

## Testing & Security Measurements & License References

### Android Application Emira Pottery

For this sector of the project the only expected testing for calculations is the sum of products. Automated Testing Sum of Products With JUNIT Testing:

```
public void testSummationofProducts() {
    BasketActivity ba = new BasketActivity();
    ArrayList<float> sum = new ArrayList();
    float a = 10;
    float b = 15;
    sum.add(a);
    sum.add(b);
    float actual = ba.calculateSum(sum);
    // expected value is 25
    float expected = 25;
    // use this method because float is not precise
    assertEquals("Add the products for the customer total", expected, actual, 0.001);
}
```

BasketActivityTest > testSummationofProducts()

Tests passed: 1 of 1 test - 125 ms

BasketActivityTest (com.example) 125 ms "C:\Program Files\Android\Android Studio\jre\bin\java.exe" ...

testSummationofProducts 125 ms

Process finished with exit code 0

The following is the same example with wrong expected values:

```
BasketActivityTest.testSummationofProducts x
```

Tests failed: 1 of 1 test - 161 ms

ityTest (com.example) 161 ms "C:\Program Files\Android\Android Studio\jre\bin\java.exe" ...

mationofProducts 161 ms

```
java.lang.AssertionError: Add the products for the customer total
Expected :0.0
Actual   :25.0
<Click to see difference>
```

<1 internal call>

at org.junit.Assert.failNotEquals(Assert.java:834) <1 internal call>

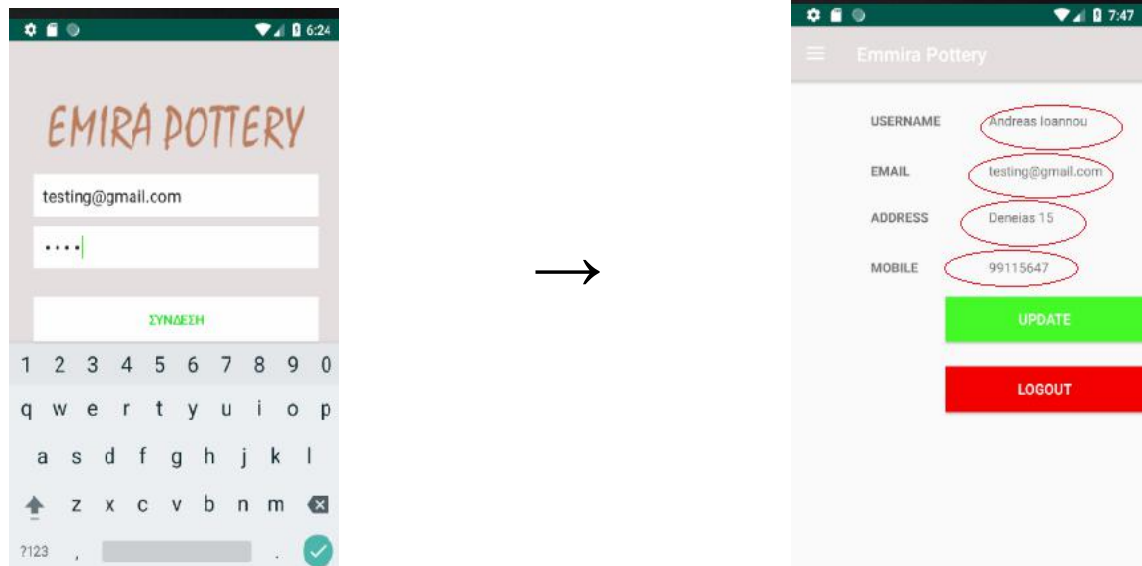
at com.example.myapplication.BasketActivityTest.testSummationofProducts(BasketActivityTest.java:23) <22 internal calls>

## Manual Testing for Login

This is the entry inside the database for the current user:

