

1. Requirements

1.1 Functional Requirements

Req#	Requirement	Comments	Priority	Date	Reviewed/ Approved
FR_01	The software should have different views for different user levels.	The view for admin, customer and supplier will be different.	2	16/04/2023	Era Alcani / Xhensila Hoxha
FR_02	An admin panel could include functions for managing user accounts, such as creating new accounts, editing user profiles, resetting passwords, and deleting user accounts.	These functions would allow admins to efficiently manage user accounts, ensuring smooth user interactions and proper data protection measures.	1	16/04/2023	Era Alcani/ Ksenia Muho
FR_03	Admins could have the ability to add, edit, and delete products on the website.	This could include features like adding product descriptions, images, pricing, and managing inventory.	1	16/04/2023	Era Alcani/ Ksenia Muho
FR_04	Admins could have access to order management functions, including viewing and managing orders placed by customers.	This could involve features like updating order statuses, managing shipments, and cancellations.	1	16/04/2023	Era Alcani/ Ksenia Muho
FR_05	Admins could have features for managing customer communication and support, such as managing customer inquiries, responding to customer feedback, and review.	It is important to maintain good customer relations, provide prompt support, and ensure customer satisfaction.	2	16/04/2023	Era Alcani/ Ksenia Muho

FR_06	Admins could have the ability to configure website settings, such as managing payment gateways, shipping methods, and other general website settings.	These settings allow admins to customize the website's functionality and performance to meet the needs of the business and provide a seamless experience for customers.	1	16/04/2023	Era Alcani/ Ksenia Muho
FR_07	Admins are responsible for managing pastry shop or customer accounts on the platform.	This includes verifying their information, and managing their profiles, menu items, and other details.	1	16/04/2023	Era Alcani/ Ksenia Muho
FR_08	Admins are responsible for implementing and maintaining proper security measures to protect user data.	It is important to prevent unauthorized access, and ensure compliance with data protection regulations.	1	16/04/2023	Era Alcani/ Ksenia Muho
FR_09	Customers can browse the menu, select pastry items, customize orders, and place orders for their desired food items.	It is important that the website must be understandable from the customer view	1	16/04/2023	Era Alcani/ Xhensila Hoxha
FR_10	Customers can create an account, edit their profile information and manage their order history.	This allows customers to have a convenient and personalized experience by easily managing their profile information and tracking their order history within their account on the food ordering website	1	16/04/2023	Era Alcani/ Xhensila Hoxha
FR_11	Customers can securely provide payment information, such as credit card details or use other payment methods available on the platform, to complete their orders and process payments.	They can enter their payment information during the checkout process, and the website securely processes the payment using the chosen payment methods.	1	16/04/2023	Era Alcani/ Xhensila Hoxha

FR_12	Customers can track the status of their orders, receive updates on order progress and view estimated delivery.	This can help customers stay informed about the progress of their orders, manage their expectations, and plan accordingly.	2	16/04/2023	Era Alcani/ Xhensila Hoxha
FR_13	Customers can provide feedback on their orders, and leave reviews to help other customers make decisions.	This allows them to share their experience with other customers, help them make decisions, and provide valuable feedback to the restaurant or delivery service.	3	16/04/2023	Era Alcani/ Xhensila Hoxha
FR_14	Customers can contact customer support for inquiries, issues, or complaints related to their orders, payments, or other aspects of the food ordering process.	This typically involves contacting the customer support team through various channels.	1	16/04/2023	Era Alcani/ Xhensila Hoxha
FR_15	Suppliers can add, edit, and manage their products or menu items on the website, including descriptions, images, prices, and other relevant information.	They may also have the ability to set availability, update pricing, and manage product variations, such as size or customization options.	1	16/04/2023	Era Alcani/ Xhensila Hoxha
FR_16	Suppliers may have the ability to manage their inventory levels, update stock availability, and receive information when items are out of stock.	This allows them to ensure that they can fulfill orders based on their available inventory.	1	16/04/2023	Era Alcani/ Xhensila Hoxha, Ksenia Muho
FR_17	Suppliers can view incoming orders, including order details, and customer preferences.	They may have the ability to accept or decline orders.	1	16/04/2023	Era Alcani/ Xhensila Hoxha, Ksenia Muho
FR_18	The ability for users to create accounts, register, and login to the website to access	This enables users to have a personalized experience and manage their account settings	1	16/04/2023	Era Alcani/ Xhensila Hoxha

	personalized features such as order history, and account settings.	efficiently.			
FR_19	The user accounts have to be secured by passwords.	The security will be maintained by hashing the password before saving them in database.	1	02/05/2023	Era Alcani/ Xhensila Hoxha, Ksenia Muho
FR_20	The information entered by the user while creating an account should be first validated.	It is important that all the information entered is accurate.	1	02/05/2023	Era Alcani/ Xhensila Hoxha, Ksenia Muho
FR_21	A clear and comprehensive menu or product listings with detailed information, including images, descriptions, prices, and customization options	It enhances the user experience and helps users to understand the offerings of the website clearly.	1	16/04/2023	Era Alcani/ Xhensila Hoxha
FR_22	A seamless and user-friendly ordering and checkout process that allows users to add items to their cart, provide payment information, and complete the order.	It should be intuitive, efficient, and secure, allowing users to confidently place their orders and complete the checkout process smoothly.	1	16/04/2023	Era Alcani/ Xhensila Hoxha
FR_23	Secure and reliable payment processing capabilities that support various payment. (PayPal, Credit Card)	It instills trust in users, enhances the website's credibility for a positive user experience.	1	16/04/2023	Era Alcani/ Xhensila Hoxha, Ksenia Muho
FR_24	The ability for users to provide feedback on their orders and leave reviews to help other users make informed decisions.	These reviews help other users make informed decisions when placing their orders and also provide valuable feedback to the website admin for continuous improvement.	2	16/04/2023	Era Alcani/ Xhensila Hoxha

