Tunisian Republic
Ministry of Higher Education and Scientific Research

University of Carthage

Higher Institute of Information and Communication Technologies

Internship Report

E-commerce Web and Mobile Application

Host Organization: *EasyTek*

Students:
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Fundamental Bachelor in Computer Sciences

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Dedications

We dedicate this work to everyone who has supported and inspired us. Our families. Our parents , our brothers, our sisters . You provide us the end-less support we need to go seize the day. You understand our crazy dreams and you push us forward as we chase them ! Thank you.

To our friends. When life gets tough, you are always there to cheer us up. Thank you for being such amazing friends. I could never do it without you.

To Everyone who we love, Thanks for being so wonderful and kind to us . we appreciate your support and understanding .

Hlel Abdelhedi and Ouni Hani

Acknowledgment

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First of all,We want to express our deep gratitude too , to all the EasyTek family especially Mr Lahbib louati for help, relevant explanations and valuable tips that have the greatest impact in the success of the completed project.

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Contents

List of Figures

List of Tables

General Introduction

The major part

Chapter 1

Project context

1.0.1 Introduction

. In the rest of this chapter we will present our host organization and Then we will explain the main idea and the limits of our application.

1.1 Company presentation

1.1.1 Company Description

Figure 1.1: easytek logo

Easytek is a start-up created in January 2016,it is specialized in research and development of IT solutions. It chose to invest in internet of things domain with a first project in the field of home automation .

1.1.2 Company information

co-founder
Mohammed lahbib Louati.
Address
B21, RDC, Nursery block, Technopark Elgazala Ariana ,Tunisia.
web site
http://www.easytek.tn
E-mail
contact@easytek.tn
main Activity
Internet of things

1.2 Project context

1.2.1 Need

Our project targets both business customers (B2B) and end-users (B2C). Restaurants are our business customers who could adhere to our platform in order to be referenced in our database and so increase their sales and appeal to end-users who are interested in the new concept (relationship) of consuming foods we offer.

1. **Restaurant owner Need (B2B)**

Figure 1.2: Restaurant owner Need (B2B)

Better restaurant management

- **Need :** The long queue in the restaurants especially in the rush hours can cause a real problem for the workers at the restaurant to manage their orders . The queue problems can affect the customer's experience
- **Proposed solutions :** The restaurant's customers will be able to order and pay from distance and by consequence the restaurant will prevent the long queue , The meal can be customized by the customer from distance

Marketing

- **Need :** The restaurant owner needs to defame his restaurant
- **Proposed solutions :** The restaurant owner will take advantage of our solution and posts his different products that he offers online using our application which can bring him more customers.
  The restaurant will be located via geolocation service which can facilitate the arrival of the customers.
  The restaurant owner will take advantage from the customer's reviews to give the potential customers an idea about his services and the quality of these services.
  The new experience/concept that we offer can bring and retain many customers for the restaurant.

Direct Relation with the customer

- **Need :** There is a huge communication issues between restaurants and its customers. That is why the restaurant's owners usually need a method to communicate with customers and engage them with the services .
- **Proposed solutions :** The restaurant owner will be able to communicate with each one of his customers
  (give them some gift cards , discounts notifications, coupon codes ,send messages and notifications etc)
  The restaurant owners will be able to process each customer's data (such as feed backs, buying frequency ...) in order to improve his own sales , make statistics and improve his service quality .
  The restaurant owner will be able to visualize his customers data (via charts , statistics ...etc)

