# 404! Requirements Specification

## Version 1.0

## April 15, 2019

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# 1. Executive Summary

## *1.1 Project Overview*

When you first open a restaurant, usually you do not have a lot of capital and you focus to invest in the most important elements of the business and neglect the importance of having an information management system.

However after you gain a loyal customer base and create a very well known brand (image), your customer number increases and you can not manage any more the flow of information with “primitive” programs such as Excel. In order to be more efficient and effective in your service, you have to adapt with new technology and create a customized Restaurant Management Information System.

Our restaurant is located in Durres, one of the most important cities in Albania, around 33 km away from the capital, with 500-600 thousands citizens living there and always the first choice of many people to spend weekends or summer days near the beach. Durres is easily accessible for everyone living in Albania. According to our research, during summer sundays around 800000 tourists visit Durres, increasing the Durres’ population into 1.3-1.4 million which means that our customer base will increase and we have to make sure that we will offer them the best service we can and to optimize each activity.

For us to be able to optimize, to be fast in making orders and delivering these orders, to control the increase in the number of employees and also to keep track of all data in order to analyze and forecast for each process, our only solution is to build a customized Restaurant Management Information System.

## *1.2 Purpose and Scope of this Specification*

The purpose of this system is to automate all processes of the restaurant online.The software will be used by all the parties, including owner, manager and employees. Currently the

restaurant doesn't use a certain system but only MS-Excel to record the employee data and inventory. With the increase in the number of customers, suppliers, employees and cash flow, it is necessary to track in an efficient way all the operations of a business. This system will provide a working environment that will be more flexible and efficient. It will facilitate the communication between all internal actors like the owner, manager, economist, the servers, the bartenders and other employees of the restaurant. Since the restaurant is a medium size business, involvement of the suppliers in the system is outside of our scope.

In this scope:

- Product/service description (discussed in Part 2)
- Functional and non functional requirements (discussed in Part 3)
- User case scenarios (discussed in Part 4)
- Specified later!

# 2. Product/Service Description

This is a software that aims to create a communication channel between all the actors inside a restaurant that will facilitate the operation and organization of the restaurant. It is created on the basis of the client’s requirements by following the way the company operates with actors inside and outside the restaurant. What our project suggests is a way to automate all process of the restaurant online. Each employee can checkin/out at the system and have his wage calculated automatically. They can also check their timesheets daily/weekly/monthly and also make complaints/suggestions to the owner/manager at the end of their shift. Every bill and calculation will be registered by the system, making it easier for the manager to calculate profit, sales and tips at the end of the shift. In case of any reservations due to customer demand, the manager is the only one that can book/reserve a table in the

system. The managers will get alerts regarding the need for supply directly from the system, so they can directly place orders for the suppliers. Servers and bartenders can open and close their tables easily using the system, while every transaction is transparent to everyone. Each economic transaction, like employee's wages and/or bill payments for the suppliers will go directly to the economist account. In this way, the owner can track and handle in real time all operating occurring at the restaurant.

## *2.1 Product Context*

Our product is a software for a better management of the restaurant. There are a lot of businesses that are recently adjusted with the latest technology, so there are many similar products like ours. Of course, there is a huge difference from others, because it is especially designed only for our client. It is an independent product, which will be managed by the owner and also has its own branches for the other employees. There is no interconnection of our system with other ones, because the restaurant is still in a medium size and does not have work relationships with other businesses or previous systems used. The suppliers are not in the objective of this system, because they do not possess a product like ours and cannot interconnect with us properly.

## *2.2 User Characteristics*

The software will include/perform the interaction between 6 users, the owner of the restaurant, the manager, the economist, the server(s), the bartender(s) and other employees (kitchen & cleaning staff).

*The owner:*

The owner represents the person that owns the restaurant. He/she can have access in all the documents and timesheets of his employees, check their hours and wages. Also, he/she can check the suppliers, the inventory and every bill account. The owner can open and edit/delete every account registered in the system. He/she is the only one who can register the manager and the economist in the

system. He can also double check before the wage of the manager and economist is transferred to the relevant accounts. Every employee logs in the system using a specified id.

*Manager:*

The manager is registered from the owner and should clock in/clock out at the beginning/ending of his/her shift. He/she can register/add/delete employees, access and change their timesheet in case of any problem. He/she is the only one that can delete/edit an order/ table after it is put in the system. (In case the server does any mistake with the order, or the client doesn't want the item anymore). He/she is the only one that can book tables according to the customer demand. The manager can also disable any item in the menu in case the restaurant has ran out of it. He/she will get an alert for items that request immediate supply, so that he/she can make the orders to the suppliers.

*Economist:*

The economist is registered by the owner and he/she has access to every economic situation in the restaurant. After the manager puts an order for the suppliers, the bill will go directly to the economist account for him/her to make the necessary payment. Also, he/she is responsible for each employee wage transaction. Also, he will take care of all necessary documents regarding taxation.

*Sever:*

A server is registered from the manager. He/she should clock in/clock out at the beginning/ending of his/her shift. He/she can check their timesheet to check the hours they have made during the period. They can open tables, take orders from the clients and put them in the system. They can also close tables when the clients are gone. The server should cashout at the end of his/her shift.

