Ministry of Communications and Information Technology
Information Technology Institute

CiboGrafico

Prepared by:

Track: System Development

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Intake 37
13 June 2017

1.Introduction

1.1 BACKGROUND(PROBLEM)

In many popular restaurants, waiters/waitresses tend to miss out on tables or customers' calls during busy hours. While this is an ongoing issue, there is still no product that drastically improves the communication between the servers and the customers in the current market. Hence, the goal is to design a system in which the customers can call their servers easily and help the restaurant increase overall efficiency.

Nowadays, many people who regularly order delivery and visit restaurants are facing several problems.

The first problem, most friends while ordering delivery from a certain restaurant suffer from overlapping of their individual order prices.

The second problem, some people would like to order their meals and take them on the run after period of time without entering the restaurant or waiting for their orders.

The third problem, many people prefer to store their favorite meals in their application so that they'll not waste time searching for them each time.

The fourth problem, many people suffer from finding places in restaurant especially in holidays.

1.2 PURPOSE

We seek to implement a user friendly mobile application that will help in solving the problems that we pointed to.
We solved the problem of total order price overlapping by creating a room between users to join the same order between each other so that each person can order his meal by himself and receive the price of his meal.
We added a feature to allow user to order his meal and choose the time he will arrive to get his order in order to decrease the time wasted in waiting for the order.
We added a section in the user's account to allow him to add his favored meals so that the next time he wants to order his favorite meal he will not waste time in searching for it.
We added a reservation feature for each restaurant in order to allow users to know if there are free places in the restaurant in a specific time.

1.3 PREVIOUS WORK DONE (COMPETITORS ANALYSIS)

The main competitor for our product is **Otlob.com**. Its main target is supplying users with a delivery service.
Its main features are:

- Location detection in order to detect the location of the user and provide him with restaurants that are near to him.
- Menus for all restaurants.
- Available offers.
- Orders history in the user account.

Another competitor is **elmenus.com.** Its main feature is displaying the menus of the restaurants without any delivery services.

1.4 CUSTOMERS' ANALYSIS

After asking many people and taking reviews from them in order to collect and evaluate the data associated with customer needs and market trends, through customer focus groups, customer satisfaction measurement, field testing, etc, we finally collect data from many places that represents the customer needs.

Figure 1.1 shows that the search on google for the keywords restaurants and food in both Arabic and English languages in Egypt per month is really huge.

The people that search on the keyword restaurants are from ten thousand to hundred thousand per month.

The people that search on the keyword food are from one thousand to ten thousand per month.

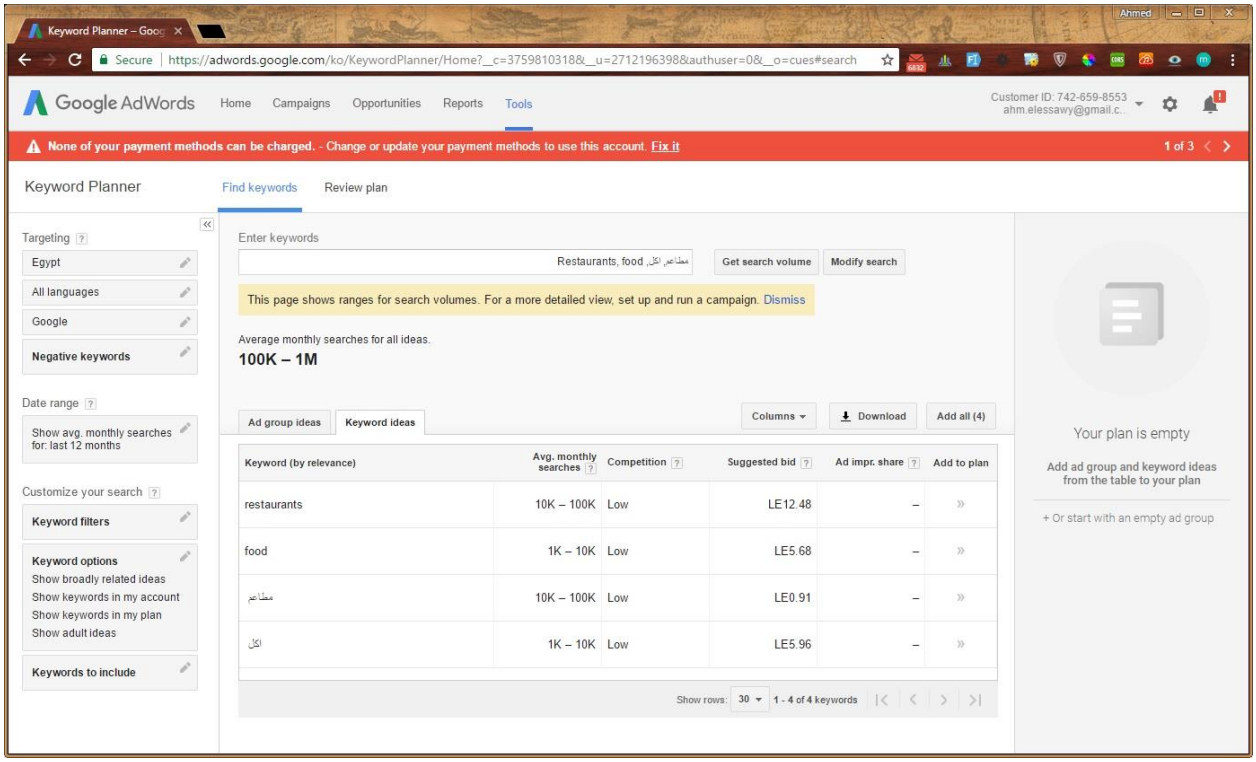

Figure 1.1

Figures 1.2,1.3 show the average age of people that are interested in our post and how many people are interested in the product.

