RMS Requirements Specification

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1. Executive Summary

1.1 Project Overview

In these days when technology has gone through huge steps some of the everyday life jobs keep being very hard and tiring. One of them is management of a restaurant. Anyone can think this as a small thing but not for them who spent their life dealing with this. Huge restaurants, with amazing views and menus do have service problems. Waiters try their best but some time are not capable to cover and please every client in time and at the end of day they will be more tired than usually. So owners are obligated to hire more waiters and give more money from what he gains. But the new restaurant management system will make everyone happy. The client will be able to order directly from the table right after sit by choosing the dish through a tablet found there. The order will be received as a message from the chef and after being prepared will be served by the waiters. So waiters will not forget the orders and get only tired, will have less work to do, the chef will not have some pieces of papers and be disorganized, and manager will not have to pay a lot of employers and at the same time will be something very elegant and new for clients too. At the same time this will help a good part of youngers be employed and earn money so they will not be a burden to their families and will get better and professional to this branch of technology. It is also important to mention that this will be a good step to advance more in technology and will be good for a country in development as the situation that we are facing in these moments.

1.2 Purpose and Scope of this Specification

The purpose of this new method is to help the restaurant to have a better management and at the same time make clients feel more pleased and come back at the same restaurant. With this method we think that the service will get better. Service getting better the number per day of clients will be higher so the incomes will get better at the same time. At the same time the managers will be able to control the incomes in a better way because everything will be recorded. But these businesses are very effective in the economy of the state will affect in it too. So starting with some of the restaurants as an experiment which is believed to be very successful and helpful at the same time. Of course the priority are known and famous restaurants which will be able to afford this new technology. So will be continued to other restaurants and those who will embrace

this new method. This method at the same time will be a good way for the municipality to control the incomes of the restaurants that will apply this technology.

2. Product/Service Description

In our country management of a business as restaurant and its service are not helping the situations to get better. This product is an experimental decision taken by a group of researchers who had different meetings with some restaurant managers.

It will be firstly used by the three or four restaurants which will give stable and continuous information according to this new method.

It is thought to be installed and get under control by a group of researches made by economists and managers.

It will help:

- Better service
- Easy management and income control
- Less hand- work
- Not tired employers

2.1 Product Context

This is a software application designed to manage the activities within the restaurant itself but also to serve as a website for the customers to see the facilities this restaurant provides.

It is supposed that each table is going to have its own tablet from which the customers can select on the menu what they want. After the order is confirmed from the customer, the chefs will know and send a notification in the table's tablet that the order is being prepared. When the client's plates are ready, the waiters get a message to deliver them to the destination table. The users of this application which are listed below are going to

communicate with each other through notifications. Each of them will be able to send a notification to the other members.

2.2 User Characteristics

This application can be accessed by all the members of the staff:

- Admin
    - Can check notifications
    - Hire/add employee
    - Add/delete tables
    - Add new items in the menu
    - Update the total amount of money
    - See the whole list of products
    - Can see the whole list of employee and edit it
    - See all the orders
- Accountant
    - Can see the list of notifications
    - Can see the list of whole products
    - Add/delete products
    - Can edit the salaries of the employees
    - Can see the list of suppliers
    - Can contact the suppliers
    - Can add and delete suppliers
- Chefs
    - Add new items to the menu
    - Can see the orders which has not been confirmed yet
    - Notifies the waiter when the order is ready
    - Can send notifications

- Waiters
    - Can see the completed orders confirmed by chefs
    - Update the total confirming the payment of the orders
- Other
    - Make check-in when they start their working day and leave it

Tables also will have a login page: each page will have a unique number and a password. For each table, there will be recorded all the orders received.

2.3 Assumptions

It is assumed that the administrator profile is added b the creators of the application and then the administrator is responsible for adding, deleting other staffs' profile.
It is assumed that all the staff is trained to use the application in order to avoid misconceptions.
It is assumed all the clients will be serious and not try to use the tablets for anything else except their primary function: to order the food.

2.4 Constraints

The project is constrained by the financial state of the restaurants that are going to use it. Since the application is going to be put in tablets in the tables in the restaurant, it is crucial that the owners are willing to initially invest their capital in some qualitative tablets. The project is constrained by the Internet connection. Since the application fetches data from the database over the Internet, it is crucial that there is stable Internet connection for the application to function.

2.5 Dependencies

- The chain starts from the client who does the order. Directly the order goes to the chef.
- Chef prepares the order and automatically products used for the order are subtracted from the database and if there is anything absent any product or tool chef sends notification message to accountant. Also when order is ready notify the waiter.

- Waiter takes the notification and sends the order from the chef to the client.
- Accountant is engaged on employees' salaries distribution and if gets any notification for tool or products missing make orders to the relevant suppliers companies.
- Above all of the employees, there is Administrator who supervises all their actions.

3. Requirements

3.1 Functional Requirements

The requirement numbering follows the scheme - BR_ ##

No.	Requirement	Comments	Priority	Date	Reviewed/ Approved
BR_01	The software should have different views for different user levels	The view for the client, chefs, accountant and administrator will be different.	1		
BR_02	Administrator is responsible for registering all the staff members and tables into the management system, applying the predefined rules by the conventional system of the restaurant.	Usernames will be in the format name.surname and the password generated for each user will be in the format NameSurnameBirthYear, for the tables Table-Number. Users can change their passwords after.(recommended)	1		
BR_03	No staff member can edit the username.	Editing usernames conflicts with our operational intelligence.	2		
BR_04	In case a staff member leaves the job/is fired, the administrator has to delete his account from the system.	All the personal data and transactions between them and the restaurant will be erased from the system.	2		
BR_05	The software needs to add modify and delete users/tables.	CRUD functionalities possessed by the administrator	1		
BR_06	A user should have a profile page. On the profile page a user can edit his/her information, which includes the password, e-mail address and phone number. The user can modify the personal information in his/her		1		

	profile.				
BR_07	Staff members' accounts should be secured with passwords.	For ethical and security reasons, passwords will be hashed before being stored in the database.	1		
BR_08	Tables' accounts should have the menu page displayed as the main page. Clients can easily find their food by clicking into the favourite category. (meat, pasta, rice, pizza)	This will provide a practical and easy method for the visualization of the dishes.	1		
BR_09	When a costumer clicks "+" symbol, the corresponding dish will be added to the Order List on the right side of the page.	This will give real-time information about the price of your order, as well as help the costumer not forget what he had previously ordered. The costumer can remove his choices from the ordering list as well.	1		
BR_10	Given that the costumer confirms the order, a timer will be displayed, showing the remaining estimated time until dish is ready.		3		
BR_11	Upon confirmation, the order will be added to the queue list of the chefs, until one of them takes the order.	This is a quick way to order food and doesn't need an intermediary such as waiters.	2		
BR_12	When the chef clicks "Ready" for the respective dish, the ingredients of the dish and their amounts are subtracted from the total amounts, stored in the database.	This is a more efficient way of managing food products dynamically, instead of spending a lot of time doing an inventory by the end of the week.	1		
BR_13	As soon as the customer pays the bill, the waiter/chef confirms the payment and table's status is set to available.		2		
BR_14	When a payment is confirmed, the amount of money is added/subtracted to the current total amount of money owned by the restaurant.	This avoids stealing or other mistakes made during calculations, as everything is done automatically.	1		
BR_15	When the payment is confirmed, the software prints the bill.		3		
BR_16	The customer can rate the ordered dishes from 1-5	1 star means the customer didn't enjoy	3		

	stars.	the food, 5 stars means the customer is fully satisfied with the dish.			
BR_17	Given that the accountant is logged in, he should be provided with the following 3 lists: a. suppliers list b. product list c. worker list	These are among the key sources of data that come to the restaurant.	1		
BR_18	A chef can notify the accountant about missing/broken/needed kitchen gadgets, by sending notifications/requests.	The accountant receives the notification, reads it and orders whatever is needed, by contacting the distributors.	2		
BR_19	The notifications will be in the form of text/description where the request is specified.				
BR_20	When the amount of a certain product is below a threshold, an automatic notification is sent to the accountant.	These automated requests avoid the need for a product inventory.	1		
BR_21	Every transaction managed by the accountant is saved in pdf/text format or is sent to administrator.	It makes every process be transparent and well-documented.	2		

3.2 Non-Functional Requirements

3.2.1 User Interface Requirements

A software application is as good as the interface it provides to its users. Appropriate performance, easy navigation, elegant and stylish design, fast response times make the difference to a system's utility. The user interface for this software is designed to be well suited to any browser as Chrome or Mozilla and can be accessed through portable tablets which are very practical and easy to use.
This software will include: Log In interface, Administrator Interface, Chef's Interface, Waiter's interface, Accountant's Interface.
Log In interface will include:

- Restaurant Logo,
- one box to write the username
- one box to write the password
- and a log in button.

Administrator's interface will include:

- Worker button
- Tables button
- Add on menu button
- Orders button
- Log out button
- All restaurant tables as buttons

Chef's interface will include:

- Add new dish button
- Log out button
- A table where which row involves :table number,Order,Accept button , Done button.

Waiter's interface will include:

- Log Out button
- A table where which row involves :table number,Accept button, Payment Confirmation,Print Receipt.

3.2.2 Usability

Usability is an important attribute which defines flexibility of the software. This software shall be able to work in a practical and easy way for clients, employees and administrator.

Employees shall find it very comfortable using the software on the tablet during work hour and also clients shall find it not difficult to understand how to use it. In this way all software users can achieve their objective with effectiveness and satisfaction.

Learnability

Learnability is the capability of a software product to make as simple as possible for the user to learn its application.

- This software is designed to be easy to learn, easy to use, subjectively pleasing.
- Clients can log in. Employees can log in. This software is designed to be used by all kind of people from all ages. There are instructions and alert messages that will be shown during execution of each task.

- Icons and Menu options facilitate the user to perform their tasks. For example clients find any dishes that they impact - a right click on a button displays a list of specific dishes restaurant offers.

- Provide respond messages that a user command has succeeded or advise of failure. If you try to log in with a wrong username/password it will be shown a feedback message that the log in process failed due to wrong credentials.

- Provide instruction messages for user interface components: dialog boxes, fields that require input and image details. For example, a if you type a password with less than a certain number of characters it shall display :"No less than 6 number of characters is allowed".

Accessability

We know that an application have to be functional, but can this application be accessed by everyone? In this application users are staff employees, administrator and client consumers. This software tends to simplify as much as possible accessability of these users through:

- Employees working in the restaurant can access the software through their accounts.

- Clients ordering in the restaurant can access the software when they reserve a table .

- Administrator of the restaurant can access the software through his account.

- Every user level will have access to resources that belong to his/her interest.

- Taking in consideration all the conditions of the client this software is applicable and usable also for the people with disabilities such as :

Hearing-You can look for details of dishes on the portable table instead of asking the waiter, you can order through tablet instead of communicating with the waiter.

Speaking-The ordering can be done automatically,

People who can't lift and carry anything, walk and use stairs-ordering is done through tablet, waiter bring the order to the table.

Memorability

After the client learns how to navigate this software and find what they are looking for, they need to be able to remember how to do it when they come back. Memorability is a measure of how easy software is to remember after a substantial time lapse between visit. Design of the software through icons and instructions encourages the increasement of client memorability.

3.2.3 Performance

In order to assess the performance of a system the following components must be clearly specified:

- Response Time
- Workload
- Platform

Response Time of the software is another component to be taken in consideration. Log in or ordering on tablet shall be processed in a few milliseconds. Our motto is: "Our client is sacred. Don't let him/her waiting to order, don't let him/her waiting for the order."
Workload defines the capability of the system to handle the maximum of the clients interacting with the system. This software shall be able to offer the required service even to the maximum capacity of the clients.
A platform is defined as the combination of both hardware and software which will house the system. So this platform to be able to offer the best software design and the best functionality.

3.2.3.1 Capacity

The ONLY measure that is meaningful and relevant when it comes to defining the Capacity needs of an application is the MAXIMUM.

The performance of the web application shall support all the tasks of the restaurant employees, clients and administrator to be performed on the maximum capacity in order to be functional in each possible restaurant population conditions.

3.2.3.2 Availability

The restaurant is open from 8 o'clock am to 12 o'clock pm, so the system shall be available 24/7, but its maximum availability is required during the specified time interval. Availability is an essential ethic component that is closely related with good reputation of the restaurant. So this software's purpose is to offer maximum availability.

3.2.3.3 Latency

There are no specific latency requirements.

3.2.4Manageability/Maintainability

3.2.4.1 Monitoring

Monitoring is an approach of defining and checking the performance characteristics of software systems. The purpose of this task is to ensure that this software covers successfully the issues below:

- Whether the application is running.
- Unusual tablet/memory/network usage.
- Report any unhandled exceptions.
- Status of external components (databases, etc.)
- Number of pending tasks**.**

3.2.4.2 Maintenance

MySQL is used for maintaining the database and the Apache server takes care of the site. In case of a failure, a re-initialization of the program is recommended. If it is not the case, that means that the server may be down, so the user needs to wait for the system administrator to start the server.

For emergent cases of breakdown, we will provide the software with the backup of the web application and the database.

The application shall be easy to extend. The code shall be written in a way that it favors implementation of new functions and additions of new lines of code. Also, modularity in the organization provides for a better maintenance.

In case of bugs correction, we shall provide the users with the updates of the RMS application.

3.2.4.3 Operations

Operational requirements are the basis for system requirements. They define the essential of functionality.
Some of the operations required by the users include:
•login of chef
•login of waiters
•login of accountant
•login of administrator
•ordering for clients
•mediation of dishes with products
•service offered as a chain from chef and then from waiter
•CRUD of employee profiles
•financial assistance from ecconomist for employees and restaurants products
•communication of clients with staff

3.2.5 System Interface/Integration

Specify the use of other required products (e.g., a database or operating system), and interfaces with other systems (e.g., UWHires package interfaces with PubCookie and ODS, HEPPS system interfaces with Budget system). For each interface, define the interface in terms of message format and content. For well-documented interfaces, simply provide a reference to the documentation.

Outline each interface between the product and the hardware or network components of the system. This includes configuration characteristics (e.g., number of ports, instruction sets), what devices are to be supported, and protocols (e.g., signal handshake protocols).

3.2.5.1 Network and Hardware Interfaces

Specify the logical characteristics of each interface between the product and the hardware or network components of the system. This includes configuration characteristics (e.g., number of ports, instruction sets), what devices are to be supported, and protocols (e.g., signal handshake protocols).

