



# Epoka Canteen Automation

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## Requirements Specification

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**02/04/2019**

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# 1. Executive Summary

## 1.1 *Project Overview*

Technology nowadays is involved in every field of our life making our everyday life and its activities easier and time-saving. Having the same purpose this software aims to facilitate the ordering process in the canteen which is an activity that takes most of the break time the students and staff of the university have. One solution to this problem might be the automation of the canteen.

The automation of the canteen will be in the form of a Web Application which will be adopted to the needs that Epoka Canteen has and in the same time the management of the canteen company will become simpler to handle during peak hours.

This system will give the client side users (students and staff) the flexibility of ordering online in real time reducing the time-consuming queues. Due to real time communication between the cashier and the client the transaction will be faster and more optimized at the same time. On the other side the canteen staff will have more organized work-flow and better management in taking, delivering orders and also managing their inner organization.

This application will be an extension of the existing Epoka University Web Application in order for accounts of the students to be safer and also easier for them to adopt with.

## 1.2 *Purpose and Scope of this Specification*

The purpose of this software is to accelerate customer order in Epoka University Canteen and also facilitate the work of the canteen staff by creating a Web Application. This software will take the orders of the students and respond them in real time. This application idea is projected as an extension of the EIS Epoka University site which will give access to students and staff, that from their school/work account order their meal online also by not having the need to pay in cash but by using their own credits(money converted in credits) in their accounts. This system would be practical and beneficial also for the workers of canteen since some operation like paying or handling a long queue will be reduced and the new replacing operations would be very easy to work with. In this documentation would be explained all the facilities that the system have and will give information about the way it works

## 2. Product/Service Description

### 2.1 Product Context

Epoka Canteen Automation is a software which from the functional point of view it is divided in two parts, one is the Epoka University side which gives access to students to access the canteen menu and make orders and the other one is the Canteen side which besides handling online orders also has its own management system dedicated to the company functionalities. This software will automate the process of ordering in the canteen and also make the canteen management more time efficient.

### 2.2 User Characteristics

There are five types of users that will use the system:

#### 1. Students/Staff:

- Views the menu of canteen
- Orders online by choosing in the menu
- Views its profile (Epoka profile including the credits section related with the canteen )
- Views the history of its orders within a cycle of payment
- Log in with Epoka University account

#### 2. Cashier:

- Views the order's timeline and manages orders
- Edit menu (regular and daily one )
- Create order for the clients that are not part of Epoka University system

#### 3. Epoka Finance:

- Will control the credit accounts of the students (edit)

#### 4. Finance of Canteen:

- Will access a list of all orders done in a particular interval
- Will have access accessing statistics about products and order
- Will have access in creating balances

#### 5. Administrator of Canteen:

- Creates accounts for cashier and finance of the canteen
- Access the finances of the canteen

### 2.3 Assumptions

- It is assumed that the Student/Staff interface and database is part of Epoka University EIS

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- It is assumed that the log in for the student/staff will be from Epoka email
- It is assumed the contract between the canteen company (Bereqet ) and Epoka university about the credits part it is valid and accepted by both sides including the money transaction and any kind of profit each side takes from each other.
- It is assumed that internet connection is always available(fact: In Epoka University Internet is available for the students and staff)
- It is assumed that the finance part of canteen (Bereqet ) it is functional
- It is assumed that for the own administration Canteen(Bereqet) company has its own software

## 2.4 Constraints

The only constraint that this Software have is the internet connection which is needed in order for orders to be done in real time. Considering the fact that Epoka University has already free stable internet connection for students and staff this constraint is easier to handle .

## 2.5 Dependencies

- The software is dependent from EIS Epoka University System since the data of the students and staff which are translated into their accounts.
- The orders are dependent from the credits clients have in their accounts

# 3. Requirements

## 3.1 Functional Requirements

Req#	Requirement	Comments	Priority	Date	SME Reviewed/Approved
BR_01	The software should have different views for each user.	The view for students/staff,finance, Administrator,cashier.			
BR_02	The accounts will be secured by passwords for each user.	The password will be hashed before saving them in the database.			
BR_03	The administrator can edit and add information.	Administrator can edit and add information for each employee.			
BR_04	The information entered by the administrator while creating a new	It is important that the information entered is accurate.			

