completed: Order View Coding and Documentation

Myself and Jonathan where to design and code the Order View for the App. I contributed in in designing, coding and the documentation of the Order View. I also did the Project Description with Damien.

Name: Jonathan Ngoie

Student Number: 21958612

Task Completed: Order View Coding and Documentation

I had to work with Tity to Design and Code the Order View. I also did work in the documentation of our part.

Name: Nelisiwe Mdakane

Student Number: 21910780

Task Completed: Design of the Login View and documentation.

I was given the task of designing the Login View and the documentations for the project.

Problem Description

Ayaat Bibi's eats and treats is a small business. Over the years they have become a household name for many. With the increase in popularity among the diverse community and the advancement of technology. Ayaat Bibi's Eats and treats has decided to go digital. One of the key issues that Bakery has been experiencing is the fact that many customers would like to be able to place orders without having to go in-store, this was mainly contributed to by the COVID-19 pandemic. Ayaat Bibi's Eats and treats would also like have a rewards system in place for customers who place orders regularly.

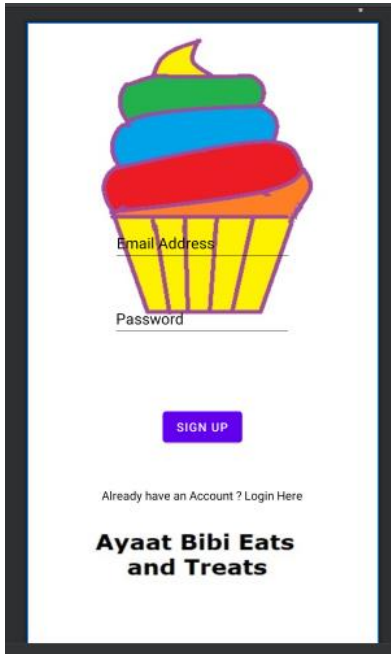
Business Benefits

- Allow customers to make orders on their mobile device anywhere and anytime
- Reduce human error making orders more reliable
- Reduce que size in store
- Provide range in type of orders
- Allow for customers to make special cake orders

System Capabilities

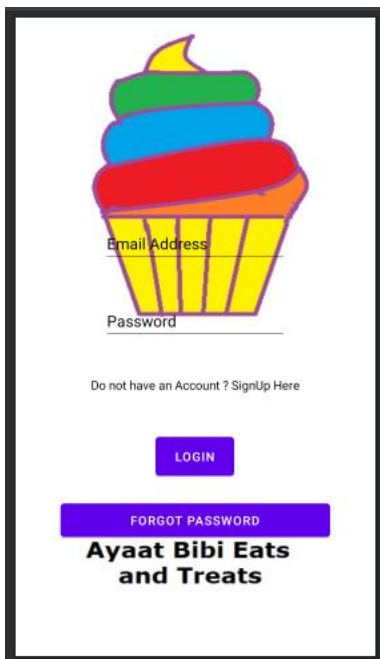
- 1) Will have a homepage, a sign up, login option and more info.
- 2) Sign Up page will allow the user to sign up in order for them to make an order.
- 3) Login allow the user to login into there already existing account to make an order or to view their order.
- 4) More information page will give the user more information about the company.
- 5) Menu page, will allow the user to place and order or view an order.
- 6) Place an Order Page will allow the user to make an order and receive an email with Order ID.
- 7) View and Order page will allow the user to view their order by enter their order ID.

App GUI



The image shows a mobile app sign-up screen. At the top is a logo of a cupcake with three swirls of frosting in green, blue, and red, sitting in a yellow paper liner. Below the logo are two text input fields: the first is labeled "Email Address" and the second is labeled "Password". Under the password field is a purple button with the text "SIGN UP" in white. Below the button is a link that says "Already have an Account ? Login Here". At the bottom, the app's name "Ayaat Bibi Eats and Treats" is displayed in bold black text.