2. **End-users Need (B2C)**

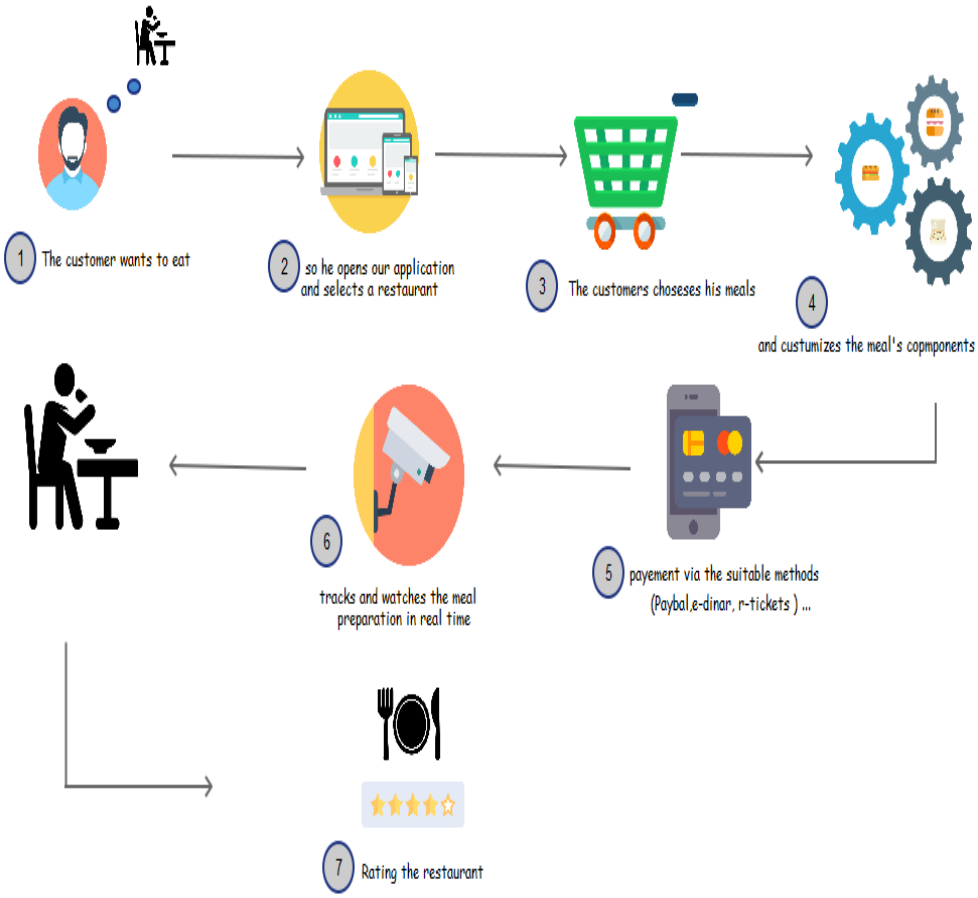

Figure 1.3: Customer Need (B2B)

Ordering and Payment

- **Need :** Saving the customer's eating time time when passing the order.
- **Proposed solutions :** The customer will be able to order his meal and pay it from distance.
  The customer will be able to customize his meal (content and quantity).
  The customer will receive a notification whenever his meal is ready.
  The application will show approximately the time needed to prepare his order.

Transparency

- **Need :** The customers need to verify the cleanliness of his meal and whether it is .
- **Proposed solutions :**
  The application should allow to the end-user to access to some private zones: Watching meal preparation Access to the kitchen.
  The application should give the customer the ability to check some conditions
  Environment State (temperature, humidity ...etc) Make sure that your meal is healthy (oil ...etc)

Booking

- **Need :** The customer should book his table
- **Proposed solutions :** Table booking
  visualize the non-booked tables.

Shipping

- **Need :** The customer need to order food to their houses .
- **Proposed solutions :** The customer will be able to receive his meal via shipping.

1.2.2 Study of the existing

In this section we will describe the different existing foreign and local solutions having similarity with our project.

1.2.3 Foreign of the existing

Rapidle Rapidle is a french web and mobile application it brings bakeries, snack bars and all fast food outlets that offer an online order and express removal service. With this application the user orders and pays online, and then withdraws the order without waiting in an area dedicated to express withdrawal.besides.