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	account will be first validated.				
BR_05	The user can check the previous orders.	The user can see all the history within a payment and check credits.			
BR_06	A user cannot edit his records.	The profile of a user is in a read view.			
BR_07	A user cannot see the profile of another user.	A user has to do only with his profile.			
BR_08	A user can get an e-mail by the finance when his credits are transferred in his/her account.				
BR_09	A user will be informed when an order is ready.	A notification will show when the order is ready.			
BR_10	An user will be informed for how much time the food will be ready.	The cashier will add an approximated time each food needs to be prepared.			
BR_11	An cashier is allowed to make changes in the menu.	Everyday it will a special menu so it will show just the daily menu. It can block an item if the canteen has ran out of it and can add and delete from the main menu.			
BR_12	The time that users can make the orders is limited.	An user can order from 8 am to 5 pm.			
BR_13	A cashier can create an order	In case the client is not part of the University and does not have an Epoka account			
BR_14	The Epoka finance has the access to change the credits	Finance also have access to some general information about students and staff members. Epoka finance cannot edit personal information of the student/staff, he/she can edit only their credits			
BR_15	The canteen finance does not have any access to the users accounts or to the users credits	Canteen finance has access only to the list of orders made and the name and surname of the user who made the order			
BR_16	The user cannot order more than two same items	Precautions for the queue not to be blocked by one person			

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BR_17	The cashier can block or unblock an item in the menu	If Canteen ran out of one item the cashier can block it in order to not take more online orders for that item			
BR_18	Epoka finance accesses the balances in different periods of time and the list of orders	Canteen finance can access the list of orders but not the personal information of those who made the order			

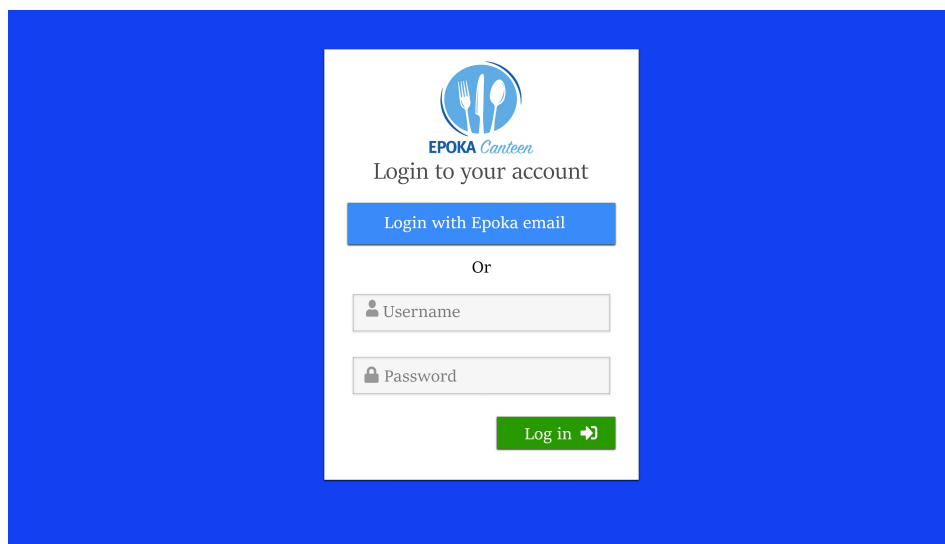
## 3.2 Non-Functional Requirements

### 3.2.1 User Interface Requirements

The user will access the app with a browser from every device since the software will be web based. The web app will adapt to every screen resolution.

The user interface is divided in 6 main groups:

- **Log in/Main Interface**



- The login interface will contain at the top the logo.
- 2 ways of login
  - Button to log in with epoka email.
  - Username and password fields and the log in button.

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
The Student and School Staff user will login with Epoka email. When the button is clicked the interface with the menu will show.

The Cashier, Epoka Finance, Bereget Finance and Admin user will login with their respective credentials (username and password). When the login button is pressed the information is validated and their respective interface is showed. In case of wrong credentials an error message is shown indicating that username or password are not correct.

- **Student/School Staff interface**

The main page of this interface consists of all the items of the menu and its prices.

The interface contains:

1. The navigation bar at the top of the interface with the logo and the interface menu that the user can access:
  - Menu
  - My Profile
  - My Order
  - Notification icon 
  - Log out icon 
2. The **“Menu”** menu which is also the home page of the interface will show at the beginning the menu of the day with its price and an order button then under the menu of the day the static menu with all the items and their prices. Each menu item will have a + and – icon with the desired amount to order. Each time the user will click on the plus or minus icon in the **“My Order”** menu a small red dot will appear with inside the amount desired.
3. The **“My Profile”** menu will show all the information of the user like:
  - Profile picture
  - Name and surname
  - Position
  - Card ID number
  - Department
  - Current credit
4. The **“My Order”** menu will show the current order in table format that is not finalized and at the bottom of the table the finalize button which finalizes the order and sends the order to the cashier. On the left side of the current order there will be shown a table with the history of orders with their respective information of the user.
5. The **“Notification”** icon will show when an order is ready.
6. The **“Log out”** icon will redirect the user to the log in interface and will terminate the session.