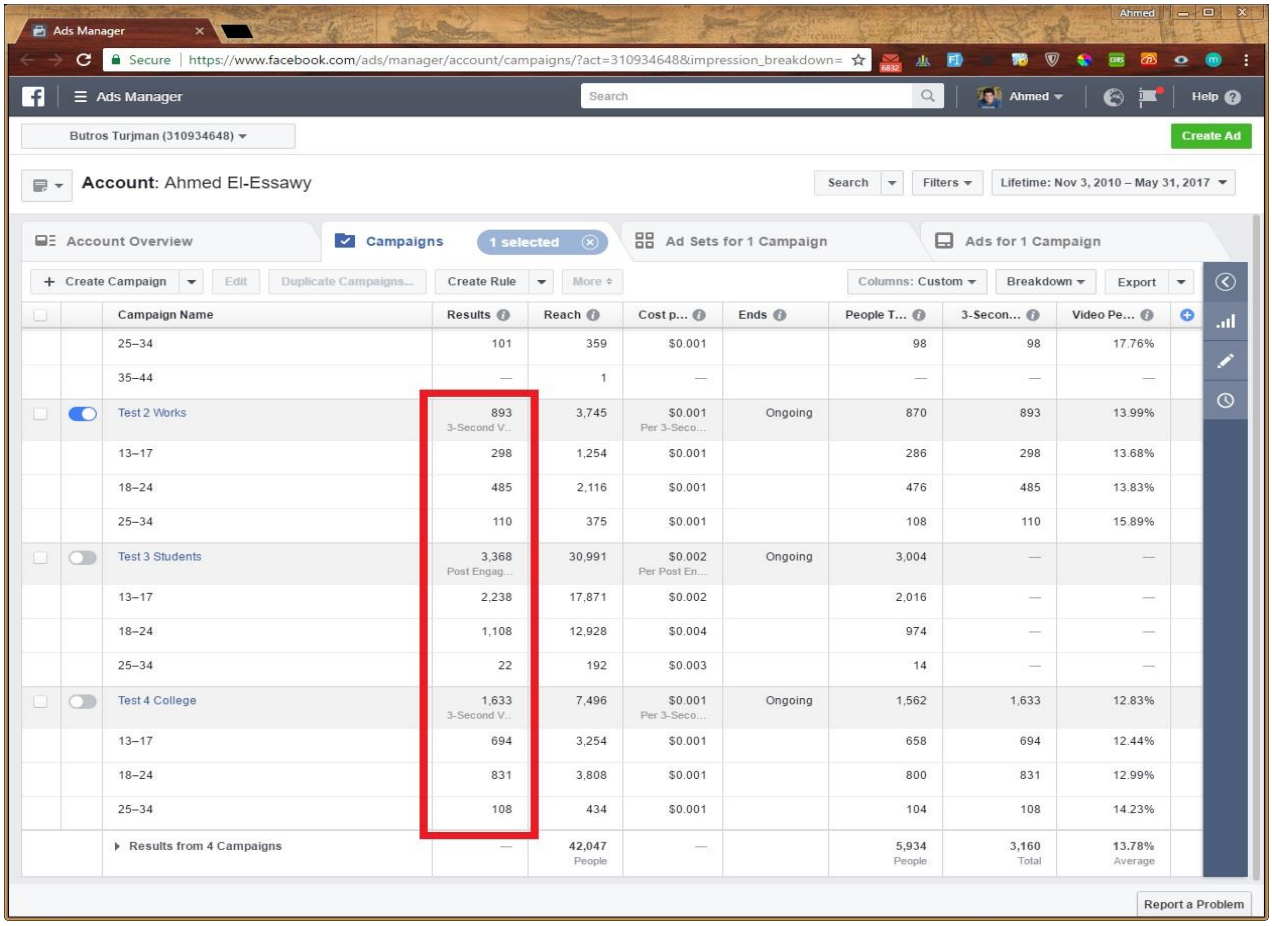

Figure 1.2

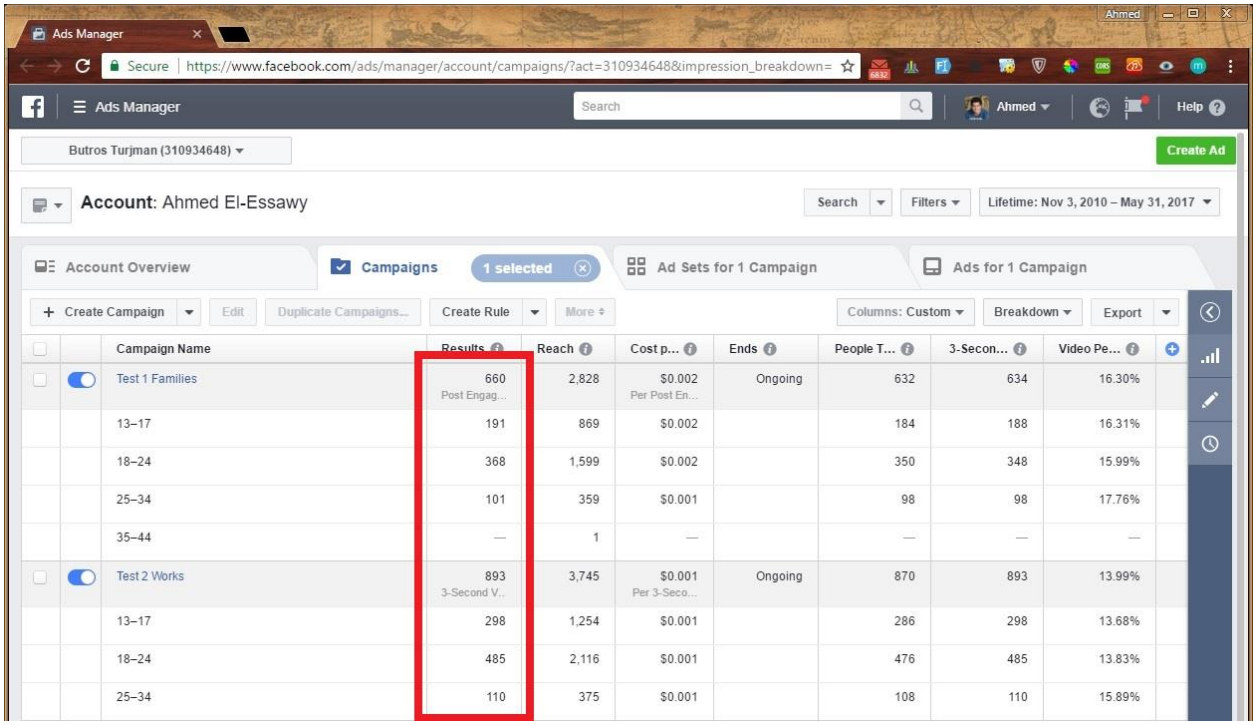

Figure 1.3

Regarding the restaurants analysis, we visited many restaurants such as Roastery, Fernando's and Brew&Chew. We discussed the product idea with them, they were all impressed. They were dazzled and encourages us.

