

Mawasim (Offer Mobile Application)

A Senior Project Presented to the Faculty of Computer and Informatics Engineering
In Partial Fulfillment of the Requirements for the Degree of Bachelor
Of Engineering in Software and Information Systems Engineering and the Artificial Intelligent

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August 2016

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CERTIFICATION OF APPROVAL

Mawasim (Offer Mobile Application)

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Abstract

Mawasim mobile application, companies and outlets (shops) use it to announcing their offers and products for client (customers) with a special easy and attractive way.

Mawasim allow people to search in variant ways:

1-Search by map near outlets.

2-Search by outlet name and outlet brand.

3-Search by outlet categories and sub categories.

The clients can sign up in app, add personal information, add or remove outlets and category from favorite List.

Outlets can make events on products such as (new collection, offers, and discount).

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Documentation Architecture:

Under the concepts and phases of the software engineering, we build the app; each chapter is a phase as shown:

1) Case Study (introduction and chapter 1).
2) Requirements (chapter 2).
3) Analyses (chapter 2).
4) Design (chapter 3).
5) Implementation (chapter 4).
6) Testing (chapter 5).
7) Conclusion and future idea (conclusion).

Introduction

i. Project Definitions:

Economic systems one of important sections in web and mobile application, the wide using for smart phone make apps more useful and efficient; Mawasim mobile application under offer management system concept.

Client search for product, offer, new collections and ads, and detect best prices, brands and qualities in few minutes without leaving place (save time and money), also set the category favorite list and follow up outlets.

The brands and outlets announce their offer, product and new collection easily.

ii. What is a Mobile application?

A mobile app is a software application designed to run on mobile devices such as smartphones and tablet computers. Most such devices are sold with several apps bundled as pre-installed software, such as a web browser, email client, calendar, mapping program, and an app for buying music or other media or more apps. Some pre-installed apps can be removed by an ordinary uninstall process, thus leaving more storage space for desired ones. Where the software does not allow this, some devices can be rooted to eliminate the undesired apps. (Mobile App, n.d.)

A mobile application on smart phone Android or IOS; Android studio most famous IDE for android applications based one Java language and support C++ language.

iii. Offer System:

Where find best product (price and qualities) with minimum time, the marketing department focus on helping people in varies and simple ways; offer system serves companies for announcing and marketing products; people and clients depend on offer system to get their order and stuffs with few search as wizard ask client what want.

We can say offer system guide us to best product and save our time.

With offer management system, shopping is very easy.

The brands and outlets determine what is most liked products from client view, brands and outlet can set ads and notify client what is new with email or phone number.

Offer management system is modern shopping style.

In addition, Electronic commerce, commonly written as E-Commerce or ecommerce, is the trading or facilitation of trading in products or services using computer networks, such as the Internet or online social networks. Electronic commerce draws on technologies such as mobile commerce, electronic funds transfer, supply chain management, Internet marketing, online transaction processing, electronic data interchange (EDI), inventory management systems, and automated data collection systems. Modern electronic commerce typically uses the World Wide Web for at least one part of the transaction's life cycle although it may also use other technologies such as e-mail. (Electronic Markets)

iv. Purpose:

Solve the problem by a powerful way using the most common using toady Android apps.

Propose a high level of flexibility customize varies types of devices: computers, tablets and mobiles; accomplish a very easy way to utilization with also methods of security to feel comfortable and safe to use the services.

Using the experience of our study to transmit from theoretical ideas to the practical application.

Propose a useful and usable app service with a precious idea.

v. Result:

The project achieve implement one of most important application in Real Life.

Accomplish build Application Friendly, Useful, Good Design, and Awesome.

We succeeded to make it easy, fun, attractive, and clearly to use for all users (admins, client...).

Using new techniques in applications that not found in academic systems.

Project can develop and make business in future.

Chapter 1: Related Works

Because of the importance of this idea, there is many related works, which in many ways propose a solution for this problem, some of them, which we have chosen after study, is:

1.1) Talabat:

Talabat is a food delivery system founded in 2004; client can search for restaurant in the area, ordering items from restaurant, set comment, ranking…etc.

In 2007, Talabat daily delivery grows to thousand a day due to many restaurant and branch have joined.

Today Talabat works in Saudi Arabia, Kuwait, UAS, Bahrain, and Qatar with more than 1300 Restaurant in.

Negative of the system: it just mange the request or ordering process which make it temporary usage, localization, paid that make it less famous, and need to update profile location info every request.

1.2) Al Souq:

Al Souq is a store with many products and producers for e-commerce, with 10-20 % discount.

Al Souq founded in 2005.

In 2011, launched retail department.

Today more than 23 million visitor and user for the Souq monthly.

Negative of the system: there is no way or process that show the quality of the products, distraction with many ads, and user-unfriendly.

* * *

1.3) Comparing the two apps with ours "Mawasim":

As possible, as we can our app avoid the previous negatives in making it user friendly, ordered ads, possibility to view the quality of the products and rate it, well arranged, daily use to view notification, easy to use, and more integrated operations and services.

Our project also designed with high quality and smart appearance using the newest techniques.