- **Cashier interface**

The main page of this interface consists of all the orders received from the clients.

The interface contains:

1. The navigation bar at the top of the interface with the logo and the interface menu that the user can access:



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- Orders (Porositë)
  - Daily menu (Menuja e ditës)
  - Modify Menu (Ndrysho menu)
  - Make order (Krijo porosi)
  - Log out icon ↗
2. The **“Porositë”** menu which is also the home page of the interface shows all the orders received from the clients in a table format where each row represents an order. The table has columns: Order(items ordered), ID of student, Name and Surname, Time, Total price, and the Done button which will indicate when an order is ready.
  3. The **“Menuja e ditës”** menu is used to create the daily menu, the user selects the items to be on the daily menu and sets the price.
  4. The **“Ndrysho menu”** menu shows all the items of the menu in a table format. The table has columns: Icon (photo of the menu item), Name, Price and the Delete button to delete an item from the menu. The information of each item can be modified by clicking on the respective field to modify. At the bottom of the table is an Add button which will open a window to add a new item to the menu.
  5. The **“Krijo porosi”** menu is used for clients that cannot make an order from the Epoka Canteen app. These clients usually will not be members of the Epoka University.
  6. The **“Log out”** icon will redirect the user to the log in interface and will terminate the session.
- **Epoka Finance interface**

The main page of this interface consists of all the students and staff users that use the Epoka Canteen app.

The interface contains:

    1. A header bar at the top of the interface with the logo, the “Financa” name written and a logout icon ↗.
    2. All the students and staff users that use the Epoka Canteen app are shown in a table format where each row represents a user. The table has columns: Picture, Name, Surname and a Select button. When the select button is clicked a window will open. The window will contain all the user’s information: picture, name, surname, position, department, card ID number, email and current credit. At the bottom there will be a field and a “Add” button where the user will insert the amount of credit to add to the selected student or staff member.
    3. The **“Log out”** icon will redirect the user to the log in interface and will terminate the session.
  - **Bereqet Finance interface**

The main page of this interface consists of all the orders received from the clients.

The interface contains:

    1. The navigation bar at the top of the interface with the logo and the interface menu that the user can access:
      - Order List
      - Statistics
      - Log out icon ↗

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2. The **“Order List”** menu which is also the home page of the interface shows all the orders received from the clients in a table format where each row represents an order. The table has columns: Order(items ordered), ID of student, Name and Surname, Time and Total price.
3. When the user will hover on the **“Statistics”** menu a drop down menu will appear with sub menus:
  - Daily balance
  - Weekly balance
  - Monthly balance
4. The **“Daily balance”** submenu shows the total of money made in a day, the total of money spent in a day, profit of the day, number of products sold, the best selling product and the graph with the amount of each product sold.
5. The **“Weekly balance”** submenu shows the total of money made in a week, the total of money spent in a week, profit of the week, number of products sold, the best selling product of the week and the graph with the balance for each day of the week.
6. The **“Monthly balance”** submenu shows the total of money made in a month, the total of money spent in a month, profit of the month, number of products sold, the best selling product of the month and the grap with the balance for each week of the month.
7. The **“Log out”** icon will redirect the user to the log in interface and will terminate the session.

- **Admin interface**

The interface contains:

1. A header bar at the top of the interface with the logo, the “Admin” name written and a logout icon l→.
2. All the users (except the student/staff users) that use the Epoka Canteen app are shown in a table format where each row represents a user. The table has columns: Name, Surname, Position, Level and a Delete button. When the delete button is clicked the user will be deleted. The admin can edit the information of each user by clicking on the field to modify. At the bottom of the table there is a special row to add a new user and an “Add” button. When the add button is clicked the new user will be added to database of users.
3. The **“Log out”** icon will redirect the user to the log in interface and will terminate the session.

### 3.2.2 Usability

- Learnability
  - All level of users will be able to use the system in a few hours since the system will be very intuitive.
- Efficiency
  - The software will provide users a fast and reliable way of performing each operation.
- Accessibility
  - Student/Staff users and Epoka finance will access the system with the email provided by the university.
  - Cashier, Bereqet finance and admin will access the system with their respective username and password.