*Bartender:*

A bartender is registered from the manager. He/she should clock in/clock out at the beginning/ending of his/her shift. He/she can check their timesheet to check the hours they have made during the period. They cannot open tables and take orders from the clients but they have some reserved seats at the bar in case any client wants to drink something there. He/she cannot take food orders. They can close their seats in the system once the clients are gone. The bartender should also send an alert to the manager if the bar is running out of any item.

*Other employee:*

Other employees sector includes the kitchen staff and the cleaners. He/she should clock in/clock out at the beginning/ending of his/her shift. He/she can check their timesheet to check the hours they have made during the period.

## *2.3 Assumptions*

- Manager might not come to work one day so one of the waiters (assigned from the manager) can take responsibility over the manager`s flow of actions.
- System might be down a certain part of the day and the waiters have to write bills physically and then enter them into the system.
- If the customer doesn't show up within 30 minutes of the reservation time, the manager should delete the reservation.
- It is assumed that the Owner will have  access rights to all other employees accounts and to all data entered by each employee and update the system through any connected device effectively and efficiently.
- It is assumed that each employee  and the Owner will have access in the system through a simple connection via a computer or mobile device.

- It is assumed that the computer devices used to access the system will have either Linux, Mac OS or Windows operating systems. The mobile devices are assumed to have either IOS or Android operation systems.
- It is assumed that the Waiters must be equipped with a tablet for taking orders.

## *2.4 Constraints*

The project will have the possible following constraints:

- Scope:

Client's requirements should be completed in details. There shouldn't be any extra function outside the scope.

- Schedule:

Project needs to be finished by the beginning of June, and no later.

- Quality:

The software's user interface should be easy to understand. Users should take no longer than 10 minutes to learn how to use it.

- Resources:

Due to the situation created by the Corona Virus every analysis and research should be made by the internet or phone.

- Risks:

The law nr 9887 on protection of personal data should be respected.

Every user must have basic knowledge on using a web application.

The users must have internet access in order to use the software.

- Other constraints can be found during the way.

## *2.5 Dependencies*

We can divide the dependencies in two parts:

**Part 1:** Dependencies that the team should conduct while developing the software. (sums up tasks, work division, days worked and dependencies)

| TASK ID | TASK | DURATION | TEAM MEMBER RESPONSIBLE | PREDECESSORS |
|---|---|---|---|---|
| **A** | **Development of the idea** | **6** | **Everyone** | |
| | Brainstorming | 4 | | |
| | Research | 3 | | |
| | First Meet with the client | 1 | | |
| **B** | **Research on technologies** | **2** | **Everyone** | **A** |
| | php/css/javascript/boot strap | 2 | | |
| **C** | **Development of client requirements and user profiles** | **6** | **Everyone** | **A** |
| **D** | **Requirement Documentation** | **14** | | **B, C** |
| | Project overview | | Belinda | |
| | Purpose and scope specification | | Arlinda | |
| | Product context | | Xhesjana | |
| | User characteristics | | Elton | |
| | Assumptions | | Saimir | |
| | Constraints and dependencies | | Lisbora | |

| | | | | |
|---|---|---|---|---|
| | Functional Requirements | | Lisbora, Xhesjana | |
| | Non-functional Requirements | | Belinda, Elton,Lisbora, Saimir | |
| | Domain Requirements | | Arlinda, Xhesjana | |
| **E** | **Sketches** | **7 days** | | **B, C** |
| | Amateur sketches | 2 | Everyone | |
| | Final sketches | 5 | Lisbora | |
| | | | | |
| **F** | **UML** | **14** | | **D, E** |
| | User-scenarios | | | |
| | **...** | | | |
| | **...** | | | |
| | **...** | | | |
| **G** | **Database Schema** | | | **F** |
| | **...** | | | |
| | **...** | | | |
| **H** | **Coding** | **30** | | **G** |
| **H1** | **Employee** | | | |
| **H2** | **Server** | | | |
| **H3** | **Bartender** | | | |
| **H4** | **Manager** | | | **H1, H2, H3** |
| **H5** | **Economist** | | | **H4** |
| **H6** | **Owner** | | | **H5** |
| **I** | **Fixing bugs** | **5** | | **H** |
| **J** | **Final Draft** | **7** | | **I** |
| | Changes on Requirement | | | |

| | | | | |
|---|---|---|---|---|
| | Documentation | | | |
| | Screenshots | | | |
| | Usage guide | | | |
| | Conclusion, Critical Path & Gantt Chart | | | |

**Part 2:** Dependencies that the users of the system need to know in order to operate within the system.

- The owner is the only one that can register or delete the manager and the economist accounts in the system.
- The servers, bartenders and other employees can be registered also by the manager.
- The manager cannot edit the employees dashboard without the approval of the owner.
- The employees cannot be registered in the system without all the data needed for the company to hire a new employee.
- The servers and bartenders cannot delete any order/table without the approval of the manager.
- The server cannot order an item which is disabled from the manager.
- The bartender is obligated to contact a server for any food order.
- The bartender cannot take more than 4 clients at a time. (only 4 seats available)
- A server cannot pick/edit/change a table which is already chosen from another server.
- The employees cannot edit or change their timesheets without the approval of the manager.
- Orders for the suppliers cannot be made without the alert of the system towards the manager.
- The manager cannot add items/amount in the inventory without providing the bill as well.
- The economist cannot process his and the manager's salary with the approval of the owner.
- The manager and the economist cannot access or make any changes if they are not clocked in.
- The servers and bartenders cannot serve or put orders in the system if they are not clocked in.