1.5 STAKEHOLDERS/BENEFICIARIES

The main stakeholders of the products are the restaurants that we deal with in order to have their menus so users can view their menu, order from the restaurant or even reserve before going.

Our beneficiaries are the customers that interested in delivery applications, regular visitors for restaurants and aware with the new technologies. Those are the customers that we mentioned in the customers' analysis section.

1.6 BUSINESS MODEL

- Revenue

- The revenue will be a certain percentage on each order.
- The application will be free for all users to use.

- Customers Segments

- They are mostly aged between 18 and 34 years old.
- The people who frequently visiting restaurants or ordering delivery. More details on the customers' analysis are on customers' analysis section.

2.Requirements

2.1 USER/FUNCTIONAL REQUIREMENTS

The main functional requirements that are available in the system are:

- Ability for the user to create an account so that he can login to his profile which contains the history of his orders.
- Ordering the meal from the menu this can be done inside the restaurant or in delivery case.
- Ordering a delivery after a specific period of time.
- Sharing the order between more than one user so that each user can have its individual total price.
- Making a request to reserve a place in the restaurant in a specific time.
- On the run order in which the user can order his meal and specify the time he will reach the restaurant to take it without entering the restaurant or wasting time.

- The user can save his favored meals in his account to avoid wasting time searching for it.

2.2 USE CASES

2.2.1 Actors

In the system there are two main actors:

- **Users**
- **Restaurant Branch**

2.2.2 List of Use Cases

There are several use cases for the User:

- The first case: The user didn't login in the application.
  In this case the user can only view all the restaurants and their menus without making any other actions.

- The second case: The user is logged in and wants to make an order, he can either make it delivery or on the run or inside the restaurant.
  In this case he can also add a favored meal to his favorites.

- The third case: The user is logged in and wants to reserve a table in a certain restaurant in a specific time.
- The fourth case: The user is logged in and wants to join an order with a friend so he enters the number of order that he wants to join.

2.2.3 Use Case Diagrams

- The User case diagram is shown in figure 2.1:

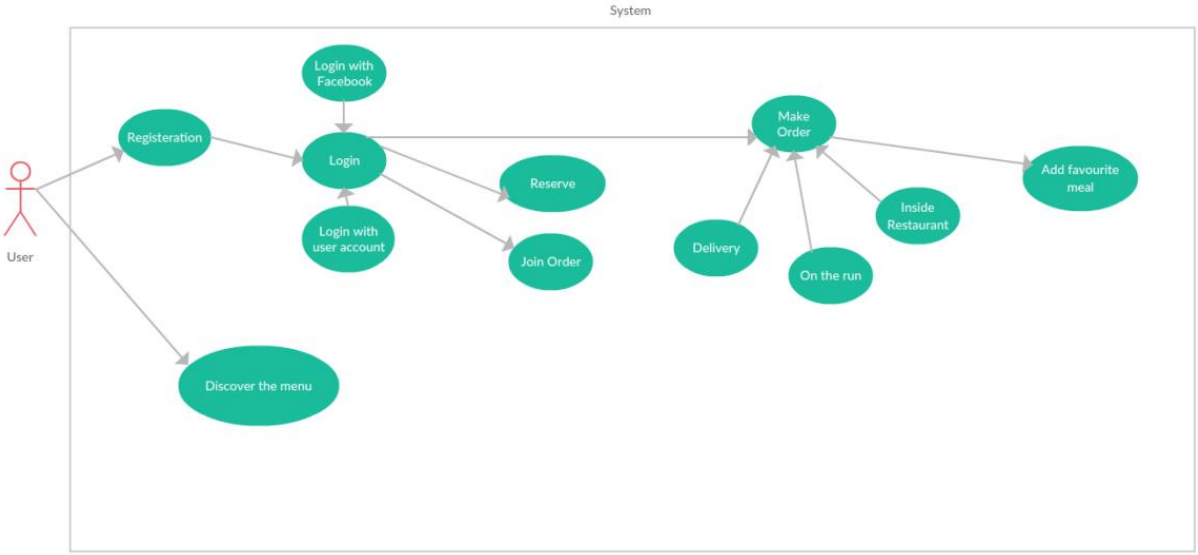

Figure 2.1

2.3 CLASSES

The list of classes in the system:

- User
- Restaurant
- Branch
- Owner
- Manager
- Meal
- Order
- Suborder
- Offer
- Reservation
- Authentication
- Address
- Branch Address
- Ingredient

2.4 NON-FUNCTIONAL REQUIREMENTS

The non-functional requirements in the system are:

- Usability

This relates to how easily people can use the application. A measure of usability could be the time it takes for end users to become familiar with the application's functions, without training or help. This is implemented in the application by a user friendly interface and the graphical menu.

- Modifiability

This requirement governs how easily the application may be changed. Where according to the customers feedback we may add features to satisfy the customers needs.

- Performance

This is essentially how fast the application works. A performance requirement for the wayfinding application could be that it plot a route in less than 20 seconds.

3.Objectives/List of services

The system supplies a list of services:

- Delivery service so that the order can reach the user in any place.
- Sharing the order between more than one user service so that each user can have its individual total price.
- Reservation service in the restaurant in a specific time.

- On the run order service in which the user can order his meal and specify the time he will reach the restaurant to take it without entering the restaurant or wasting time.

4.Design Overview

4.1 System Architecture

The main components of the system are the server which is implemented using NodeJs and Express, the database which is implemented using MongoDB and the client which is implemented using angular 4 and Ionic 3.3 as shown in figure 4.1. The server sends and receives data from the database and then pass it to the client in order to interact with the user through the mobile application.