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- The software can be accessed from anywhere and at any time, from a computer or a mobile device.
- Effectiveness
  - The software will provide the client everything that he needs, from ordering everything that he wants to check the credit left.
  - The software will make the work flow at the canteen more time efficient and more flexible.

### 3.2.3 Performance

#### 1. Capacity

The software will work at the same time for all the type of users. Every change made will be reflected on the database so automatically reflected to all the other users. The software will be stored in a web server based on linux. The software will have a maximum size of 150 mb.

#### 2. Availability

- The web app will be available 24/7.
- The web app will be available to all the users that have a pc or a mobile device connected to internet.
- The web app can be accessed from anywhere.
- The orders can be done only from 8 AM – 8 PM.

#### 3. Latency

The latency of the web application will depend on:

- Internet connection strength.
- The efficiency of algorithms used to retrieve data from the database.

### 3.2.4 Manageability/Maintainability

#### - Monitoring

The system will be built to be secure and reliable. For the system to be secure and reliable there will be followed procedures to validate the information entered by every user. For every error scenario specific messages will be shown to the user so he can be informed about the problem encountered.

#### - Maintenance

- The web application will be developed in modules so the issues can be isolated and managed more easily
- MySQL and an Apache server will be used to maintain the application.

#### - Operations

- The users can log in and log out.
- Students and Staff members log in with epoka email.
- Cashier, Epoka finance user, Bereqet finance user, admin log in with username and password.
- Student/Staff members can make orders.
- Student/Staff members can check their information and the current credit left.
- Student/Staff members can check in the notification section when their order is ready.

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- Cashier can check all the orders that are waiting to be prepared.
- Cashier updates the daily menu.
- Cashier updates the static menu.
- Cashier can download a pdf of a specific order.
- Cashier can create an order for clients that do not have an account.
- Epoka finance user can check all the student/staff members that use the web application.
- Epoka finance user can add credit to all the student/staff members that use the web application.
- Bereget finance user can check all the orders that the clients have made.
- Bereget finance user can check the daily, weekly, monthly balance.
- The admin can read, update, create and delete users, specifically cashiers, Epoka finance and Bereget finance users.

### **3.2.5 System Interface/Integration**

#### **- Network and Hardware Interfaces**

The web application will use a Wi-Fi, Ethernet or mobile data connection to connect to the internet. Since it is a web application it will be stored in a web server so the browser has to establish a TCP connection with the server.

### **3.2.6 Security**

#### **- Protection**

- All sensitive information will be encrypted using hash functions.
- All information will be validated.
- The student/staff user will see information only related to them.

#### **- Authorization and Authentication**

- The user authentication will be using Epoka email or username and password.
- Each user will access only their respective information and interface.
- There will be used sessions for logged users.

### **3.2.7 Data Management**

- All the data will be stored in a database using MySQL.
- The database will be an ER model.
- Users, orders, menu items will all be stored in their respective table with their respective attributes.
- There will be two databases one that will represent the Epoka database that will hold all information of the student and the other database will belong to the canteen company which will hold the orders, finances etc.
- Some information in database will be deleted in regular periods of time for example the history of the orders for each student or staff member within a payment period (this information is not needed once the new payment is done and the client has no complaints).

### **3.2.8 Standards Complianceis**

- Every bill generated should be in the state format bill and every bill information should be connected with the cash register approved from the state in order for the transaction to be legal.

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- Monthly reports must be generated in order for Epoka finance office and Canteen Company finance to make the needed transaction.

### 3.2.9 Portability

- Web based application, it can operate in every device that has an internet connection.
- Real time updates when the orders are made.
- The system can be adapted with another canteen company in case a new contract is made.

### 3.3 Domain Requirements

The system manages everything related to a school canteen, from taking orders to be notified where the order is ready to be taken. The main purpose is to digitalize the process, to reduce queue at the canteen and to make the operation of the canteen staff faster and easier.