36877	testing@gmail.com	Deneias 15	Andreas Ioannou	99115647	9juYaRgyoEfqP4N2hTrumxd5GVdlZTQwZDk5MDZm	ee40d9906f	2019-02-07 17:20:34
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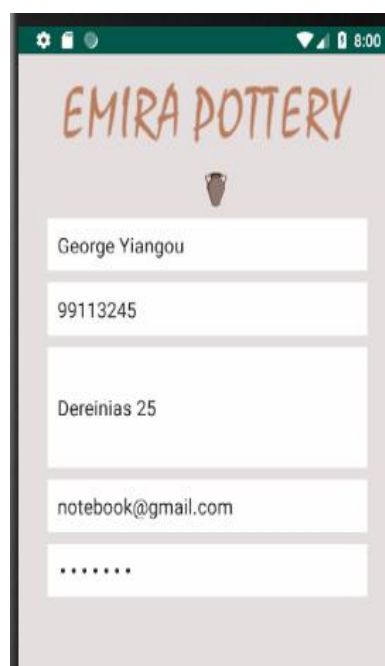
Below we enter the password with the correct credentials: Note we use a hash coded password for the user, the password is 1234 for the current user



## Manual Testing for Registering

We use the following credentials to register a new user:

- ◆ Full Name : George Yiangou
- ◆ Mobile Phone 99113245
- ◆ Home Address: Dereinias 25
- ◆ Email: [notebook@gmail.com](mailto:notebook@gmail.com)
- ◆ Password: 12345s





This is the record inserted in the external database:

<input type="checkbox"/>	Edit  Copy  Delete	71310	notebook@gmail.com	Dereinias 25	George Yiangou	99113245	yPUjexyfYmjllMIZ9d8Nlmemwg01MTJmYzkwY2E5	512fc90ca9	2019-05-02 20:00:15
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## Manual Testing for Update User Credentials

We would like to change the email of the customer as follow:

- ◆ [notebook@gmail.com](mailto:notebook@gmail.com) to [new@gmail.com](mailto:new@gmail.com):
- ◆ Dereinias 25 to Ifigenias 88, Strovolos
- ◆ 99113245 to 99343211
- ◆ George Yiangou to Yiannis Yiangou

Emmira Pottery

USERNAME: George Yiangou

EMAIL: notebook@gmail.com

ADDRESS: Dereinias 25

MOBILE: 99113245

**UPDATE**

**LOGOUT**



Emmira Pottery

USERNAME: George Yiangou

EMAIL: notebook@gmail.com

ADDRESS: Dereinias 25

MOBILE: 99113245

**SEND**

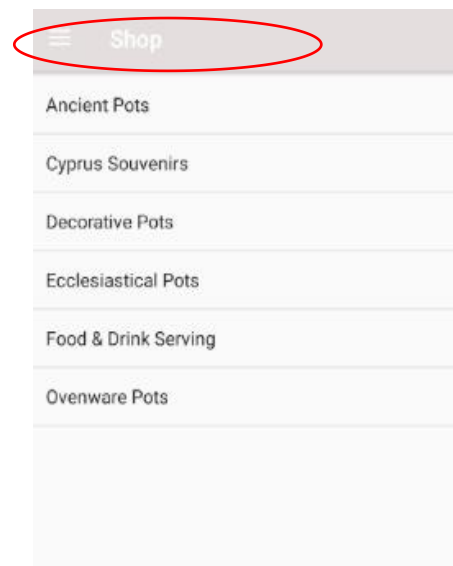
**LOGOUT**

The above record changed to:

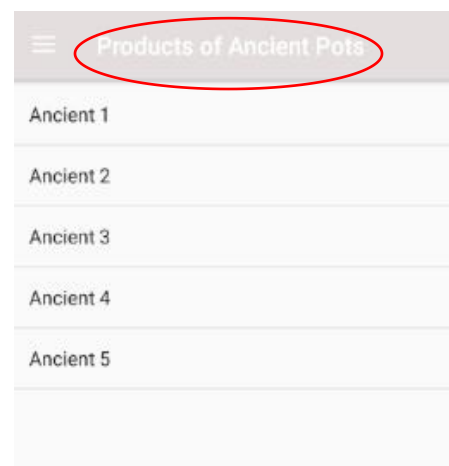
71310	new@gmail.com	Ifigenias 88, Strovolos	Yiannis Yiangou	99343211	yPUjexyfYmjllMIZ9d8Nlmemwg01MTJmYzkwY2E5	512fc90ca9	2019-05-02 20:00:15
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## Manual Testing for showing categories of Products