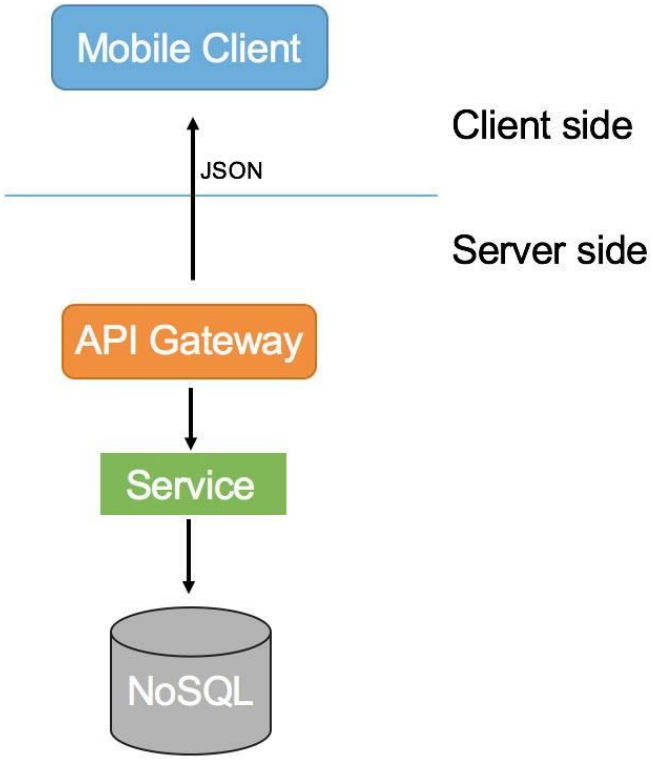

Figure 4.1

5. Implementation

5.1 TOOLS & TECHNOLOGIES

- The server is implemented using NodeJs and Express Technologies.
- The database is implemented using MongoDB.
- The mobile application is implemented using Angular 4, Ionic 3.2.
- The project is deployed on Microsoft Azure cloud platform as a cloud computing service.

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5.2 HARDWARE REQUIREMENTS

- Server for the NodeJs.
- Server for the MongoDB.

5.3 STEPS OF INSTALLATION

- Database Installation
  - Install mongoDB

  -First download mongoDB from documentation, then add a folder in C drive named “data”.
  -Then start installing the mongoDB.

- Server Installation
  - Download nodejs
  - Install typescript using this command on the command prompt (npm install -g typescript)
  - Install all the dependencies for the server

- Mobile Application Installation
  - Download android-sdk
  - Download java SE
  - Download ionic
  - Download cordova
  - Download gradle
  - Install all dependencies that the mobile application needs

6. Commercial Work

There is a problem that a lot of people visiting restaurants misunderstand menus items. So, they tend to one of these three cases:

- Be shammed to ask the waiter to explain that item.
- Order an item that is familiar to him.
- Order this item that is not familiar to him and mostly he is not satisfied.

- We seek to solve the misunderstanding problem of the menu items using user friendly graphical menu interface to allow the user to choose their meals with satisfaction, where the user can choose the ingredients and drag and drop them to make his meal.

- We seek to implement a push notification in the join order feature, where a notification will come to the user who generated the order when any other user try to join the order. When the user accepted that notification the other user will join the order successfully, while if the user refused the other user will not be able to join that order.

- We intend to implement a control panel for the restaurant to interact with the mobile application.

8. User Guide

8.1 Quick Start Guide and Main Scenarios

1) First the user will find a slider, he must press continue to open the application as shown in figure 8.1.

Figure 8.1

2) The user will see the homepage as shown in figure 8.2

Figure 8.2

3) The user will open the menu and choose any item from the menu as shown in figure 8.3

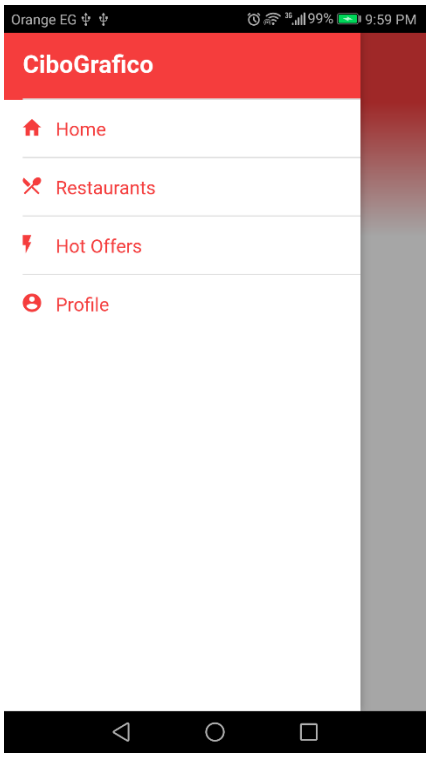

Figure 8.3

4) If the user chooses the Restaurants from the menu, he will view the list of restaurants as shown in figure 8.4

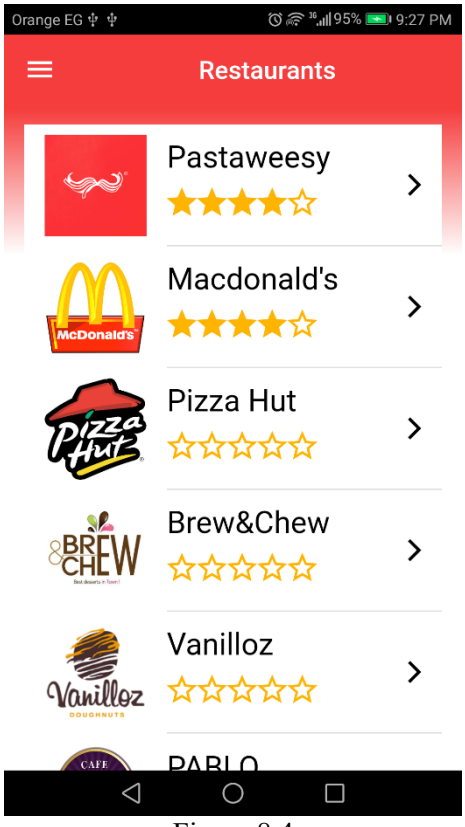

Figure 8.4

5) The user can view the restaurant profile by pressing on any restaurant as shown in figure 8.5

