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The subject about

Marketplace for buying and selling the agricultural products and vegetables

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Discussion in **--2022 from the authority:**

D. ..... MCA President
D. ..... MAA Rapporteur

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Dedication

First of all we dedicate this work to our parents which they support and tired for us for developing our selfes in this road of education, also without forgetting all teacher we have meeting them before ,specially in this year of university,and all friends ..... thanks all.

Abstract

Despite the remarkable development in the world, Algeria still suffer from the lack of exploitation of technology such as applications(Softwares). We will focus on this thesis about specific type of applications related to electronic commerce in the agricultural field. Through this work, we will develop a mobile application solve problems of client and farmers around the Algeria like : Price instability, Monopoly....And this application ensure : alternatives to customers, accelerating trade ....
Key words: E-commerce, mobile application ,online store ,farming, agriculture.

Résumé

Malgré le développement remarquable dans le monde, l'Algérie souffre encore du manque d'exploitation des technologies telles que les applications (logiciels). Nous nous concentrerons sur cette thèse sur le type spécifique d'applications liées au commerce électronique dans le domaine agricole. A travers ce travail, nous développerons une application mobile résolvant les problèmes des clients et des agriculteurs dons l'Algérie comme : Instabilité des prix, Monopole....Et cette application assurera : des alternatives aux clients, l'accélération des échanges....
Mots clés : E-commerce, application mobile, boutique en ligne, élevage, agriculture.

ملخص

على الرغم من التطور الملحوظ في العالم ، لا تزال الجزائر تعاني من نقص استغلال التقنيات مثل تطبيقات الهاتف (البرمجيات عموما). سنركز في هذه الأطروحة على نوع معين من التطبيقات ذات الصلة بالتجارة الإلكترونية في المجال الزراعي. من خلال هذا العمل سنتطرق للمشاكل التي تعاني منها التجارة الفلاحية التقليدية في الجزائر ،ونتيجة لهذا سنطور تطبيقًا للهاتف المحمول يحاول حل مشاكل العملاء والمزارعين في الجزائر مثل: عدم استقرار الأسعار ، والاحتكار ... وسيضمن هذا التطبيق: بدائل للعملاء ، وتسريع التبادل التجاري الفلاحي ....
الكلمات المفتاحية: التجارة الإلكترونية ، تطبيقات الهاتف ،متجر الإلكتروني ، الفلاحة ، الزراعة.

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General introduction

In recent years the e-commerce increased in attention to trade around the world .It is considered the main factor for the strength of the economy of countries. There are two types of trade the first one which is famous called traditional trade and the second one is e-commerce. And this thesis will focus on e-commerce in field of agriculture.
However here in Algeria The e-commerce has been appeared very soon and not so far since 2018[1] as legal act. Before that it was in form of pages in social media. Agricultural Traditional trade does not have any e-commerce here in Algeria specifically in this province EL OUED and this is the problem.
The process of selling and buying agricultural products in Algeria general and EL - OUED especially is still done in traditional and not efficient way and a lot of drawbacks with all its pitfalls like : Monopoly, price fluctuations, no coordination between farmers, no exchange of experiences, high prices of agricultural medicines, difficulty finding good and cheap products ... .
This issue motivated us to create mobile application as solution of problems such as : accelerating trade, expanding the scope of sales, monitoring national prices, providing alternatives to customers .... .

So, the way of working in this thesis is as follow :
The total thesis is broken into 3 chapter

- First chapter : We start by introducing the different concepts related to e-commerce ,agriculture in Algeria and EL OUED.
- Second chapter: representing software design process, start collecting user needs and end by a detailed software and database design
- Third chapter :we describe our choice of tools and technologies, the motivations behind it and present the user interfaces.

Chapter 1

Analyzing and studying the existing

1.1 Introduction

In this age of life there are many new technologies have appeared. The e-commerce has been increasing in Algeria after the adjustments in the low of theme since 2018[1]. There are many company competitive between each theme, but we remark that there is no focus in agricultural field in most of this online stores.

Especially in this period of time there are many farmer suffer from the problem of marketing of him products also the problem of transportation to check the quality of products like vegetables.

This thesis propose creating a new marketplace for agricultural market and attempt solving the previously mentioned problems and another we have explained in this chapter through the use of modern technologies and a better software design process.

The aim of this subject is for enhancing the operation of selling and buying the agricultural products and vegetables between the farmers and clients with possible solutions.

So in this chapter we are going to study this idea in real world(studying the existence). And this chapter will cover the following points :

- what is E-commerce.
- Advantages of e-commerce.

- Disadvantages of e-commerce.
- E-commerce in our country.
- Agricultural marketing in El-Oued.
- The problems facing agricultural marketing in Algeria.
- Examples of similar application in the world.
- Possible solutions.
- New addition and feature in this application.
- Conclusion of this chapter .

1.2 what is E-commerce

E-commerce (electronic commerce) is the activity of electronically buying or

selling products using online services or over the Internet by using the phone or pc in any place of the world.[8]

recently the e-commerce has increasing too much for cause of covid-19 which force the people to use this kind of technologies and the made the act of marketing soeasy[8]

1.3 Advantages of e-commerce

These are some of advantages of e-commerce:

- Convenience:the buyerdoesn'tworry about the tired of choosing ortravelingto get the productsso he can view all national marketscanshow the sates of each one with moredetails ,the best agricultural offers, and choose the one closest to your state with all the necessary information about the products. .
- Better prices:you can choose Cheap deals and better prices from the farmer indifferentseason. The buyer have completecontrolto discuss with the seller for

deciding the best price. We need to use new techniques, for that in real project will be new featurewhichis a kind of messages engine between themeespeciallythat kind of subjects need this forenhancingto reduce and minimize theproducts. Plus, it'seasier to compare prices and find a better deal. Many online sites or applications offer thisfeature also (the buyer check and compare thebest pricesand deciding).

- better quality:In addition for best prices also the buyer can choose bestqualityof agricultural products (vegetablesand fruits) and know all information about it. This also bigadvantagesin this kind of app now this feature is so important to evaluate the products for each farmers. All of that is to help the farmers or the client to decidingwhichone is best. This part may made a kind ofcompetitivebetween the farmers forenhancingthe products as possible as they can.

- More control:Many times, when we go to grocery for shopping, we tend to spend a lot more than you planned. In online store don't have to let the store's inventory dictate what you buy, and you can get exactly what you want and need.

- Products and services are easy to find.

- Easier time managing a business.

- No geographical limitations translate as a bigger customer reach.

- Higher quality of services and lower operational costs.

1.4 Disadvantages of e-commerce

Like any other technologies it has many disadvantages like:

- Customer loyalty becomes a bigger issue as there is a minimal directcustomer-company interaction.

- Inability to experience products beforehand leads to more checkoutdropouts.

- Anyone can start an online business, which sometimes leads to scam andphishing sites.
- Hackers target web shops more often than you think.
- Mechanical failures can get quite more punishing.

1.5 E-commerce in our country

In Algeria before 2018[1] , there were no laws that legitimize and allow the practice of electronic commerce and it was done illegally through social networking sites, which is the best placeto display and perform products and services. But after the adjustments in law in 2018[1].It became legal and restricted with conditions. Because of that ,the e-commerce company and websites have come up very quickly and they competitive between theme like OUEDKNISS[2], dzsoq, dzdea and cliodiali. In this thesis we are going to focus in single part in e-commerce in Algeria exactly in El-Oued which is the agricultural(products) marketing between the farmers and clients.

1.6 Agricultural marketing in El-Oued

The Wilaya (province) of El-Oued is the located in the east south of Algeria. Its known for its cultivation and ranks first in many agricultural products such as 3,8 million of palm [3] total production of dates is 2.7 million quintal [3] ,potato crop with an estimated production of 11 180 000 quintals [3 and many more different kind of vegetables and fruits .

Because of that there are so much movement of agricultural commerce between this province and other one. The buying and selling process is done in a traditional way.

That does not help the farmers and also does not suit the buyers. The reason is that the farmer may take a long time to find the buyer, and the buyer may take days to search for the right price and quality without forgetting the distance traveled by the buyer, and he may not find what suits him. So it has lost a long time and also a

great distance and is forced to change the market and the farmer and move to another market.

1.7 The problems of Agricultural marketing in Algeria

There are a lot of problems in traditional marketing and we collect some of them in following points :

- Price instability between the market (south like El-Oued and north Algeria like capital) that happen when there no rules which organizing the exchange between the farmers.
- Monopoly on products illegal behavior this may be the worst reason of unbalanced of price of different products.
- Taking too long to buy the desire products in some times didn't find it.
- Not finding the required quality in some market.
- Require long time to find a good products .

1.8 Possible solutions

For solving all problems which have mentioned before. This thesis suggested to create an application (online store) which has this feature to help the farmers and clients for :

- Setting unified and reasonable prices through which the buyer can determine the original price of the product.
- Expand the scope of marketing to the largest number of farmers to give more opportunities.

- Establishing an evaluation system for the quality of products to give competition between farmers and thus reduce the price.
- Establishing an evaluation system for the quality of products to give competition between farmers and thus reduce the price.
- contacts to different distributors.
- include the different prices of different crops at various locations.
- remove or at least reduce the number of middle men from entire supply chain .

1.9 New addition in the application

We have added some new addition and feature in this app to have a good control system and convenient to the users:

- Much better moderation through an administration panel that will provide a safe environment for commercial transactions.
- Removing the old products from the application.
- A chat page to discuss offers and prices and exchange experiences between farmers.
- Product and service evaluation feature which make a competitive between the farmers .

1.10 Examples of similar applications

There is a punch of similar app in all world and they help the farmers and clients so much like:

- National Agriculture Market called e-NAMis an online trading platform for agricultural commodities in India.

The market facilitates farmers, traders and buyers with online trading in commodities Market transactions amounted to 36,200 crore (equivalent to 410 billion rubles or US 5.5 billion in 2020)[4]

- shine brand seeds it a similar application which use the same logic but it specifically buy and sell the seeds
- agri junction Connecting farmers this application specifically sell the drug of vegetables to the farmers and they give them a statistics about the amount of uses the drug and which type of vegetable they help[5]
- My-crop is an application designed for Android phones that provides many agricultural services of interest to the (Egyptian) farmer, the aim of which is to facilitate his working life, save time, material and moral effort, and provide solutions that may contribute to controlling the mechanisms of the agricultural market in light of the technological revolution in the agricultural field in (Egypt)[6]

1.11 Conclusion

In this chapter, we introduced e-commerce especially in agriculture in our country and especially in our Wilaya after that discussing all problem behind that in details with examples applications in another country, with an analysis of the existing our proposed idea.

The next step will be presenting the methods and approaches used to design and implement the project.

Chapter 2

Design of software and specification

2.1 Introduction

In the last chapter we have discussed the problem of our thesis with some statistics and. In this chapter we will discuss everything related to the design and modeling of the problem in the form of a set of diagrams with UML and using 2TUP agile method which divided into two approach technical and functional. This is to facilitate the process of its implementation, with writing and improving it. In addition taking some tools and technic to represent it and analysis each diagrams of the project . So this chapter will covering the flowing points :

- software development method(2TUP)
- Software design
- Collection of functional requirements
- Collection of technical requirements
- Development of the static model
- Detailed design

2.2 Software development method(2TUP)

In the software engineering domain, there are several approaches for development. The application modeling techniques are based on models like "entity-relation", "flow", "object". New technologies, among which our project is, often use object models. The standard in term of analysis and modeling is UML.

2.2.1 The Unified Process definition

The unified process is a software development process it groups together the activities to be carried out to transform a user's needs into a software system.

2.2.2 The main properties of Unified process

These are some main categories of 2TUP method :

- the unified process is based on components
- the unified process use the UML language
- the unified process is guided by the use cases
- Focused on architecture.
- Iterative and incremental.