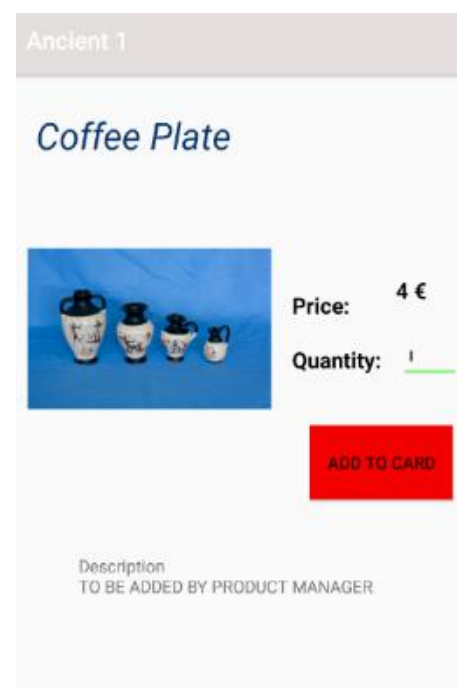
These are the current categories of products:



For each categories all the products are listed uniquely:

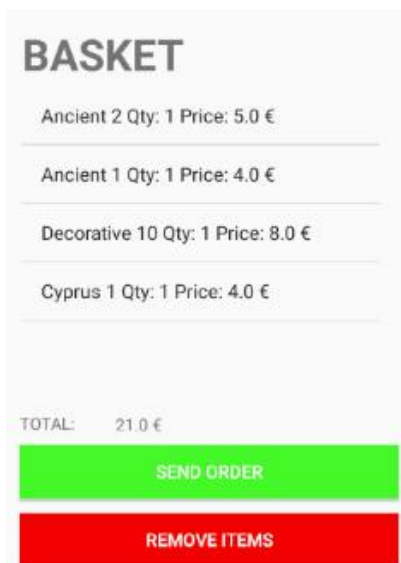


Each uniquely item appears as :



## Manual Testing for Product Basket Data:

Example the user has bought Ancient 2, Ancient 1, Decorative 10 & Cyprus 1 by pressing the :  
This the basket screen:



By pressing the order button the following are stored into the local database:

+ Options						
← T →			UserID	Quantity	Created	Product_Name
<input type="checkbox"/>		Copy	36877	1	2019-05-02 19:40:36	Ancient_2
<input type="checkbox"/>		Copy	36877	1	2019-05-02 19:40:36	Ancient_1
<input type="checkbox"/>		Copy	36877	1	2019-05-02 19:40:36	Decorative_10
<input type="checkbox"/>		Copy	36877	1	2019-05-02 19:40:36	Cyprus_1