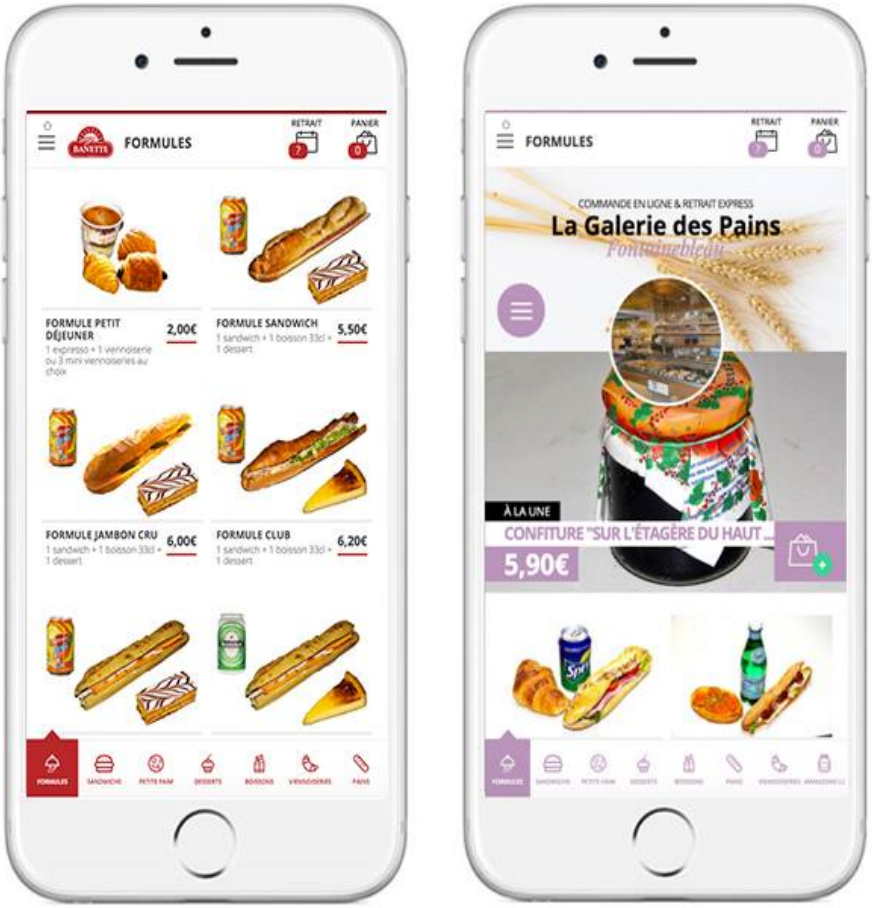

Figure 1.4: Rapidle mobile application

1.2.4 Local of the existing

Mon resto Mon resto is a web and mobile application it allows the users to order meals online depending on their locations. the user chooses a restaurant or a specialty and the booking service at home or in the office , Thanks to user's account , also mon resto provides a service of following the evolution of orders in real time.