3.2.5.2 Systems Interfaces

Example systems interface requirements:

3.2.6 Security

- The surveyor of the software will be administrator so he/she will be the the only one who monitors and accesses the data for everyone on the restaurant.This software offers to every user the highest system of security.
- To meet the security objectives, a certain security components shall be covered such as: Identification ,Authentication, Authorization ,Privacy Requirements, Physical Protection Requirements,System Maintenance.
- These components shall be achieved through:
- The application shall identify all of its clients,staff employees,administrator before allowing them to access its capabilities.
- Specific authenticated externals shall access specific software component capabilities or information if and only if they have been explicitly authorized to do so by a properly appointed person(s).For example:The account of waiter shall not be accessed by the chef.
- Unauthorized individuals shall not gain access to users credentials.
- The restaurant security staff shall protect its hardware components from physical destruction, theft, or any kind of damage.Despite software security ,it's important and hardware security.
- The application shall not violate its security requirements as a result of the replacement of a data, hardware, or software component.

3.2.6.1 Protection

The software is accessible by a username and an encrypted password. Only by these two credentials the worker or the client can use this utilitary application for their purposes.

- In order to increase the protection of information ,encrypting passwords should be applied to each user registered.
- If an employee wants to edit its profile, the administrator should be alerted through a notification message.
- The password of an employee must be changed anytime,it's up to the employee's preferences.

- The password of a client must be registered at the beggining, but it must be edited according to the client's preferences.
- The username and password for administrator might be edited anytime based on administrator preferences.

3.2.6.2 Authorization and Authentication

An authentication requirement is a component of security requirement. It shall verify the identity of its externals before interacting with them.

- The software shall verify the identity of all the users who access it before allowing them to use its capabilities. Employees,clients or administrator can have access to the system through their credentials: username,password.
- The software shall verify the identity of all of its users before allowing them to update their user information.An employee can't edit his/her profile without logging in.
- The software shall consider the repeated requested validation failures as fraud. If a client or a worker makes repeated requests to log in to the system with a wrong username/password the client or worker shall not be logged in.
- The software shall not allow any employee to access any account information of any other worker.

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3.2.7 Data Management

This application is based on MySQL language.

There will be some tables which are going to be connected with each other with joint tables. For example: each order will have the id-s of each table, each chef and each waiter. There will be a table for the staff and a table for the tables of the restaurant.

Each user entry or table entry is protected by a password.

3.2.8 Standards Compliance

This method is also approved by the trade office and will be at the same time under their control. Their function will also be controlled by this office in co-operation with our group. It is important to mention that will not be allowed any use of this method wrongly and will be only one center where every restaurant that wants it should apply. The price of using this method will be according to economical standards of the country and of course by analyzing the conditions of the restaurants. This method policy will also be useful for the financial office to control the incomes of the restaurant better for them not to have frauds.

3.2.9 Portability

This application can be accessed by everyone who wants to see the facilities this restaurant provides, but only the members of the staff will have a username and a password to login so to collaborate with other members of this online community.

3.2.10 Other Non-Functional Requirements

Please provide all necessary non-functional requirements, similar to the requirements explained in the lesson slides or in the textbook.

3.3 Domain Requirements

Everything related to the domain that might be needed in the project shall be mentioned in here. Sometimes the domain Requirements might be thought as part of either functional or non-functional requirements.

4. User Scenarios/Use Cases

These are the user scenarios of RMS:

USERS:

1. Admin
2. Accountant
3. Chefs
4. Waiters
5. Customers

ADMIN

1. Clicks on Log In in the main Page
2. Enters his/her credentials
3. Will be redirected to Admin Page, with all the functionalities provided for the admin status such as
   - CRUD options for software users
   - Table Management
   - Food Products Management
   - Add on Menu

ACCOUNTANT

1. Clicks on Log In in the main Page
2. Enters his/her credentials
3. Will be redirected to Accountant Page, with all the functionalities provided for the accountant status such as:
   - Communication with food companies (suppliers)
   - List of products and their specifications + search option
   - Management of workers' salaries
   - PDF files documenting every transaction

CHEFS

1. Clicks on Log In in the main Page
2. Enters his/her credentials
3. Will be redirected to Chef Page, with all the functionalities provided for the chef status such as:
   - Order Management
   - Add new items in the menu
   - Make requests about new kitchen equipment

WAITERS

1. Clicks on Log In in the main Page
2. Enters his/her credentials
3. Will be redirected to Waiter Page, with all the functionalities provided for the accountant status such as:
   - Table Management (reserved/busy/available)
   - Order payment confirmation
   - Receipt printing

CUSTOMERS (USING TABLES ACCOUNT)

1. The tablet on their table displays the menu page.
2. Customer chooses one of the categories (pizza, pasta, meat etc.) and clicks on one of the dishes, in order to add it to the order list.
3. Customer confirms the order, by clicking SEND ORDER.
4. As soon as the order is confirmed, the customer is displayed a page, showing time left and another ADD TO ORDER option.
5. As soon as the order is completed, the customer is displayed another option RATE, where he can rate the food using stars from 1-5.

More Detailed User Scenarios

Scenario 1 – Successful Login

a. The user enters his username.
b. The user enters his password.
c. The user clicks Login after the fields are filled in.
d. If there is a match with an entry in the database, he is logged in to his account.
e. The user is redirected to the front page of the website.

Scenario 2 – Unsuccessful Login

a. The user enters his username.
b. The user enters his password.
c. The user clicks Login after the fields are filled in.
d. If the credentials are wrong, there won't be a match in the database, therefore the user will be displayed an error message, saying "Wrong credentials, enter your credentials again."
e. The Login page will be refreshed, so the user can enter the credentials again.

Scenario 3 – Admin creates a new user

a. Administrator of the software is logged in the system.
b. Administrator clicks on "Staff" icon.
c. Administrator clicks on "New member" button.
d. Administrator is displayed a form, with the basic information needed to be provided.
e. Administrator fills in the information, regarding name, surname, username, initial password, phone number, category and an optional picture.
f. Administrator clicks on "Add new member" after filling in the spaces.
g. Member is created as an entry in the Employee table of the database.
h. Administrator is redirected to the Staff Page.

Scenario 4 – Admin faces an error while creates a new user

a. Administrator of the software is logged in the system.
b. Administrator clicks on "Staff" icon.
c. Administrator clicks on "New member" button.
d. Administrator is displayed a form, with the basic information needed to be provided.
e. Administrator fills in the information, regarding name, surname, username, initial password, phone number, category and an optional picture.
f. Administrator clicks on "Add new member" after filling in the spaces.
g. If the validation functions detect an anomaly, Administrator is displayed an error message, telling him where the problem with the entered data is.
h. Administrator enters the data again, until there are no validation problems.

Scenario 5 – Admin modifies user information

a. Administrator of the software is logged in the system.

b. Administrator clicks on “Staff” icon.
c. Administrator searches in the User Table the name of the user he wants to modify.
d. After finding the user, he clicks on “Edit” symbol.
e. Administrator is displayed the page containing user’s details, which are editable by the administrator.
f. After editing, administrator saves changes.
g. Administrator is redirected to the Staff page again.

Scenario 6 – Admin modifies user information

a. Administrator of the software is logged in the system.
b. Administrator clicks on “Staff” icon.
c. Administrator searches in the User Table the name of the user he wants to modify.
d. After finding the user, he clicks on “Edit” symbol.
e. Administrator is displayed the page containing user’s details, which are editable by the administrator.
f. If there was a mistake during the process, the administrator will be displayed an error massage, telling him where the problem with the entered data is.
g. Administrator enters the data again, until there are no validation problems.

Scenario 7 – Admin inserts a new table in the restaurant.

a. Administrator of the software is logged in the system.
b. Administrator clicks on “Tables” icon.
c. Administrator clicks on “Add new Table” button.
d. A window will pop-up, asking admin to enter the table number, table password and number of chairs.
e. After clicking “Add”, the table will be added as an entry in the database.

Scenario 8 – Admin inserts new products.

a. Administrator of the software is logged in the system.
b. Administrator clicks on “Food Products” icon.
c. Administrator clicks on “Add new Product” button.
d. Administrator will be displayed a form, with the entry information needed to be provided.
e. Administrator fills in the information, regarding the product.

f. Administrator saves the new product by clicking on Save.

Scenario 9 – Admin inserts new entries on the menu.

a. Administrator of the software is logged in the system.
b. Administrator clicks on "Menu" icon.
c. Administrator clicks on "Add new Entry" button.
d. Administrator will be displayed a form, with the entry information needed to be provided.
e. Administrator fills in the information, such as the name, price, ingredients and picture.
f. Administrator saves the new product by clicking on Save.

PS: Normally, this is a feature of Chefs but since there may be a radical change in the menu, for unknown reasons, it wouldn't be convenient for the chefs to insert all the dishes, that's why administrator can do it as well.

Scenario 10 – Accountant searches a supplier in the Supplier's list.

a. Accountant is logged in the system.
b. Accountant clicks on "Supplier" icon.
c. Accountant is shown a table with all the suppliers of the restaurant and a search icon in the corner.
d. Accountant starts typing the name of the supplier and table gets updated every time a key in pressed, displaying search results.

Scenario 11 – Accountant adds a new supplier in the Suppliers list.

a. Accountant is logged in the system.
b. Accountant clicks on "Supplier" icon.
c. Accountant is shown a table with all the suppliers of the restaurant.
d. At the right corner, there is an "Add supplier" option; when clicking on it, a popup window appears, displaying a form where the new supplier's information is entered.
e. After entering the required information, accountant clicks on "Save changes" and if the process is successful, he will be redirected to the Supplier's list.
f. Otherwise, display an error message.

Scenario 12 – Accountant edits the information of the food products.

a. Accountant is logged in the system.
b. Accountant clicks on “Food Products” icon.
c. Accountant is shown a table with all the food products needed for the restaurant.
d. Accountant clicks on “Edit” option; when clicking on it, a popup window appears, containing information about the product, such as name, quantity, and price.
e. Accountant can edit them and then save changes by clicking “Save”.
f. Accountant is redirected to the Products page.

Scenario 13 – Accountant searches a product in the Product’s list.

a. Accountant is logged in the system.
b. Accountant clicks on “Food Products” icon.
c. Accountant is shown a table with all the food products of the restaurant and a search icon in the corner.
d. Accountant starts typing the name of the product and table gets updated every time a key in pressed, displaying search results.

Scenario 14 – Accountant updates the monthly salary for an employee.

a. Accountant is logged in the system.
b. Accountant clicks on “Workers” icon.
c. Accountant is displayed a list of the employees and their salaries next to their names.
d. If it shows “-”, then accountant knows he hasn’t updated the salary of that employee for the current month, so he does it.
e. After entering the salaries, accountant clicks on “Save”, to save the changes.

Scenario 15 – Accountant generates a PDF document with all the salaries of the employees for that month.

a. Accountant is logged in the system.
b. Accountant clicks on “Workers” icon.
c. Accountant is displayed a list of the employees and their salaries next to their names.
d. Account clicks on “Print” and a PDF containing all the salaries and total amount is printed, which will be printed and later signed by the accountant.

Scenario 16 – Accountant orders food products.

a. Accountant is logged in the system.
b. Accountant clicks on “Food products” icon.
c. Accountant clicks on “Order more Products”.
d. Accountant will be displayed the suppliers.
e. Accountant clicks on the suppliers he wants to order from and checks the products he wants and the quantities.
f. After finishing marking the needed products, he clicks on “Submit”.
g. Accountant is redirected to “Order more Products” again.

Scenario 17 – Accountant generates a PDF, listing the ordered food products for a supplier.

a. Accountant is logged in the system.
b. Accountant clicks on “Food products” icon.
c. Accountant clicks on “Order more Products”.
d. Accountant will be displayed the suppliers.
e. If the accountant has already marked the food products for a supplier, a “Generate Bill” option will appear.
f. Accountant clicks on this button and the PDF will generated.
g. Accountant saves it to his computer, in order to send it later to the supplier.

Scenario 18 – Chef claims an order.

a. Chef is logged in the system.
b. Chef is displayed a table of orders and he has to choose one of them.
c. If he wants to take any of the orders, he clicks on “ACCEPT”.

Scenario 19 – Chef confirms an order.

a. Chef is logged in the system.
b. Chef is displayed a table of orders.
c. If he has already claimed an order and has finished cooking, he can confirm the order by clicking “CONFIRM”.

Scenario 20 – Chef adds a new dish on the menu.

a. Chef of the software is logged in the system.
b. Chef clicks on “Menu” icon.
c. Chef clicks on “Add new Entry” button.

d. Chef will be displayed a form, with the entry information needed to be provided.
e. Chef fills in the information, such as the name, price, ingredients and picture.
f. Chef saves the new product by clicking on Save.

Scenario 21 – Chef makes requests about kitchen materials that got broken or went missing.

a. Chef of the software is logged in the system.
b. Chef clicks on “Requests” icon.
c. Chef writes in a text field what he needs in the kitchen and then clicks on “Send”, in order to send it to the accountant.

Scenario 22 – Waiter assigns the status to a table.

a. Waiter is logged in the system.
b. Tables are displayed as tabs and the waiter can choose the status for each of them. (available/busy)

Scenario 23 – Waiter confirms payment.

a. Waiter is logged in the system.
b. As soon as the client pays, the waiter can confirm it by clicking “OK” in the specific table, in the column “Payment Confirmation”.

Scenario 24 – Waiter prints the bill.

a. Waiter is logged in the system.
b. As soon as the client pays, the waiter can confirm it by clicking “Print” in the specific table, in the column “Print Receipt”.

PS: Customer scenario doesn’t need to be extended.

Use Cases

Name	Login page
Summary	The user enters the system by typing correct username and password
Actor	Admin, Chef, Waiter, Accountant, Others
Description	To enter the system, the user must type the correct username and correct password
Precondition	Every user must have an existing account
Alternatives	There are no alternative options
Post Condition	Each one to enter his/her page

Name	Admin page
Summary	The admin has his page where he can see all notifications, workers, tables, products, orders and transactions. He can also add new workers, new tables or new entries in the menu.
Actor	Admin
Description	Admin is directed to his own page where he can manage the restaurant
Precondition	Admin must be logged in
Alternatives	There are no alternative options
Post Condition	To add or remove workers, to add or delete tables, to add new entries in the menu

Name	Admin adds a new worker
Summary	The admin can add a new worker by entering the workers information, a photo of the worker and the category
Actor	Admin
Description	All fields of the form must be filled so a new worker to be added
Precondition	Admin must be logged in
Alternatives	There are no alternative options
Post Condition	An alert notifies if the worker had been added and this employee can enter the system immediately

Name	Admin can see tables
Summary	The admin can see the tables of the whole restaurant. Can see which of these are available or not and also open the table page.
Actor	Admin
Description	Every table is identified by its own table number and has a password viewable only from the admin.
Precondition	Admin must be logged in
Alternatives	There are no alternative options
Post Condition	Here it can be seen the number of tables and their availability

Name	Admin edit the worker page
Summary	Admin can open the worker's profile and can add the password, phone number or category
Actor	Admin
Description	Admin can click on the edit button next to the password, phone number or category and make the changes
Precondition	Admin must be logged in
Alternatives	There are no alternative options
Post Condition	An alert notifies the admin about the change and the employees profile has been changed.