2.2.3 Methodology of Track Unified Process

2TUP is a unified process (software development process) built on the UML modeling language. Every process answers the following main characteristics:

- It is an incremental process, allowing a better technical and functional risk management and thus constituting the deadlines and the costs control.
- It is an iterative process. The degrees of abstraction are increasingly precise at each iteration.

- It is component oriented, offering flexibility to the model and supporting the re-use.
- It is user oriented because built from their expectations. The 2TUP process answers to the constraints of change of the information systems subjected themselves to two types of constraints: functional constraints and technical constraints In concrete terms, the process is modeled by two branches (tracks)
- functional track (capitalization of knowledge trade)
- A technical track (re-use of a technical knowhow).

Then these two tracks amalgamate for the realization of the system. This is why this process is still called Y-shaped process. With this development process, a model is essential in order to anticipate the results. A model can be used with each step of the development with an increasing detailed manner. The industrial standard of object modeling, UML, was selected as the development tool. It appeared very difficult to consider the 2TUP process without using UML and, more particularly UML 2.0 which support the oriented design component.

2.2.3.1 Feature track

The functional branch makes an inventory of the functional needs and analyzes it. This phase formalizes and specifies the elements of the preliminary study. The applied use case technique translates the whole interactions between the system and the actors. The obtained use cases are then organized (treated on a hierarchical basis, generalized, specialized...). They make it possible to identify the classes and they permit the oriented object modeling generated in the analysis part.

2.2.3.2 Technical track

The technical branch lists the technical needs and proposes a generic design validated by a prototype. The pre-necessary techniques revealed in the preliminary study, showing

the operational needs and the strategic choices of development, lead to the development of the construction process. To do this, several stages are necessary:

- The inventory of technical specifications related to the hardware
- The inventory of the software specifications.

2.2.3.3 Middle track

The medium branch supports the preliminary design, the detailed design, coding, the tests and the validation. The preliminary design is one of the most sensitive steps of the 2TUP process. It represents the fusion of the functional and technical tracks. It finishes when the deployment model (working stations, architectures), the operating model (components, applications), the logical model (classes diagrams), interfaces (users and components) and the software configuration model are defined. The detailed design conceives and documents very exactly the code that will be generated. It is largely founded on UML representations and implements, in an iterative manner, a system construction process to obtain a "model ready to code". The various components carried out in the detailed design are coded. The code units obtained are tested as they are written and produced.

2.3 Software design

2.3.1 Description of the system

The system ensure the managing and control the process of selling and buying agricultural products where the farmer share they products and the admin can accept the post or reject it(the same think with the profiles of the users) . After that the client can contact the provider and requesting it. The visitor can only navigate the system without any interacting and the subscribed users can modify their information and settings.

2.3.2 Identification of actors

The actors likely to be involved in the system:

- Visitor: He is the Person who doesn't belong to the system and he have no privilege because he doesn't have identifier or account , so he only can navigate the prices and see information without interacting with the system
- Farmer: He is the actor in the application which has ability to add new products ,list of his products, to see the list of contacts which they send requests to buy.
- Client: He is the actor in the application which has ability to navigate the lists of available products, but he has additional privilege, they can interact with the system like sending requests ,asking the farmer about certain product.
- Admin :The manager of the application he has all the privilege with options to give them to anyone so he can divide roles. profiles and products like banning them deleting profiles and products. that's for keeping safety on the application. So if there any fake products or profiles he's the responsible of deleting or blocking them.

2.3.3 Context modeling

A context diagram defines a boundary between the system, or part of a system, and its environment, showing the entities(actors) that interact with it. As explain in the figure below:

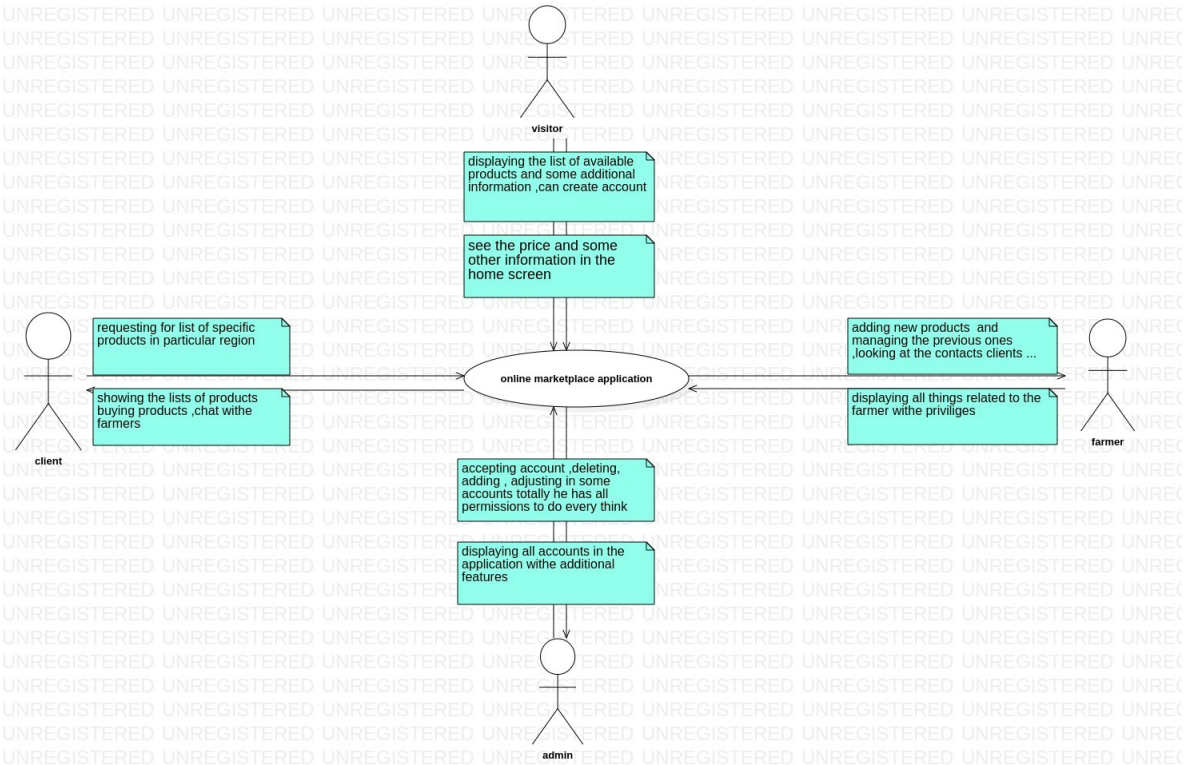

Figure 2.1: Context modeling

2.4 Collection of functional requirements

2.4.1 Identification of use cases:

Actors	Use cases
Users	Browsing the list of products
Admin-users	Managing users' accounts
Farmer-client	Managing client's requests(buying process)
Farmer-admin	Managing farmer offers(posts)

Table 2.1: Use cases of the system

2.4.2 General use case diagram

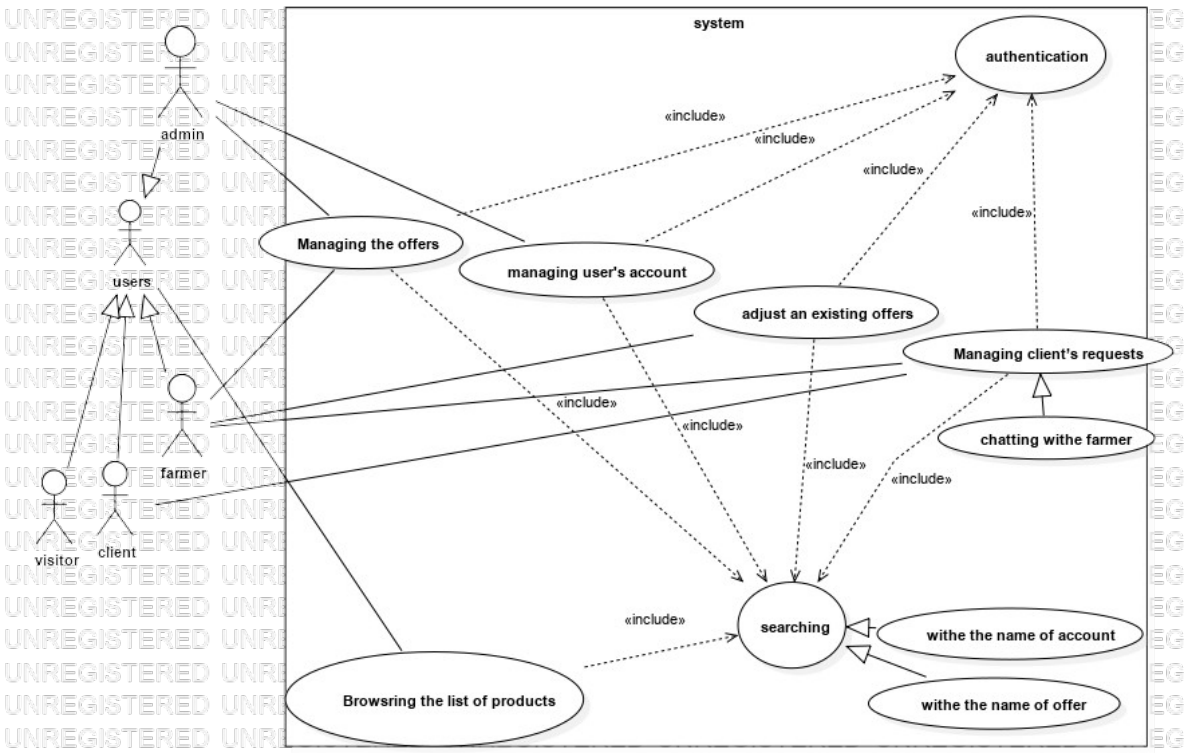

Figure 2.2: General use case diagram

2.4.3 General use case diagram

2.4.3.1 Login(authentication) use case

- The aim: Is to access to the functionality of the system
- The process: Entering username and password and

  check whether the information valid or no
- Use case diagram: As explain in the following figure:

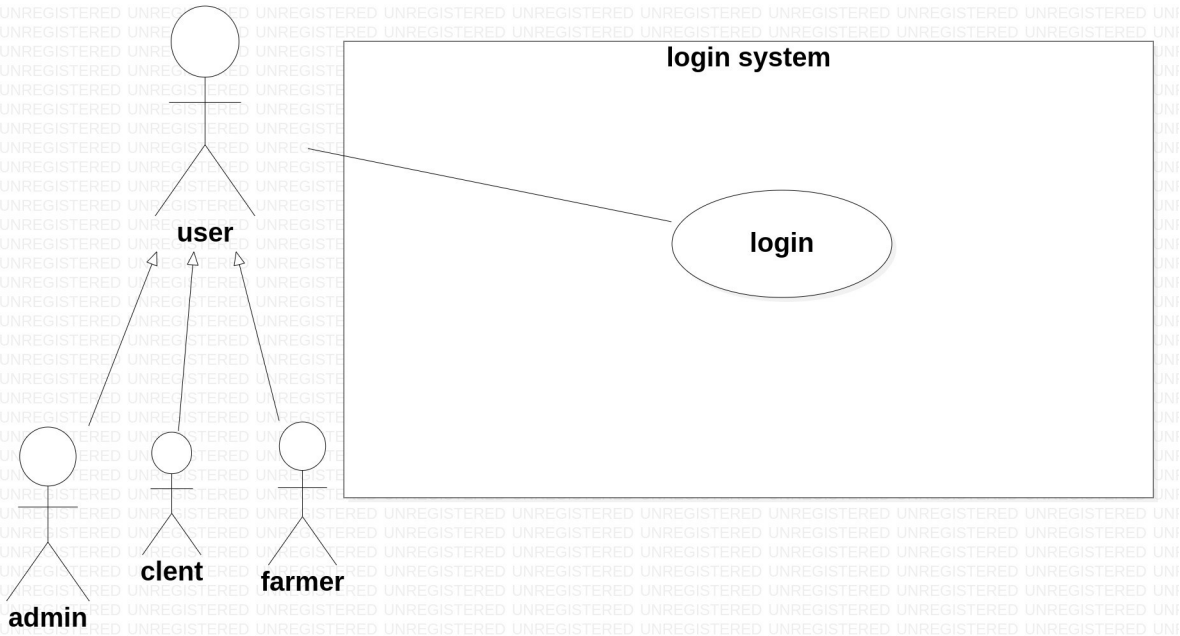

Figure 2.3: login use case diagram

- Activity diagram: As explain in the following figure:

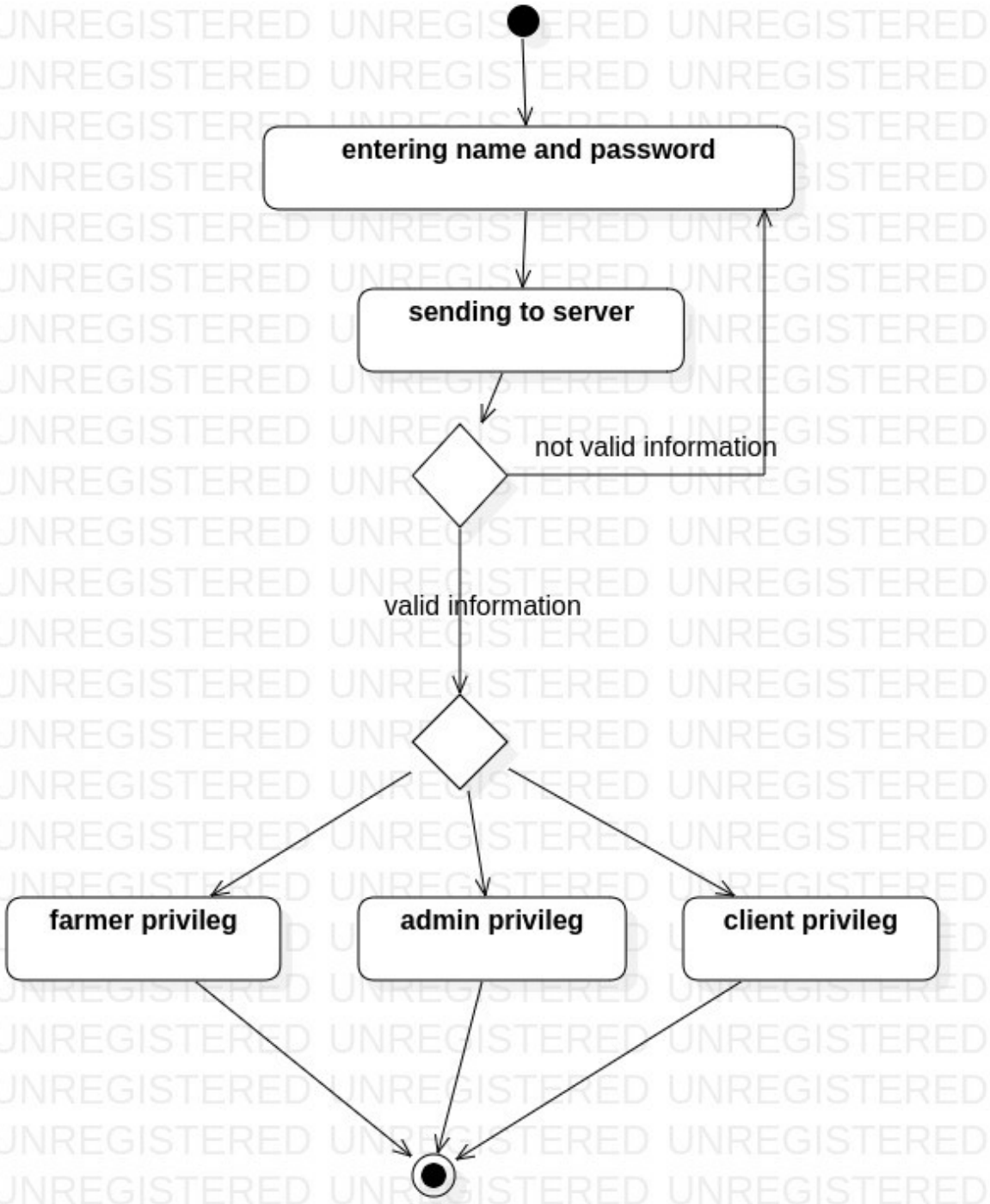

Figure 2.4: login actitvity diagram

- Sequence diagram: As explain in the following figure:

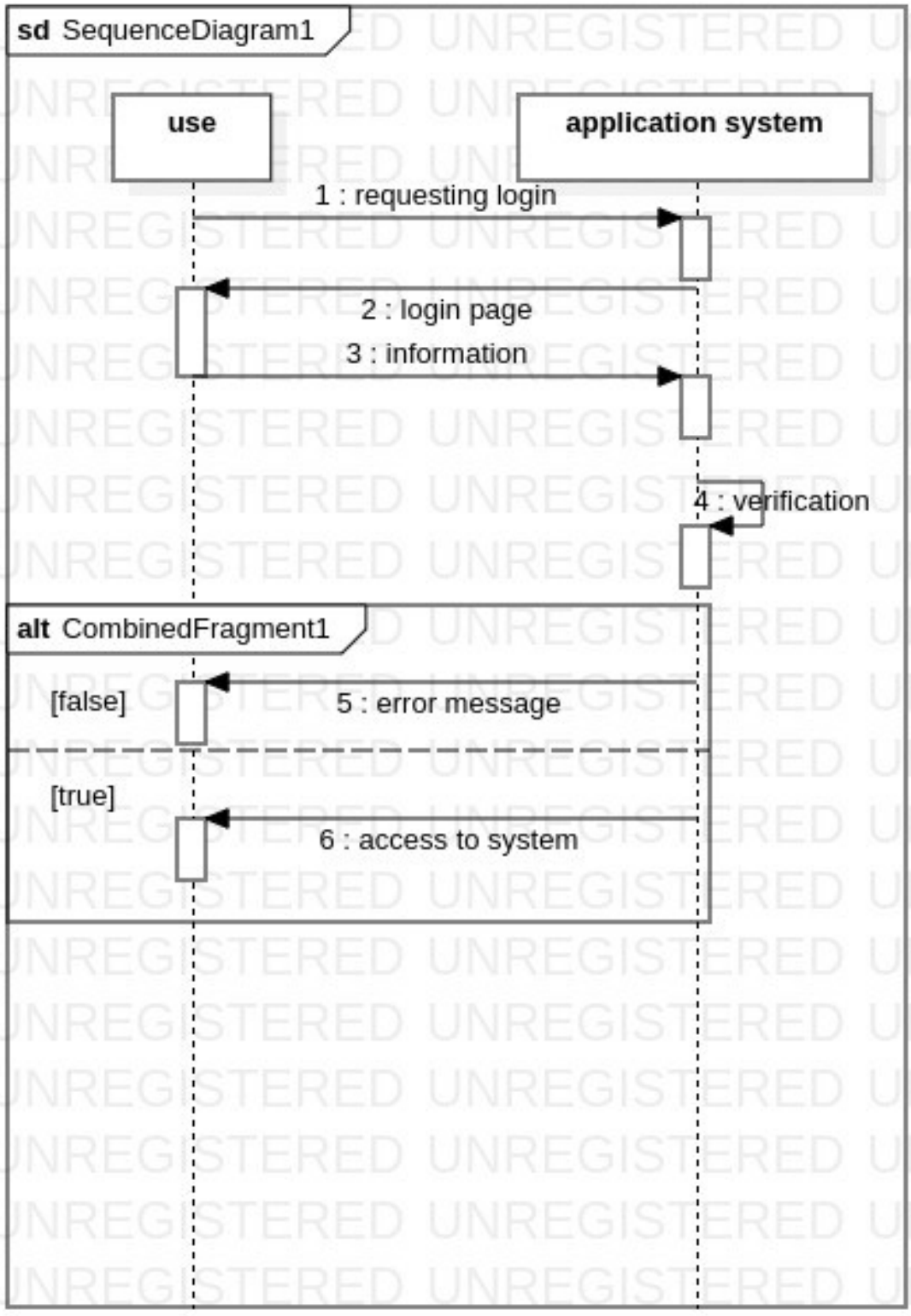

Figure 2.5: login sequence diagram

2.4.3.2 Managing users's accounts use case

- The aim: The admin define the tasks and restrict the limit of each accounts and posts.
- The process: authentication, search for specific account, after that can remove blocking , deleting,blocking accounts
- Use case diagram: As explain in the following figure:

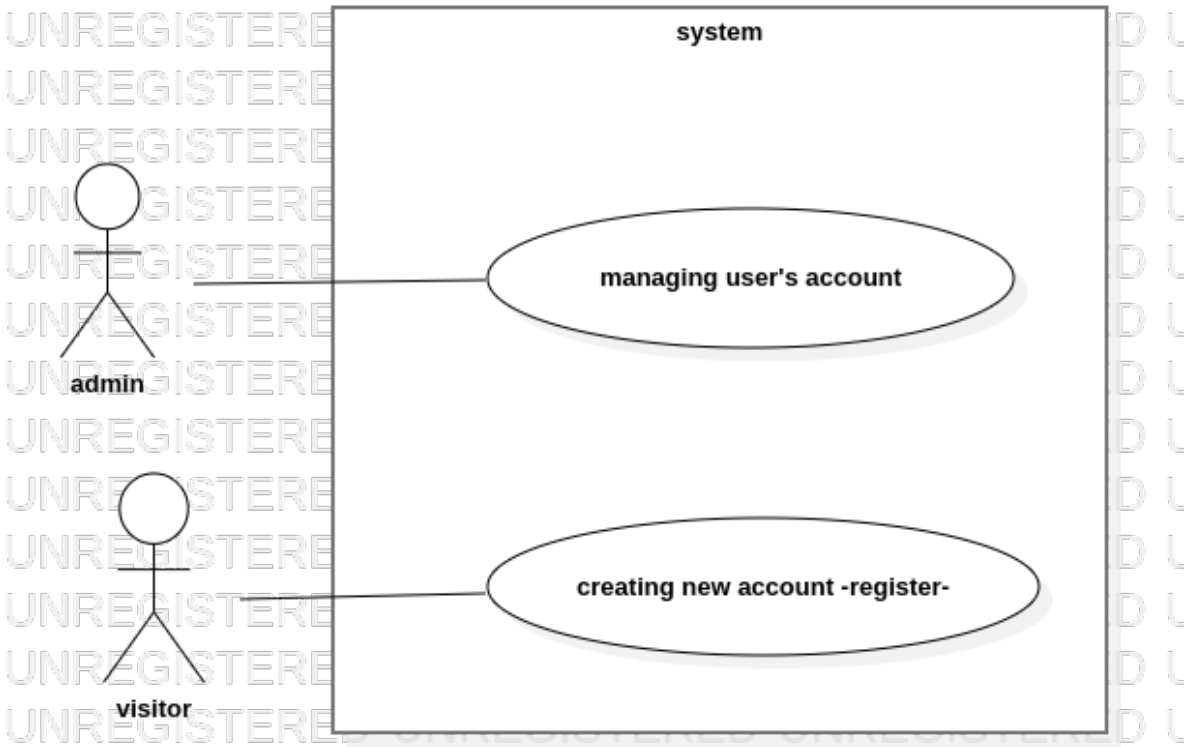

Figure 2.6: managing accounts use case diagram

- Activity diagram: As explain in the following figure:

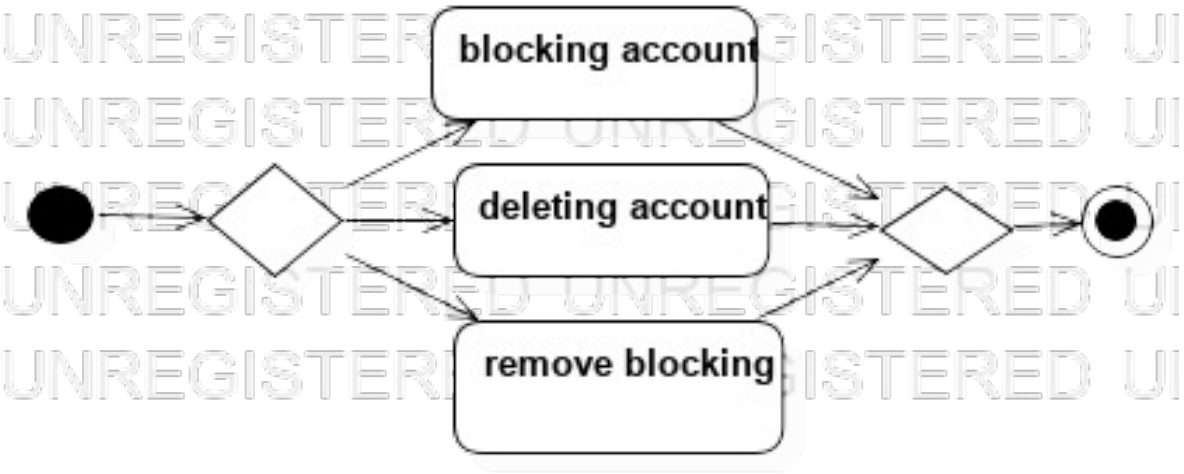

Figure 2.7: managin accounts activity diagram

- Sequence diagram: As explain in the following figure:

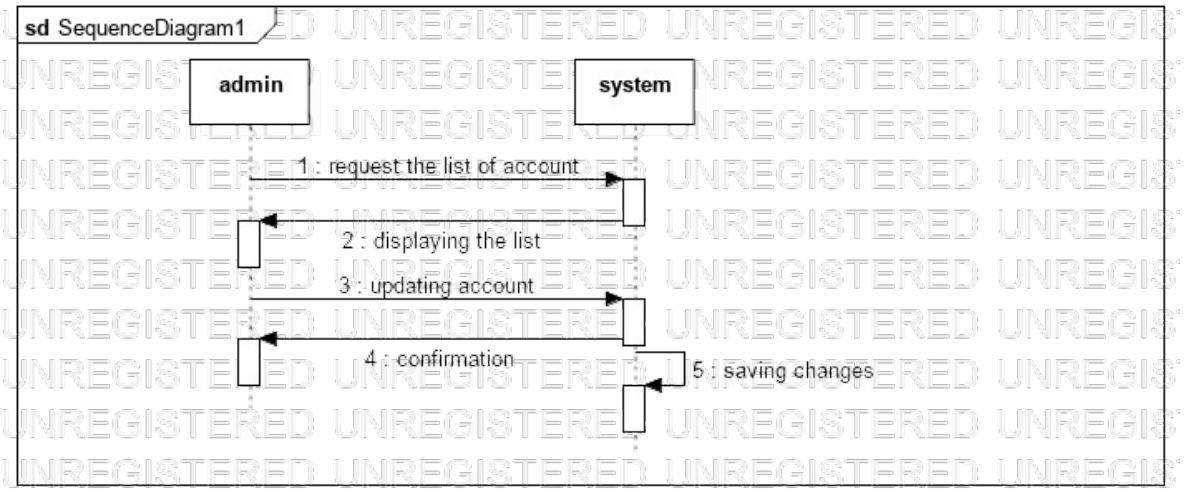

Figure 2.8: managing accounts sequence diagram

2.4.3.3 Displaying list of products use case

- The aim: All users can browsing and navigate the lists of different available products

- The process: Searching for product by the name , displaying the list of results

- Use case diagram: As explain in the following figure:

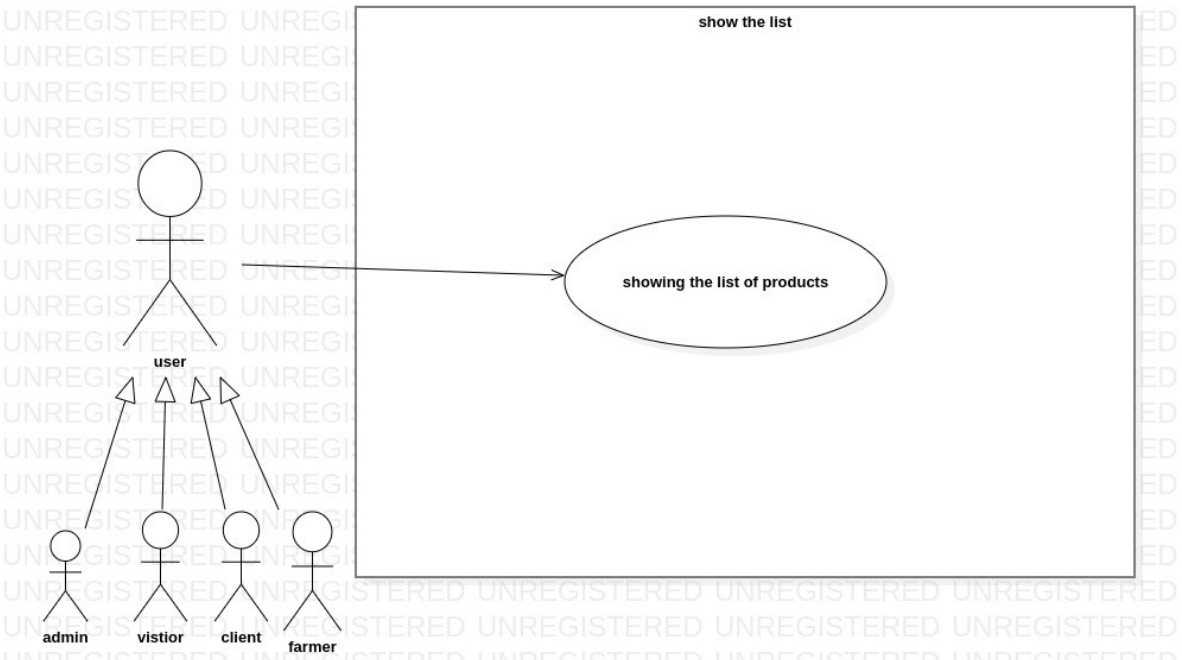

Figure 2.9: showing product use case diagram

- Activity diagram: As explain in the following figure:

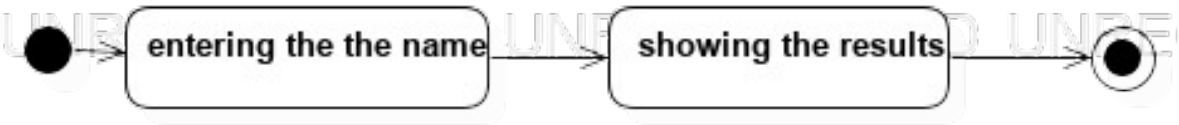

Figure 2.10: showing product activity diagram

- Sequence diagram: As explain in the following figure:

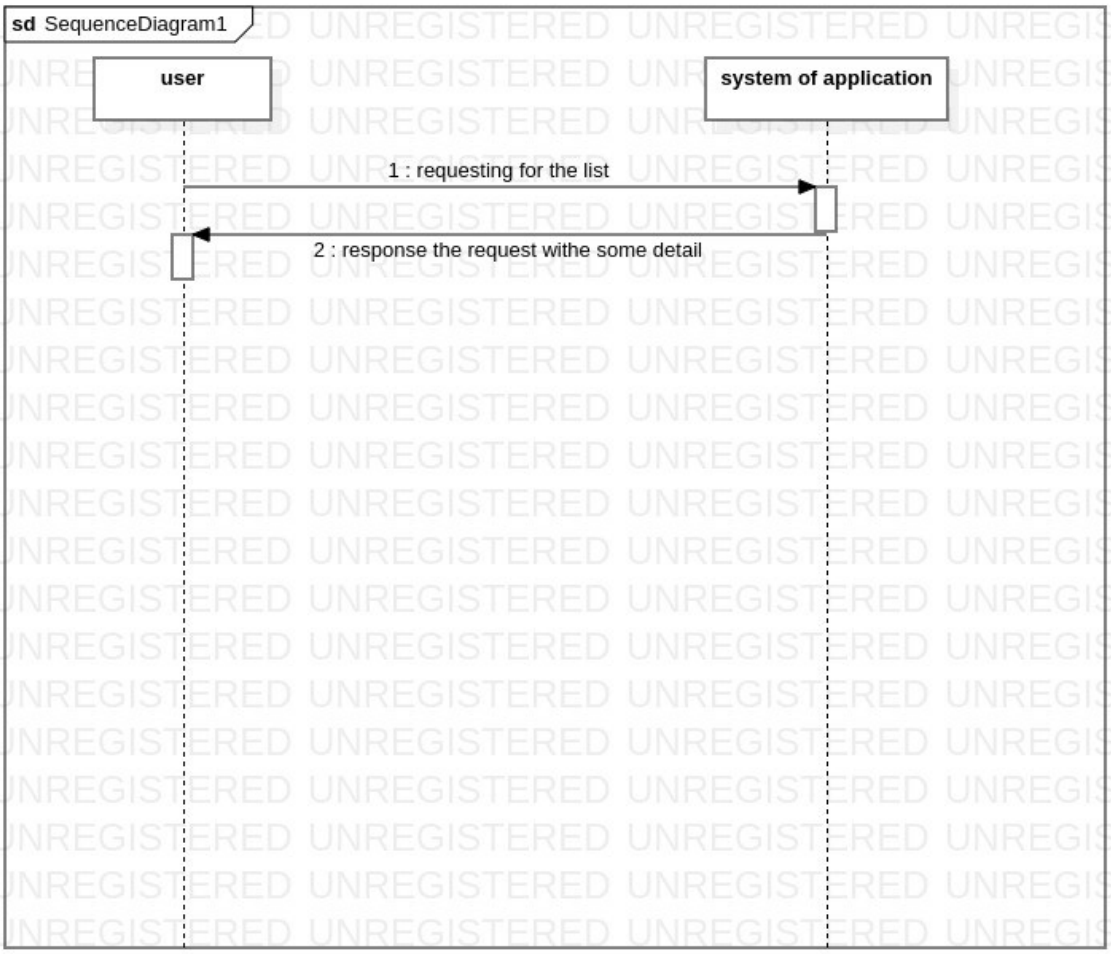

Figure 2.11: showing product sequence diagram

2.4.3.4 Managing farmers's offers use case

- The aim: The farmer can post the product
- The process: after login as farmer , posting an offer , if he isn't blocking and admin must accept it before complete
- Use case diagram: As explain in the following figure:

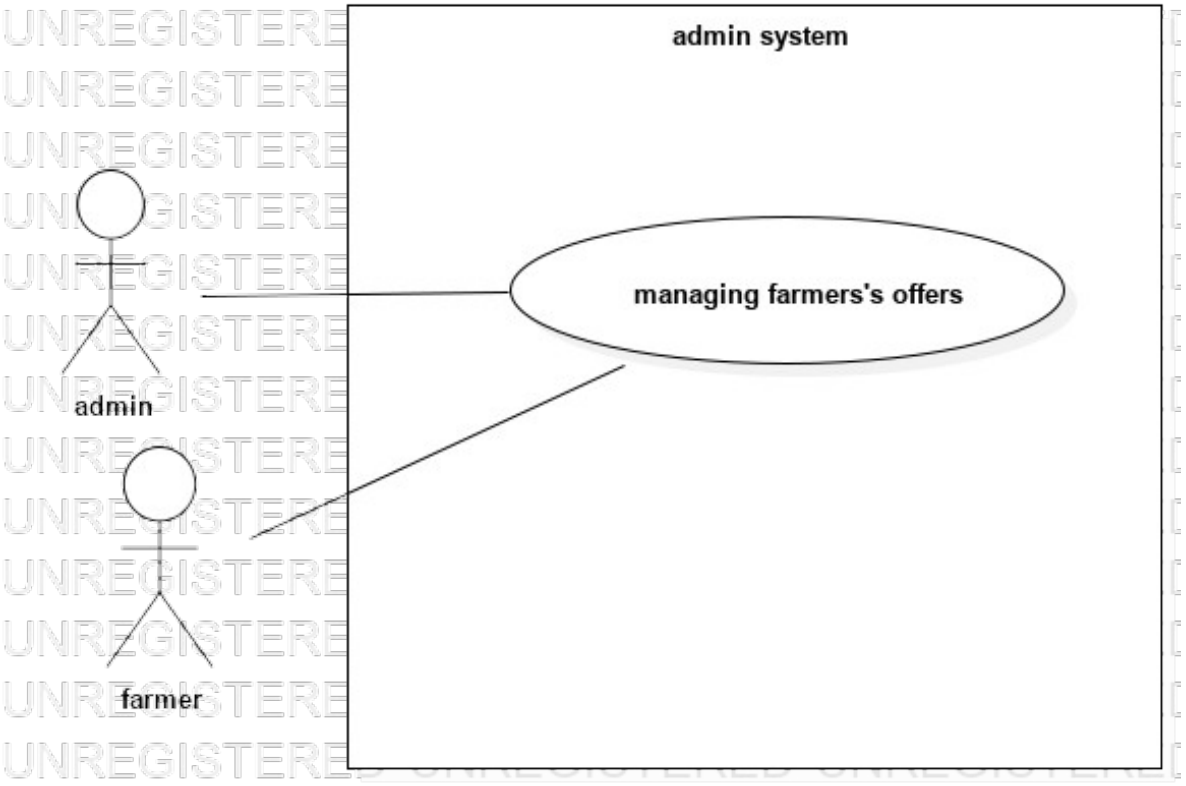

Figure 2.12: managing offers use case diagram

- Activity diagram: As explain in the following figure:

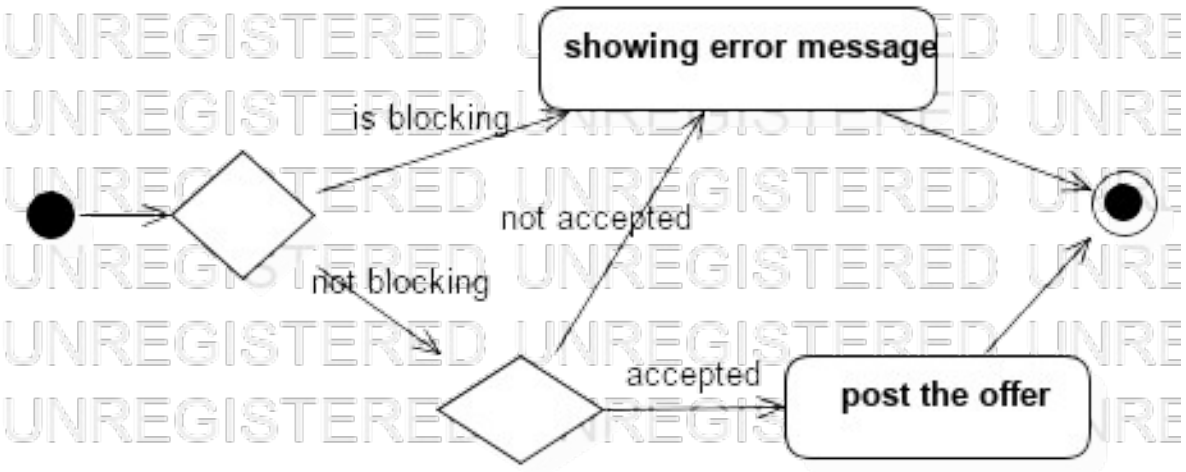

Figure 2.13: managing offers activity diagram

- Sequence diagram: As explain in the following figure:

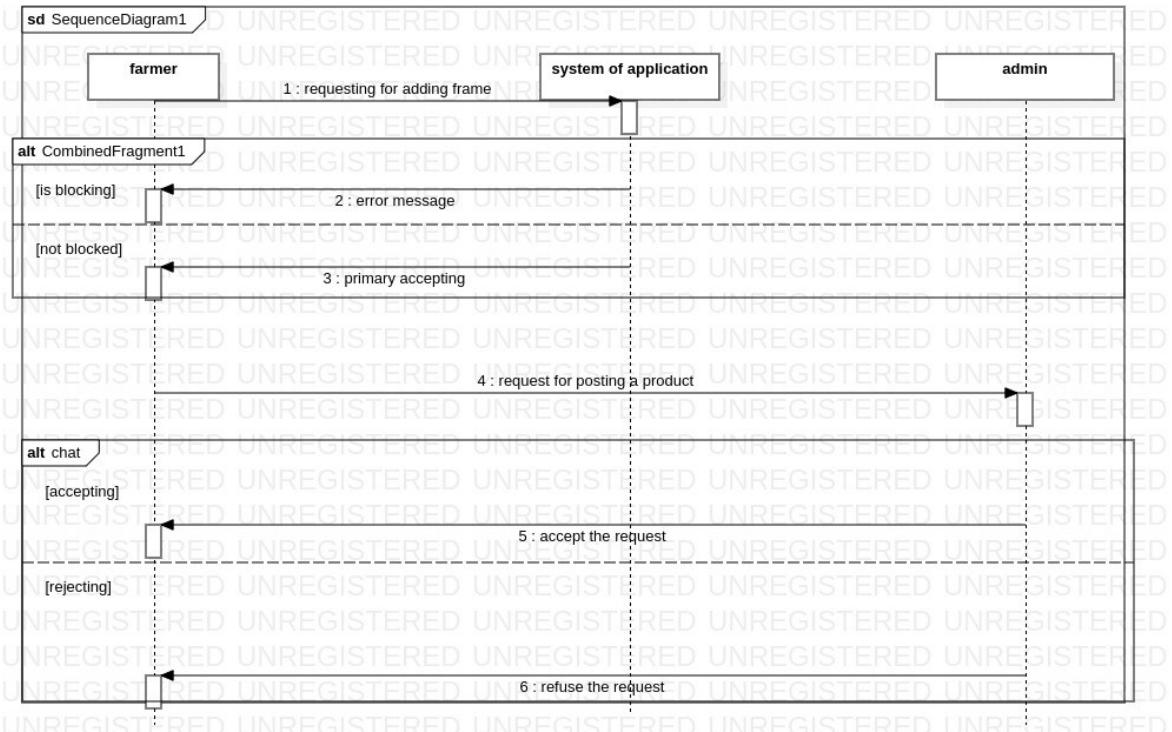

Figure 2.14: managing offers sequence diagram

2.4.3.5 Buying use case

- The aim: The clients can requesting the farmer for buying the product and the farmer can accept or refuse it
- The process: after login as client , can sending request to any farmer and wait the response
- Use case diagram: As explain in the following figure:

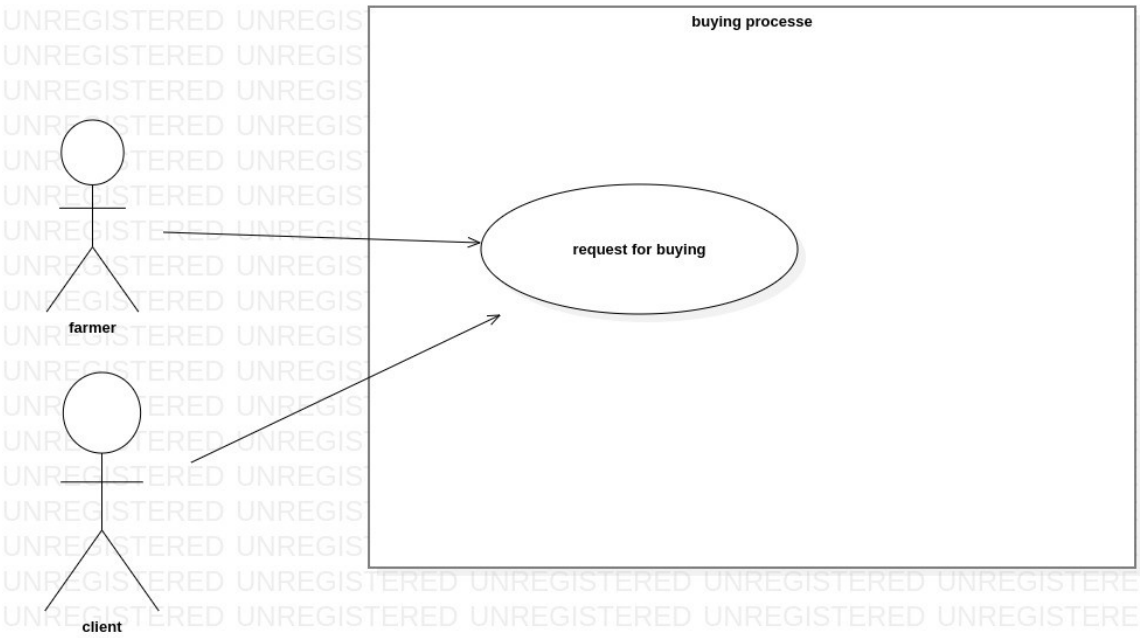

Figure 2.15: buying offers use case diagram

- Activity diagram: As explain in the following figure:

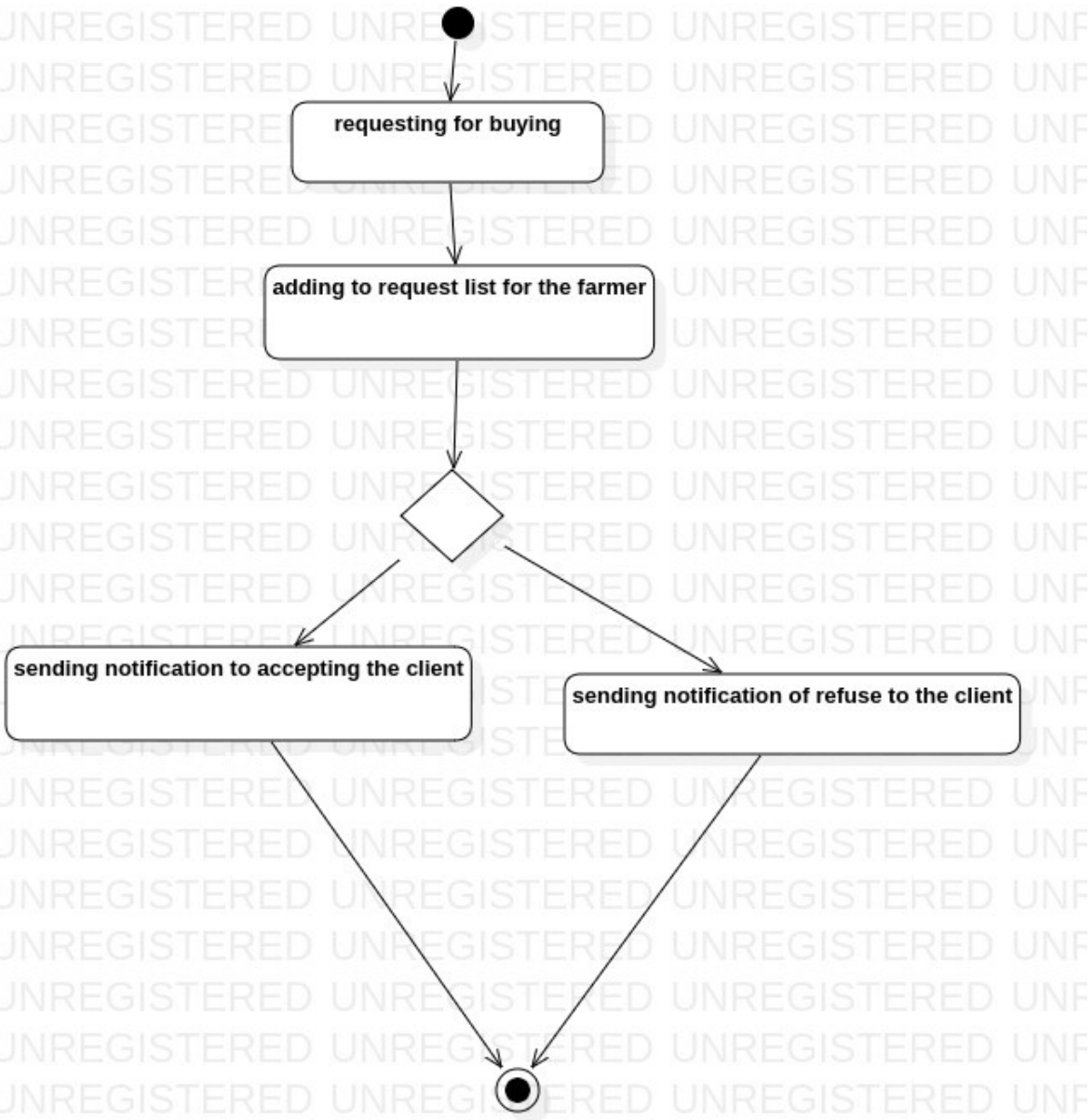

Figure 2.16: buying activity diagram

- Sequence diagram: As explain in the following figure:

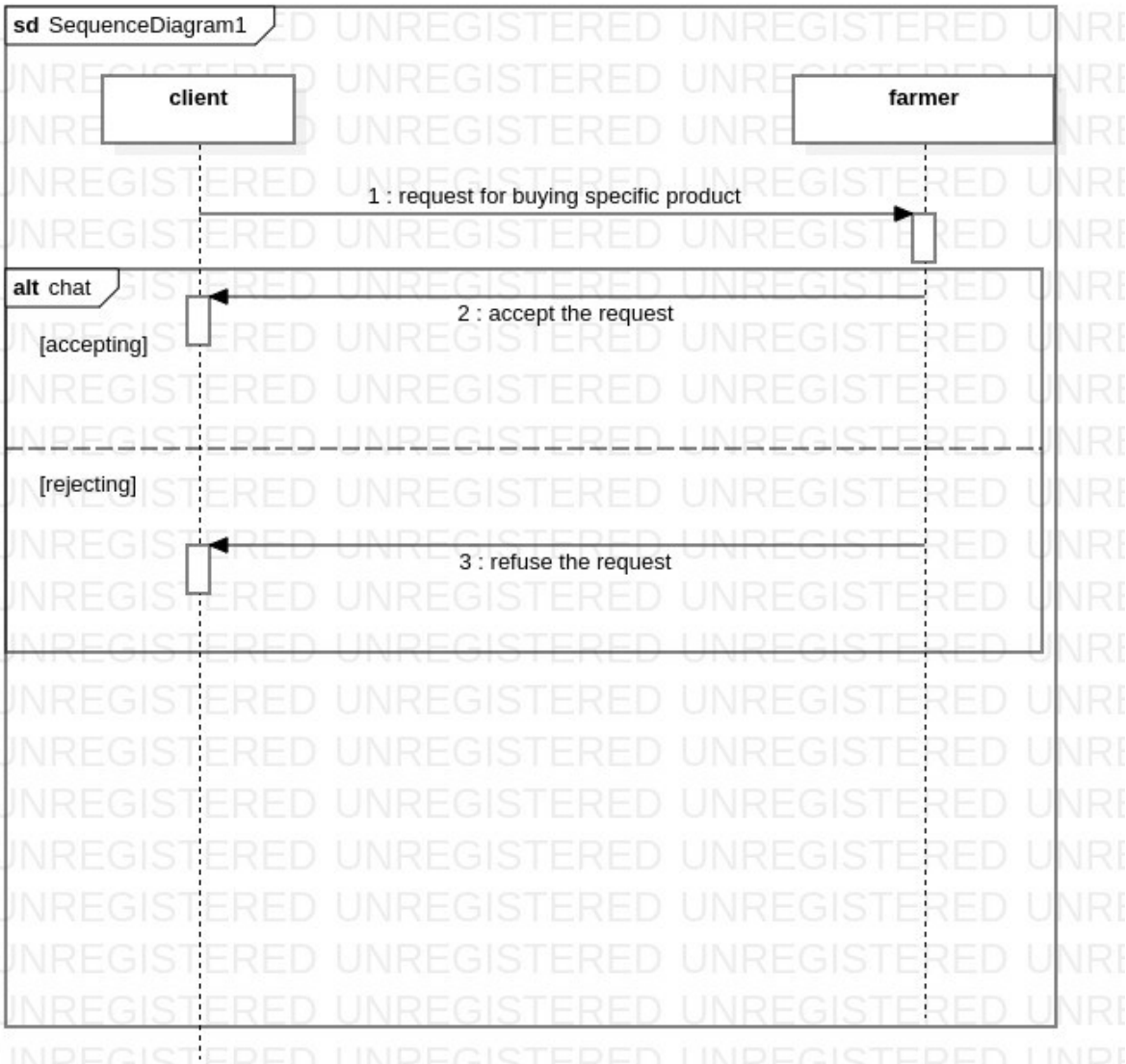

Figure 2.17: buying sequence diagram

2.4.3.6 Searching use case

- The aim: Any kind of users can searching for specific product
- The process: entering the name of the product or offer , displaying correspond list
- Use case diagram: As explain in the following figure:

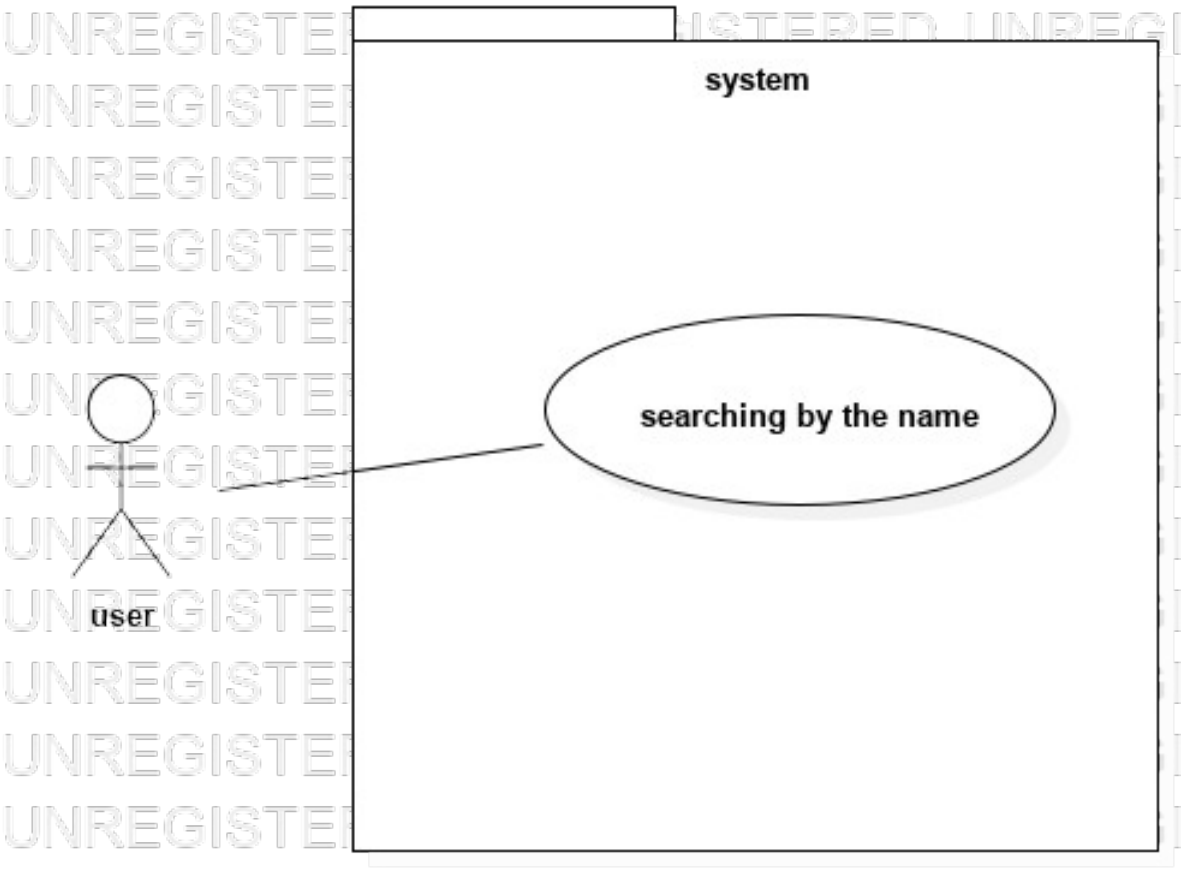

Figure 2.18: searching use case diagram

- Activity diagram: As explain in the following figure:

Figure 2.19: searching activity diagram

- Sequence diagram: As explain in the following figure:

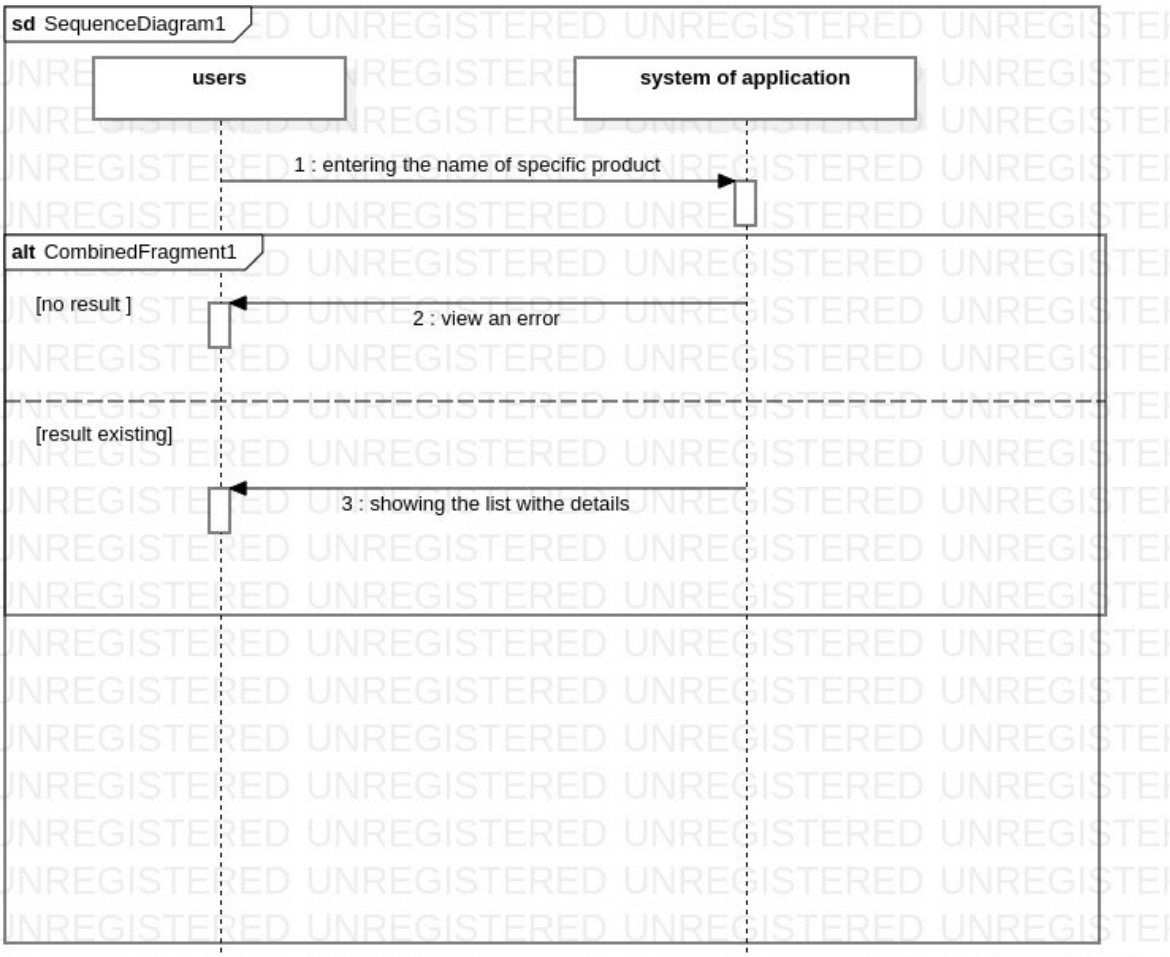

Figure 2.20: searching sequence diagram

2.4.4 List of candidate classes

The following table represent the different classes extracted from the previous use cases study.