## 4. User Scenarios/Use Cases

Scenarios:

#### **Scenario 1: *Student makes an order:***

- Student/Staff member will log in with Epoka account
- Student/Staff member selects items in the menu
- Client can review the order with all the chosen items.
- If the client has enough credits a pop up will appear showing the approximate time the order is ready
- If the client decide to continue with the order he/she finalizes it
- Client wait for notification then goes and takes the order

#### **Scenario 2: *Client wants to review the history of orders:***

- Client logs in with Epoka Account
- Client goes to the orders option and there he/she can check the order history

#### **Scenario 3: *Client wants to check the profile and the balance of its account :***

- Client logs in with Epoka Account
- Client goes to the profile option and there he/she can view its personal data and the credits
- Client cannot make any changes in the data

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### **Scenario 4: *Cashier delivers orders:***

- Cashier log in with its personal account created by admin
- Cashier looks the order timeline that appears in the homepage
- Cashier communicates the order to the kitchen.
- Cashier prints the bill for the specific order
- When the order is ready cashier sends notification to the client
- When the client comes to take the order cashier delivers the order and the bill and deletes the order from the timeline

### **Scenario 5: *Cashier creates an order for a client that has no Epoka account :***

- Cashier log in with its personal account created by admin
- Cashier goes to the order page
- Cashier selects from the menu the items the clients wants to order and finalize it
- The new created order appears in the timeline
- Cashier communicate the order to the kitchen and prints the bill
- When the order is ready cashier deletes the order from the timeline

### **Scenario 6: *Cashier edit a specific item in the menu :***

- Cashier log in with its personal account created by admin
- Cashier goes to the modify menu page
- Selects the item he/she wants to modify and perform the changes

### **Scenario 7: *Cashier block one item in the menu :***

- Cashier log in with its personal account created by admin
- Cashier goes to the modify menu page
- Cashier selects the item he/she and blocks it (in his mode the item wont be selected be the clients)

### **Scenario 8: *Cashier unblock one item in the menu :***

- Cashier log in with its personal account created by admin
- Cashier goes to the modify menu page

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- Cashier selects the item he/she and unblocks it (in his mode the item wont be selected be the clients)

#### **Scenario 9: *Cashier adds an item in the menu:***

- Cashier log in with its personal account created by admin
- Cashier goes to the modify menu page
- Cashier selects the add menu button and enters the required information for a new item to be created

#### **Scenario 10: *Cashier deletes an item from the menu:***

- Cashier log in with its personal account created by admin
- Cashier goes to the modify menu page
- Cashier selects the delete menu button and the item is deleted from the menu

#### **Scenario 11: *Cashier creates the daily menu:***

- Cashier log in with its personal account created by admin
- Cashier goes to daily menu page
- Cashier selects the items and puts the price of the daily menu
- Cashier approve the changes and the daily menu is launched

#### **Scenario 12: *Cashier creates the daily menu:***

- Cashier log in with its personal account created by admin
- Cashier goes to daily menu page
- Cashier selects the items and puts the price of the daily menu
- Cashier approve the changes and the daily menu is launched

#### **Scenario 13: *Epoka Finance edits credits to the students/staff member:***

- The Epoka Finance user logs in with Epoka account
- Selects the person whose credits will be entered
- Clicks add button, adds the value to be added and finalize the process

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### **Scenario 14: *Administrator create new account:***

- Log in in the system
- At the end of the user table the admin can edit the asked information for the new account to be created
- By clicking add the new account will be added in the table

### **Scenario 15: *Administrator edit an account:***

- Log in in the system
- Selects the information that want to be added from the table of the users
- Save the changed information

### **Scenario 16: *Administrator edit an account:***

- Log in the system
- Selects the account that he/she wants to be deleted and clicks the delete button

### **Scenario 17: *Canteen finance wants to check the list of orders:***

- Log in the system with its personal canteen account
- He/she can see the list of orders in the homepage

### **Scenario 18: *Canteen finance wants to check weekly balance:***

- Log in the system with its personal canteen account
- He/she goes to weekly balance and gets the needed information

### **Scenario 19: *Canteen finance wants to check monthly balance:***

- Log in the system with its personal canteen account
- He/she goes to monthly balance and gets the needed information

### **Scenario 20: *Canteen finance wants to check daily balance:***

- Log in the system with its personal canteen account
- He/she goes to daily balance and gets the needed information



## APPENDIX

The appendixes are not always considered part of the actual Requirements Specification and are not always necessary. They may include

- Sample input/output formats, descriptions of cost analysis studies, or results of user surveys;
- Supporting or background information that can help the readers of the Requirements Specification;
- A description of the problems to be solved by the system;
- Special packaging instructions for the code and the media to meet security, export, initial loading, or other requirements.

When appendixes are included, the Requirements Specification should explicitly state whether or not the appendixes are to be considered part of the requirements.

### Appendix A. Definitions, Acronyms, and Abbreviations

Define all terms, acronyms, and abbreviations used in this document.