Name	Admin adds a new table
Summary	The admin can add a new table by its entering its table number, table password and the number of people
Actor	Admin
Description	All fields of the form must be filled so a new table to be added
Precondition	Admin must be logged in
Alternatives	There are no alternative options
Post Condition	An alert notifies the admin that a new table is available and the table can be accessed immediately

Name	Admin can open the table profile
Summary	The admin can change the table password and can change the table number of people. Also admin can see all orders received from that table. There are two buttons which reserve or delete the table
Actor	Admin
Description	To edit the table credentials edit button must be clicked. By clicking ‘Orders’ button, the list of orders are shown below. Here the table can be reserved and deleted
Precondition	Admin must be logged in
Alternatives	There are no alternative options
Post Condition	An alert notifies the admin about the changes done

Name	Admin adds a new item in the menu
Summary	After the item name is types, then there can be added new products and their quantities. There is also an option to add a picture of the item
Actor	Admin
Description	A new item must have at least two products
Precondition	Admin must be logged in
Alternatives	There are no alternative options
Post Condition	An alert notifies the admin that a new item is added on the menu and that item can be accessed from the customer immediately

Name	Accountant page
Summary	The accountant can see the notifications, list of products, list of workers, transactions and the list of suppliers of the restaurant.
Actor	Accountant
Description	The actor can search for the product and change the quantity of it. There is a list of employees and their salaries which can be edited from the accountant. There is also a button where the actor can look at the suppliers.
Precondition	Accountant must be logged in
Alternatives	There are no alternative options
Post Condition	The accountant can print the list of salaries and send it to the admin

Name	Accountant can see the suppliers
Summary	The accountant can see the list of suppliers, add or delete the supplier
Actor	Accountant
Description	There is a table filled with the credentials of the supplier
Precondition	Accountant must be logged in
Alternatives	There are no alternative options
Post Condition	An alert notifies the accountant for the changes

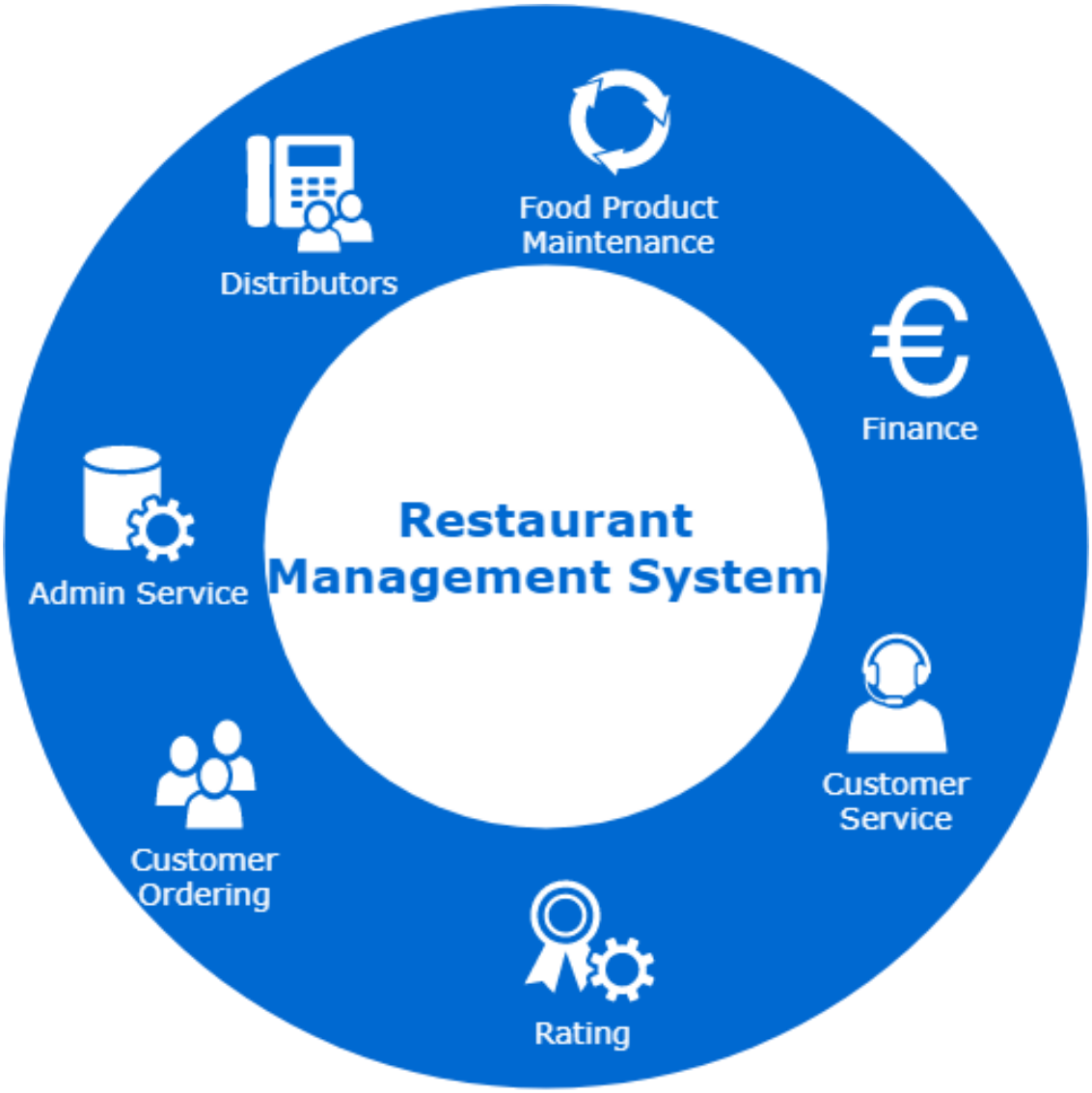
Name	Chef page
Summary	The chef can see the list of orders available, the notifications if there are any and also add a new item in the menu (as in admin's case)
Actor	Chef
Description	The chef can see the orders in table. Each row has the table number, a list of orders from the menu. If one admin accepts one order, it means others cannot see it anymore. When the order is finished by the chef, it clicks on the done column and a notification goes to the waiter's page
Precondition	Chef must be logged in
Alternatives	There are no alternative options
Post Condition	When the order is ready from the chef, all waiters are notified

Name	Waiter page
Summary	The waiter can see the finished orders by the chef and accept them. If one waiter accepts the order, the order cannot be seen by other waiters online. The waiters also is responsible for the payment confirmation and printing the receipt
Actor	Waiter
Description	The waiter is responsible for the order when it accepts it.
Precondition	Waiter must be logged in
Alternatives	There are no alternative options
Post Condition	When the payment confirmation is done, a new transaction is added on the database

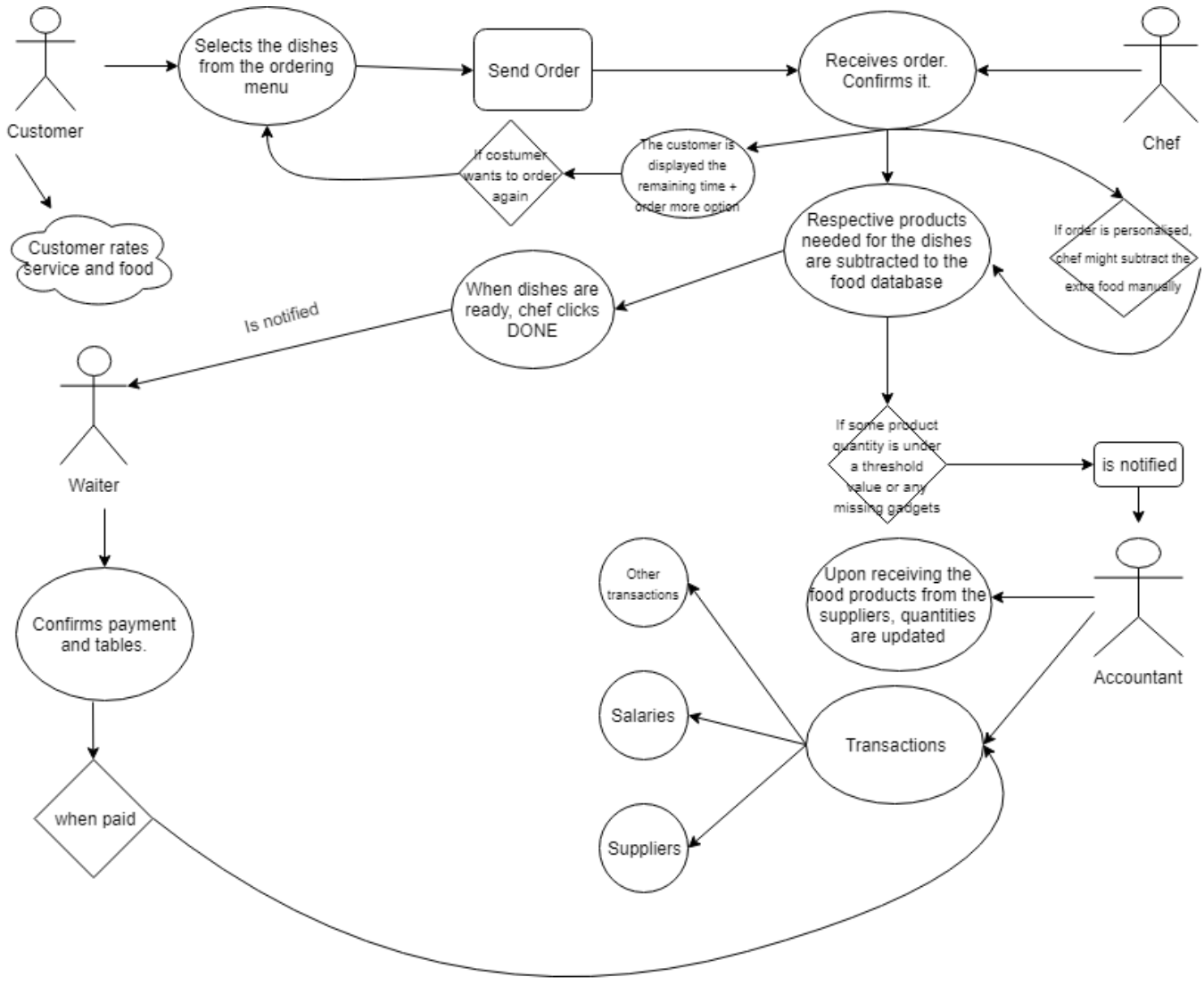
Name	Table login
Summary	Each table can login from the login page. To log in the table number and the password must be written correctly
Actor	Table
Description	Each table is unique and there must be entered the right credentials so the customers can order the items
Precondition	Each table must have been created before from the admin
Alternatives	There are no alternative options
Post Condition	When logged in, the menu is displayed and the customer can select the order

Name	Table page
Summary	Here the customer can select the items from the categories drinks, dishes, pasta, pizza, deserts. When all selected the customer can confim the order by pressing the confirm button
Actor	Table
Description	There is a list of whole orders available in the restaurant. Also the customer can add a notification in the order
Precondition	Table must be logged in
Alternatives	There are no alternative options
Post Condition	The confirmed order can now be seen from the chef. When the chef accepts the order, the customer gets a norification.