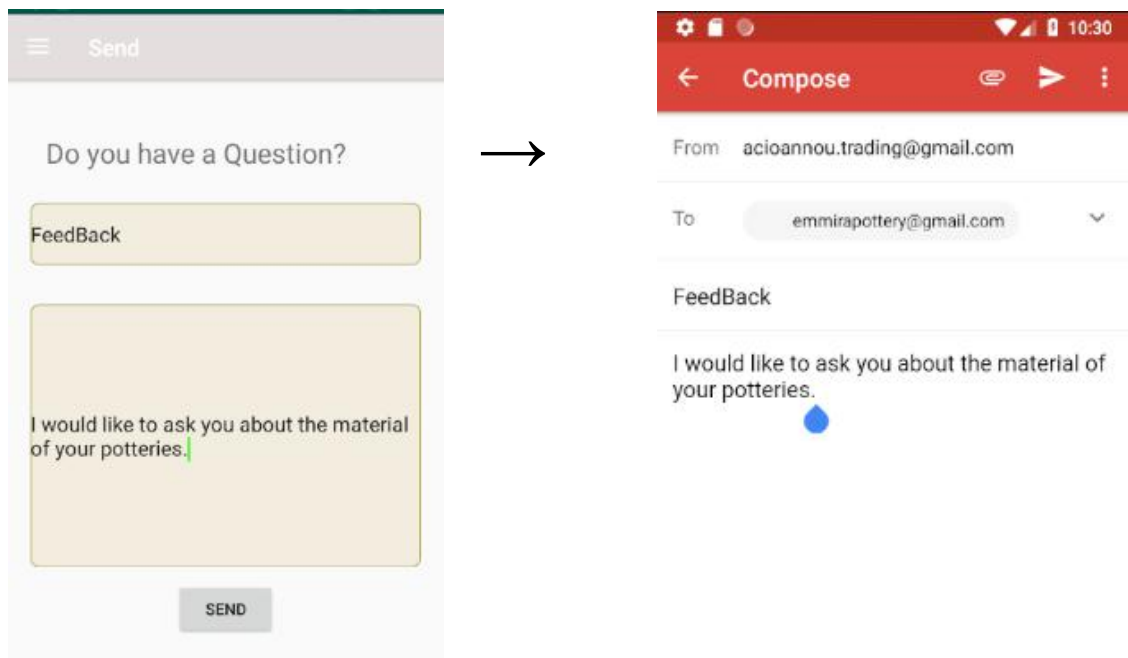
## Manual Testing for Map Activity :

When map field is pressed a map is shown with the location of Emira Pottery and level of zoom 15.



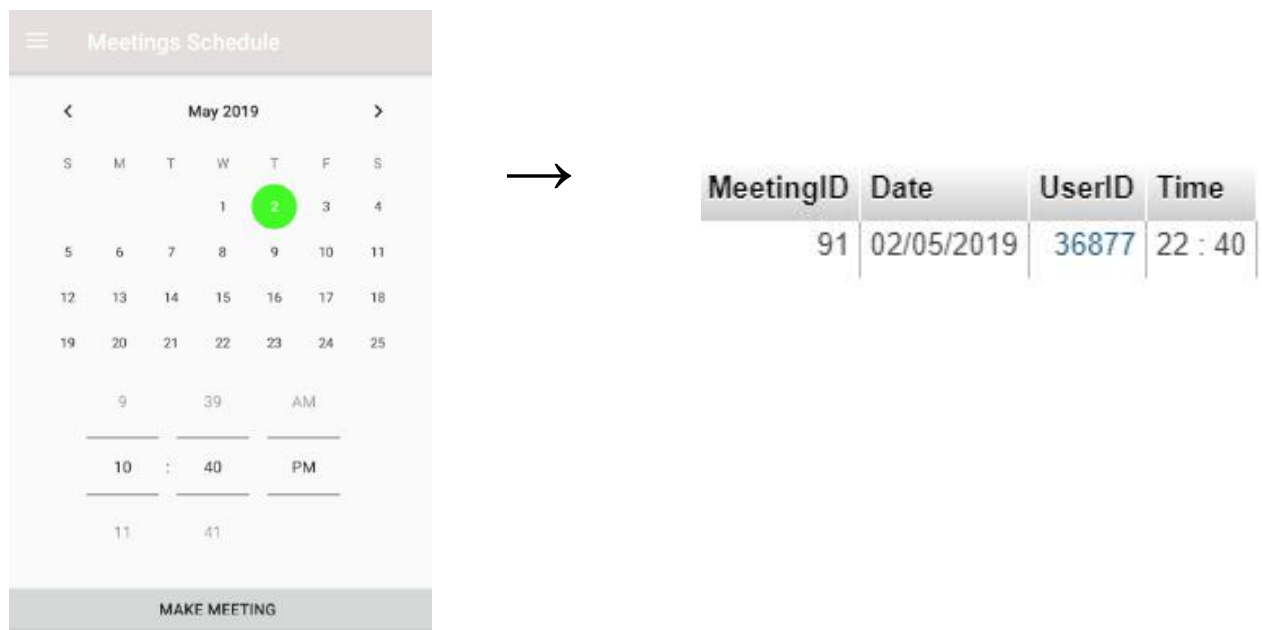
## Manual Testing for Sending Email Activity :