This is the first GUI that showed to the user upon opening the App. It is the GUI for the user to sign up for an account with their email and password. Returning Users can click on Login here, text view to go the Login GUI.



The image shows a mobile app login screen. It features the same cupcake logo at the top. Below the logo are two text input fields: the first is labeled "Email Address" and the second is labeled "Password". Under the password field is a purple button with the text "LOGIN" in white. Below the button is a link that says "Do not have an Account ? SignUp Here". Below that is a purple button with the text "FORGOT PASSWORD" in white. At the bottom, the app's name "Ayaat Bibi Eats and Treats" is displayed in bold black text.

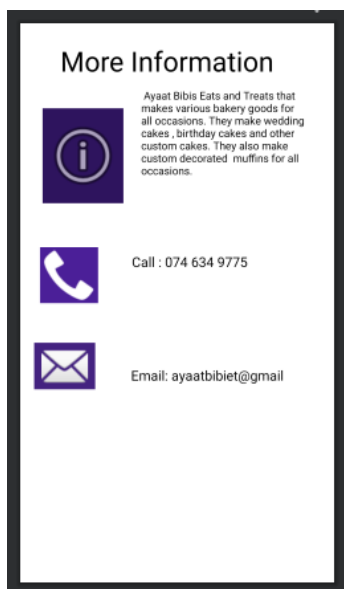
This is the Second GUI which is the Login GUI for any returning User, can use to login into their account. There is a Reset password button that is provided to take the user to the Reset Password GUI.



GUI for the Reset Password for the Users Account, the user who wishes to Reset his/ her password can simply type in their email which they are using for this app and a Reset password email will be sent to them if their email address which they used to sign up with is in the Database.



This is the Menu GUI also known as the Home GUI which will be accessed once the User sign's up or login's. In this GUI the user can navigate to calculate their Order, go to the More information GUI and Logout.



The More Information GUI tells the user about Ayaat Bibi's Eats and Treats and it provides the contact Details for Ayaat Bibi's Eats and Treats.

Muffins(12-200)

Muffin Type ▼

☐ Plain

☐ Vanilla

☐ Chocolate

☐ Gluten-Free

☐ Muffin Madness

SUBMIT

This is the Order Calculate GUI used for Calculating an Order for Muffins it give the user the choice of the number of muffins between a range of 12 and 200, the muffin type and the user clicks on the submit button to calculates the price and Displays it to the user.

App Code

```
package com.example.abetmuffins;

import ...

public class MainActivity extends AppCompatActivity {
    EditText emailId, password;
    Button btnSignUp;
    TextView tvSignIn;
    FirebaseAuth mFirebaseAuth;

    @Override
    protected void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        mFirebaseAuth= FirebaseAuth.getInstance();
        emailId=findViewById(R.id.editTextTextEmailAddress);
        password=findViewById(R.id.editTextTextPassword);
        btnSignUp=findViewById(R.id.button);
        tvSignIn=findViewById(R.id.textView3);

        btnSignUp.setOnClickListener(new View.OnClickListener()
        {
            @Override
            public void onClick(View view) {
                String email = emailId.getText().toString();
                String pwd = password.getText().toString();

                if (email.isEmpty()) {
```

This is the code for the Main Activity where the user performs a sign Up or goes to the Login page.

Field Variables are declared and assigned to receive the input from their respective components.

Button Sign Up set on click listener is declared to begin the process of the sign up button.