Software functionalities

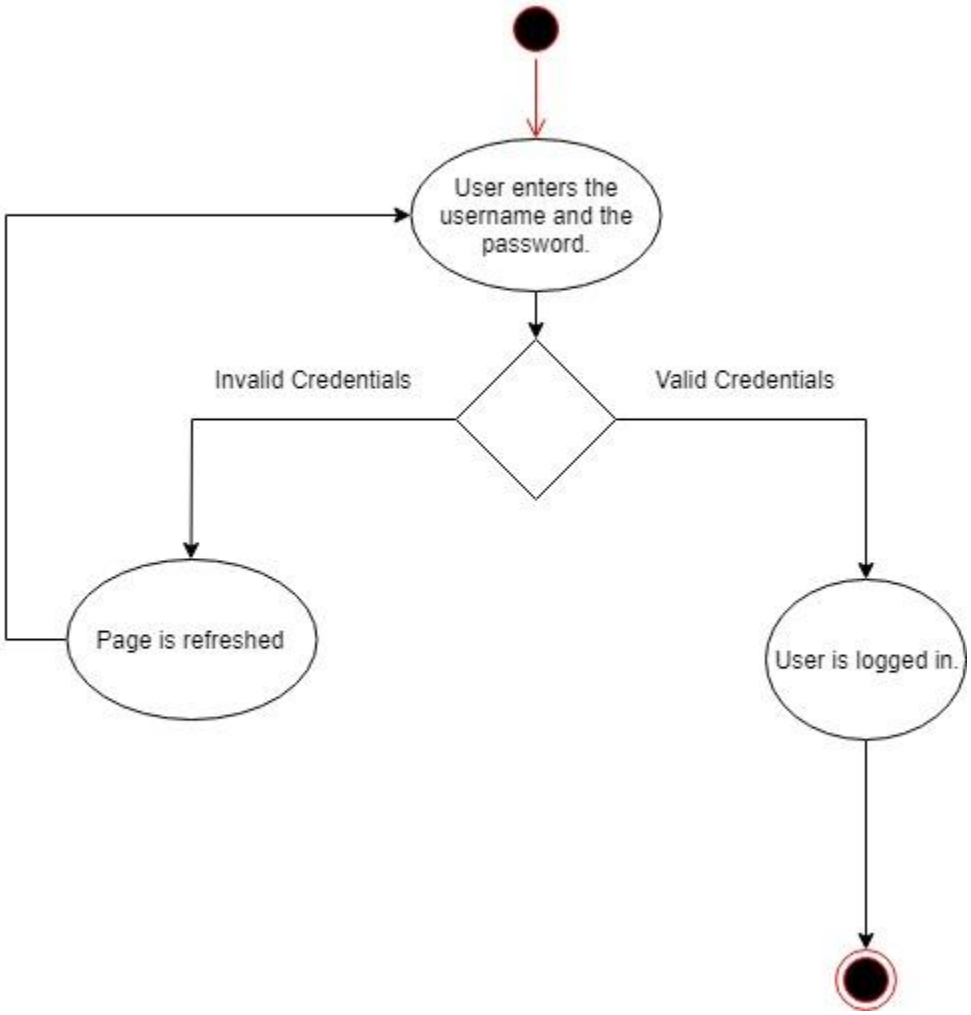


USE-CASE DIAGRAM
WORKFLOW

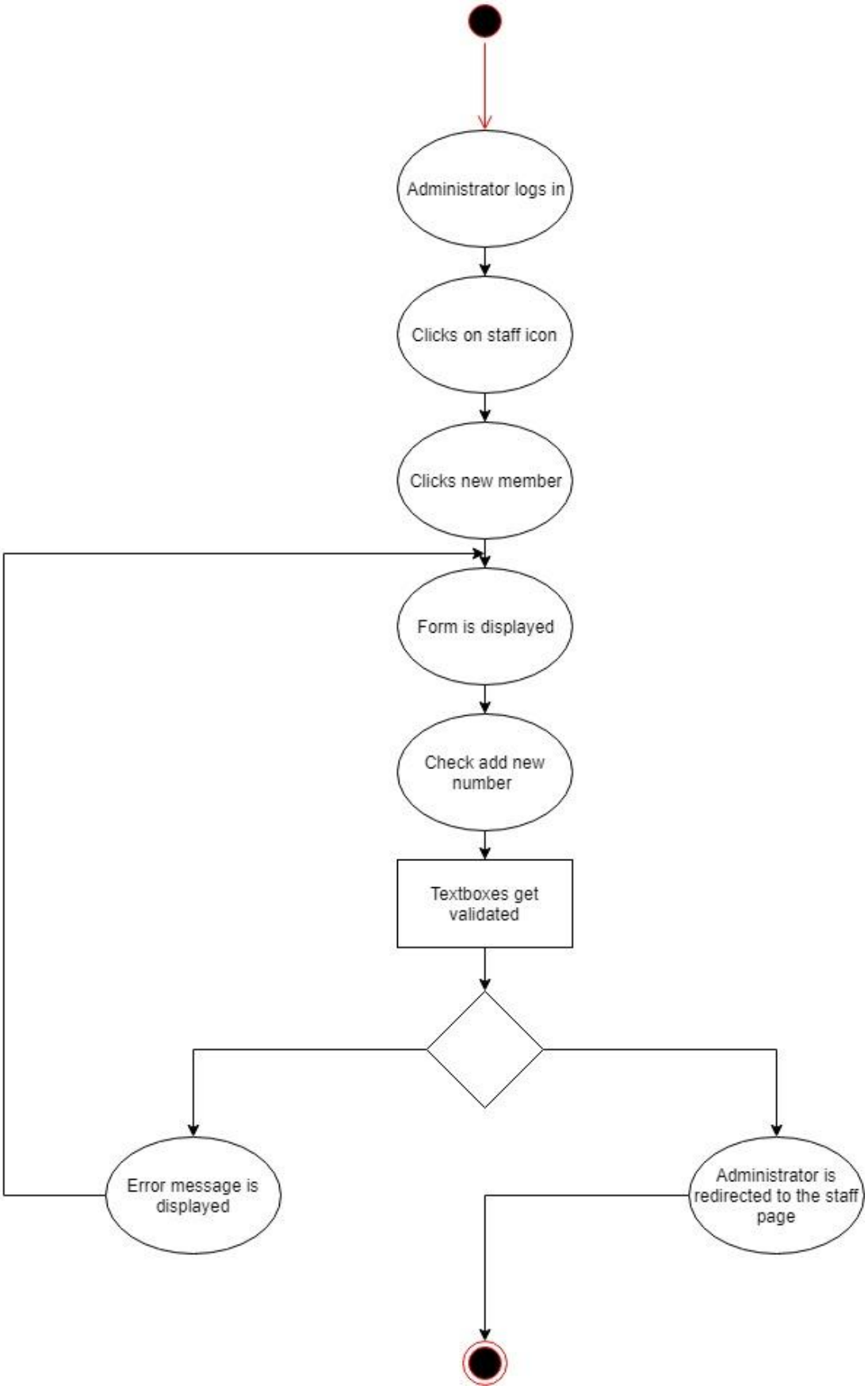


Activity diagrams

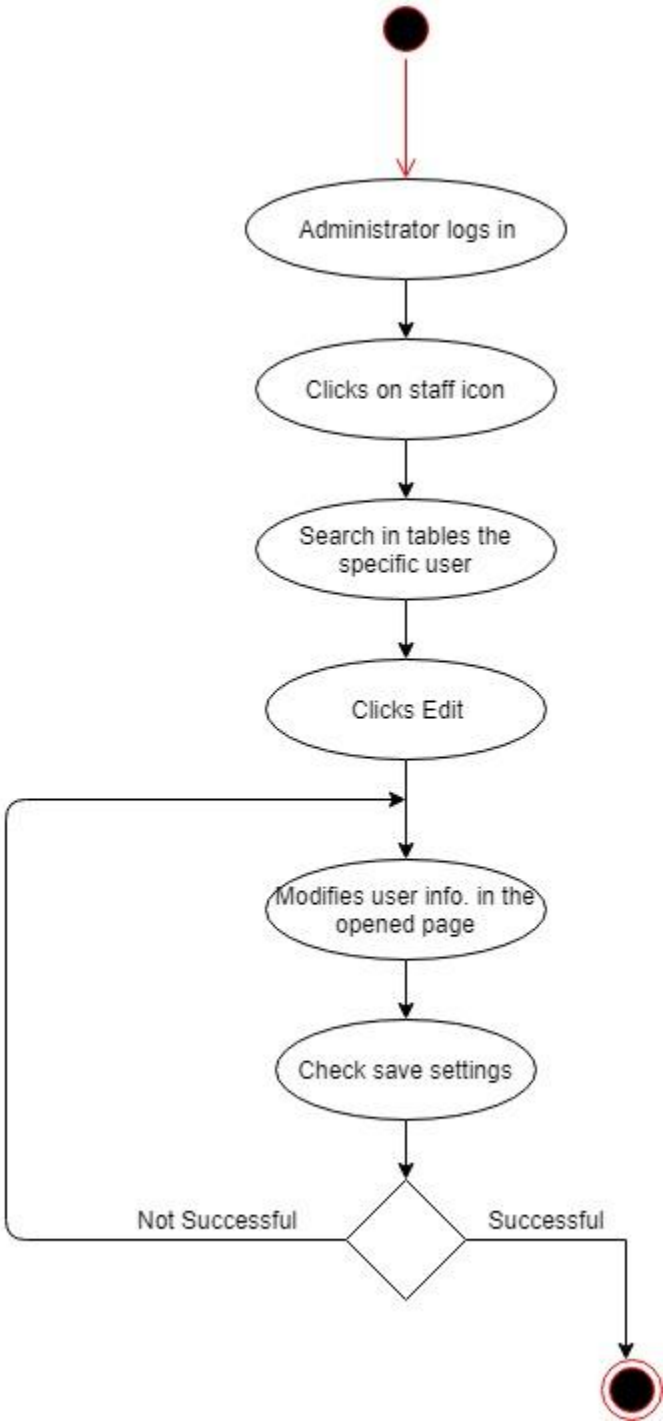
Scenario 1-2



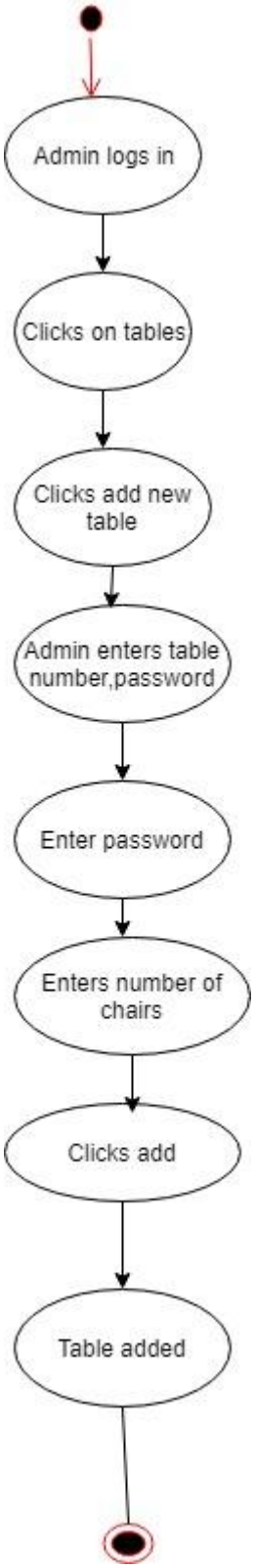
Scenario 3-4


Administrator logs in
Clicks on staff icon
Clicks new member
Form is displayed
Check add new number
Textboxes get validated
Error message is displayed
Administrator is redirected to the staff page

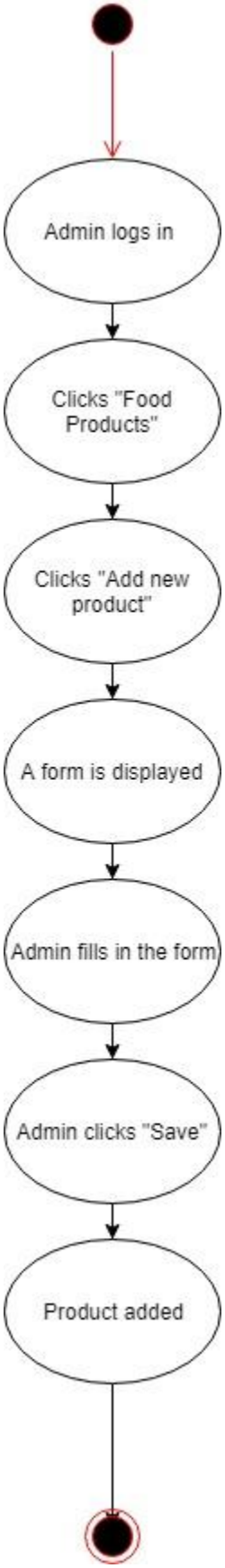
Scenario 5-6


Administrator logs in
Clicks on staff icon
Search in tables the specific user
Clicks Edit
Modifies user info. in the opened page
Check save settings
Not Successful
Successful

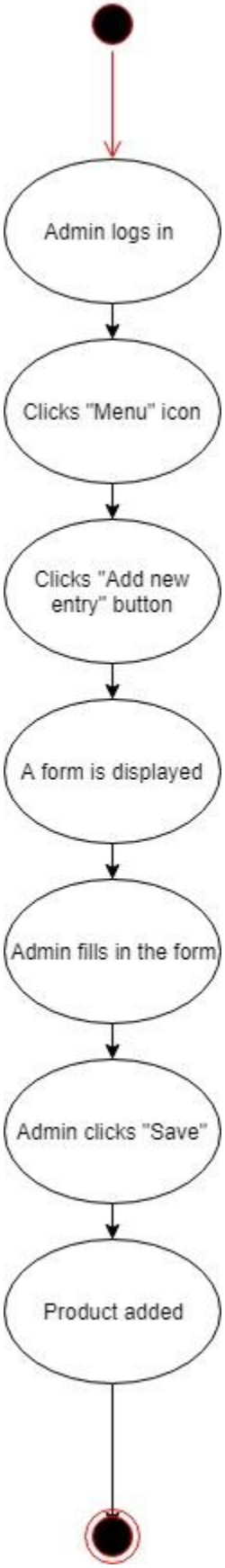
Scenario 7


Admin logs in
Clicks on tables
Clicks add new table
Admin enters table number,password
Enter password
Enters number of chairs
Clicks add
Table added

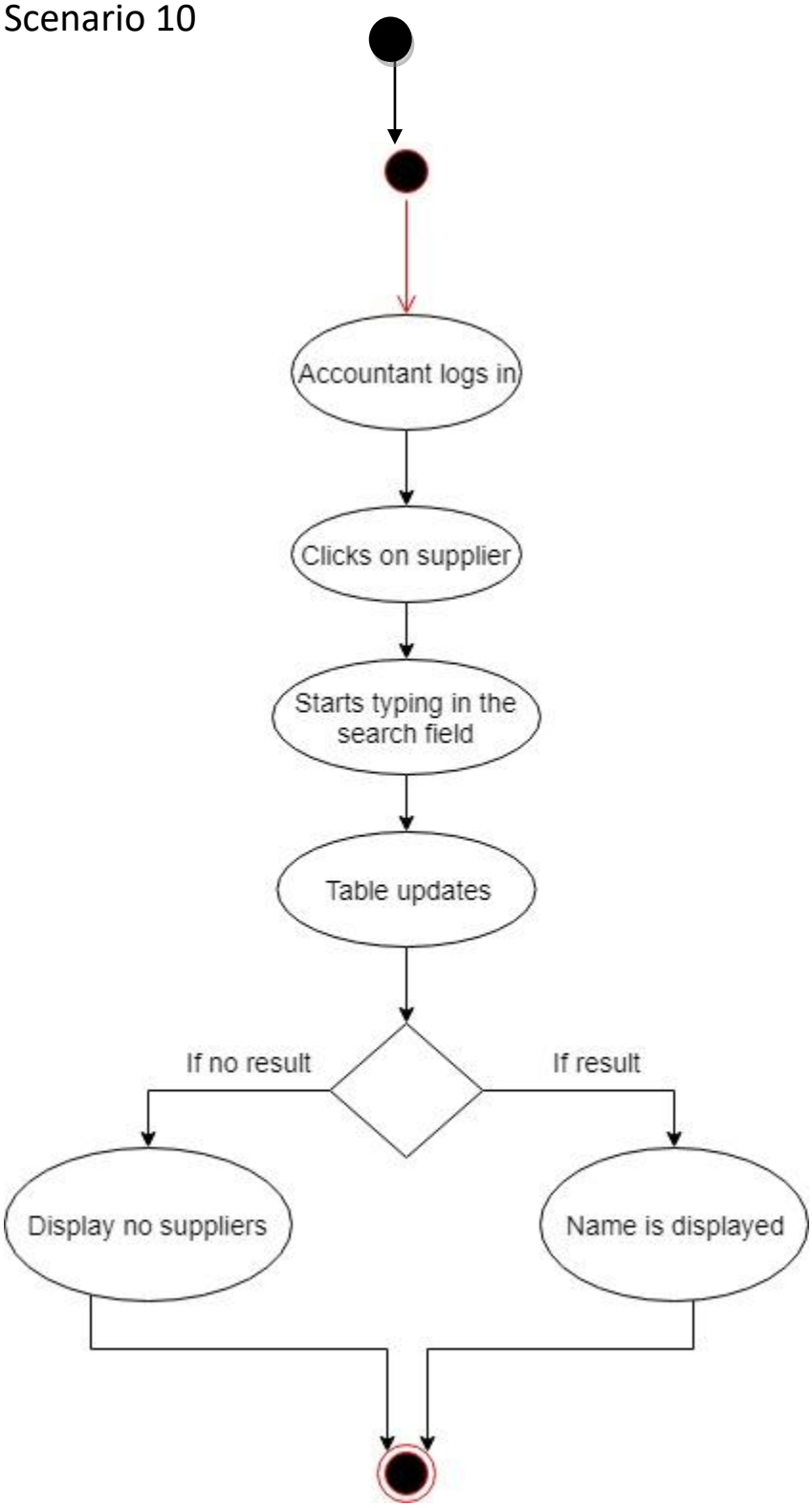
Scenario 8


Admin logs in
Clicks "Food Products"
Clicks "Add new product"
A form is displayed
Admin fills in the form
Admin clicks "Save"
Product added