### Appendix B. References

List all the documents and other materials referenced in this document.

### Appendix C. Requirements Traceability Matrix

The following trace matrix examples show one possible use of naming standards for deliverables (FunctionalArea-DocType-NN). The number has no other meaning than to keep the documents unique. For example, the Bargaining Unit Assignment Process Flow would be BUA-PF-01.

For example (1):

Business Requirement	Area	Deliverables	Status
BR_LR_01 The system should validate the relationship between Bargaining Unit/Location and Job Class.---Comments: Business Process = "Assigning a Bargaining Unit to an Appointment" (Priority 1)	BUA	BUA-CD-01 Assign BU Conceptual Design	Accepted
		BUA-PF-01 Derive Bargaining Unit-Process Flow Diagram	Accepted
		BUA-PF-01 Derive Bargaining Unit-Process Flow Diagram	Accepted
BR_LR_09 The system should provide the capability for the Labor Relations Office to maintain the job class/union relationship.---Comments: Business Process = "Maintenance" (Priority 1)	BUA	BUA-CD-01 Assign BU Conceptual Design	Accepted
		BUA-PF-02 BU Assignment Rules Maint Process Flow Diagram	ReadyForReview

For example (2):

BizReqID	Pri	Major Area	DevTstItems DelivID	Deliv Name	Status
BR_LR_01	1	BUA	BUA-CD-01	Assign BU Conceptual Design	Accepted
BR_LR_01	1	BUA	BUA-DS-02	Bargaining Unit Assignment DB Modification Description	Accepted
BR_LR_01	1	BUA	BUA-PF-01	Derive Bargaining Unit-Process Flow Diagram	Accepted

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BizReqID	Pri	Major Area	DevTstItems DelivID	Deliv Name	Status
BR_LR_01	1	BUA	BUA-UCD-01	BU Assign LR UseCase Diagram	ReadyForReview
BR_LR_01	1	BUA	BUA-UCT-001	BU Assignment by PC UseCase - Add Appointment and Derive UBU	Reviewed
BR_LR_01	1	BUA	BUA-UCT-002	BU Assignment by PC UseCase - Add Appointment (UBU Not Found)	Reviewed
BR_LR_01	1	BUA	BUA-UCT-006	BU Assignment by PC UseCase - Modify Appointment (Removed UBU)	Reviewed
BR_LR_09	1	BUA	BUA-CD-01	Assign BU Conceptual Design	Accepted
BR_LR_09	1	BUA	BUA-DS-02	Bargaining Unit Assignment DB Modification Description	Accepted
BR_LR_09	1	BUA	BUA-PF-02	BU Assignment Rules Maint Process Flow Diagram	Accepted
BR_LR_09	1	BUA	BUA-UCD-03	BU Assign Rules Maint UseCase Diagram	Reviewed
BR_LR_09	1	BUA	BUA-UCT-045	BU Assignment Rules Maint: Successfully Add New Assignment Rule	Reviewed
BR_LR_09	1	BUA	BUA-UCT-051	BU Assignment Rules MaintUseCase: Modify Rule	Reviewed
BR_LR_09	1	BUA	BUA-UCT-053	BU Assignment Rules MaintUseCase - Review Assignment Rules	Reviewed
BR_LR_09	1	BUA	BUA-UCT-057	BU Assignment Rules MaintUseCase: Inactivate Last Rule for a BU	Reviewed
BR_LR_09	1	BUA	BUA-UI-02	BU AssignRules Maint UI Mockups	ReadyForReview
BR_LR_09	1	BUA	BUA-TC-021	BU Assignment Rules Maint TestCase: Add New Rule (Associated Job Class Does Not Exist) - Success	ReadyForReview
BR_LR_09	1	BUA	BUA-TC-027	BU Assignment Rules Maint TestCase: Modify Rule - Success	ReadyForReview
BR_LR_09	1	BUA	BUA-TC-035	BU Assignment Rules Maint TestCase: Add New Rule (Associated Job Class Does Not Exist) - Error Condition	ReadyForReview
BR_LR_09	1	BUA	BUA-TC-049	BU Assignment Rules Maint TestCase: Modify Rule - Error Condition	ReadyForReview

For example (3):

BizReqID	CD01	CD02	CD03	CD04	UI01	UI02	UCT01	UCT02	UCT03	TC01	TC02	TC03	TC04
BR_LR_01			X		X		X			X		X	
BR_LR_09	X			X		X			X		X		X
BR_LR_10	X			X					X		X		
BR_LR_11		X											

## Appendix D. Organizing the Requirements

This section is for information only as an aid in preparing the requirements document.