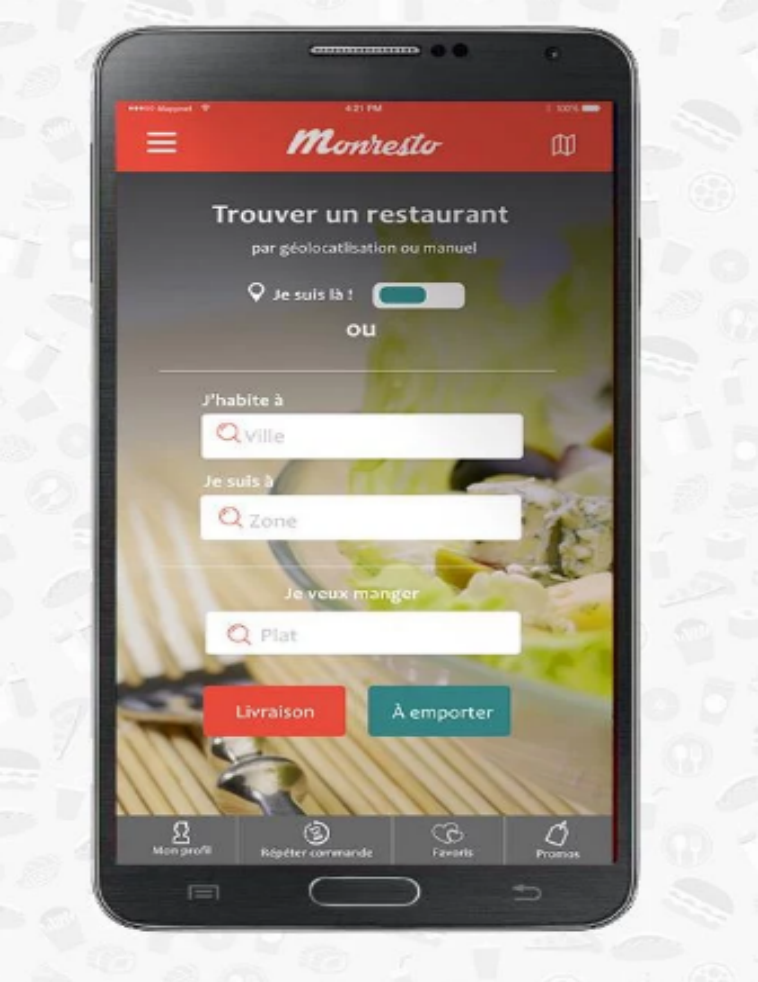

Figure 1.5: Mon resto web application

1.2.5 Benchmarking

Functionalities	**Rapidle**	**Mon resto**
Web and mobile application	✔	✔
Online ordering	✔	✔
Booking		
Looking for a restaurant based on the location	✔	✔
Looking for a restaurant based on the price, the delivery fees, the delivery time, the rating, etc		
Watching the order preparation in real time		
Estimate Average Waiting Time		
Choosing/changing the time of picking up the order	✔	
Changing order preferences		
Following/watching orders - Chef		
Paying via different methods (Credit card, Cash on delivery, etc.)		
Parental control (follow up their children: where they eat? what they eat? , set the amount per day not to be exceeded		
Administration panel - Restaurant manager	✔	

Table 1.1: Existing solution's Comparison

1.2.6 Requirements Specification

Functional requirements
Based on the previous needs and proposed solutions we have concluded that the functional requirements are divided into 4 categories based on the different actors :

- **The Customer**
  find a restaurants with the ability to filter them according to a certain criteria (distance ...etc)
  reviews management (give review about the experience, service and different products.
  list the different products of each restaurant list each product details (price, components, average time to be prepared ..etc)
  add products to his cart and choose the quantity customize the components of each order (mayo, ketchup ...etc) and see the estimated time to prepare his meal shipping the order if the restaurant provides this service
  validate and pay the order via different techniques such as paypal, credit card, digital wallet
  watch his meal as it's being prepared
  see the kitchen's state and make sure that his meal is healthy
  check digital wallet, fund it or transfer money to another user
  manage his profile (password, address ...etc) see buying history

- **The restaurant manager**
  Categories management : The restaurant admin should have the ability To add new categories of food and edit them later
  Products management : The restaurant admin should have the ability to add, edit and delete his products and add discounts and promotions
  Restaurant information management : The restaurant admin should have the ability to change his restaurant information (such as location, description, photos add shipping to list of services)
  Restaurant admin personal informations management :The restaurant admin should have the ability to edit his login information such as (email, username, password)
  The restaurant admin should have the ability to check out different statistics in order to make business oriented decisions using charts ...etc (the rush hours, the sales frequency in function of week's days ...etc)
  The restaurant will be able to process each client's data and decide how to make them loyal to his service Check the customers reviews
  The restaurant will be able to communicate with his customers (send them discount codes, send gift cards, send promotions notification ...etc)
  The restaurant admin should have the ability to check out his restaurant status (humidity, cleanliness, watch camera ...etc)

- **The website admin**
  The website admin will have the right to make changes on the website (Theme, functionalities)
  The website admin should have the ability to add new adherents to the website and manage them
  Check website analytic s

- **The chef**
  The chef should see the order list
  The chef should have the ability to check out the finished orders
  The chef should be able to navigate between orders

Non-functional requirements

- **Security** The authentication must be secured and reliable to prevent any sort of stealing money or credit cards numbers.
  The database must be well secured in order to maintain a high availability of the service.
  The system have to respect the norms of private life of individuals and personal information

- **Ergonomics** The application have to be easy and simple to use in order make the users more comfortable and more engaged with the service

- **Performance** The application have to be performed and responds quickly (the time constraints are very important in our case).

- **Coherence** The application must be able to maintain coherence between the different interfaces
- **Maintainability** The application code sources must be clear and commented in order to facilitate maintenance and updates .

1.2.7 Project Management methodologies

Project management is the discipline of initiating, planning, executing, controlling, and closing the work of a team to achieve specific goals and meet specific success criteria.
Following are the most frequently used project management methodologies in the project management practice:

Agile Software Development : Agile software development methodology is for a project that needs extreme agility in requirements. The key features of agile are its short-termed delivery cycles (sprints), agile requirements, dynamic team culture, less restrictive project control and emphasis on real-time communication..

Scrum : This is an agile methodology. The main goal of this methodology is to improve team productivity dramatically by removing every possible burden. Scrum projects are managed by a Scrum master..

Extreme Programming (XP) : Lowering the cost of requirement changes is the main objective of extreme programming. XP emphasizes on fine scale feedback, continuous process, shared understanding and programmer welfare. In XP, there is no detailed requirements specification or software architecture built.

Kanban : Kanban is a method for managing the creation of products with an emphasis on continual delivery while not overburdening the development team. Like Scrum, Kanban is a process designed to help teams work together more effectively.
we have chosen kanban as a Project management using a specific software named Meister task .