Android supports email through opening a new intent and copying the subject field and email field:



## Manual Testing for Meetings Schedule Activity :

Selecting a date and time for a meeting and store it to the database:



## Security Measurements:

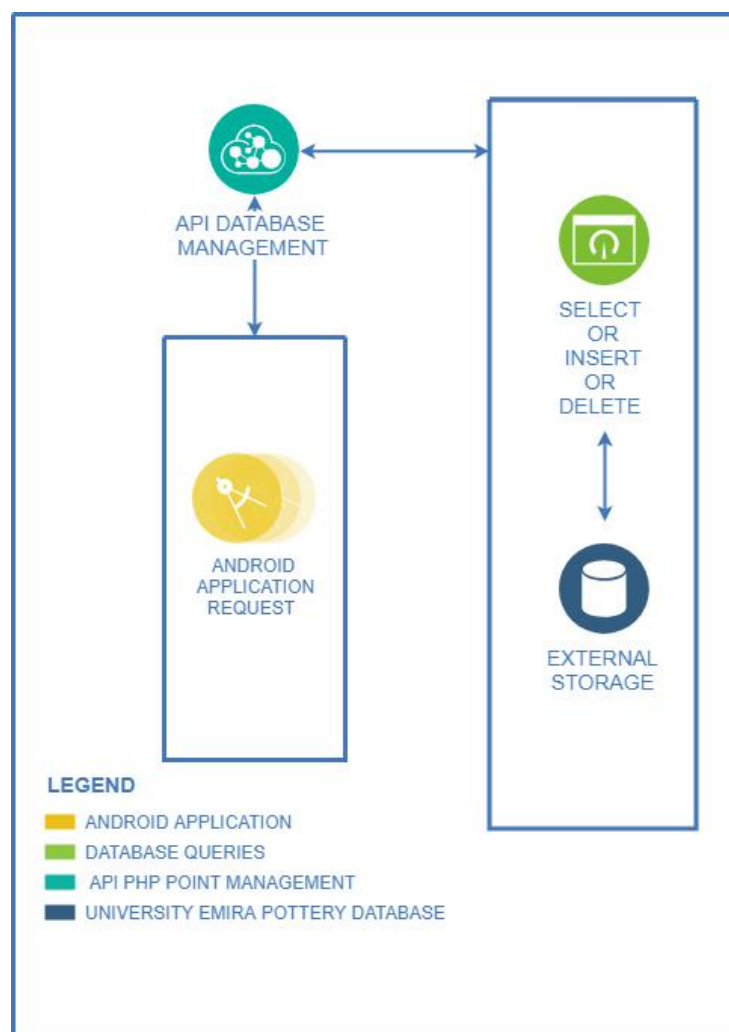
For connecting to the database an HTTP PHP endpoint has been implemented. Every HTTP request from the android application pass through that for verification, in order to for a successful data retrieval from the external secure database. Also this point answers with proper encoded JSON responses to the android application.

The following files aggregate the endpoint:

update.php  
configure.php  
register.php  
database\_conf.php  
login.php  
orders.php  
database\_behaviour.php  
meeting.php  
products.php

Each file can be found inside the GITHUB repository under the folder: API DATABASE

The following diagram briefly explains the architecture:



For the login system, one must first enter the correct credentials and get an error: false message from the endpoint in order to proceed to the home page of the application.

Example of a response from the login php script:

No parameters:

```
{"error":true,"error_msg":"Required parameters email or password is missing!"}
```

With correct parameters:

```
{"error":false,"UserID":36877,"user":{"Name":"Andreas  
Ioannou","Email":"testing@gmail.com","Created":"2019-02-07  
17:20:34","Address":"Deneias 15","Mobile":"99115647"}}
```

## Software License for the current part of the project

- Android Open Source Project (AOSP)
- Apache Software License, Version 2.0
- GNU GPL v2 for the Linux kernel modifications

The application was built using the android studio which is owned by Alphabet Inc company. No other license was used. Also for the external application endpoint Apache Software License was used from the University of Cyprus.

Android Development & Tests

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