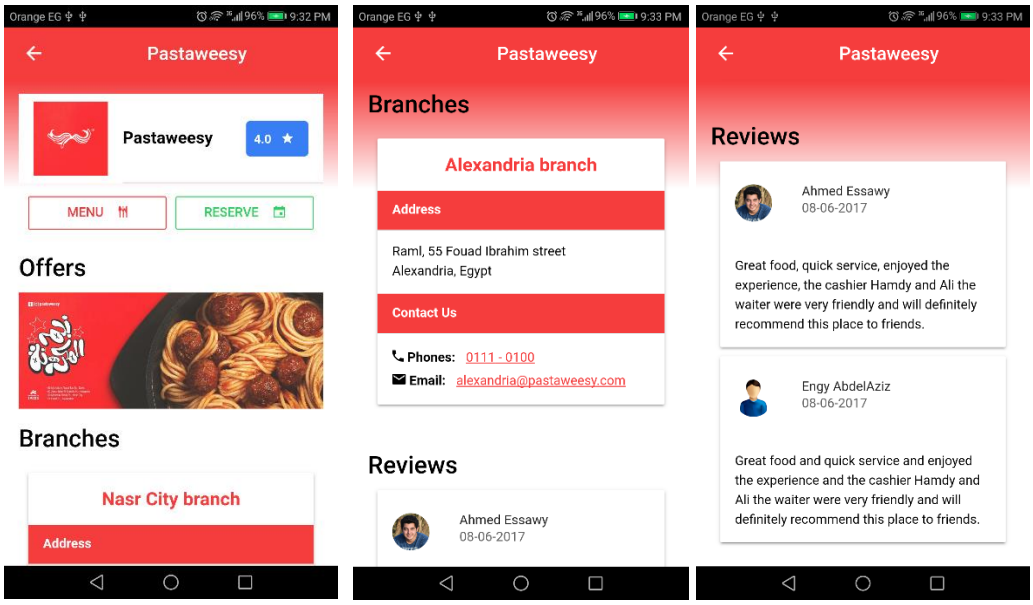

Figure 8.5

6) If the user clicked on the phones of the branches, he will go to the dialer to directly contact it. Also, if the user clicked on the branch email he will be redirected to the email in order to contact that branch as shown in figure 8.6.

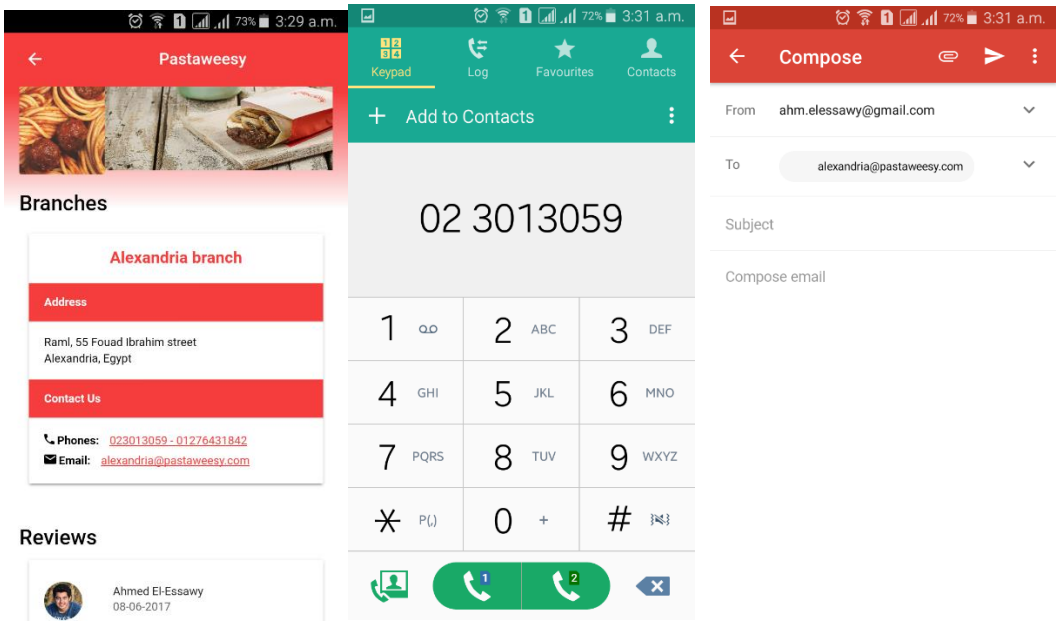

Figure 8.6

7) If the user pressed on the reserve button an alert will pop up as shown in figure 8.7

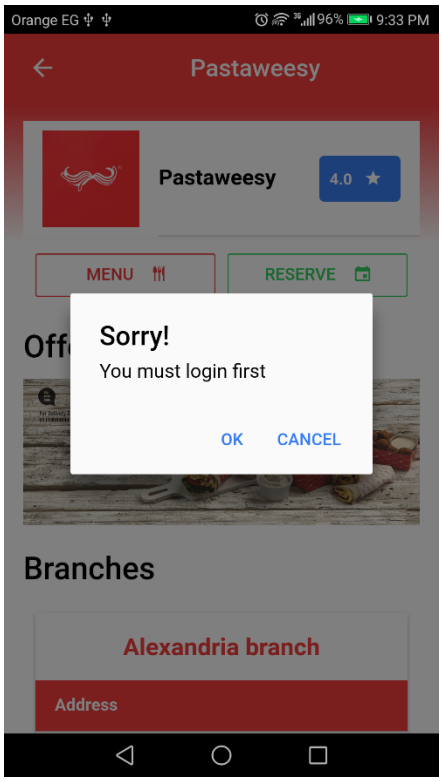

Figure 8.7

8) If the user pressed ok he will go to the login or sign up page, so he can reserve as shown in figure 8.8, the user can also login using Facebook account.