Two string type variables are declared and assigned to receive the email Address from Email Address Text and the password from a Password Text.

```
        btnSignUp.setOnClickListener(new View.OnClickListener()
        {
            @Override
            public void onClick(View view) {
                String email = emailId.getText().toString();
                String pwd = password.getText().toString();

                if (email.isEmpty()) {
                    emailId.setError("Please Enter Email Address");
                    emailId.requestFocus();
                } else if (pwd.isEmpty()) {
                    password.setError("Please Enter your Password");
                    password.requestFocus();
                } else if (email.isEmpty() && pwd.isEmpty())
                {
                    Toast.makeText( context MainActivity.this, text "Fields Are Empty", Toast.LENGTH_SHORT).show();
                } else if (!(email.isEmpty() && pwd.isEmpty()))
                {
                    mFirebaseAuth.createUserWithEmailAndPassword(email,pwd).addOnCompleteListener( activity MainActivity.this, new OnCompleteListener<AuthResult>() {
                        @Override
                        public void onComplete(@NonNull Task<AuthResult> task) {
                            if(!task.isSuccessful()){
```

An if statement begins to check if there is an Email Address input from the User and if there is no input it displays an Error Messages and set the focus on Email Address text.

The next statement checks for the input passwords and does the same if there is no input from the user.

The third if statement checks if both the Email and Password fields are empty if there are empty it displays and Error Message.

```
mFirebaseAuth.createUserWithEmailAndPassword(email,pwd).addOnCompleteListener( activity: MainActivity.this, new OnCompleteListener<AuthResult>() {  
    @Override  
    public void onComplete(@NonNull Task<AuthResult> task) {  
        if(!task.isSuccessful()){  
            Toast.makeText( context: MainActivity.this, text: "Sign Up was Not Successful, Please Try Again ", Toast.LENGTH_SHORT).show();  
        }  
        else  
        {  
            startActivity(new Intent( packageContext: MainActivity.this,HomeActivity.class));  
        }  
    }  
});  
}  
else{  
    Toast.makeText( context: MainActivity.this, text: "Error Occurred! ", Toast.LENGTH_SHORT).show();  
}  
}
```

In a following else if the above conditions are valid using FirebaseAuth we call the method Create a user and pass the Email and the password to the FirebaseAuth that creates a new user and adds them to a login Database. Using an if statement to check if the task was successful if it is the user will be taken to the Menu Gui otherwise the user will receive a display message that their account was not successful and should try again.

```

    }
    else{
        Toast.makeText( context: MainActivity.this, text: "Error Occurred! ", Toast.LENGTH_SHORT).show();
    }
}

);

tvSignIn.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {

        Intent i = new Intent( packageContext: MainActivity.this, LoginActivity.class);
        startActivity(i);
    }
});
}
}

```

We used a set on Click Listener with Text View to take the User to the Login Activity.

```

package com.example.abetmuffins;

import ...

public class LoginActivity extends AppCompatActivity {

    EditText emailId, password;
    Button btnSignIn;
    Button btnReset;
    TextView tvSignUp;
    FirebaseAuth mFirebaseAuth;

    private FirebaseAuth.AuthStateListener mAuthStateListener;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_login);

        mFirebaseAuth = FirebaseAuth.getInstance();
        emailId = findViewById(R.id.editTextTextEmailAddress);
        password = findViewById(R.id.editTextTextPassword);
        btnSignIn = findViewById(R.id.button);
        tvSignUp = findViewById(R.id.textView3);
        btnReset = findViewById(R.id.button2);

        btnReset.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {

```

The same field Variables are declared and Assigned in the login Activity.

```

btnReset = findViewById(R.id.button2);

btnReset.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {

        Intent intSignUp = new Intent( packageContext LoginActivity.this, ResetPasswordActivity .class);
        startActivity(intSignUp);

    }
});

mAuthStateListener = new FirebaseAuth.AuthStateListener() {

    @Override
    public void onAuthStateChanged(@NonNull FirebaseAuth firebaseAuth) {
        FirebaseUser mFirebaseUser = mFirebaseAuth.getCurrentUser();

        if (mFirebaseUser != null) {

            Toast.makeText( context LoginActivity.this, text: "You are logged in", Toast.LENGTH_SHORT).show();

            Intent i = new Intent( packageContext LoginActivity.this, HomeActivity.class);

            startActivity(i);

        } else {