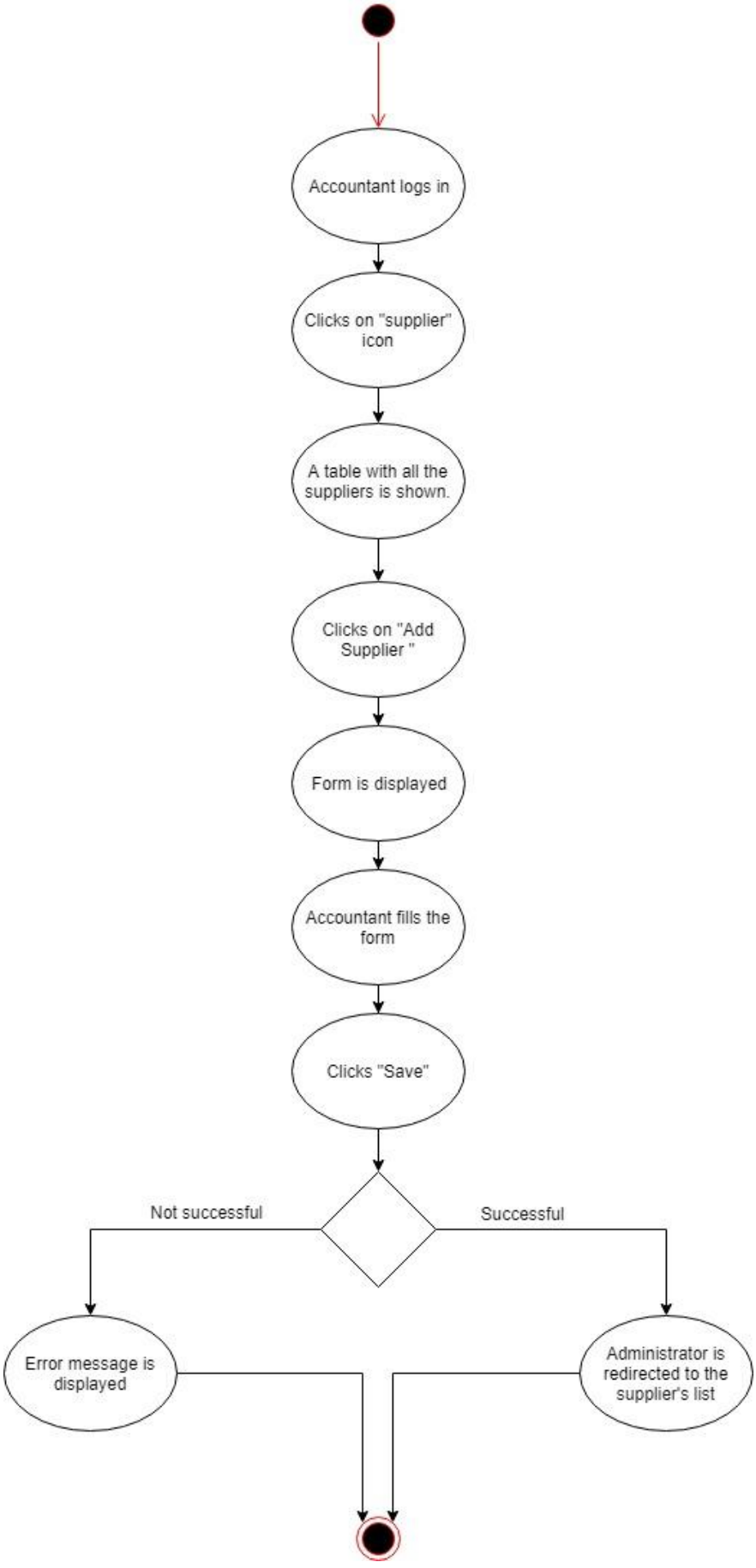
Scenario 9


Admin logs in
Clicks "Menu" icon
Clicks "Add new entry" button
A form is displayed
Admin fills in the form
Admin clicks "Save"
Product added

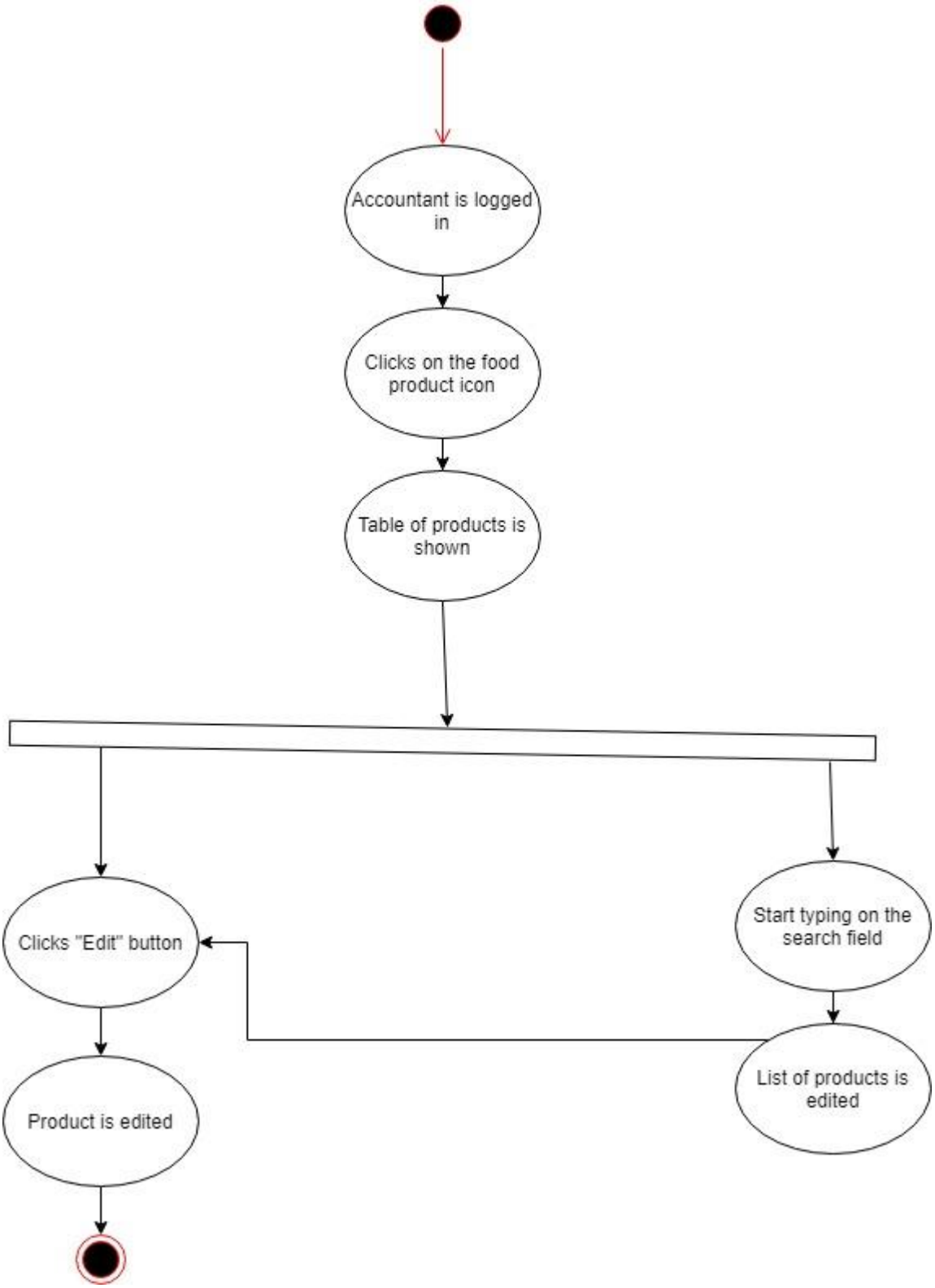
Scenario 10


Accountant logs in
Clicks on supplier
Starts typing in the search field
Table updates
If no result
If result
Display no suppliers
Name is displayed

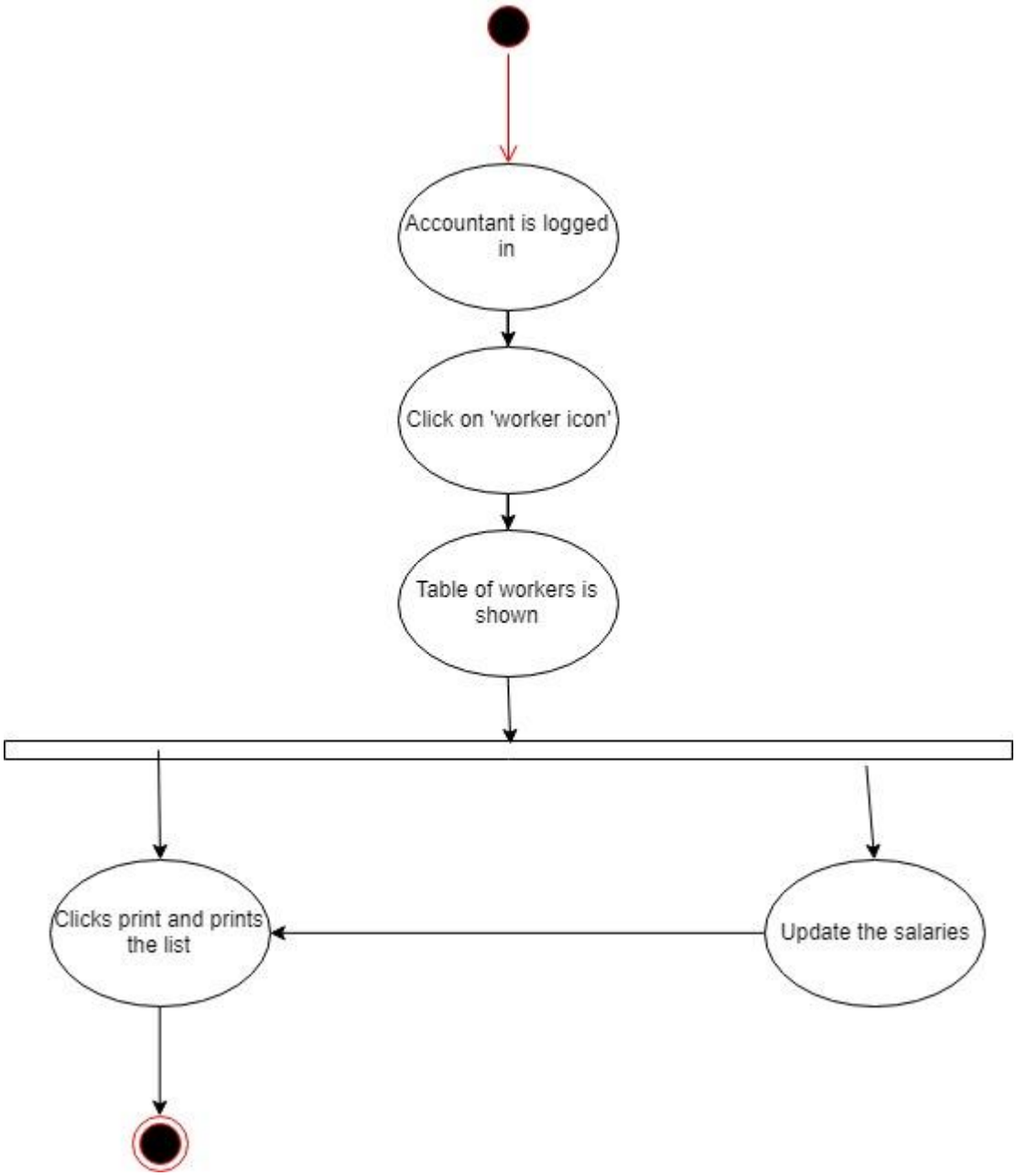
Scenario 11


Accountant logs in
Clicks on "supplier" icon
A table with all the suppliers is shown.
Clicks on "Add Supplier "
Form is displayed
Accountant fills the form
Clicks "Save"
Not successful
Successful
Error message is displayed
Administrator is redirected to the supplier's list