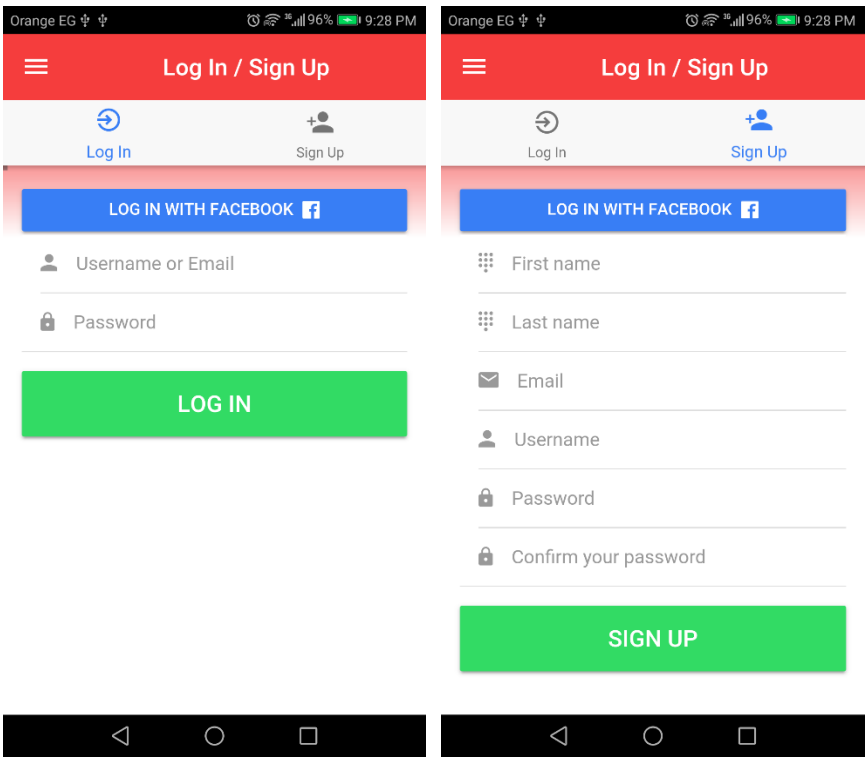

Figure 8.8

9) After the user has logged in, he can reserve successfully as shown in figure 8.9

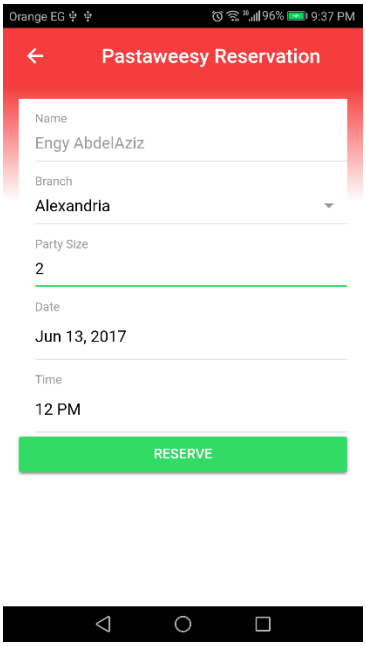

Figure 8.9

10) The user can only rate the restaurant when he is logged in and also he can rate the restaurant only once as shown in figure 8.10.

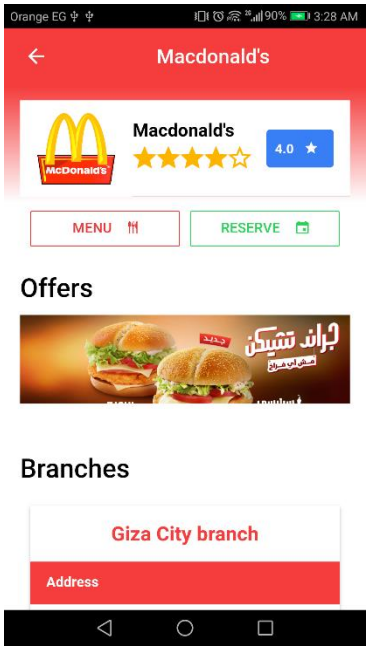

Figure 8.10

11) If the user pressed on the menu button he will view all the meals for this restaurant as shown in figure 8.11. The user can determine the quantity of each meal being ordered

by using the Add (+) and Remove (-) buttons and then press order button. The user can also use Reset button if he wants to reset the quantities of all the meals in that restaurant.

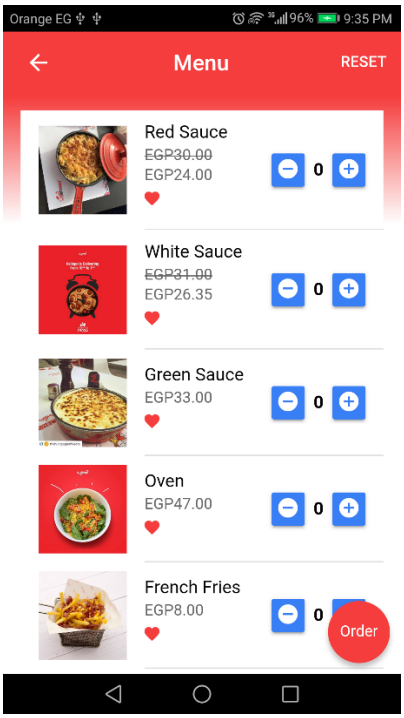

Figure 8.11

12) When Order button is pressed the application asked the user to either make a new order or join an order that is already created by another user as shown in figure 8.12.

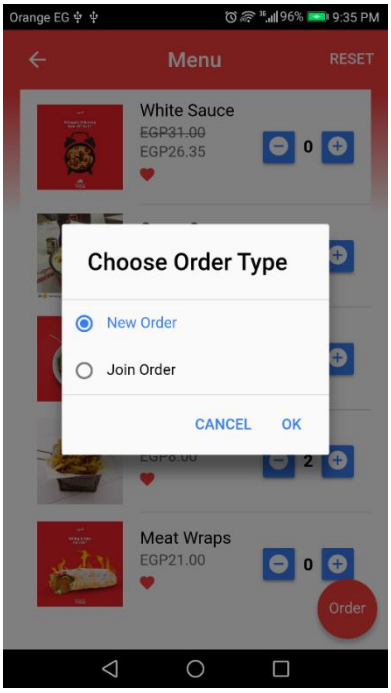

Figure 8.12

13) If the user chooses to make a new order he will have to choose one of those three cases Delivery, On the way or Inside the restaurant. In this page as shown in figure 8.13 the user's whole order is displayed with the quantity of each meal and the total price.