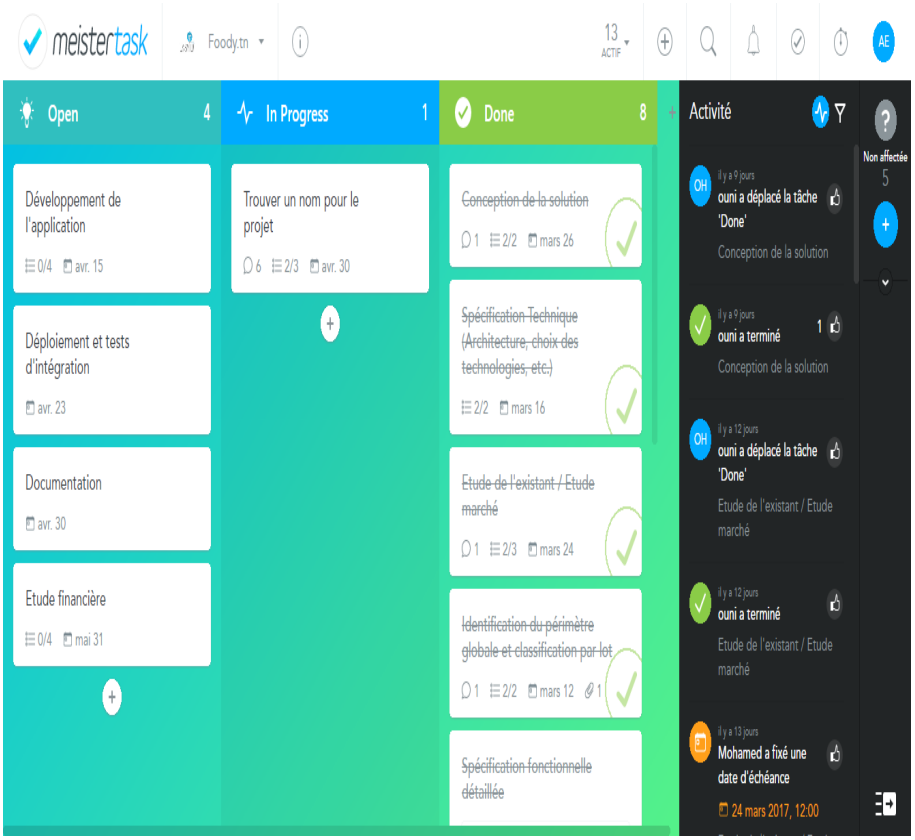

Figure 1.6: Our system management tool

1.2.8 Project limits

due to the training period and conditions we will not develop this huge of needs we will only focus in certain functionalities :

- find a restaurants with the ability to filter them according to a certain criteria (distance ...etc)
- list the different products of each restaurant
- list each product details (price, components, average time to be prepared ..etc)
- add products to his cart and choose the quantity
- shipping the order if the restaurant provides this service validate and pay the order via different techniques such as Paypal, credit card, digital wallet
- see buying history
- Categories management : The restaurant admin should have the ability To add new categories of food and edit them later Products management

: The restaurant admin should have the ability to add, edit and delete his products and add discounts and promotions

- Restaurant information management : The restaurant admin should have the ability to change his restaurant information (such as location, description, photos add shipping to list of services)
- Restaurant admin personal information management :The restaurant admin should have the ability to edit his login information such as (email, user name, password)
- The restaurant admin should have the ability to check out different statistics in order to make business oriented decisions using charts ...etc (the rush hours, the sales frequency in function of week's days ...etc)

1.2.9 conclusion

To conclude , the current

Chapter 2

Conception

2.1 Introduction

This part is a detailed description of the different requirements of the different functionalities of our project for the both platform (web and mobile) .