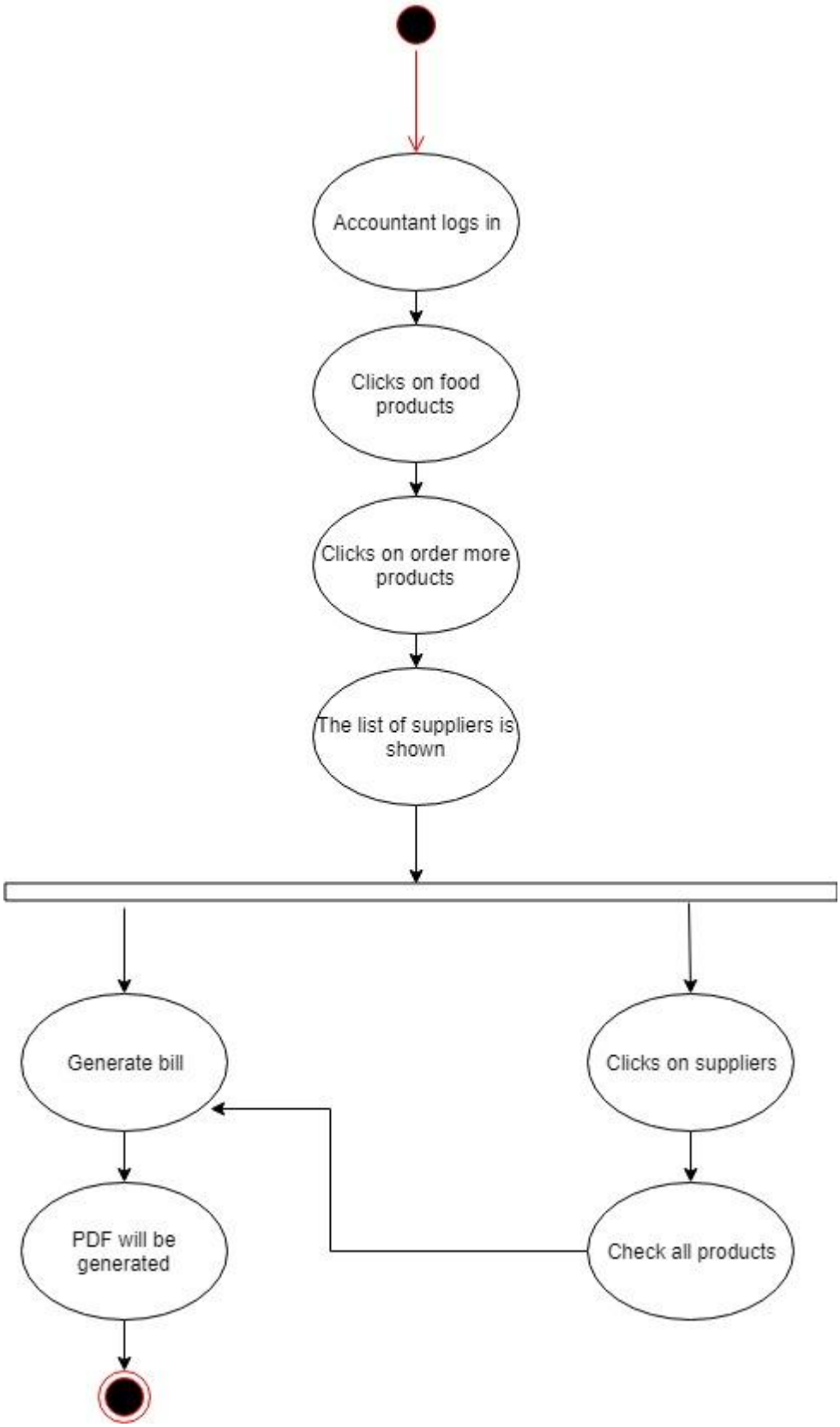
Scenario 12-13



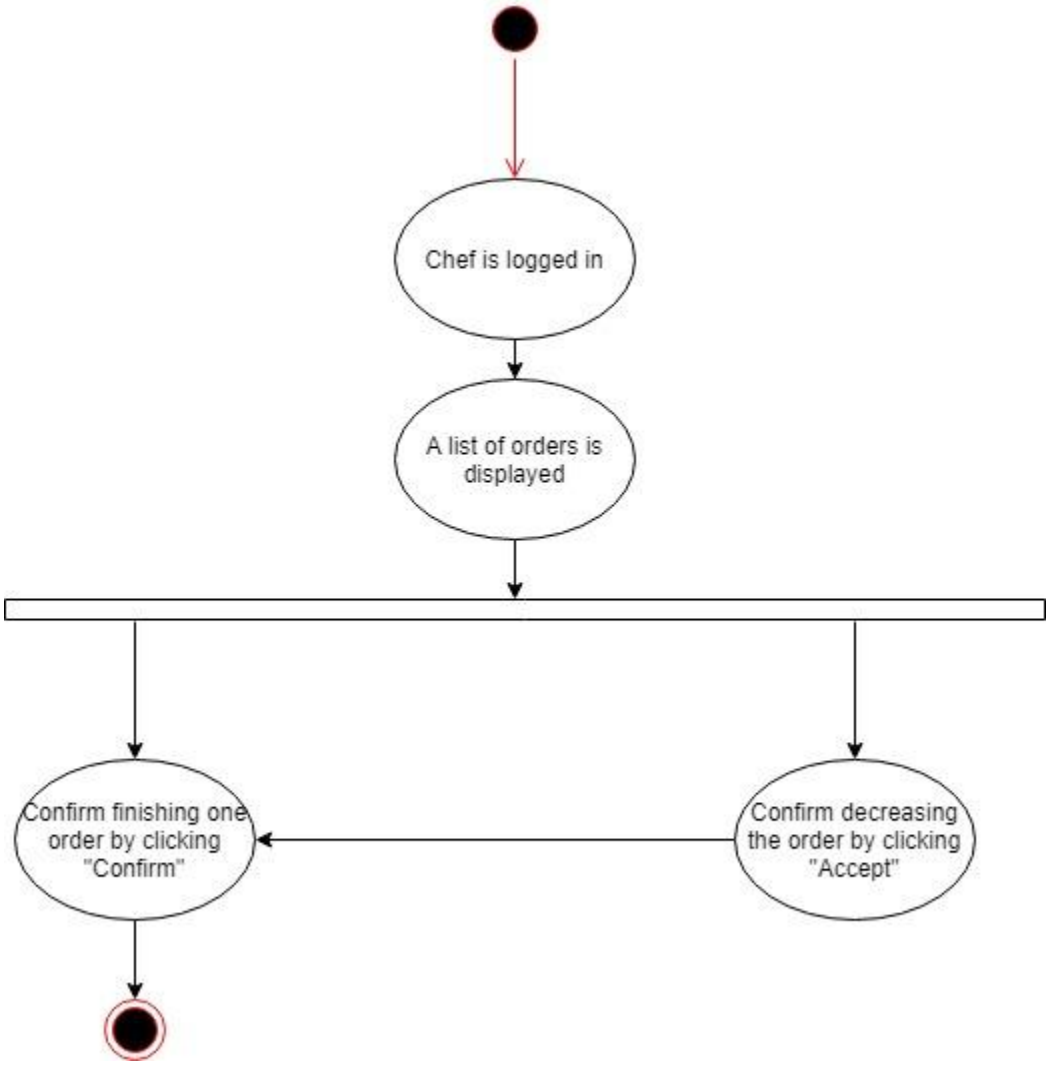
Scenario 14-15



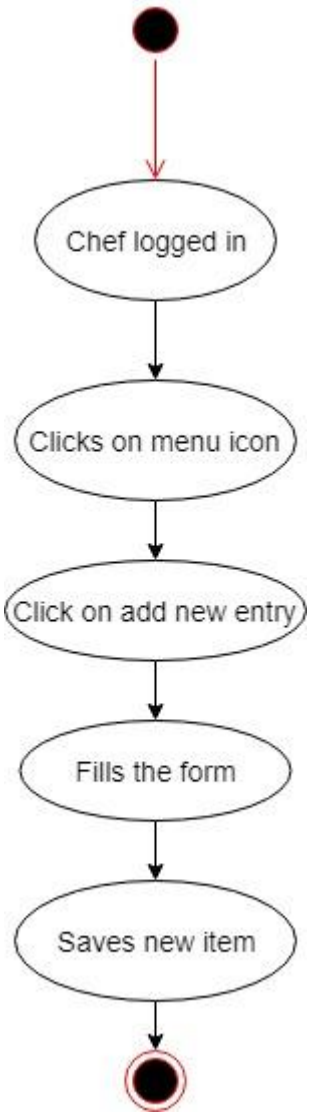
Scenario 16-17



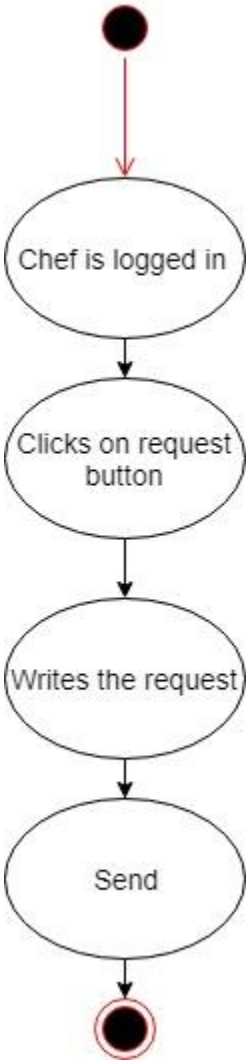
Scenario 18-19



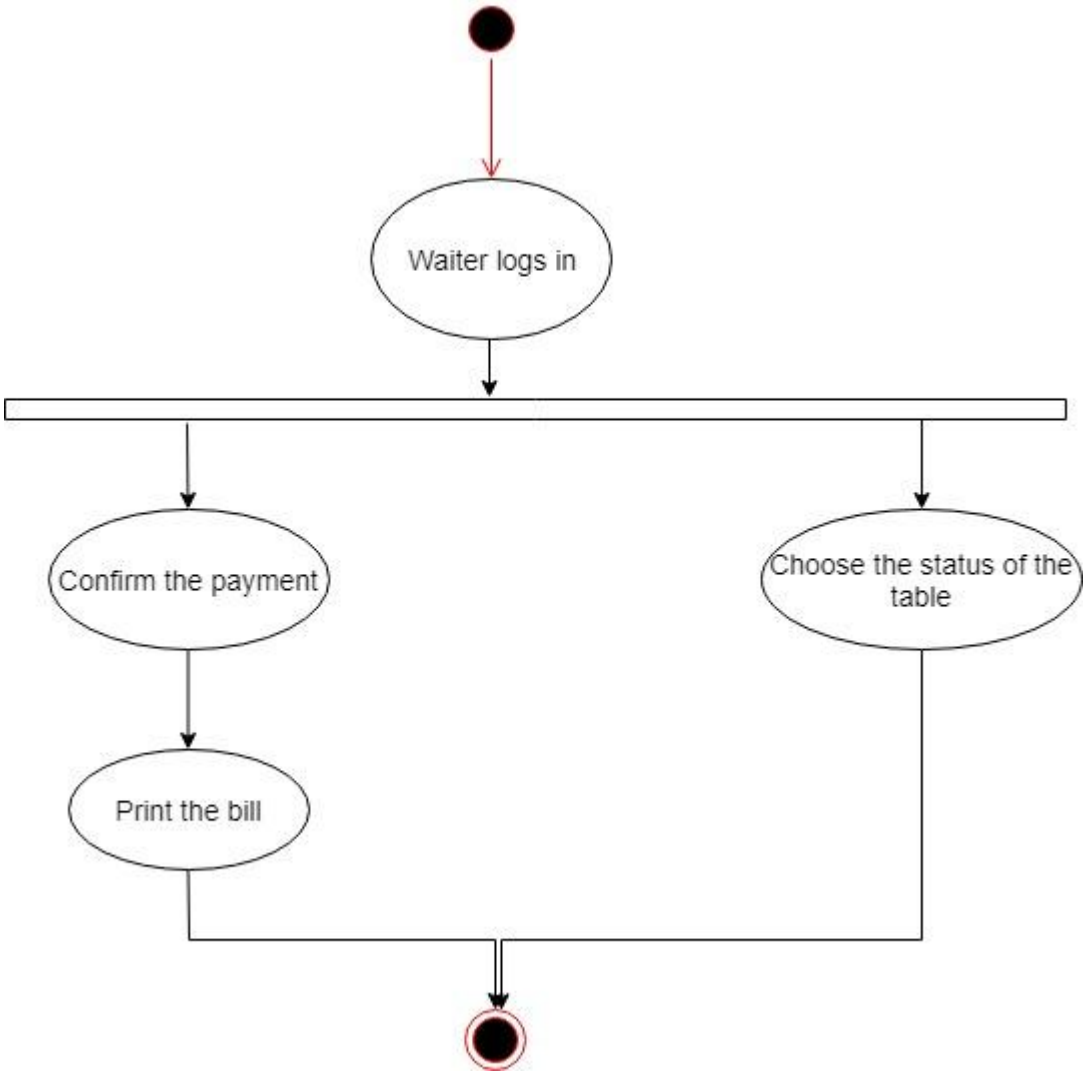
Scenario 20


Chef logged in
Clicks on menu icon
Click on add new entry
Fills the form
Saves new item