Detailed requirements tend to be extensive. Give careful consideration to your organization scheme. Some examples of organization schemes are described below:

### By System Mode

Some systems behave quite differently depending on the mode of operation. For example, a control system may have different sets of functions depending on its mode: training, normal, or emergency.

### By User Class

Some systems provide different sets of functions to different classes of users. For example, an elevator control system presents different capabilities to passengers, maintenance workers, and fire fighters.

### By Objects

Objects are real-world entities that have a counterpart within the system. For example, in a patient monitoring system, objects include patients, sensors, nurses, rooms, physicians, medicines, etc. Associated with each object is a set of attributes (of that object) and functions (performed by that object). These functions are also called services, methods, or processes. Note that sets of objects may share attributes and services. These are grouped together as classes.

### By Feature

A feature is an externally desired service by the system that may require a sequence of inputs to affect the desired result. For example, in a telephone system, features include local call, call forwarding, and conference call. Each feature is generally described in a sequence of stimulus-response pairs, and may include validity checks on inputs, exact sequencing of operations, responses to abnormal situations, including error handling and recovery, effects of parameters, relationships of inputs to outputs, including input/output sequences and formulas for input to output.

### By Stimulus

Some systems can be best organized by describing their functions in terms of stimuli. For example, the functions of an automatic aircraft landing system may be organized into sections for loss of power, wind shear, sudden change in roll, vertical velocity excessive, etc.

### By Response

Some systems can be best organized by describing all the functions in support of the generation of a response. For example, the functions of a personnel system may be organized into sections corresponding to all functions associated with generating paychecks, all functions associated with generating a current list of employees, etc.

### By Functional Hierarchy

When none of the above organizational schemes prove helpful, the overall functionality can be organized into a hierarchy of functions organized by common inputs, common outputs, or common internal data access. Data flow diagrams and data dictionaries can be used to show the relationships between and among the functions and data.

### Additional Comments

Whenever a new Requirements Specification is contemplated, more than one of the organizational techniques given above may be appropriate. In such cases, organize the specific requirements for multiple hierarchies tailored to the specific needs of the system under specification.

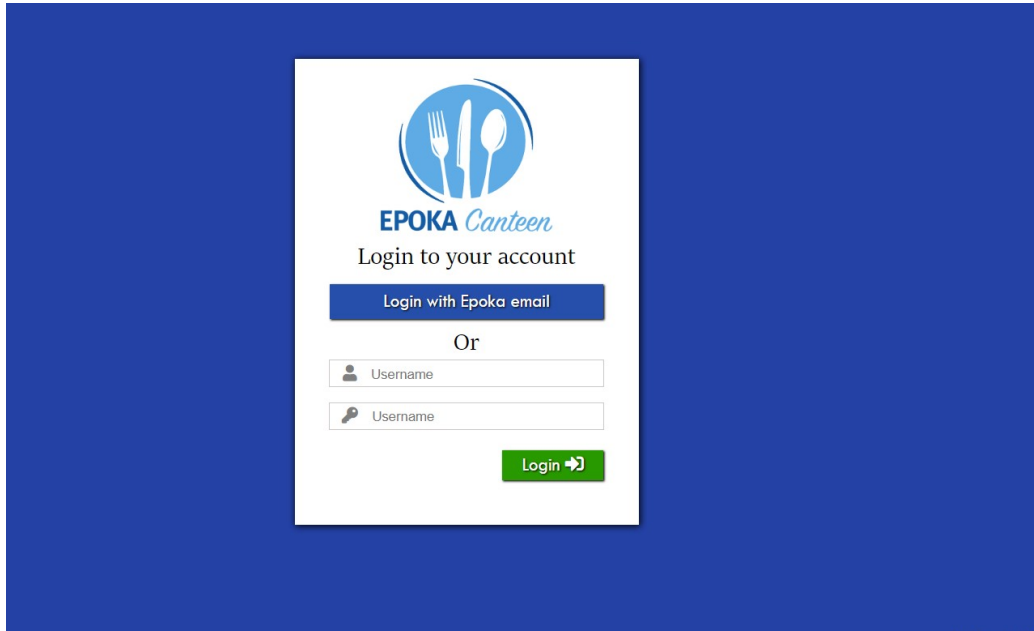
There are many notations, methods, and automated support tools available to aid in the documentation of requirements. For the most part, their usefulness is a function of organization. For example, when organizing by mode, finite state machines or state charts may prove helpful; when organizing by object, object-oriented analysis may prove helpful; when organizing by feature, stimulus-response sequences may prove helpful; and when organizing by functional hierarchy, data flow diagrams and data dictionaries may prove helpful.