2.2 Navigate Diagram

2.3 Use cases

A use case represents a set of sequences of actions carried out by The system and producing an observable result for a particular actor. A use case models a service rendered by the system. It expresses the interactions Actors / system and brings "significant" added value to the concerned actor In order to avoid the constraints of understanding the use case diagram, we Decided to divide it by actor:

2.3.1 Global use case

The global use case helps on having a global basic understanding of our system and the different functionalities that our system is going to offer

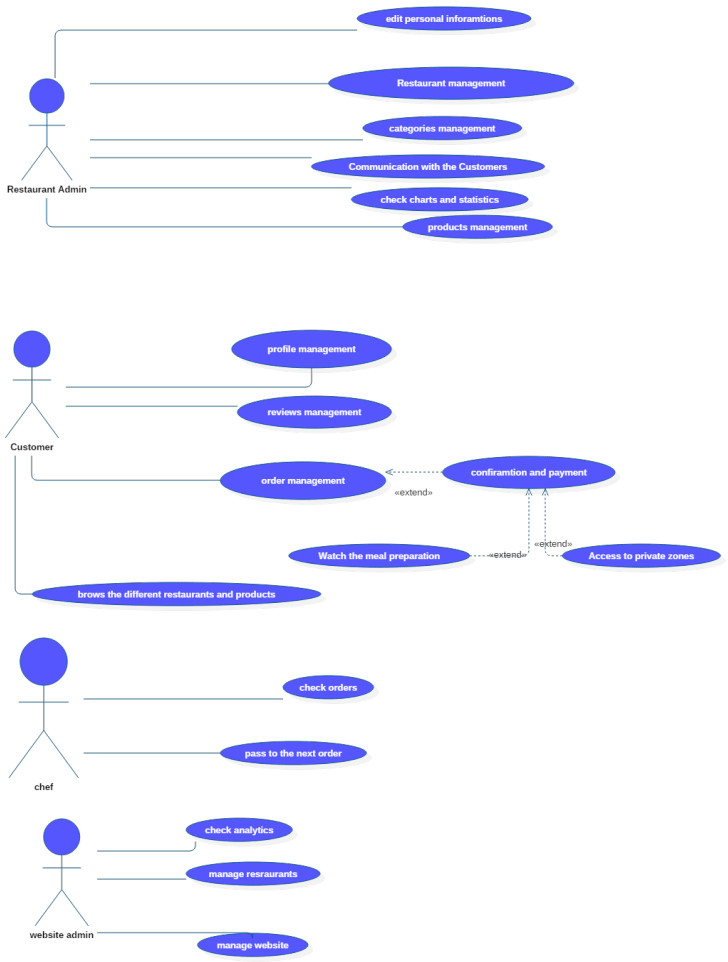

Figure 2.1: Global use case

2.3.2 The customer use case

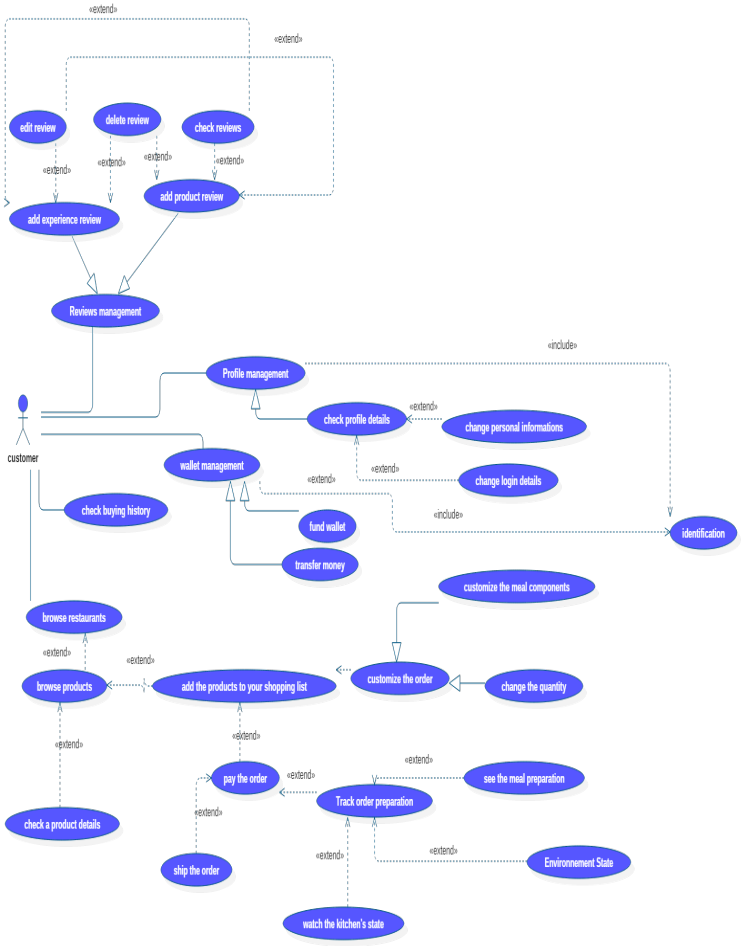

Figure 2.2: customer use case

Refinement of the use case Â« identification Â» 2.1.