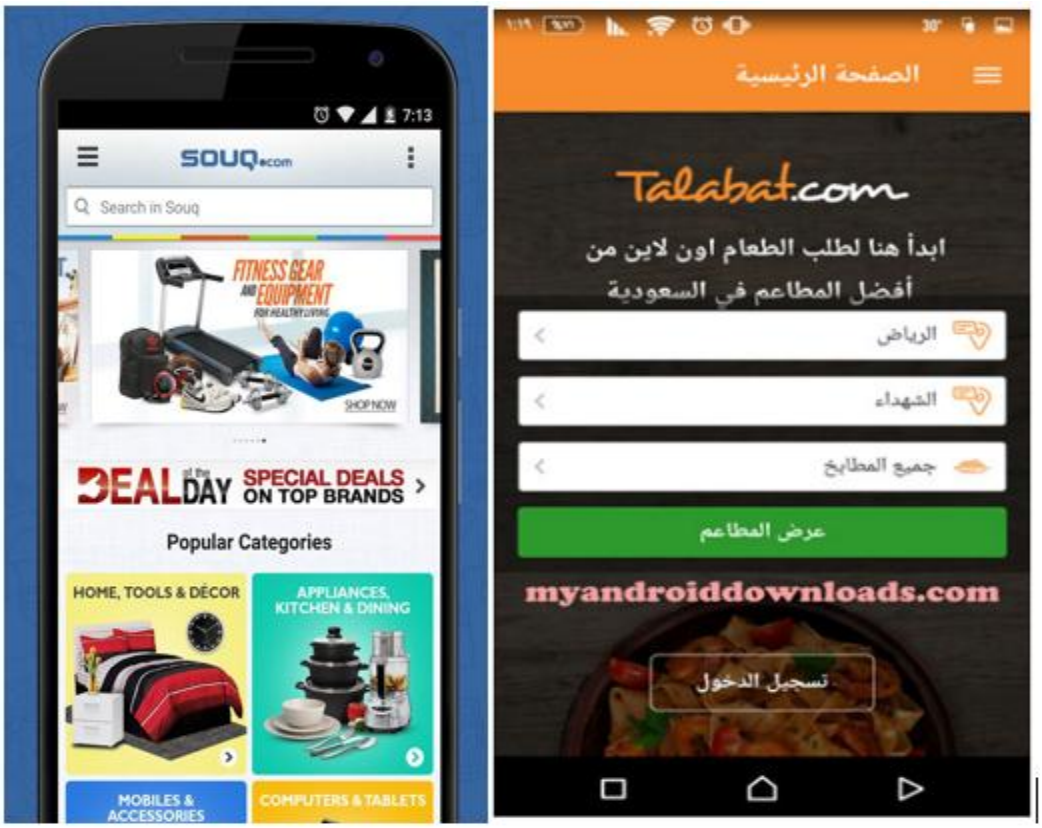


Figure (1.1): Souq & Talabat apps

Chapter 2: System Requirements and Analysis

2.1) Requirements:

System supposed to be able:

1- Registration for clients.

2- Searching by many ways (name outlet, branch, categories and sub categories, map search …).

3- Adding and remove from category favorite list for users whom registration in application.

4- Set profile information age and gender.

5- Forget password.

6- Outlets may have brands.

7- Add information of outlets contact media, map location longitude and latitude.

8- Type of events in outlet offer, discount and new collection.

9- Outlet have one or more sub categories.

10- Sub categories found under main categories.

11- Favorite list between client and outlet.

2.2) Use case Diagram:

The use case diagram that describe the project requirements:

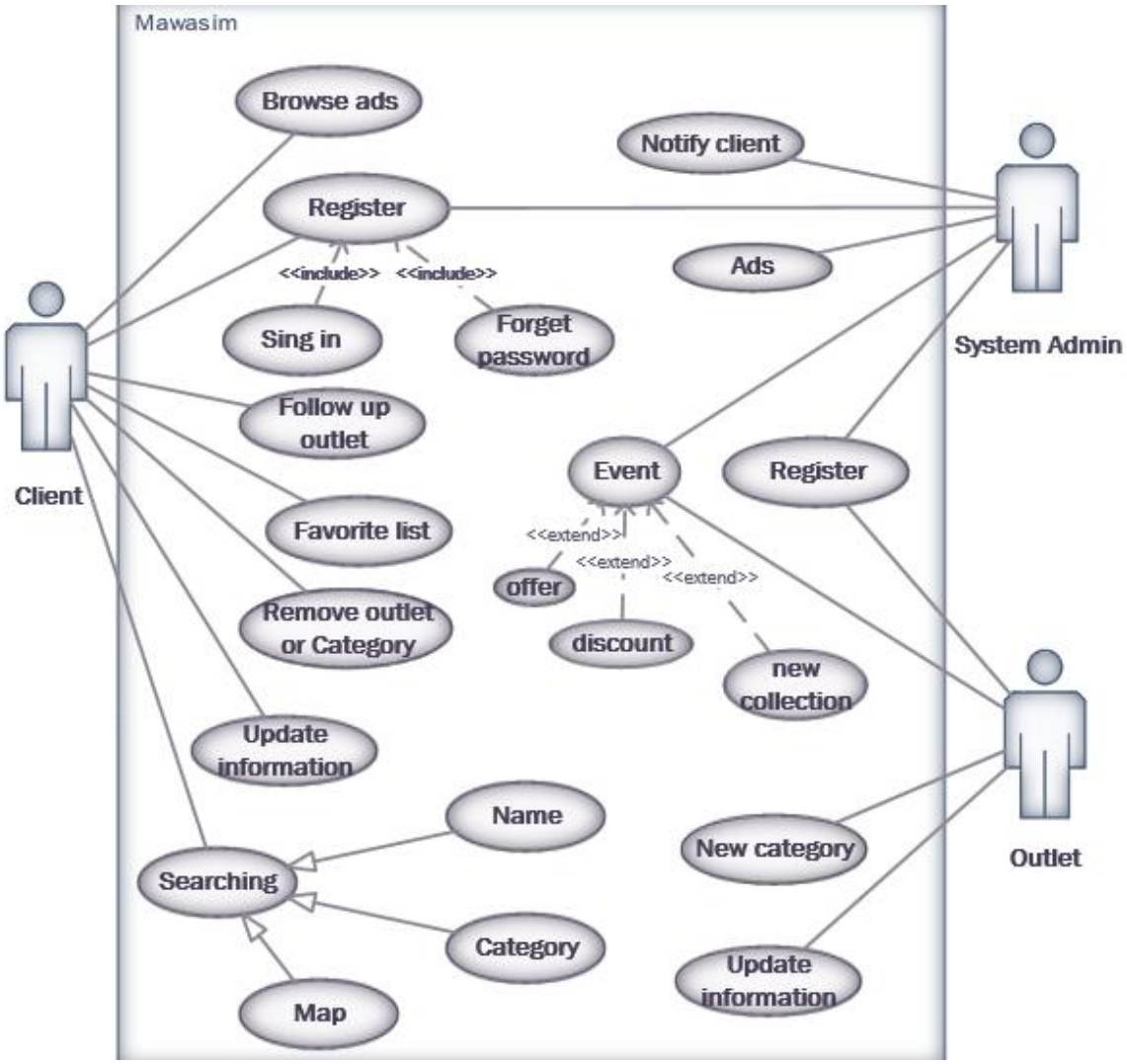


Figure (2.1): Use Case Diagram

2.3) **Basic Cases:**

- Number: 1
- Name: Register
- Summary: Client access and Register and Add People To List
- Actors:
    - Primary: Client
- Pre-Conditions: browsing as a visitor
- Scenario:
- Exceptions: user trying to register again
- Post-Conditions: no condition

****

- Number: 2
- Name: favorite list
- Summary: Client add new to the favorite list
- Actors:
    - Primary: Client
- Pre-Conditions: register and singed in.
- Scenario:

- Exceptions: Adding the same outlet or forbidden one.
- Post-Conditions: no condition

****

- Number: 3
- Name: Searching
- Summary: Client search for specific information in 3 ways.
- Actors:
    - Primary: Client
- Pre-Conditions: register and singed in.
- Scenario:
- Exceptions: unclear query or unfound.
- Post-Conditions: no condition

****

2.4) Activity Diagram:

To analyze the system we use an activity diagram that cleared the system function and prospective which give a good image to how would be the actual system:

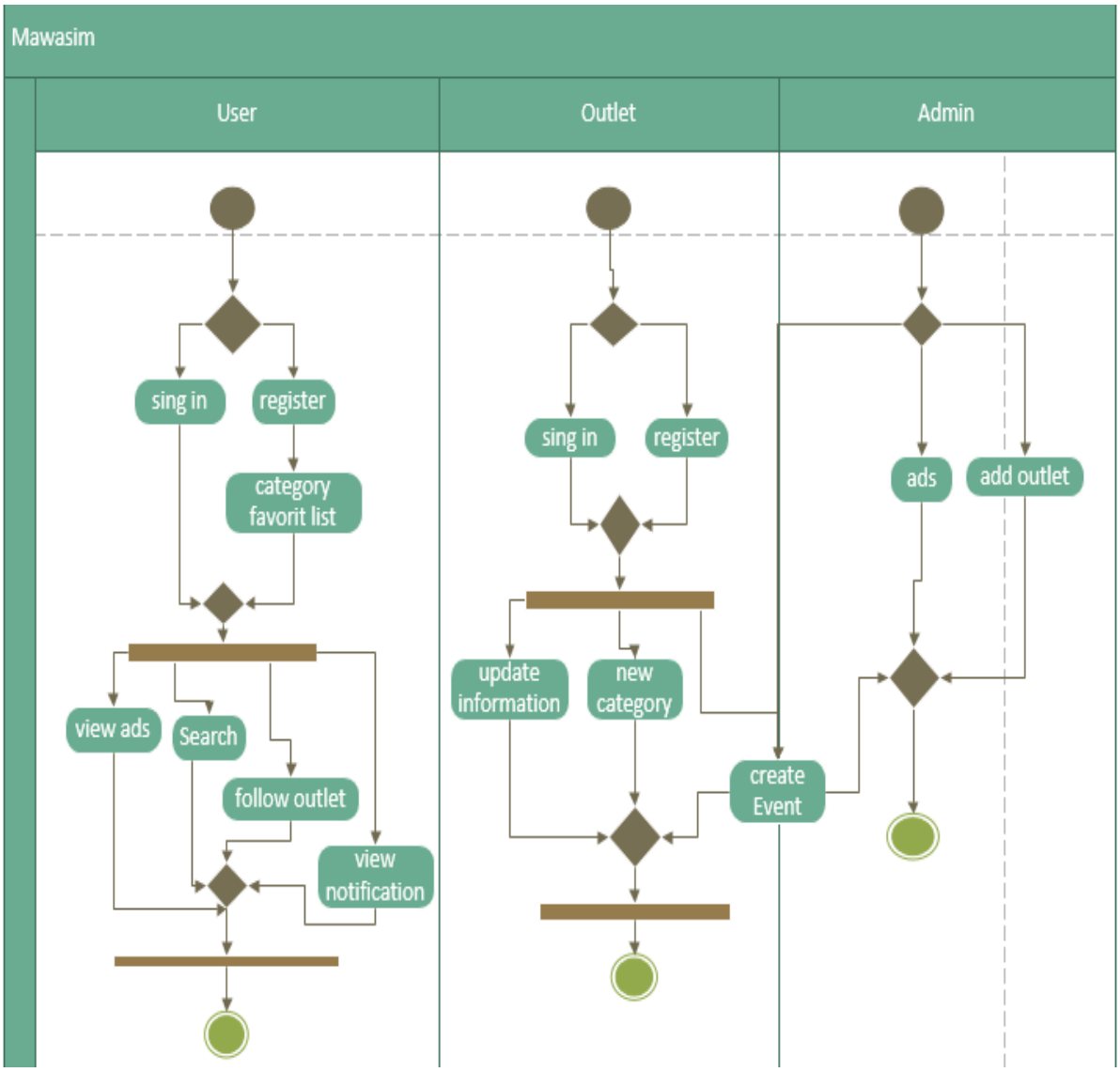


Figure (2.2): Activity Diagram

Chapter 3: System Design

3.1) The database Design:

This ERD shows the entities and relation for the database:

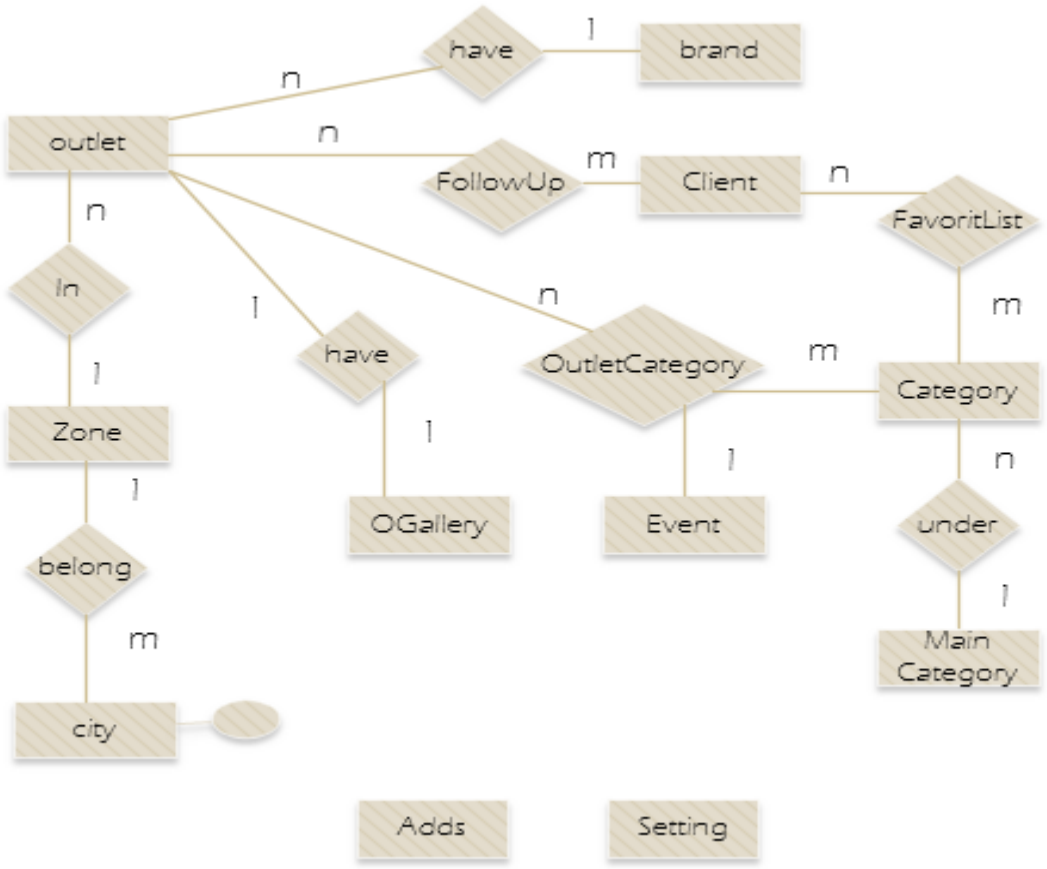


Figure (3.1): ERD

3.2) Tables preview:

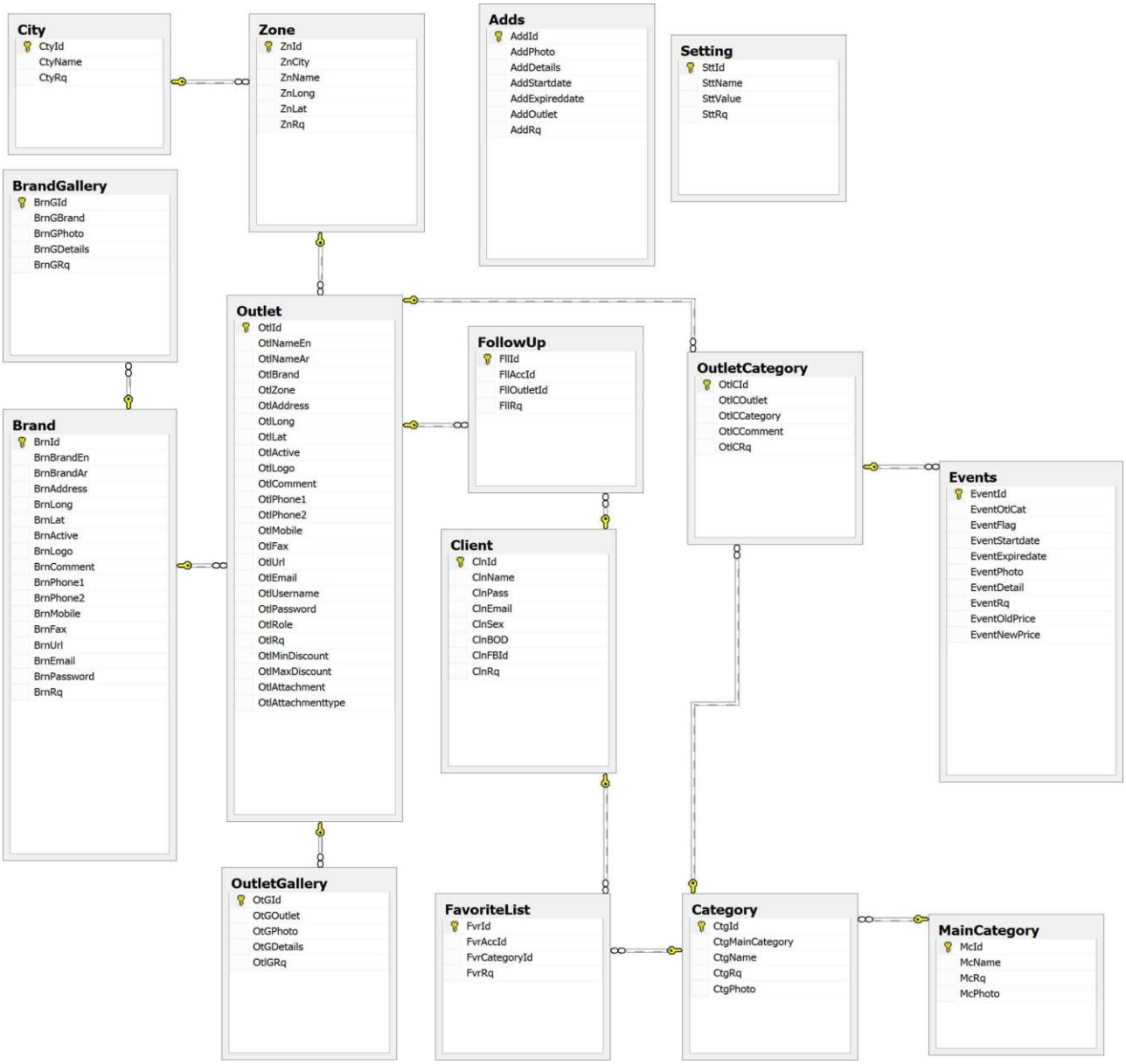


Figure (3.2): Tables diagram

3.3) Data Flow Diagram :

In order to design the app we hired a data flow diagram (DFD) maps out the flow of information for the processes or whole system:

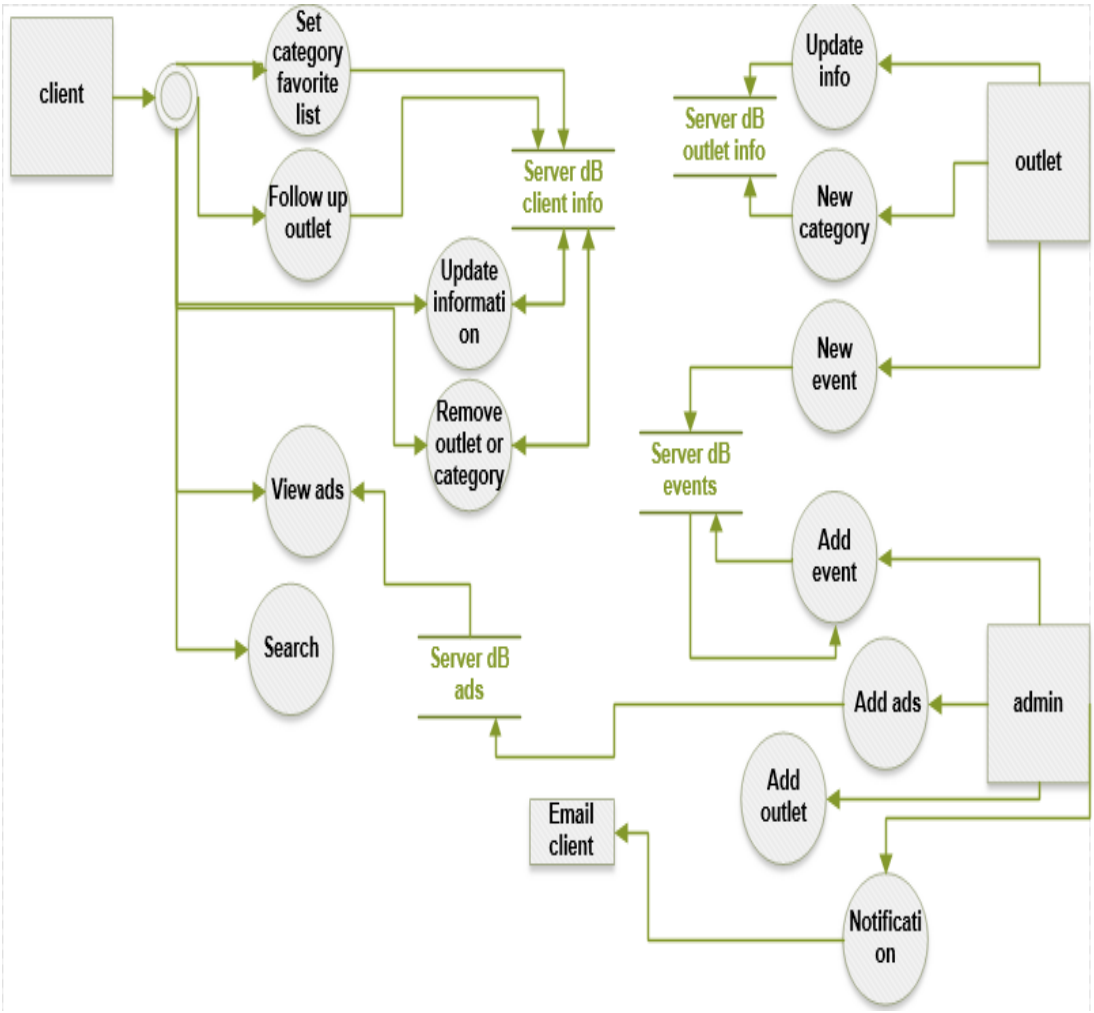


Figure (4.3): DFD

Chapter 4: Implementation

4.1) Tools:

In order to reach our objectives in the best way we developed our project using these programing languages and tools that explained below:

4.1.1) Java Language :

Java is a general-purpose computer programming language that is concurrent, class-based, object-oriented, and specifically designed to have as few implementation dependencies as possible. It is intended to let application developers "write once, run anywhere" (WORA), meaning that compiled Java code can run on all platforms that support Java without the need for recompilation. (Java)

Java is High Level Language and Object Orientation language, Java Using in desktop Application by Swing Library, Web application by jsp and Mobile Application for android.

4.1.2) Eclipse:

Eclipse is a community for individuals and organizations who wish to collaborate on commercially-friendly open source software. (About, n.d.)

In addition, it is an integrated development environment (IDE) used in computer programming, and is the most widely used Java IDE. (Eclipse (software), n.d.)

It is Deprecate, Add android to Eclipse as plugin, and low use memory.

4.1.3) Android Studio:

Is the official integrated development environment (IDE) for Android platform development. (Studio, n.d.)

Modern IDE, google designed and Support android studio, it is the most active IDE and there are large number of Source code, also can import eclipse Project.

Material Design API: Library get many template and improve App Design.

Google Map API: Library to Use Service in Google Map.

4.1.4) Photoshop :

Adobe Photoshop is a raster graphics editor developed and published by Adobe Systems for macOS and Windows. (Adob PhotoShop, n.d.)

Used to Make Image and Icon.

4.1.5) SQL:

Structured Query Language is a special-purpose programming language designed for managing data held in a relational database management system (RDBMS), or for stream processing in a relational datastream management system (RDSMS).

Originally based upon relational algebra and tuple relational calculus, SQL consists of a data definition language and a data manipulation language. The scope of SQL includes data insert, query, update and delete, schema creation and modification, and data access control. Although SQL is often described as, and to a great extent is, a declarative

language (4GL), it also includes procedural elements. (SQL)

4.1.6) ASP:

Microsoft® Active Server Pages (ASP) is a server-side scripting environment that you can use to create and run dynamic, interactive Web server applications. With ASP, you can combine HTML pages, script commands, and COM components to create interactive Web pages and powerful Web-based applications that are easy to develop and modify. (Active Server Pages, n.d.)

We Use It To Make Service Method that Call from and Application.

4.2) Main Frames:

Using the previews tools of languages and IDE, we build the interfaces and the database of the app and here is the interfaces of the app.

4.2.1) Home page:

Home page of the App contains links for register and other pages in the App and Ads for System Administration and the search icon using java and linking with SQL to the database.

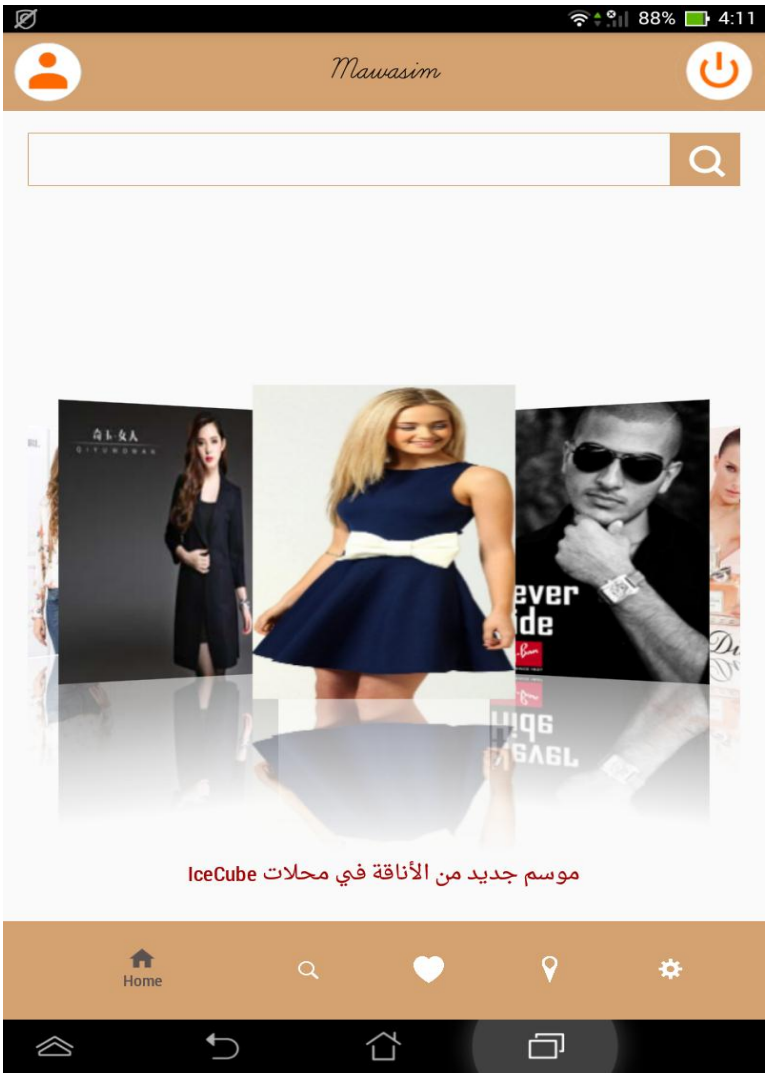


Figure (4.1): Home Page

4.2.2) Register page:

Where a Client can Sign In, Sign up, or Reset Password:

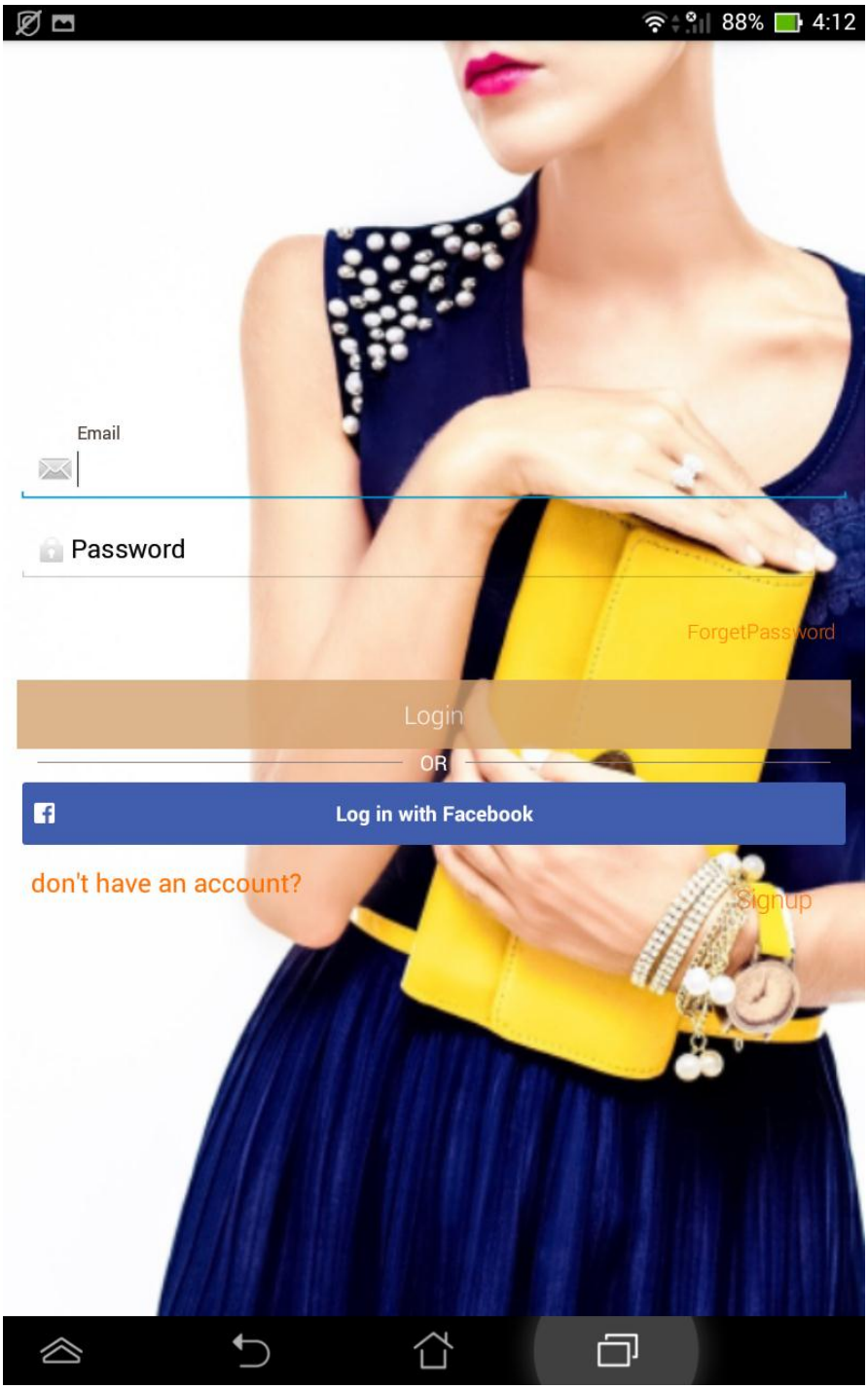


Figure (4.2): Registration Page

4.2.3) Search By Categories :

Two level Search Categories and Sub Categories



Figure (4.3): Category Search

4.2.4) Search By Map:

get neighbor Outlets from GPS Location

Search By Name Area using Google Place API

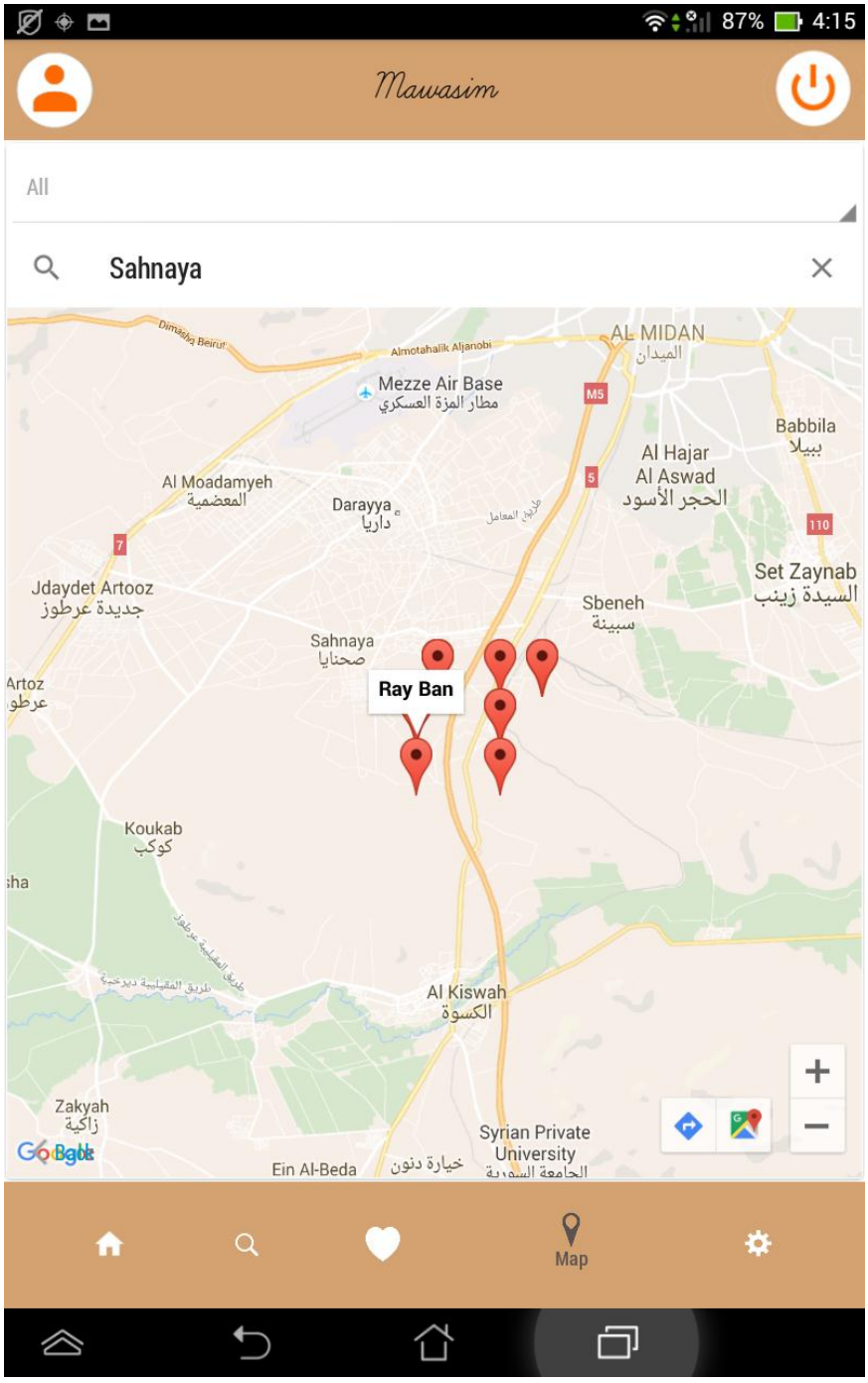


Figure (4.4): Map Search

4.2.5) Outlet Profile:

1- Events (Offer – Discount – New Collection):

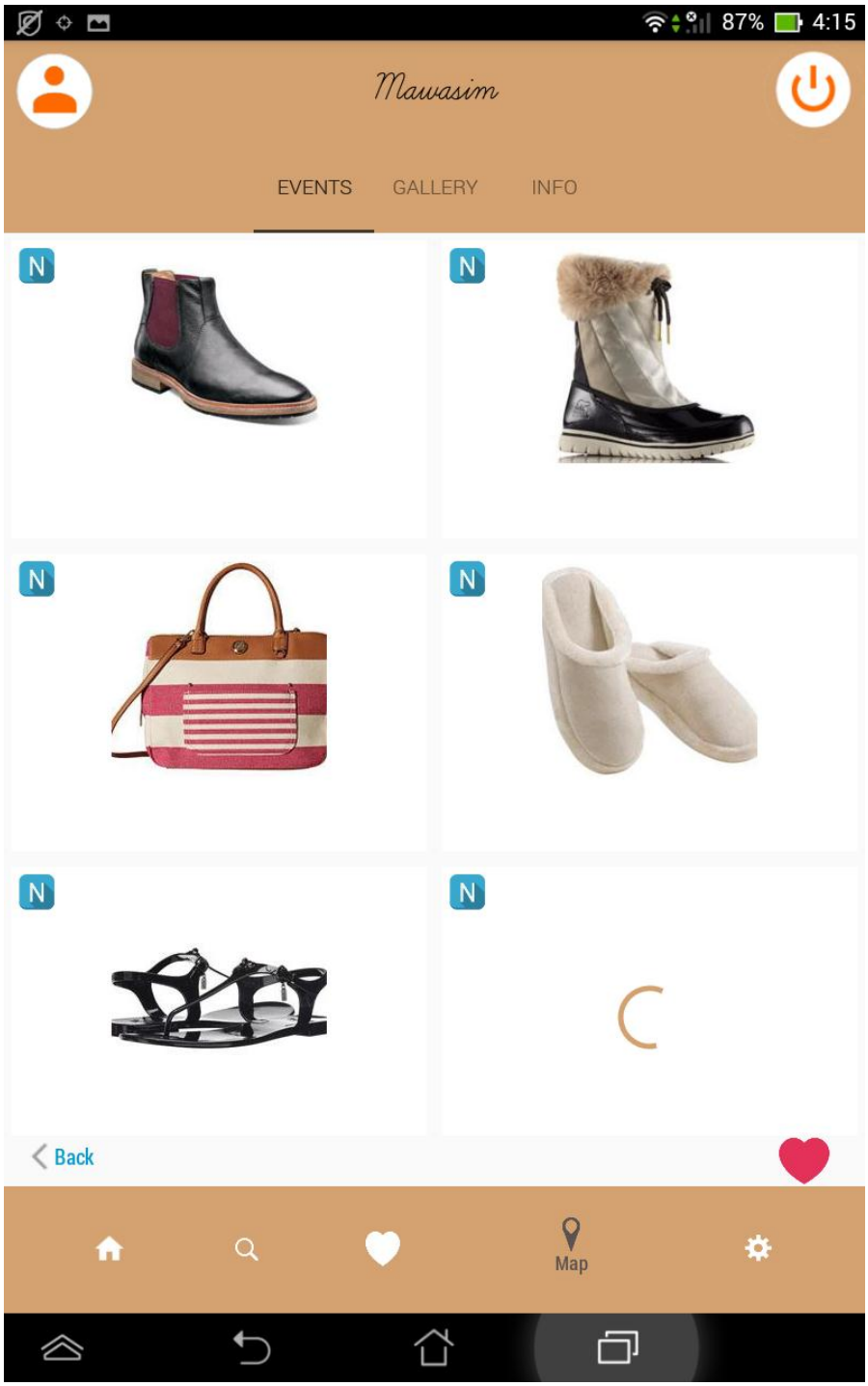


Figure (4.5): Events

2-Galleries:

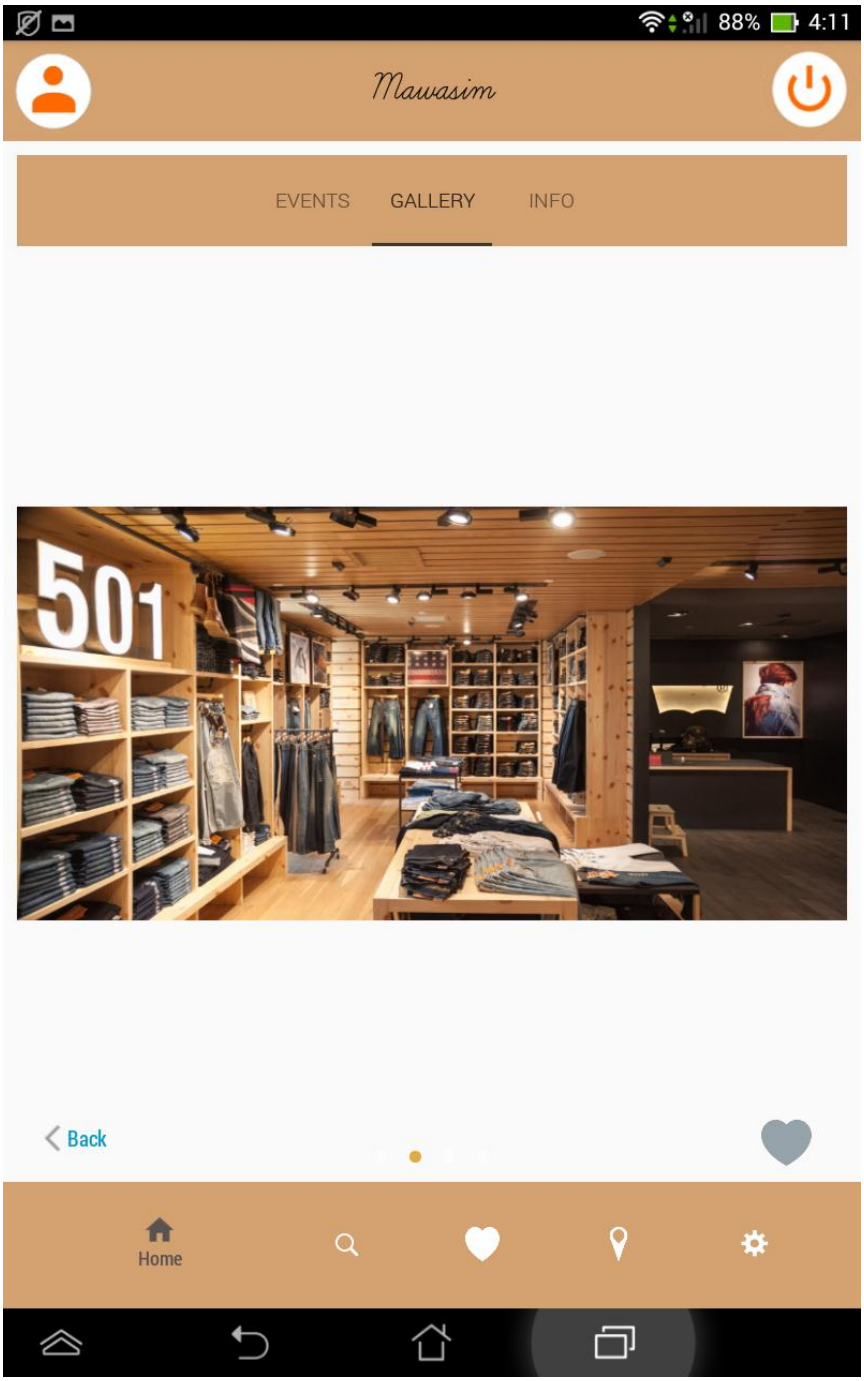


Figure (4.6): Gallery

3- Contact US:



Figure (4.7)1: Connect us

Chapter 5: Testing and Results

Several of tests made to develop the software in major of detecting the failures it may occurs. Two types of tests showing below: unit tests and integration tests.

Unit tests:

Try to detect if all application functions work correct individually.

Integration tests:

Try to detect if all these functions are accessible in our application and they are properly integrated.

5.1) Unit tests:

	Requirements	Actual Result	
1	Registration for client	Succeeds registering	✓
2	Searching for something	Succeeds in giving results	✓
3	Add to favorite list	Succeeds adding	✓
4	Remove from favorite list	Succeeds removing	✓
5	Event in outlet	Succeeds making events	✓

5.2) Integration tests:

- The app start with client registration.
- Client add to favorite list.
- Outlet makes events.
- Clients notified about every event in outlet in their list.
- Client search for outlet and gets results.
- Outlet give information about their location, brands, category ….etc.

As shown down in this flowchart:

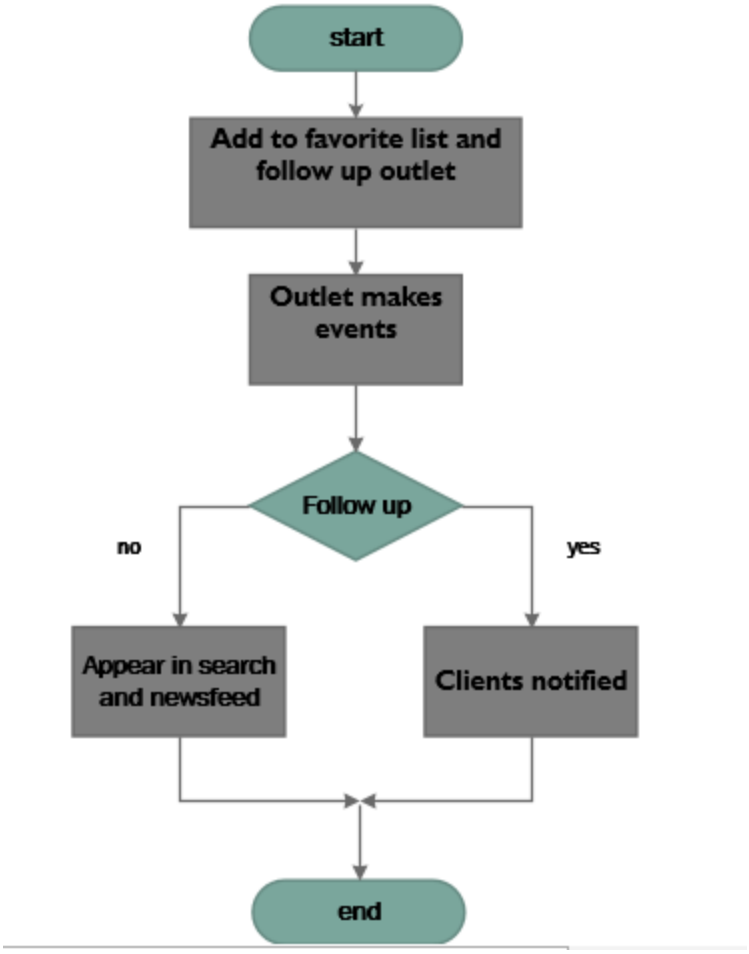


Figure (5.1): Test flowchart

Conclusion and Prospective

As we presented before the purpose was to develop a mobile application that connect the customer with the branches and the outlet, and their latest news in a simple, powerful and effective way that saves time and effort by many features in the app such as multi Searching ways and specifying the favorites (categories or outlets) for every user. Additionally a modern way of marketing and offering has been present and we succeed to make it very practical and realizable.

1. **The importance of the project:**

Just as we cleared above, the variety in prices and outlet in the markets makes a serious problem faces the customer and their decisions with such applications we solve this by showing everything in every outlet gallery adding the price and the offers available and of course the searching process that gives the wanted information.

As we said the project mange the marketing and offering process with high performance considering all errors that maybe occurs during this process and the registration in the app or the sinning in also (invalid information, wrong password, etc...), the system is easy to install, insert data or remove it and to access even as a client or an outlet.

2. Accomplished Results:

Although using a new languages and techniques (Android Studio, eclipse, Java, ASP…), make works flows slowly, but the project succeed to achieve its objectives in:

Registration for client; Searching in many ways (name outlet, branch, categories and sub categories, map search …); adding and remove favorite list; set profile information; dealing with forget password; outlets brands; add information of outlets; events in outlet; outlet categories; sub categories; favorite list between client and outlet.

3. Future Ideas to improve the project:

The project is a prototype, which facilitate changes that can be according to changeable requirements, in mind adding a new features and some more improvement for the appearance, and interfaces; also, IOS app is possible idea.

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Appendixes

Appendix A:

Learning new technologies: APIs, design, mobile application.

Appendix B:

Business Logic application can develop it to make own business.

Appendix C:

Now difference between project and product by using software engineering step planning and requirement gathering –design –implement – testing.