```

A button called Reset upon clicking the button it takes the user the user the reset pass word Activity.

```

    } else {

        Toast.makeText( context LoginActivity.this, text: "Please Login", Toast.LENGTH_SHORT).show();

    }

}

};

btnSignIn.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {

        String email = emailId.getText().toString();
        String pwd = password.getText().toString();

        if (email.isEmpty()) {
            emailId.setError("Please Enter Email Address");

            emailId.requestFocus();

        } else if (pwd.isEmpty()) {

            password.setError("Please Enter your Password");
            password.requestFocus();

        } else if (email.isEmpty() && pwd.isEmpty()) {
            Toast.makeText( context LoginActivity.this, text: "Fields Are Empty", Toast.LENGTH_SHORT).show();

```

The same format from the if statements of the Sign Up activity is used in the Login Activity to Validate the Email and Password from the User.

```

HomeActivity.java x LoginActivity.java x build.gradle (app) x activity_reset_password.xml x ResetPasswordActivity.java x activity_more_info.xml x activity_m

} else if (email.isEmpty() && pwd.isEmpty()) {
    Toast.makeText( context: LoginActivity.this, text: "Fields Are Empty", Toast.LENGTH_SHORT).show();
} else if (!(email.isEmpty() && pwd.isEmpty())) {

    FirebaseAuth.signInWithEmailAndPassword(email, pwd).addOnCompleteListener( activity: LoginActivity.this, new OnCompleteListener<AuthResult>() {

        @Override
        public void onComplete(@NonNull Task<AuthResult> task) {
            if (!task.isSuccessful()) {

                Toast.makeText( context: LoginActivity.this, text: "Login Error Please Login Again ", Toast.LENGTH_SHORT).show();

            } else {

                Intent inToHome = new Intent( packageContext: LoginActivity.this, HomeActivity.class);

                startActivity(inToHome);

            }

        }

    });

} else {

    Toast.makeText( context: LoginActivity.this, text: "Error Occurred! ", Toast.LENGTH_SHORT).show();

}

```

Once the Validations of the input of the Email and Password is Valid we used a method from FirebaseAuth called Sign In with Email and password and with pass the Email and Password to this method to sign in the user. If it is not successful, the User receives a message otherwise the User is taken to the Menu Gui.

```

    }

    });

} else {

    Toast.makeText( context: LoginActivity.this, text: "Error Occurred! ", Toast.LENGTH_SHORT).show();

}

});

tvSignUp.setOnClickListener(new View.OnClickListener() {

    @Override
    public void onClick(View view) {

        Intent intSignUp = new Intent( packageContext: LoginActivity.this, MainActivity.class);
        startActivity(intSignUp);

    }

});

}

```

A Text View is used to navigate the User back to the Sign Up Gui if they want to Sign Up.

```

package com.example.abetmuffins;

import ...

public class ResetPasswordActivity extends AppCompatActivity {

    Button btnReset;
    TextView txtLogin;
    EditText emailID;

    FirebaseAuth mFirebaseAuth;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_reset_password);

        mFirebaseAuth=FirebaseAuth.getInstance();
        btnReset = findViewById(R.id.button3);
        txtLogin= findViewById(R.id.textView2);
        emailID=findViewById(R.id.editTextTextEmailAddress2);

        btnReset.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {

                String email = emailID.getText().toString();
            }
        });
    }
}

```

In the Reset Activity field variables are declared and assigned to their respective Components.

```

String email = emailID.getText().toString();

if (email.isEmpty())
{
    Toast.makeText( context: ResetPasswordActivity.this, text: "Please Enter an Email Address",Toast.LENGTH_SHORT ).show();
}

else
{
    if (!email.isEmpty())
    {
        mFirebaseAuth.sendPasswordResetEmail(email).addOnCompleteListener( activity: ResetPasswordActivity.this, new OnCompleteListener<Void>() {
            @Override
            public void onComplete(@NonNull Task<Void> task)
            {
                if (!task.isSuccessful())
                {
                    Toast.makeText( context: ResetPasswordActivity.this, text: "Reset email was not Sent, Please Try Again!",Toast.LENGTH_SHORT).show();
                }
            }
        });
    }
}