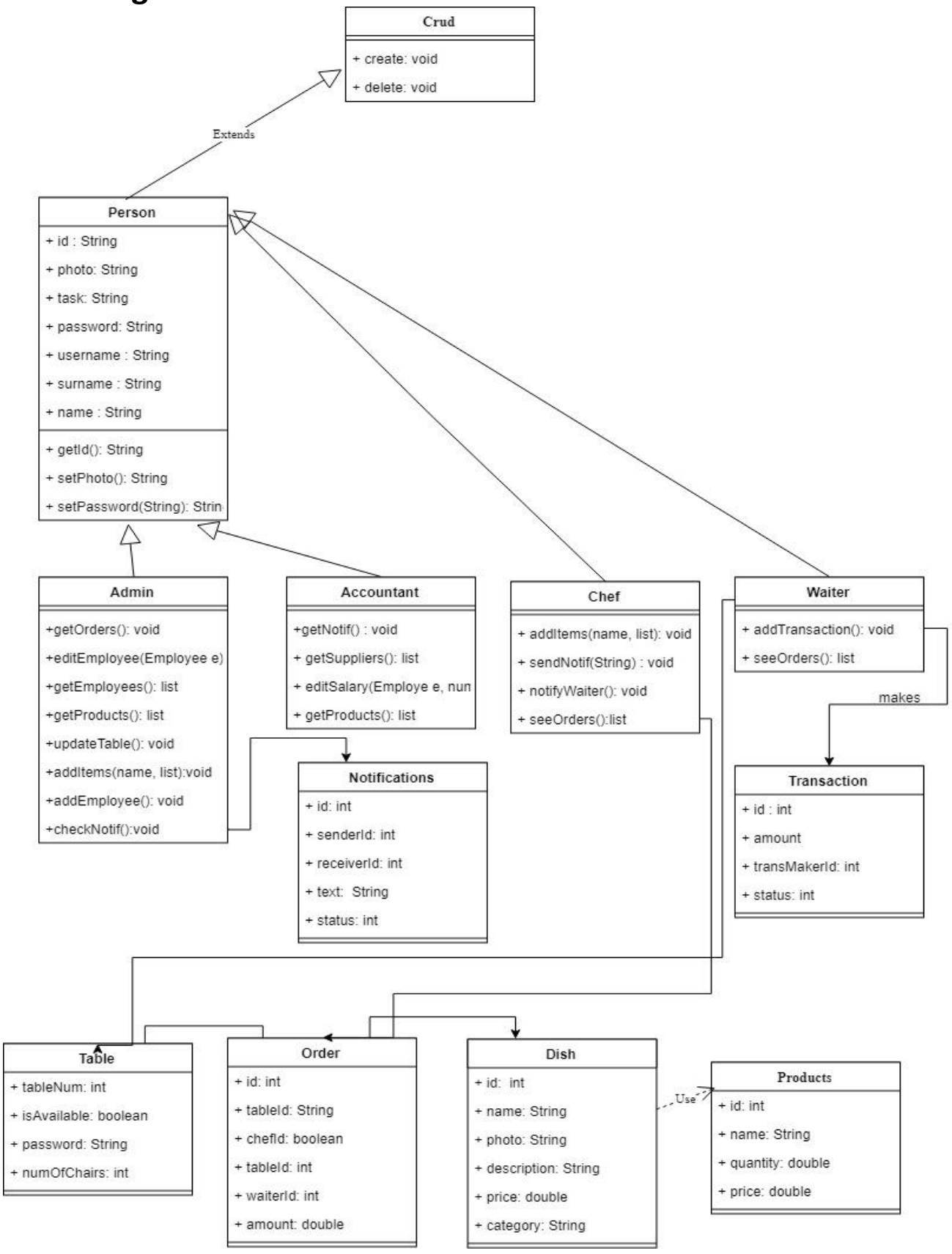
Scenario 21


Chef is logged in
Clicks on request button
Writes the request
Send

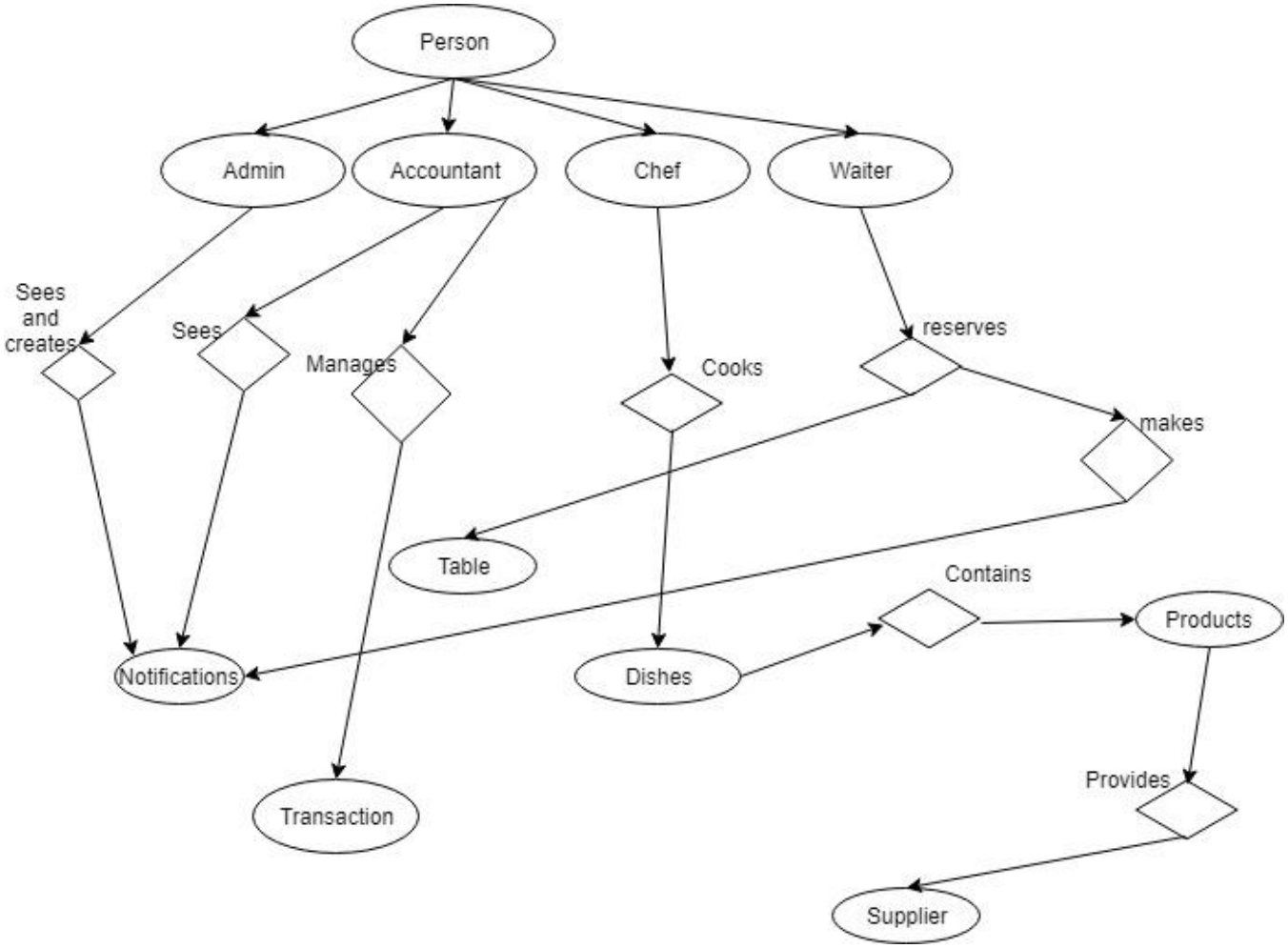
Scenario 22-23-24



Class Diagram

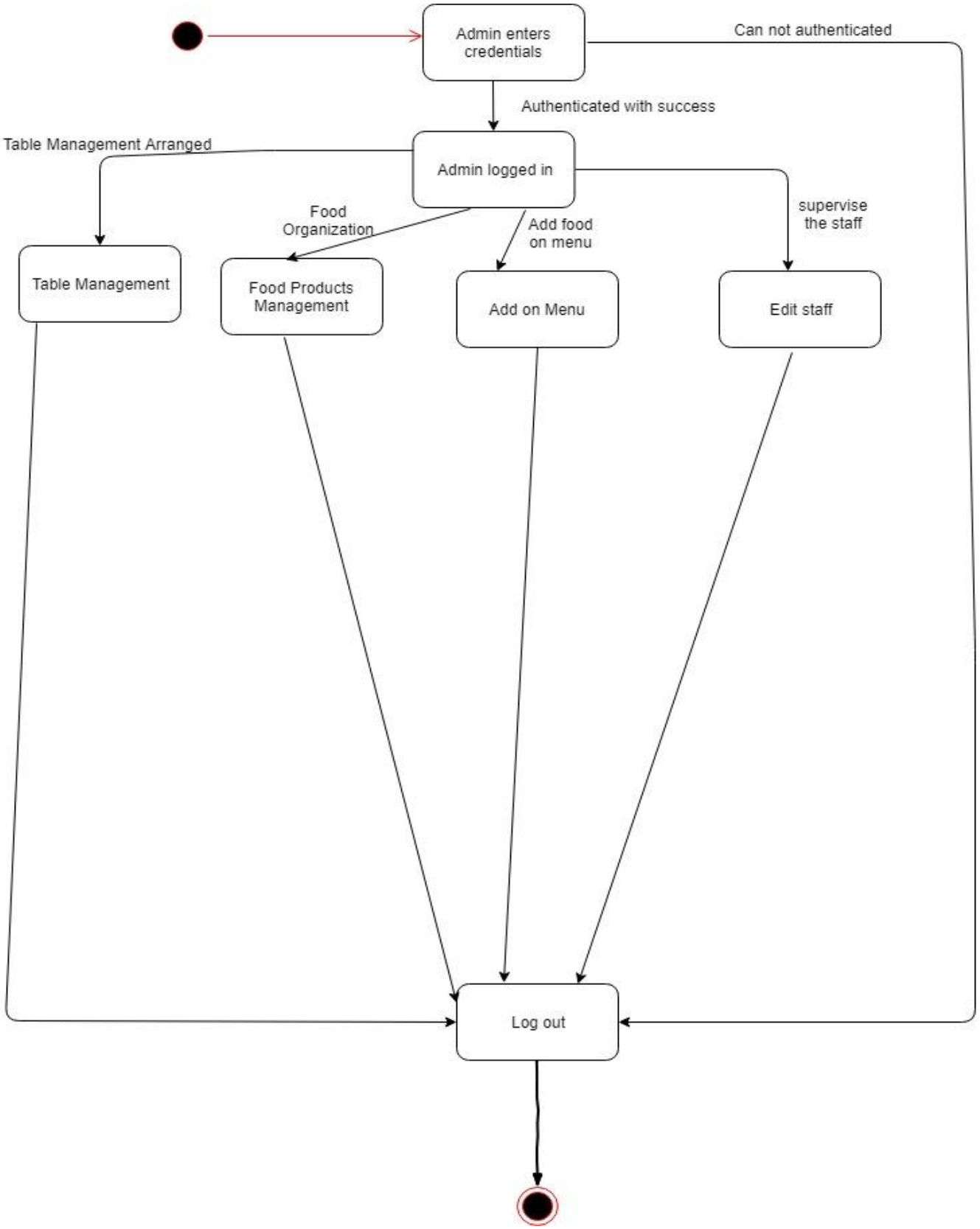


ER Diagram

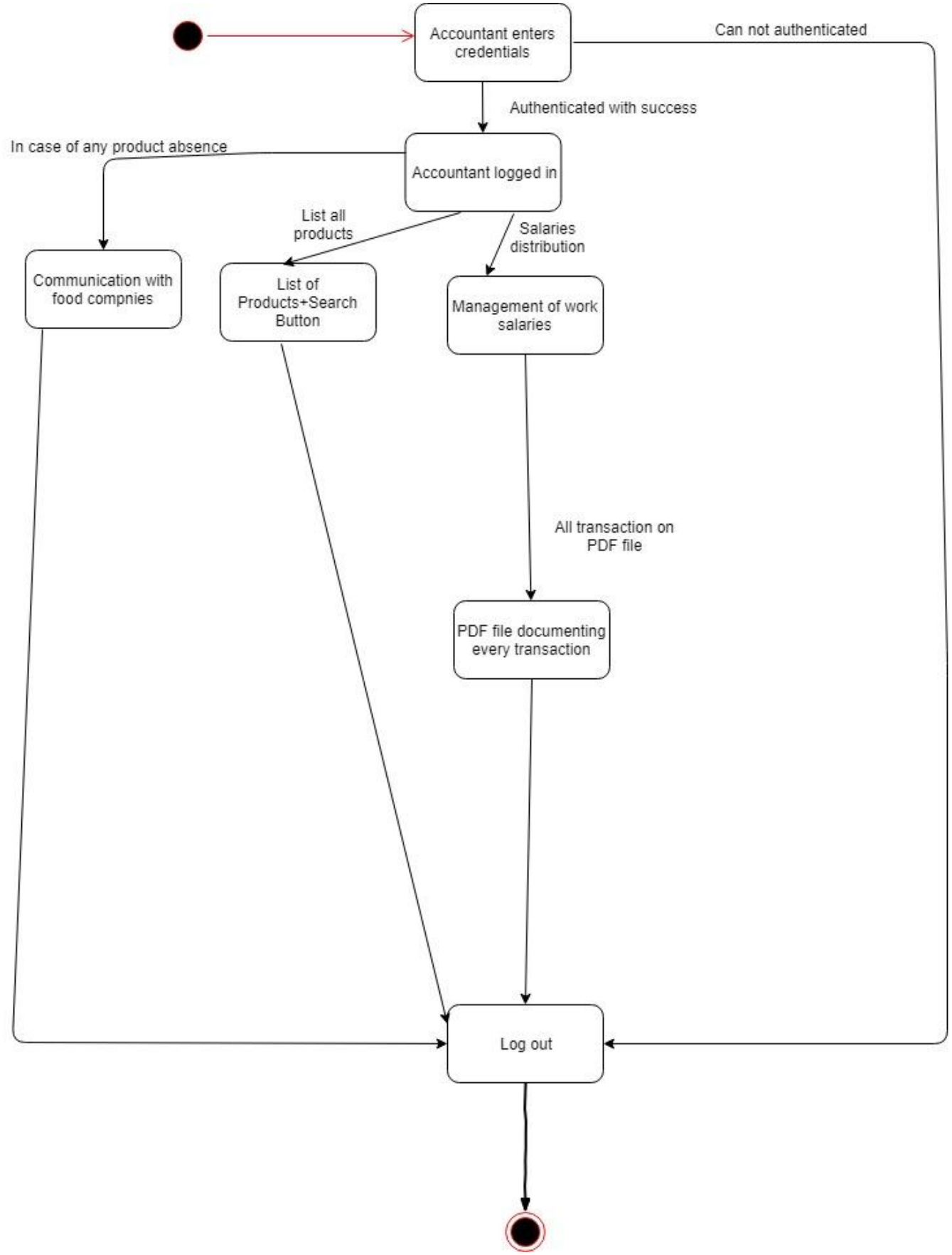

Person
Admin
Accountant
Chef
Waiter
Sees and creates
Sees
Manages
Cooks
reserves
makes
Table
Contains
Products
Notifications
Dishes
Transaction
Provides
Supplier