## Epoka Canteen Automation Documentation

### Sketches

Sketches are made with Adobe XD.

### Log in interface:



### Student/Staff member interfaces

#### Homepage:

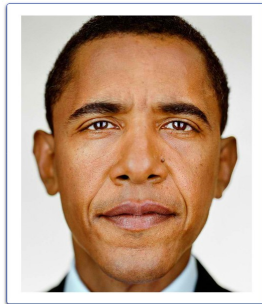


#### Profile:

## Epoka Canteen Automation Documentation


 EPOKA Canteen




Menu   



Name: Barack  
Surname: Obama  
Position: Student  
Card ID: 123456789  
Department: Computer Engineering  
Credit: 500 LEK


My order:

 EPOKA Canteen

Menu   

### Your Order

Item	Quantity	Price
Pice	1	150 LEK
Fileto Pule	1	250 LEK
TOTAL		
		400 LEK

Finalize 


### HISTORY

Order	Time	Price
Makarona	12:30	150 LEK
Patate Salcice	13:30	150 LEK


## Epoka Canteen Automation Documentation

### Cashier interfaces:

#### Homepage:


 <span>Porositë</span> <span>Menuja e ditës</span> <span>Ndrysho menu</span> <span>+</span> <span>→</span>					
POROSITE					
Porosia	ID	Emer Mbiemer	Ora	Cmimi Total	
2 Fileto Pule, 1 Pica	12345678	Alba Brozi	13:05	650 LEK	✓
1 Makarona me salce	121212121	Ina Hoxha	13:10	150 LEK	✓


#### Create order:

 <span>Porositë</span> <span>Menuja e ditës</span> <span>Ndrysho menu</span> <span>+</span> <span>→</span>					
MENU			POROSIA		
Artikull	Sasia	Cmimi	Artikull	Sasia	Cmimi
Fileto Pule	<span>-</span> 1 <span>+</span>	250 LEK	Pica	1	150 LEK
Makarona me salce	<span>-</span> 1 <span>+</span>	150 LEK	Salcice	2	300 LEK
Salcice patate	<span>-</span> 1 <span>+</span>	150 LEK	TOTAL		
			450 LEK		
			<span>Finalizo</span>		

## Epoka Canteen Automation Documentation






Modify menu:

 EPOKA Canteen

Porositë Menuja e ditës Ndrysho menu + 


---


NDRYSHO MENU







Artikulli	Cmimi	
Makarona me salce	150 LEK	
Fileto Pule	250 LEK	
<div>Pica</div> <div> </div>	150 LEK	

Shto artikull



Daily menu:

 EPOKA Canteen


Porositë Menuja e ditës Ndrysho menu + 



Shto Artikull:

Artikujt  


Cmimi:



Finalizo

## Epoka Canteen Automation Documentation

Create order:


**EPOKA Canteen**

Porositë   Menuja e ditës   Ndrysho menu   +   ➔

**MENU**

Artikull	Sasia	Cmimi
Fileto Pule	<span>-</span> 1 <span>+</span>	250 LEK
Makarona me salce	<span>-</span> 1 <span>+</span>	150 LEK
Salcice patate	<span>-</span> 1 <span>+</span>	150 LEK


**POROSIA**

Artikull	Sasia	Cmimi
Pica	1	150 LEK
Salcice	2	300 LEK
<b>TOTAL</b>		
<b>450 LEK</b>		

Finalizo




Epoka Finance:

Users:


**EPOKA Canteen**

**FINANCE**


➔

PHOTO	NAME	SURNAME	Search...
	BAJRAM	COKAJ	Select
	ALBI	CUNGU	Select
	INA	HOXHA	Select




## Epoka Canteen Automation Documentation

Add Credit:

 **EPOKA** Canteen

FINANCE



Name: Albi

Surname: Cungu

Position: Student

Card ID: 123456789

Department: CEN

Credit: 500 LEK

Add Credit

Administrator:

BEREGET LOGO

HOME Balances List of orders Log out

Daily

Monthly

Yearly

TABLE represents the list of users

PERSONAL Information	Username	Password	Delete
<input type="button" value="Edit Save"/>	<input type="button" value="Edit Save"/>	<input type="button" value="Edit Save"/>	
onlick	onlick	onlick	