```

In the Button Reset set on click listener checks if there is an email input from the user using an if statement once there is an input. Once there is an Input from the user, using the send password reset email method from FirebaseAuth

```
activity.java x LoginActivity.java x build.gradle (:app) x activity_reset_password.xml x ResetPasswordActivity.java x activity_more_info.xml x
if (!task.isSuccessful())
{
    Toast.makeText( context: ResetPasswordActivity.this, text: "Reset email was not Sent, Please Try Again!", Toast.LENGTH_SHORT).show();
}
else
{
    Toast.makeText( context: ResetPasswordActivity.this, text: "Reset email Sent", Toast.LENGTH_SHORT).show();
}
}
}
```

Using an if statement to check if the task was successful or not, if it is the successful then it displays a message that the email will be has been sent otherwise there was an error.

```
    }
    });

    txtLogin.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            Intent i = new Intent( packageContext: ResetPasswordActivity.this, LoginActivity.class);
            startActivity(i);
        }
    });
}
}
```

A Text View is used to navigate the User back to the Login Gui if they want to Login.


```

package com.example.abetmurrins;
import androidx.appcompat.app.AppCompatActivity;

public class HomeActivity extends AppCompatActivity {

    Button btnLogout;
    Button btnMoreInfo;
    Button btnPlaceOrder;
    FirebaseAuth mAuth;

    private FirebaseAuth.AuthStateListener mAuthStateListener;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_home);

        btnLogout = findViewById(R.id.logout);
        btnMoreInfo = findViewById(R.id.button4);
        btnPlaceOrder = findViewById(R.id.button5);

        btnLogout.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                FirebaseAuth.getInstance().signOut();

                Intent inToMain = new Intent( packageContext HomeActivity.this,MainActivity.class);

                startActivity(inToMain);
            }
        });

        btnMoreInfo.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Intent i = new Intent( packageContext HomeActivity.this,MoreInfoActivity.class);
                startActivity(i);
            }
        });

        btnPlaceOrder.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Intent i = new Intent( packageContext HomeActivity.this,PlaceOrderActivity.class);
                startActivity(i);
            }
        });
    }
}

```

In the Home Activity also known as the Menu Gui, there are three buttons for the User. The first button is used to call the place an order activity, the second is used to call the more information Activity and the last one calls the FirebaseAuth method called sign out to login out a User.

```

Activity.java x HomeActivity.java x MoreInfoActivity.java x PlaceOrderActivity.java
package com.example.abetmuffins;

import androidx.appcompat.app.AppCompatActivity;

public class PlaceOrderActivity extends AppCompatActivity {

    private Spinner spinner1;
    private RadioGroup radioMuffinGroup;
    private RadioButton radioMuffin;
    EditText number;
    Double total;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_place_order);

        //this method will allow us to add items onto the spinner
        addItemOnSpinner1();
        addListenerOnButton();
    }

    public void addItemOnSpinner1(){
        spinner1=(Spinner)findViewById(R.id.spinner1);
        List<String> list = new ArrayList<>();
        list.add("None");
        list.add("Pretty Pink");
        list.add("Rosy Red");
        list.add("Ollie Orange");
    }
}

```

```

public void addItemOnSpinner1(){
    spinner1=(Spinner)findViewById(R.id.spinner1);
    List<String> list = new ArrayList<>();
    list.add("None");
    list.add("Pretty Pink");
    list.add("Rosy Red");
    list.add("Ollie Orange");
    list.add("Yellow Sunshine");
    list.add("Bashful Blue");
    list.add("Butterfly");
    list.add("Superhero");
    list.add("Princess");
    list.add("Cars");
    list.add("Space");
    ArrayAdapter<String> dataAdapter = new ArrayAdapter<>( context: this, android.R.layout.simple_spinner_dropdown_item, list);
    dataAdapter.setDropDownViewResource(android.R.layout.simple_spinner_dropdown_item);
    spinner1.setAdapter(dataAdapter);
}

public double getType(){
    double typeCost=0;
    RadioButton plain =(RadioButton)findViewById(R.id.radPlain);
    RadioButton vanilla =(RadioButton)findViewById(R.id.radVanilla);
    RadioButton chocolate =(RadioButton)findViewById(R.id.radChocolate);
    RadioButton glutenFree =(RadioButton)findViewById(R.id.radGlutenFree);
    RadioButton madnessMix =(RadioButton)findViewById(R.id.radTheMix);
    if(plain.isChecked()){
        typeCost=0.5;
    }
}