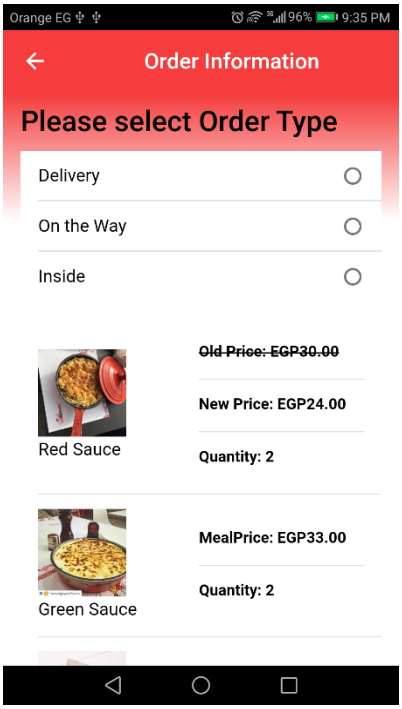

Figure 8.13

14) When the user chooses one of that three cases as shown in figure 8.14:

- In Delivery: The application will ask the user to determine the delivery time he wants his order to be delivered in.
- In On the Way: The application will ask the user to determine the time he will come to take his order.
- Inside: In this Case the user is Already inside the restaurant so he will be asked to choose his table.

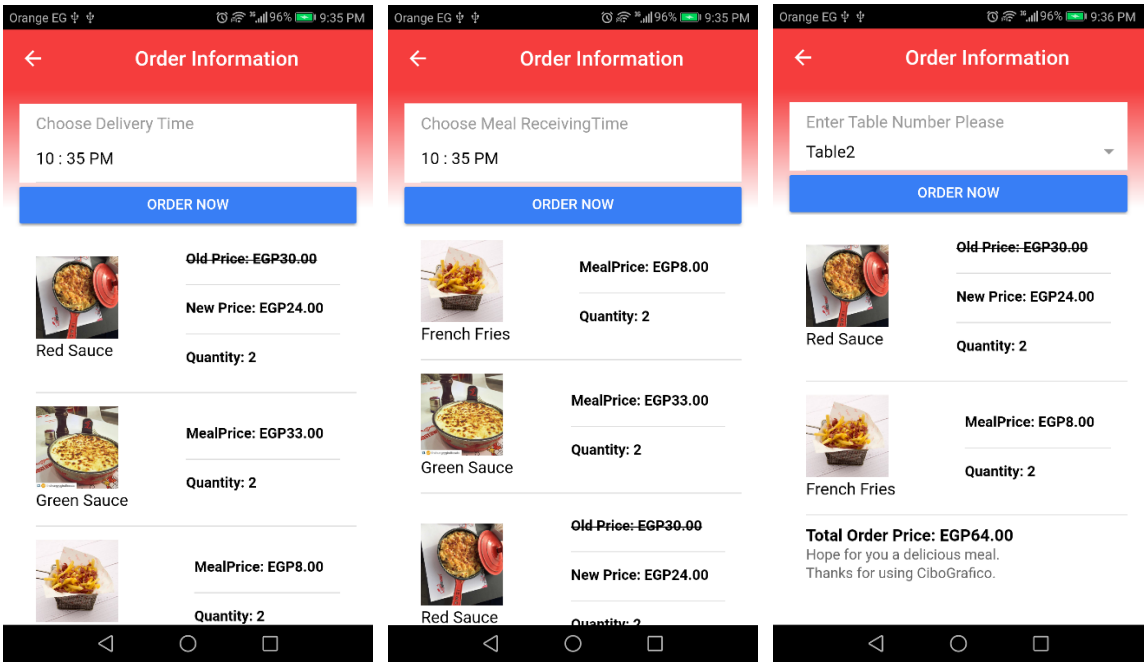

Figure 8.14

15) If the user chooses to join an order created by another user, he will have to enter the number of that order as shown in figure 8.15 to be able to join it and the application will tell him that it is joined successfully.

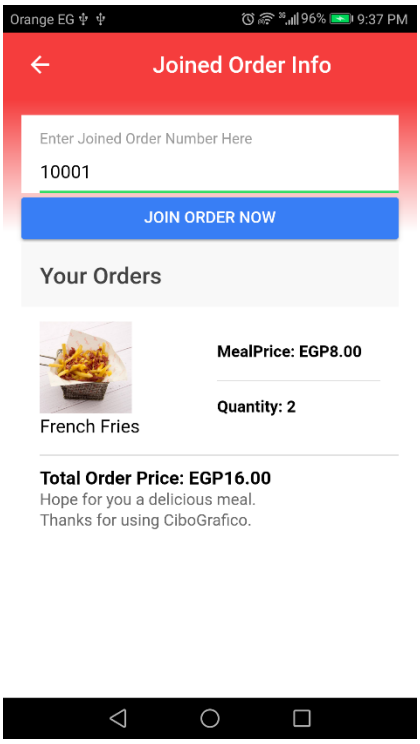

Figure 8.15

16) As shown in figure 8.16, Offer pages displays all the offers that are presented by all the restaurants in the application.

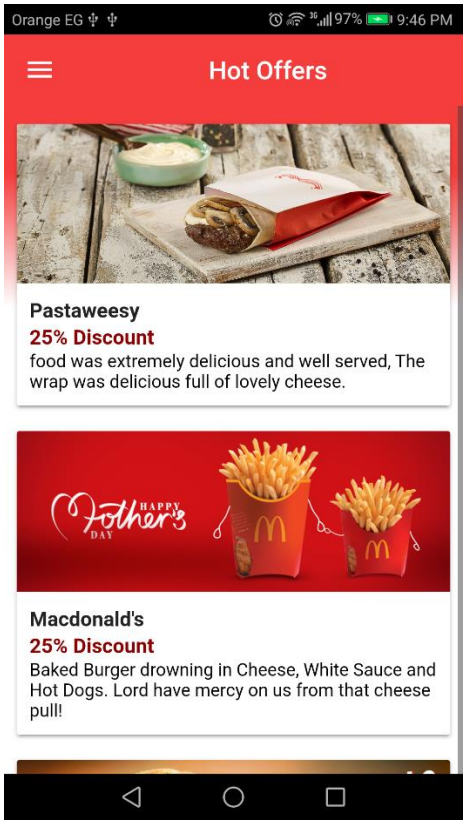

Figure 8.16

17) When the user press one of that offers, the application will display the offer details which includes the discount, the date expires and some details about the offered meal as shown in figure 8.17.