Use case	Candidate class	Attributes
Managing users's accounts	Farmer	Id username password phone number willaya
	Admin	Id sername password phone number
	Account	id username password phone number
	Client	id username password status-account
	Role	id role
Managing client's requests	Requests	id price photo status-request quantity unit date

	Offer	id price photos status-offer quantity date
Browsring the list of offers	Product	id name price quantity photo status-offer unit description
	Offer	id price photos status-offer quantity date
Managing offers	Offer	id price photos status-offer quantity date

Table 2.2: List of candidate classes

2.4.5 General class diagram

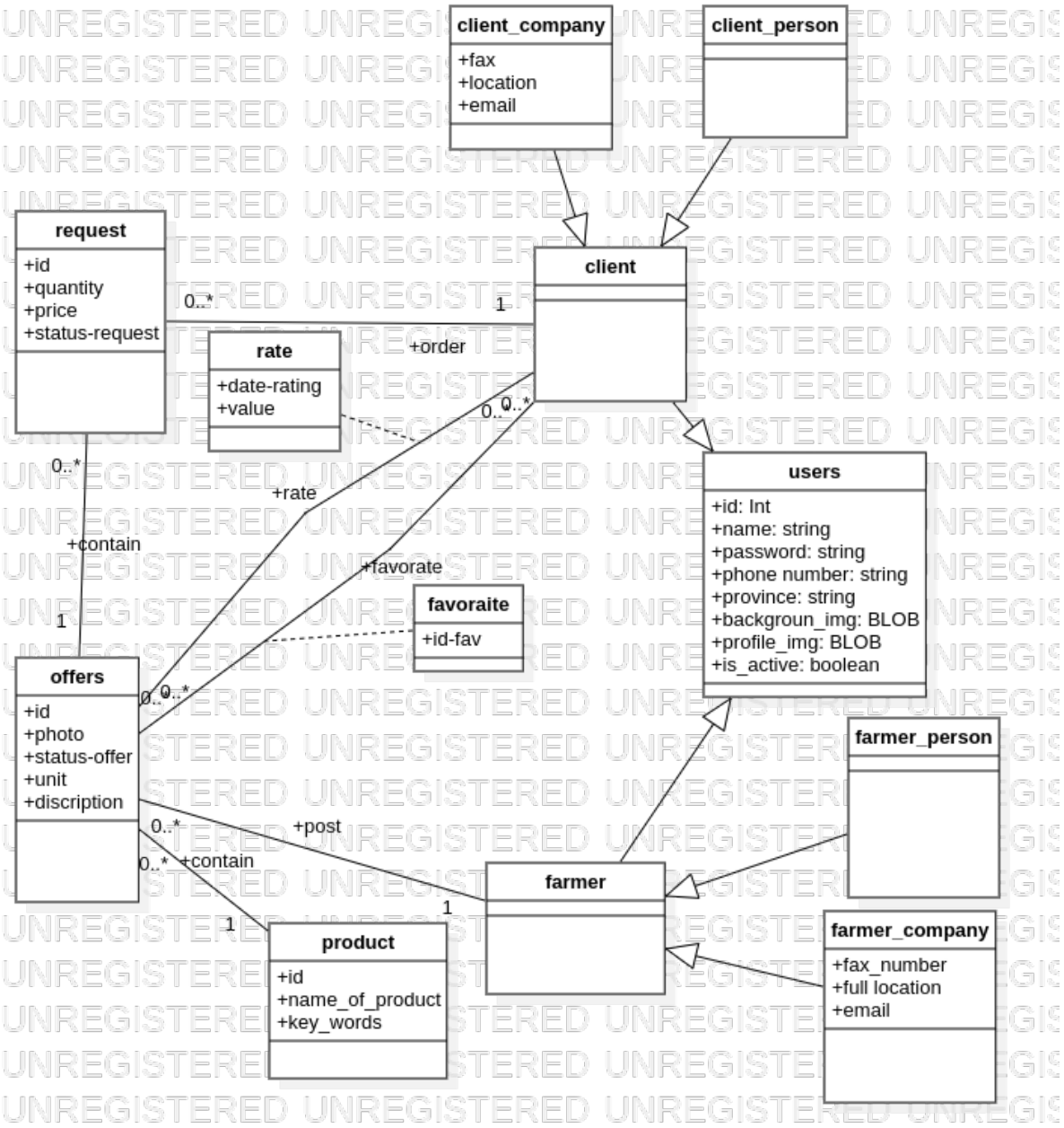

Figure 2.21: general class diagram

2.5 Collection of technical requirements

These are some of necessary technical requirements in the system

2.5.1 Three-tier architecture

We used the "Three-tier architecture" for better maintainability. "Three-tier architecture is a client-server software architecture pattern in which the user interface (presentation), functional process logic ("business rules"), computer data storage and data access are developed and maintained as independent modules, most often on separate platforms." [7]

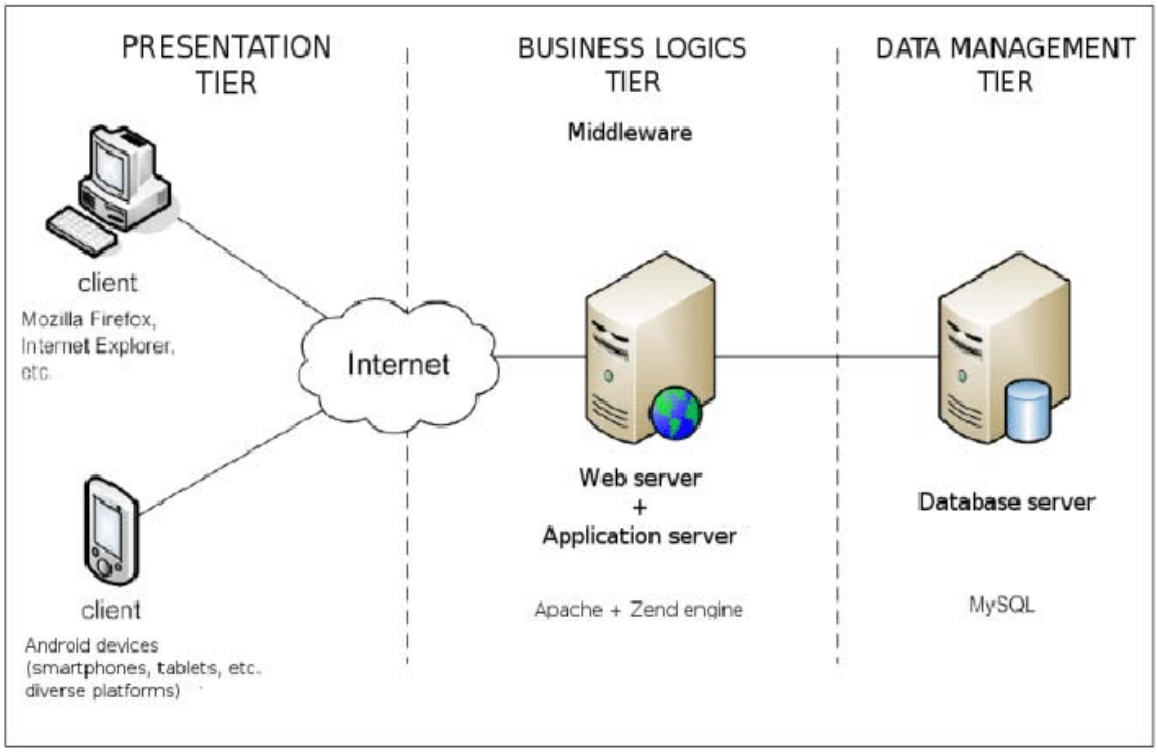

Figure 2.22: Three-tier architecture

2.5.2 Identification of technical use cases

- Visitor(User): it's an user whom have no membership in application so his privilege limited to browsing only
- Client(User): user who have a membership and profile in the website he can asking for requests and dealing with farmers
- Supervisor(User): sit security guard

- Admin(User): the application manager
- Accounts Management: an use case describe all the operation we can do on profiles information according to the actor privilege
- Offers Management: an use case describe all the operation we can do on offers information according to the actor privilege
- Browsing offer's List: taking a look on the products that the application display

The technical use constraints give rise to the software specification model represented by the figure below :

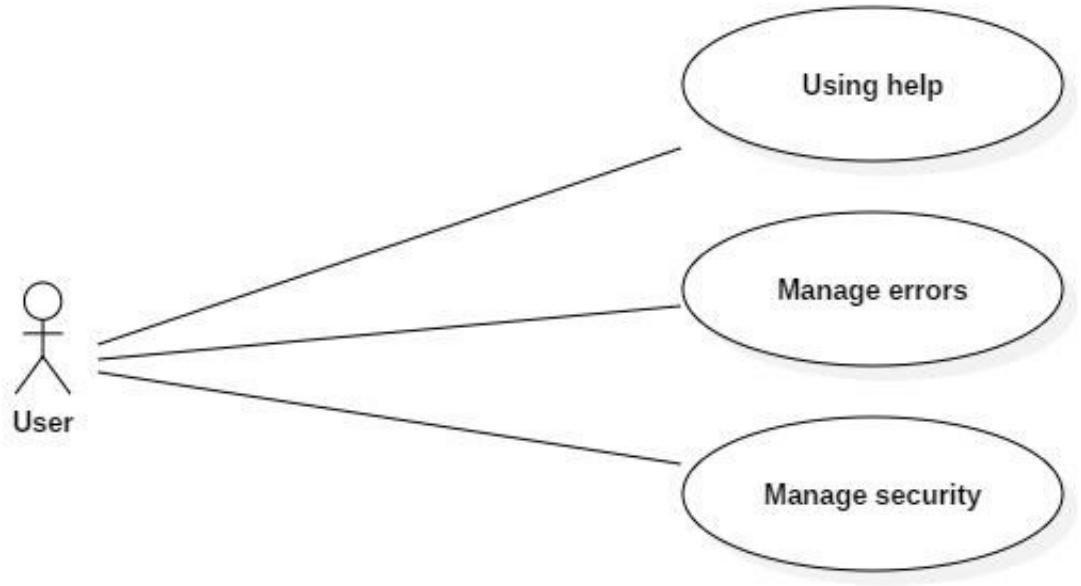

Figure 2.23: technical use case diagram

2.5.3 Technical Class diagram

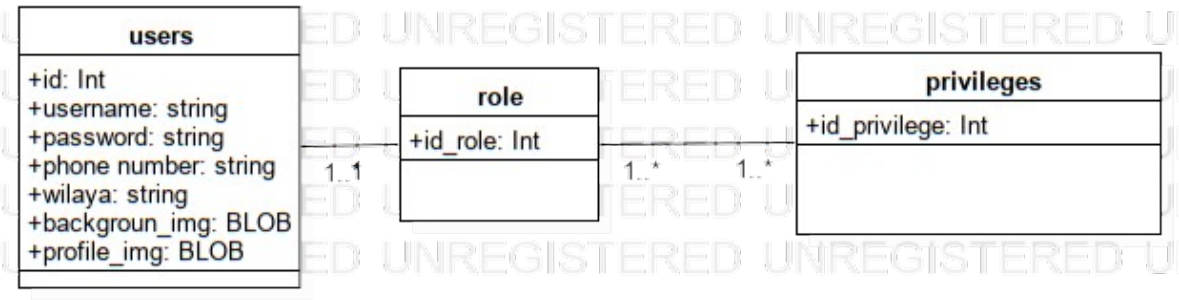

Figure 2.24: technical class diagram

2.6 Detailed design

2.6.1 Description of the class model

Detailed design is the final phase of modeling which consists of constructing and precisely documenting the classes and tables that constitute the coding of the solution as showing in the table below :