2.4 Class diagram

In this subsection i will focus on studying some applications which have the same context as my project in order to retain some of the helpful features proposed by these applications and avoid their drawbacks

2.5 Sequence diagram

In this subsection i will focus on studying some applications which have the same context as my project in order to retain some of the helpful features proposed

Use case	Identification
Actor	Customer
Pre Condition	the form of identification will be displayed
Post Condition	The user accesses to the platform
Main scenario	The user enters his login and password the system checks the veracity of the login and t
Exception	the system will alert if the login and the password are false

Table 2.1: Refinement of the use case Â« identification Â»

by these applications and avoid their drawbacks

2.6 Mock ups

In this subsection i will focus on studying some applications which have the same context as my project in order to retain some of the helpful features proposed by these applications and avoid their drawbacks

2.7 Conclusion

In this subsection i will focus on studying som

Chapter 3

Development

3.1 Introduction

3.2 Choice of technical tools

To develop the project i .

3.3 Development environment

3.3.1 hardware environment :

To develop the project i used un smartphone android lenovo k3 note (processor : mtk 1.8ghz , 2gb of ram , 5.5 screen ...) and a laptop DELL inspiron 15 :

- Intel (R) Core i3-3217 CPU
- 4GB RAM
- 500GB Hard Disk
- 15 inch lcd screen

3.3.2 Software environment:

- windows 7 Edition Integrale 64bits
- MySQL as a DBMS
- Intel XDK (developement kit)
- Atom and Brackets as IDE
- android 6.0
- Adobe photoshop cs6
- WordPress

3.4 Choice of development tools

3.5 Conclusion

Chapter 4

Internship Achievements

The application is fully developed and now available at Google Play Store in 1.0.2 version .

The application's name is : "l'Affiche News TN" . It's size is 3.5 M , it's number of installations is between 10 and 50 And it is 5 stars rated by it's all users .

Figure 4.1: L'affiche news at playstore

The website URL is : http://laffichenews.tn/
These are some screen shot taken from the main parts of the application :