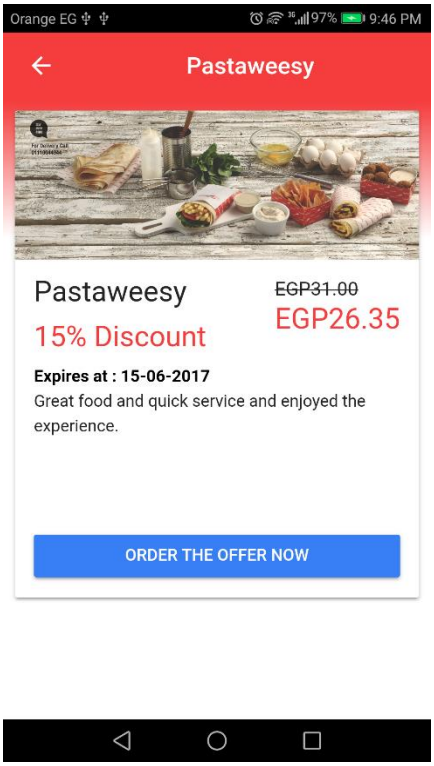

Figure 8.17

18) As shown in figure 8.18, the user can display his own profile and also edit it. The user can also sign out form his account in this page.

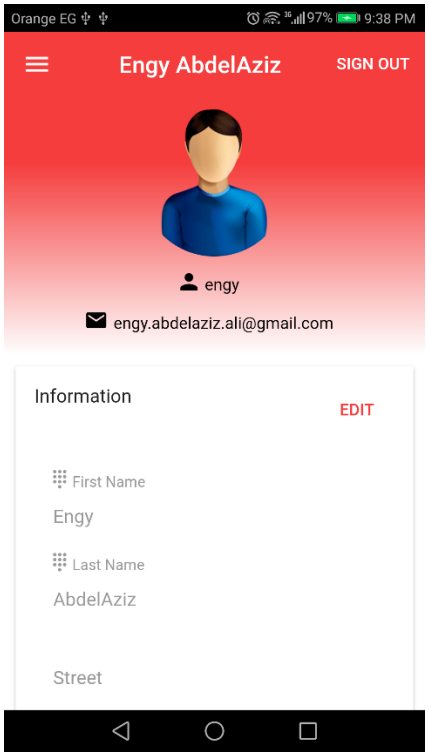

Figure 8.18

19) The user can see his orders history and favorite meals in his account as shown in figure 8.19.

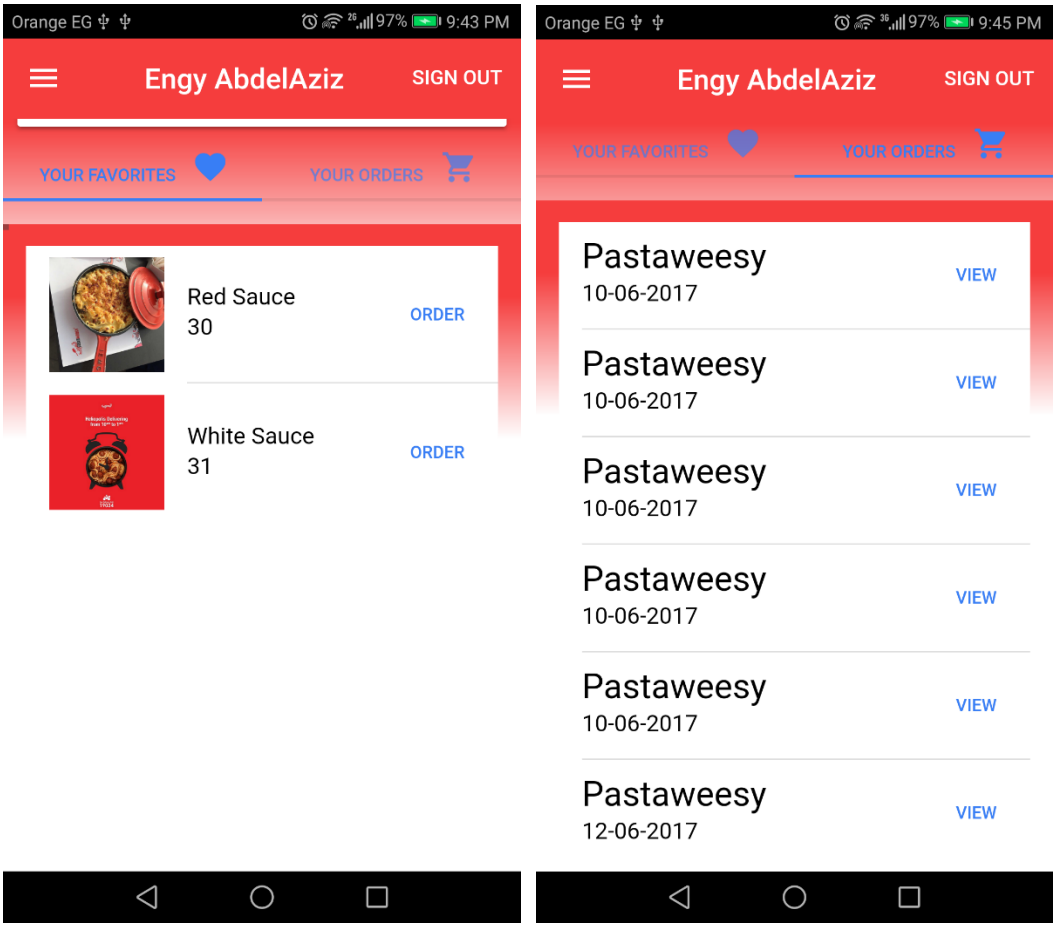

Figure 8.19