```

```

    if(plain.isChecked()){
        typeCost=0.5;
    }
    else if(vanilla.isChecked()){
        typeCost=1;
    }
    else if(chocolate.isChecked()){
        typeCost= 3;
    }
    else if(glutenFree.isChecked()){
        typeCost=9;
    }
    else if(madnessMix.isChecked()){
        typeCost=8;
    }
    return typeCost;
}

public double getMuffins(){
    double cost=0;
    number=(EditText)findViewById(R.id.editTextNum);
    int numMuffin = Integer.parseInt(number.getText().toString());
    if((numMuffin>11)&&(numMuffin<=200))
    {
        cost = numMuffin* 5* getType();
    }

    return cost;
}

public double afterTax(){
    double total =0;
}

```

In the Place Order Activity, we stated with declaring all the field variables and then assigning them to their respective components.

```

    }

    return cost;
}

public double afterTax(){
    double total =0;
    total = getMuffins()+(getMuffins()*0.15);
    return total;
}

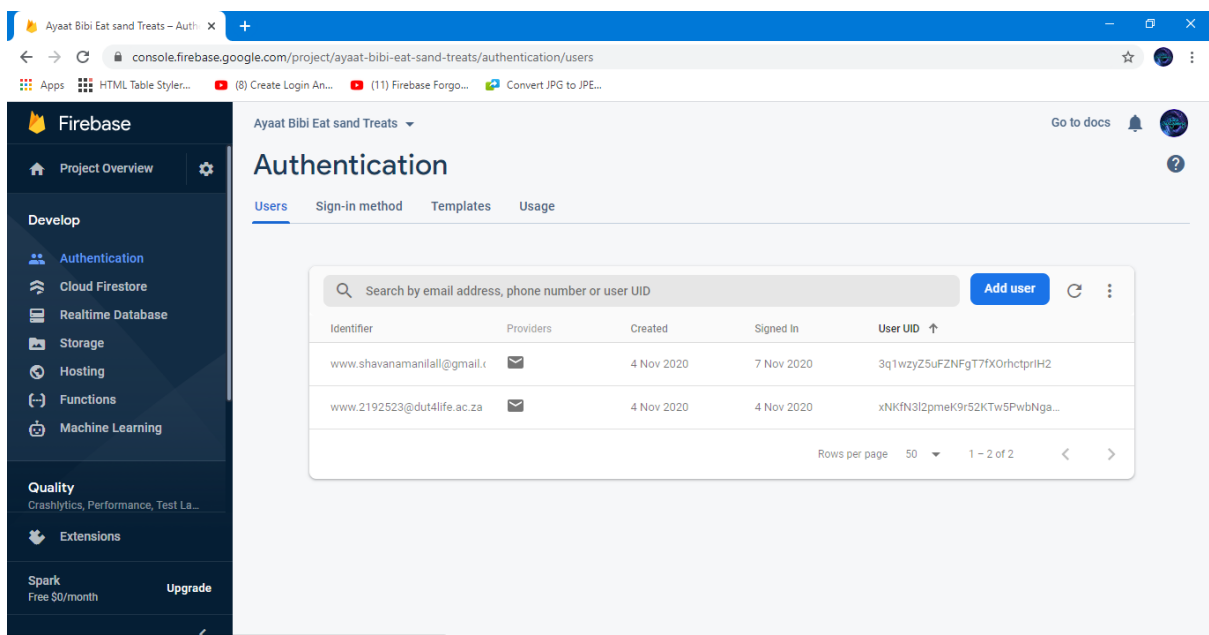
//get the selected dropdown list values
public void addListenerOnButton(){
    spinner1=(Spinner)findViewById(R.id.spinner1);
    radioMuffinGroup=(RadioGroup)findViewById(R.id.radioMuffin);
    Button btnDisplay = (Button) findViewById(R.id.button2);
    btnDisplay.setOnClickListener((View.OnClickListener) v -> {
        //here we get the selected radio button from radioGroup
        int selectId = radioMuffinGroup.getCheckedRadioButtonId();
        //finding the radioButton ID from the group
        radioMuffin =(RadioButton)findViewById(selectId);

        final EditText number =(EditText)findViewById(R.id.editTextNum);
        final Spinner spinner1 = findViewById(R.id.spinner1);
        TextView text =(TextView)findViewById(R.id.textView00);
        text.setText("Number of Muffin: "+number.getText().toString()+
            "\n"+ "Theme: "+spinner1.getSelectedItem().toString()+
            "\n Muffin selected: "+radioMuffin.getText()+"\nMuffin Cost: "+R.getId(R.id.spinner1)+"\nCost: "+R.getId(R.id.spinner1)+"\nTotal After Tax: "+
            R.getId(R.id.spinner1));
    });
}