State Diagrams

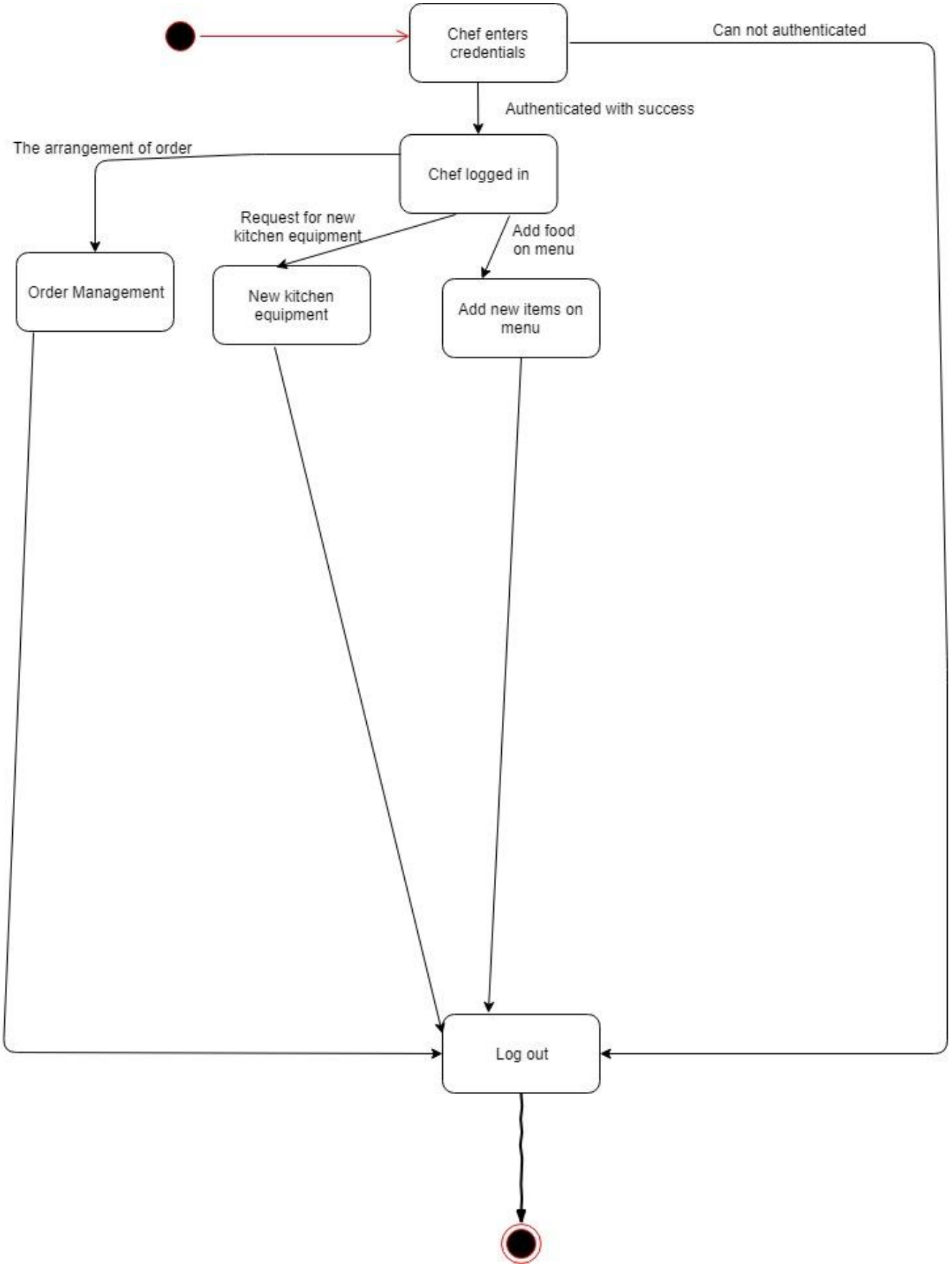
-Admin



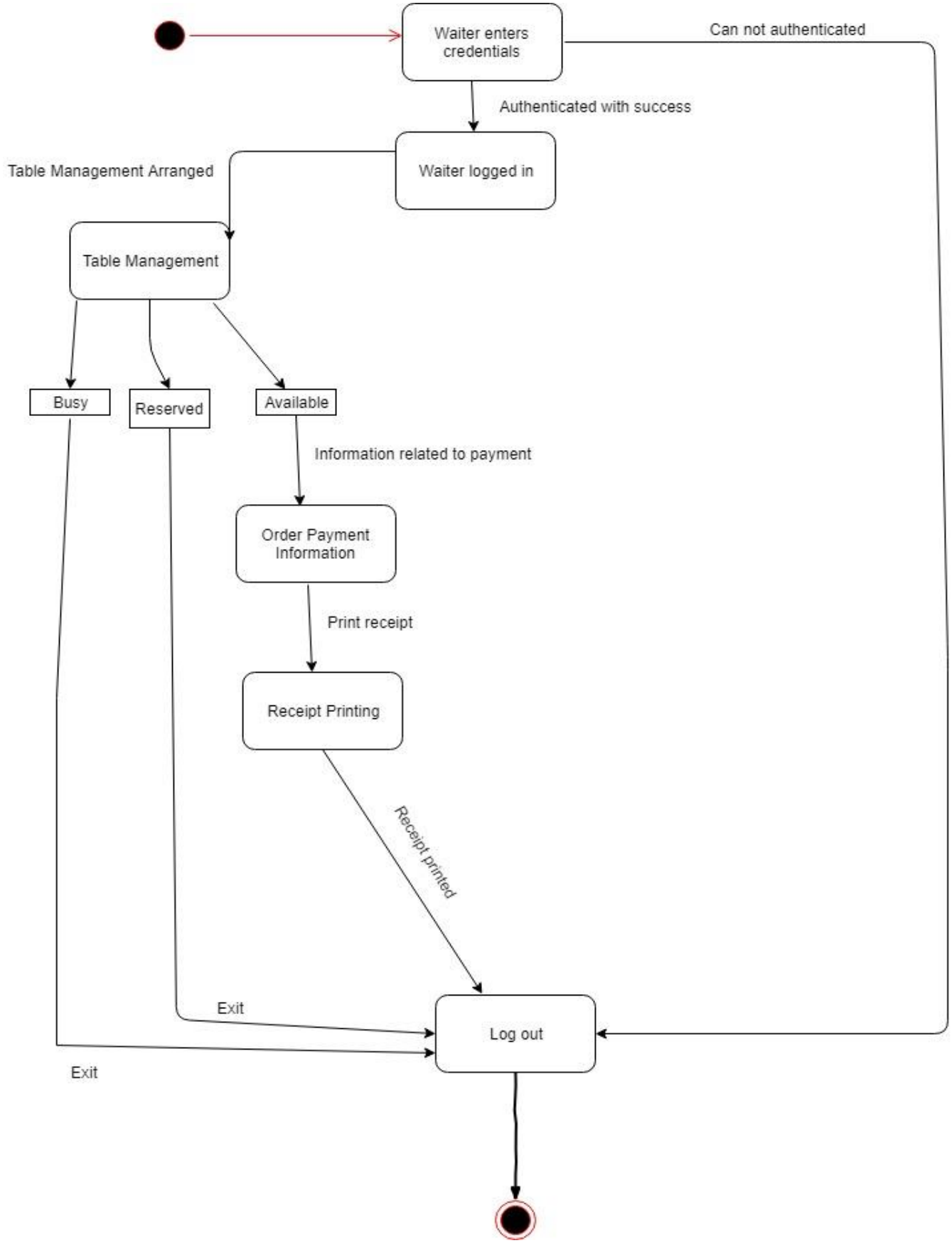
-Accountant


Accountant enters credentials
Can not authenticated
Authenticated with success
In case of any product absence
Accountant logged in
List all products
Salaries distribution
Communication with food compnies
List of Products+Search Button
Management of work salaries
All transaction on PDF file
PDF file documenting every transaction
Log out

-Chef

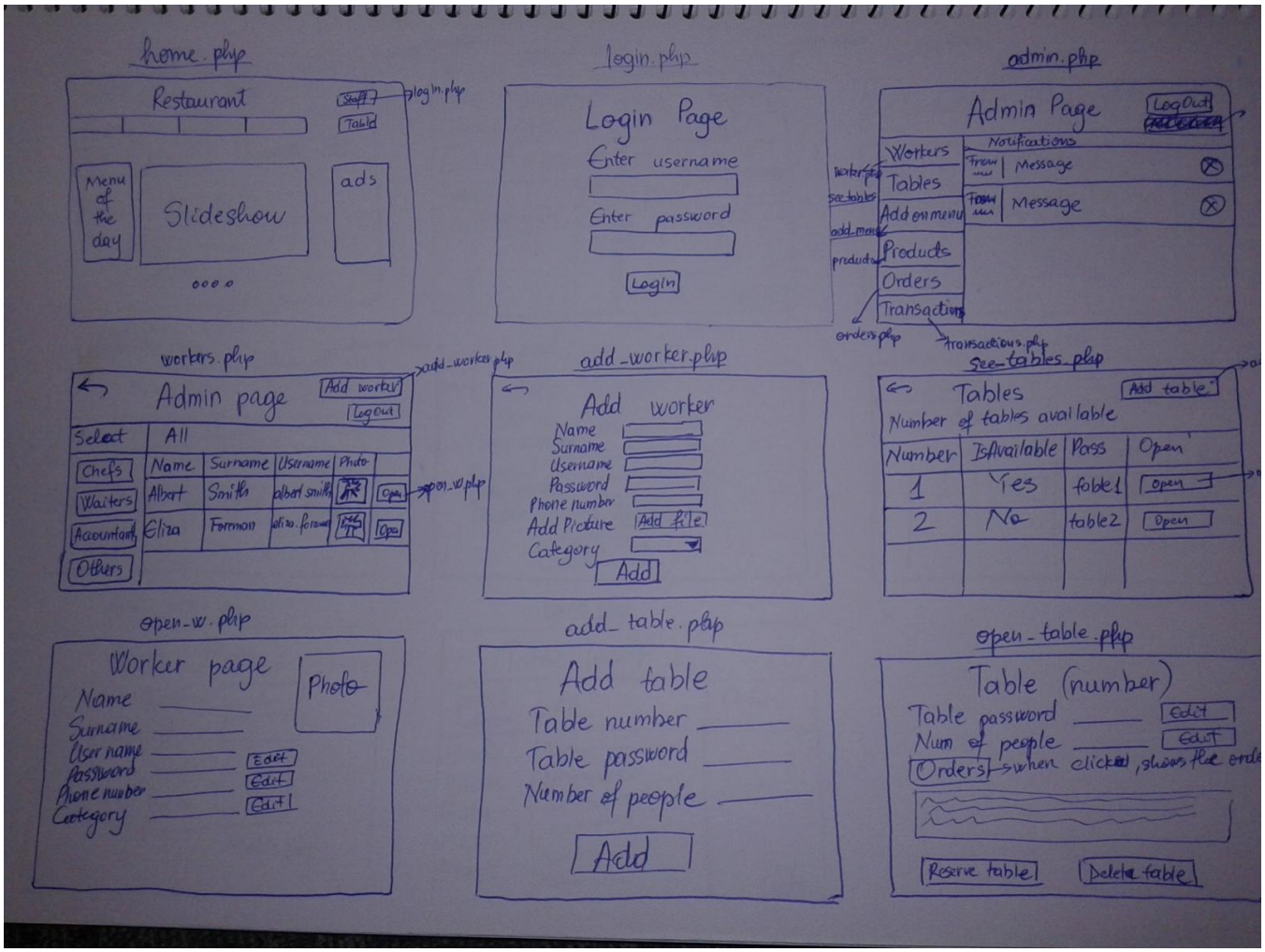

Chef enters credentials
Can not authenticated
Authenticated with success
The arrangement of order
Chef logged in
Request for new kitchen equipment
Add food on menu
Order Management
New kitchen equipment
Add new items on menu
Log out

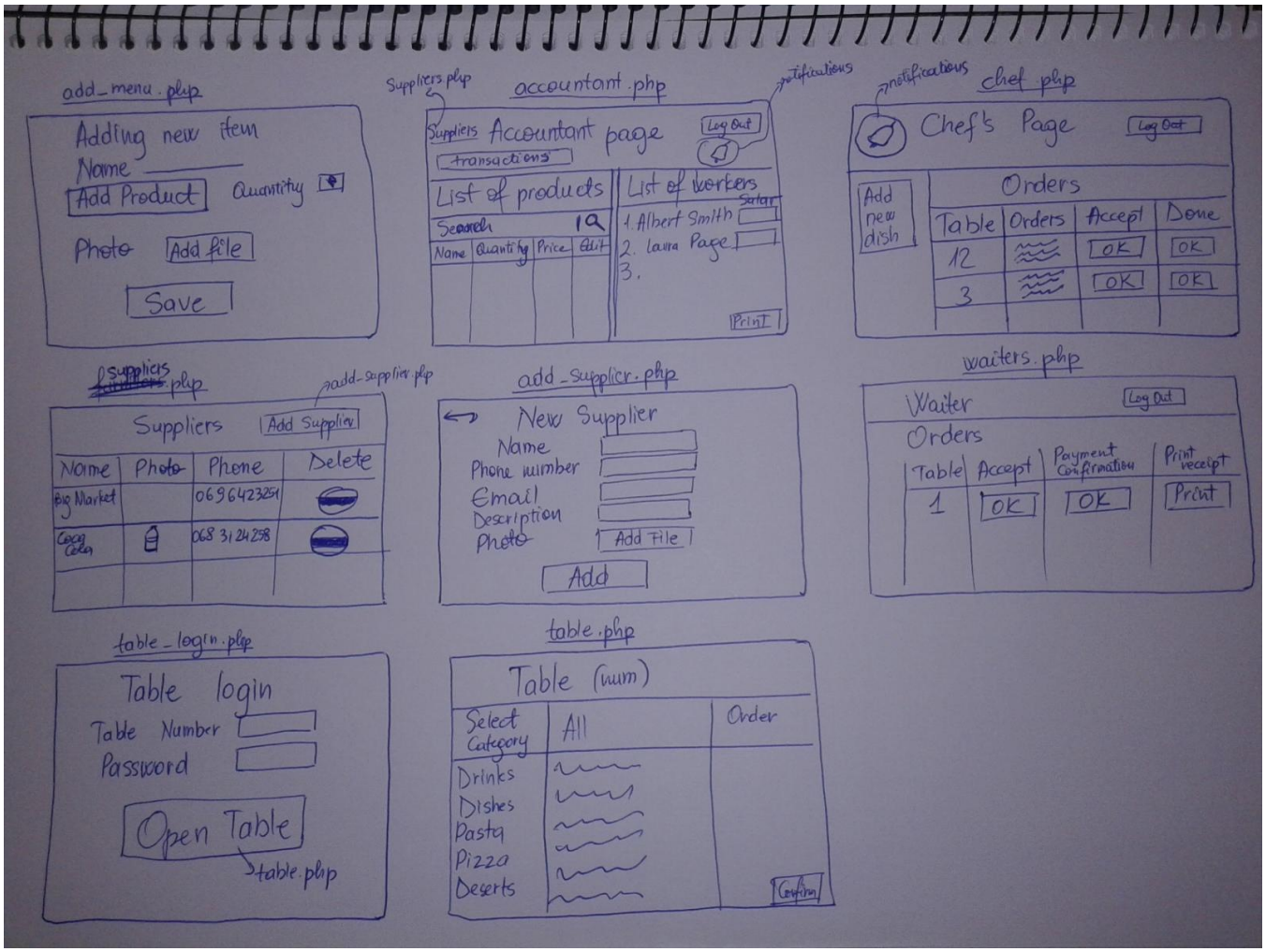
-Waiter


Waiter enters credentials
Can not authenticated
Authenticated with success
Waiter logged in
Table Management Arranged
Table Management
Busy
Reserved
Available
Information related to payment
Order Payment Information
Print receipt
Receipt Printing
Receipt printed
Exit
Log out
Exit

APPENDIX

Appendix A. Sketches




add_menu.php
Adding new item
Name
Add Product
Quantity
Photo
Add file
Save
Suppliers.php
accountant.php
notifications
Suppliers
Accountant page
Log Out
transactions
List of products
Search
Name
Quantity
Price
Edit
List of workers
Salary
1. Albert Smith
2. Laura Page
3.
Print
notifications
chef.php
Chef's Page
Log Out
Add new dish
Orders
Table
Orders
Accept
Done
12
OK
OK
3
OK
OK
suppliers.php
add_supplier.php
Suppliers
Add Supplier
Name
Photo
Phone
Delete
Big Market
0696423251
Coca Cola
068 312458
add_supplier.php
New Supplier
Name
Phone number
Email
Description
Photo
Add File
Add
waiters.php
Waiter
Log Out
Orders
Table
Accept
Payment Confirmation
Print receipt
1
OK
OK
Print
table_login.php
Table login
Table Number
Password
Open Table
table.php
table.php
Table (num)
Select Category
All
Order
Drinks
Dishes
Pasta
Pizza
Deserts
Confirm