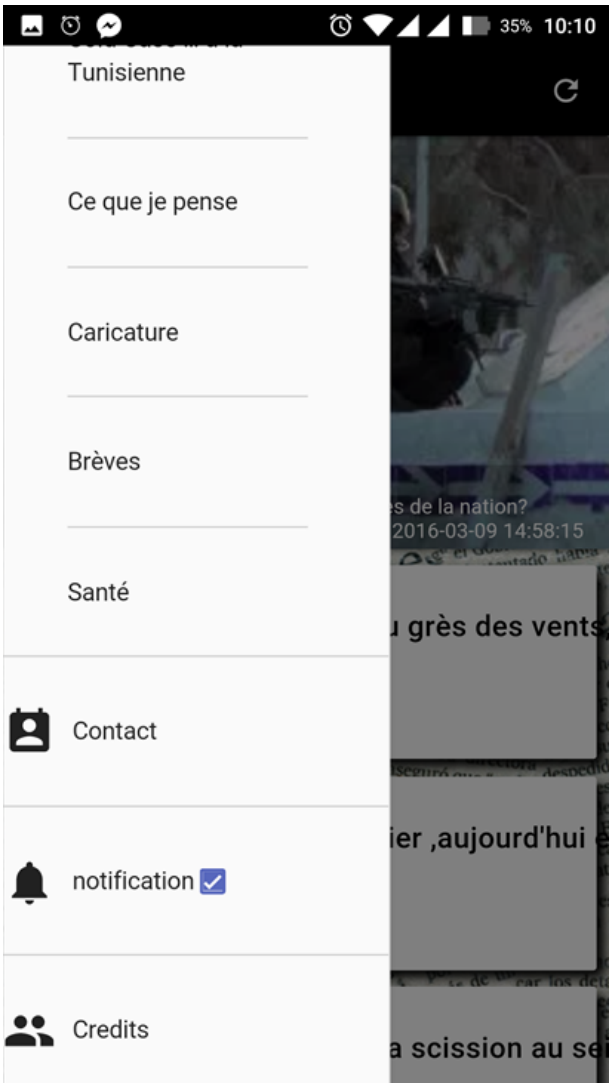

Figure 4.2: Slide out menu

Figure 4.3: Home screen

Figure 4.4: Subcategorie

Figure 4.5: Contact page

Figure 4.6: Credits page

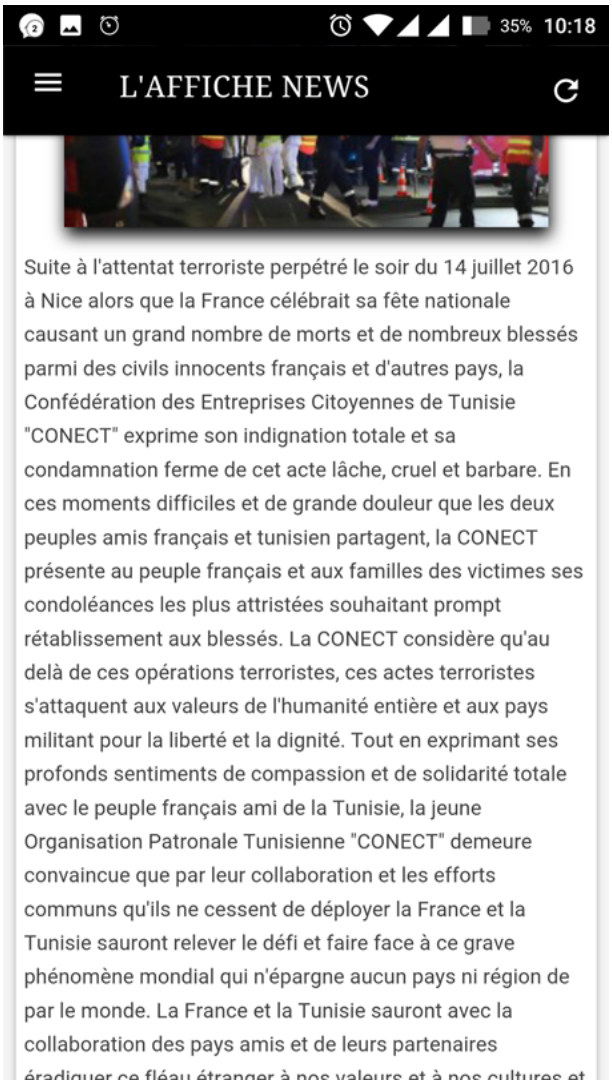

Figure 4.7: Reading article page

General conclusion et Perspectives

For me it was a very nice and wonderful experience to pass my summer internship with the Mind engineering family . It was such an Honor to know these person i have learned a lot of things .
I learned new things such as how to code with php , how to use AJAX , How to develop a site with wordpress .

I learned extend also my previous skills and took the to a new level such as jquery , css , javascript , UI frameworks and mobile developement life cycle .
But what really made this internship spectacular is to pass a whole 2 months with these people and , learn from their experiences and to be professional , Timely , And exact like they are .

In the future I can see my application more optimized and more performing .
And perhaps built for IOS platforms.

Bibliography

[AV00] M. Agusti and J. M. Valiente. Feasibility of using wavelet based pyramidal analysis for visual content image description. In *Proceedings of the 3rd IASTED International Conference Visualization, Imaging and Image*, volume 2, pages 569–574, 2000.

[Dup09] Nestor Dupont. *Reparer son vaisseau.* L'Alliance, 2009.

[JN53] Edgar G. Johnson and Alfred O. Nier. Angular aberrations in sector shaped electromagnetic lenses for focusing beams of charged particles. *Physical Review*, 91(1), jul 1953.

[Knu90] Donald E. Knuth. *The TEXbook.* Addison -Wesley, 1990.

[Lav90] L. Laverdure. Gravimetrie de la ceinture volcanique de l'Abitibi. Master's thesis, Ecole Polytechnique de Montreal, Montreal, Qc, Canada, 1990.

[LLC99] MultiMedia LLC. MS Windows NT kernel description, 1999.

[Rac96] Zoran Racic. *Étude et essais du spectromÃ¨tre Ã plasma DYMIO de la mission MARS 96.* PhD thesis, 1996.

[Rol99] Christian Rolland. *LATEX par la pratique.* O'Reilly, 1999.

[YI05] T. Yamada and T. Inoue. Influence of phosphorus runoff from agricultural areason enclosed sea downsteram. *Journal of Water and Environment Technology*, 3(2):157–164, 2005.

[Zer09] Les Zeros. Le site du zero, jun 2009. www.siteduzero.com.