```

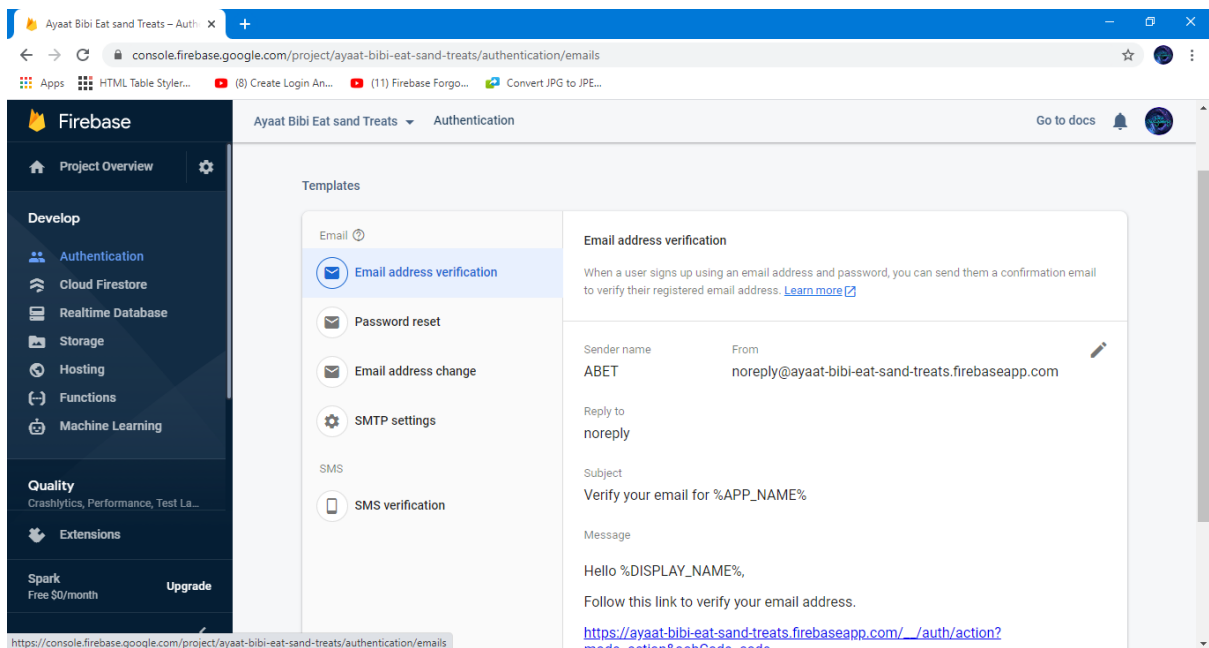
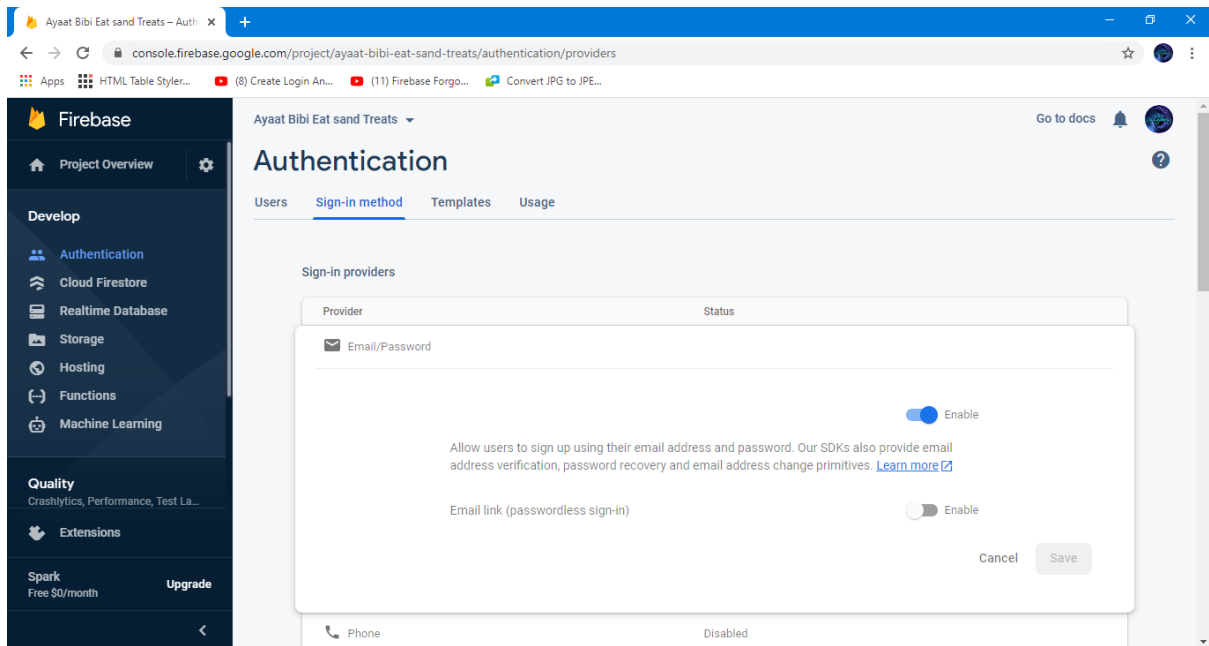
Once we have all the inputs from the User we begin with calculating the other and then we display it to the user.

Firestore DB



The screenshot shows the Firebase Authentication console for the project 'Ayaat Bibi Eat sand Treats'. The 'Users' tab is selected, displaying a table of registered users. The table has columns for Identifier, Providers, Created, Signed In, and User UID. Two users are listed: one with email 'www.shavanamanilall@gmail.com' and another with email 'www.2192523@du4life.ac.za'. Both were created on 4 Nov 2020. The interface includes a search bar, an 'Add user' button, and pagination controls at the bottom of the table.

Identifier	Providers	Created	Signed In	User UID
www.shavanamanilall@gmail.com	Google	4 Nov 2020	7 Nov 2020	3q1wzyZ5uFZNFgT7fXOrhctpriH2
www.2192523@du4life.ac.za	Google	4 Nov 2020	4 Nov 2020	xNKfn3l2pmeK9r52KTW5PwbNga...



References

Reset password Method

<https://itnext.io/android-firebase-authentication-email-and-password-login-b06980cf864a>