Classes	Attributes	Description	Type
User	id-usr	user identification num	Int[20]
	username	Name of user	String[50]
	password	password of the user	String[8]
	type-of-user	the type of user	String[20]
	phone	phone number of the user	String[10]
	profile-img	image of account	BloB
	province	wilaya of the user	String[20]
	back-img	background image of profile	BLOB
	is-active	status of account of user	Boolean
Offer	id-offer	id of the offer	Int[20]
	offer-stat	status of the offer	String[10]

	date	date of posting the offer	Date
	time	time of posting the offer	Time
	quantity	quantity of the offer	Int[15]
	price	price of the offer	Int[15]
	description	description of the offer from the farmer	String[500]
Request	id-req	id of the request	Int[20]
	req-status	status of the request	String[20]
	date	date of sending request	Date
	time	time of sending requests	Time
	sug-quantity	quantity suggested from the client	Int[15]
	sug-price	price suggested from the client	Int[15]
Profduct	id-pro	id of each product	Int[20]
	name	the name of current product	String[50]
	key-word	collection of some key-words	String[300]
Rating	value	represent the value of rating	Int[1]
Favoraite	id-offer	the id of the offer	Int[20]
	id-user	id of the user	Int[20]

Table 2.3: Description of the class model

2.6.2 The relational model

Name of table	primary-key	relational schema
Users	id-user	(id_usre,username,password,pho ne,province,#id_type,is_active,p rofile_img,background_img)
Offer	id-offer	(id_offer,price,quantity,status_off er,unit,dscription,photos,date,tim e,#id_user,#id_product,)
Request	id-req	(id_req,sug_price,sug_quantity,re q_status,date,time,#id_offer,i#d_ user)
Product	id_product	(id_product,name,key_words)
Rating	id-rate	(id-rate,value-rate,#id-offer,#id-user)
Favoraite	id-fav	(id-fav,#id-user,#id-offer)

Table 2.4: The relational model table

2.7 Conclusion

With the aim of creating this application , in this chapter, we presented a collection of the diagrams used during the modeling followed a development process. The results of this chapter will be enriched by details of implementation in the next chapter to realize our system

Chapter 3

Realization and implementation

3.1 Introduction

In the last chapter we presented our methodology and software design, in this chapter we are going to introduce the technology stack used , the implementation of our project and its user interfaces.

3.2 Development Environment

3.2.1 Programming Language (JavaScript) React Native

React Native is a JavaScript framework for writing real, natively rendering mobile applications for iOS and Android. It's based on React, Facebook's JavaScript library for building user interfaces, but instead of targeting the browser, it targets mobile platforms. In other words: web developers can write mobile applications that look and feel truly "native," all from the comfort of a JavaScript library that we already know and love. Plus, because most of the code you write can be shared between platforms, React Native makes it easy to simultaneously develop for both Android and iOS.

- By using React Native, we can use the same code for deployment on iOS as well as on Android. This means a huge saving in development time and cost

- React Native is Community-driven thats mean its a good point to start bulding mobile applications
- Simplicity: JavaScript has an intuitive syntax and semantics making it extremely accessible to new programmers.

3.2.2 Editor (VSCode)

VScode is the most popular JavaScript editor. It is created and maintained by Microsoft Corporation. It has a rich set of plugins and extensions to speed up 58development

3.2.3 Database (MYSQL)

“MySQL” is an open-source relational database management system (RDBMS). Its name is a combination of “My”, the name of co-founders Michael Widenius’s daughter, and ”SQL”, the abbreviation for Structured Query Language ”

3.3 Some application interfaces

3.3.1 Login screen

This is the login screen where the user can enter into the system (her account) to do some tasks.

Figure 3.1: login screen image

3.3.2 Home screen

In this screen any kind of user can navigate and search for products wiche is exist in the application as show in the two screens below.

Figure 3.2: home screen image

3.3.3 Details screen

In this screen the user can check the details information about the product and the farmer which post that offer also can call him with phone or chat and more all that showing in figure below

Figure 3.3: details screen image

3.3.4 Profile screen

In this screen the user can show him information ,can change them easily also can show all possible tasks that can user do in the figure bellow show farmer profile as example

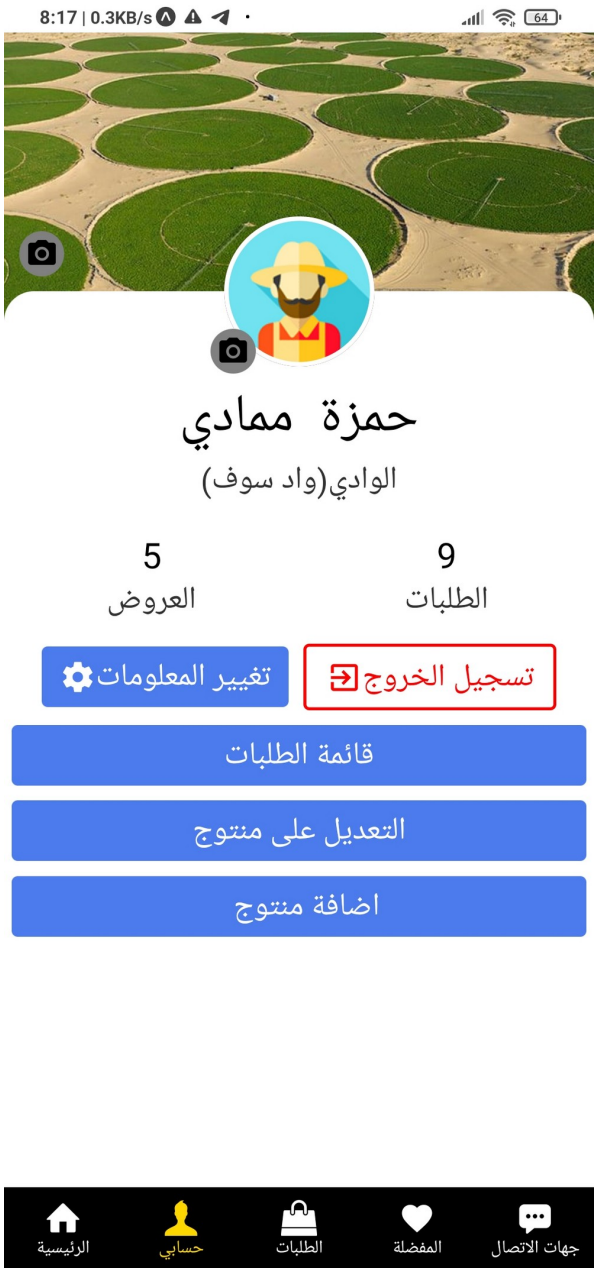

Figure 3.4: profile screen image

3.3.5 Adding new product screen

In this screen the farmer can add new product and post them after the verification and checking posts about the validation of the product as explain in the following figure

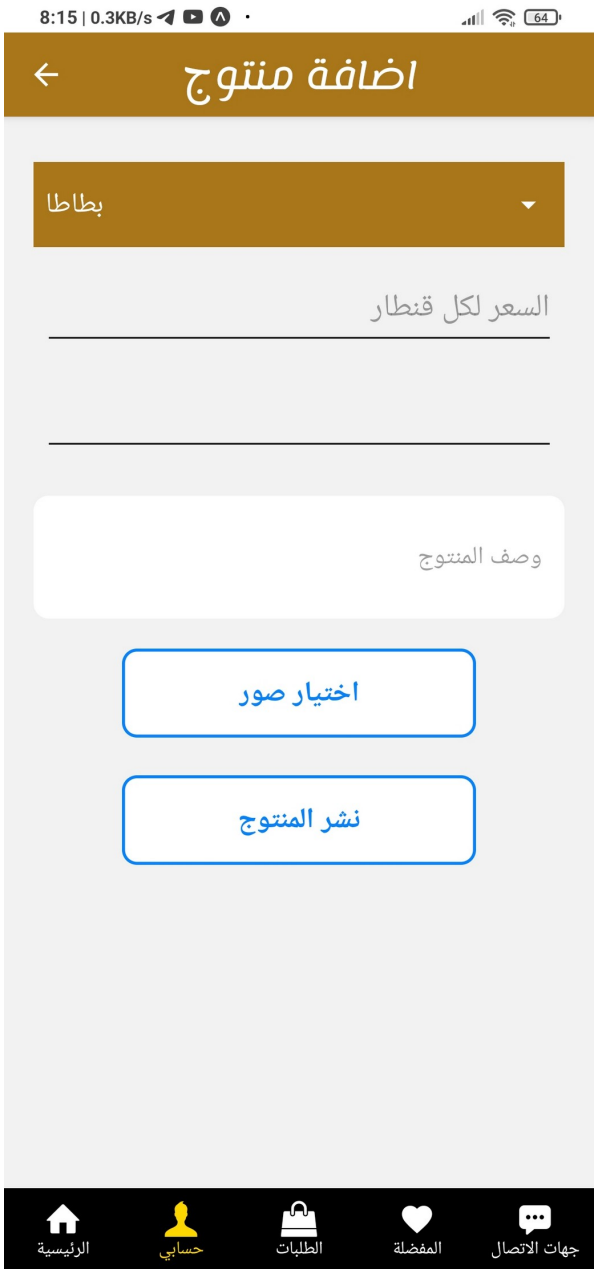

Figure 3.5: Adding new product screen image

3.4 Conclusion

In this chapter we represent the technologies (programming language , framework and data base language) which have been used in the application and some examples and interfaces.

General conclusion

In this thesis we realized and made mobile application as online store to help the farmers and client for : Promotion of products, Expanding the scope of sales, Facilitating the purchase process, eliminating monopoly. This application can extend to new other features(next versions) like: selling and buying agricultural medicine and disease, advice (share experiences) between farmers, selling and buying pets and agricultural machines .All this thinks can be added to the application.

Sources and references

Number	Reference
[1]	Official jornal of the Republic of Algeria Issue 28 corresponding to May 16, 2018.
[2]	Oued kniss web site (example of online store)
[3]	jornal of WAKALT EL ANBAA of agricultural regions
[4]	eNAM application Wiki information
[5]	tulla application
[6]	Mahsoly application official website
[7]	Three tires architecture from research gate website
[8]	Definition of e-commerce and its types