FR_25	The user can update the number of his products directly from the cart.	It is not necessary for the user to turn back in the shop page to update the product quantity.	2	02/05/2023	Era Alcani/ Ksenia Muho
FR_26	Search and filtering capabilities that allow users to quickly find specific menu items or products based on their preferences, dietary restrictions, or other criteria.	This enhances user convenience, saves time, and provides a better user experience on the food website.	2	16/04/2023	Era Alcani/ Xhensila Hoxha
FR_27	Related products will be displayed for a customer when he views a chosen product in the website.	After choosing a product, the customer will be able to choose similar products.	2	02/05/2023	Era Alcani/ Xhensila Hoxha, Ksenia Muho
FR_28	A responsive design that ensures the website is accessible and usable across various devices, including desktops, laptops, tablets, and smartphones.	This improves user satisfaction, increases engagement, and expands the reach of the food website to a wider audience.	1	16/04/2023	Era Alcani/ Xhensila Hoxha
FR_29	A new user should accept the terms and conditions before being registered.	A new user should accept the terms and conditions before being registered.	3	02/05/2023	Era Alcani/ Xhensila Hoxha
FR_30	Integration with social media platforms to enable sharing, promotions, and engagement with users.	This can include social sharing buttons, social media login options, and features that allow users to share their orders, reviews, or promotions on their social media profiles.	3	16/04/2023	Era Alcani/ Xhensila Hoxha

Table 1. Functional Requirements

1.2Non-Functional Requirements

3.2.1 Product Requirements

3.2.1.1 User Interface Requirements

The user interface for the web applications should be compatible to any browser in order for the user to access it from Desktop or Mobile.

In addition to functions required, we are going to describe the characteristics of each interface which are supported from the sketches attached at the Appendix D.

The User interface could be grouped in 5 main interfaces:

1. Customer/ Main interface

Which will contain:

- The header bar containing the navigation bar, the logo of the website “Cake My Day”, shop, account button.
- In the body part will be in the center of the page a quote below it will be shown some information about the pastry shop, then will be a question “Why to choose ‘Cake My Day’?” and some reasons why.
- In categories will be shown buttons of every category of pastry which will lead to the ‘shop’ page.
- The footer bar includes a small information about the pastry shop, links that direct to other pages and contact information like telephone number, email address and social media addresses.

2. Log in interface

Which will contain:

- The header bar containing the navigation bar, the logo of the website “Cake My Day” , shop, account button.
- The log in form contains fields <Username> and <Password> and a button <Log In>. When that button is pressed the information is validated and the respective interface is showed to the user(admin/customer/supplier) or an error notification indicating a wrong username or password will be shown.
- The footer bar includes a small information about the pastry shop, links that direct to other pages and contact information like telephone number, email address and social media addresses.

3. Register interface

Which will contain:

- The header bar containing the navigation bar, the logo of the website “Cake My Day” , shop, account button.
- The register form contains fields <Full Name>, <Email>, <Username> , <Password> and <Confirm Password>. It has also a checkbox in order to agree with the Terms & Conditions of the form.
- The footer bar includes a small information about the pastry shop, links that direct to other pages and contact information like telephone number, email address and social media addresses.

4. Supplier interface

Which will contain:

- The header bar containing the navigation bar, the logo of the website “Cake My Day” , shop, account and basket button.
- The body part will contain the products and their quantity and the transaction button. In the left side of the body will be shown the function that are being done.

5. Admin interface

Which will contain:

- The header bar containing the navigation bar, the logo of the website “Cake My Day” , shop, account and basket button.
- The admin dashboard will contain product, order, categories which will contain information and will contain options as delete, edit or add which will be controlled by the admin.

3.2.1.2 Learnability

- The system should be easy to use and require minimal training for administrators, customers, and suppliers to become proficient within a few hours.
- The system should be intuitive for customers, eliminating the need for specific training.
- The documentation provided should serve as a user guide for customers and suppliers of the pastry shop.
- In case of errors, the system should display clear and detailed error messages to help users understand the issue.
- Users are responsible for their own actions while using the system.

3.2.1.3 Accessibility

- When users register on the system, they are provided with individual usernames and passwords.
- Both the admin and supplier associated with the pastry shop website have access to the system.
- Registered users have the convenience of accessing the system from anywhere and at any time.

3.2.1.4 Efficiency

- All operations will be quick and processed in real-time.
- Once users are familiar with the system, they will be able to complete each operation efficiently within minutes.

3.2.1.5 Memorability

- The system is user-friendly and intuitive, so even if users only vaguely remember how to use it, it shouldn't be a problem.
- If users return to the system after a period of not using it, they should be able to quickly re-establish their proficiency within the first hour.
- The user interfaces are designed to be easily understood by users, utilizing pictures, icons, buttons, and descriptions to enhance usability.

3.2.1.6 Errors

- The error rate of the system is lower than the current error rate.
- For sensitive data, a double-check procedure is implemented, requiring user confirmation of entered data.
- In case of an error, the system allows for immediate editing and correction.

3.2.1.7 Satisfaction

- The system is user-friendly and it is very easy to use.

3.2.1.8 Capacity

The application will be developed to fulfill all the requirements of the pastry shop, catering to the needs of the admin, supplier, and customer simultaneously in real-time. Any changes made by one user will be immediately reflected for other users based on their clearance levels.

All users will share the same database, which may result in slight delays if multiple requests are made to the server and form queries. To optimize capacity and minimize such delays, users will be able to make changes locally on their computers before sending them to the database. This approach ensures that users can continue their work even in the presence of any delays.

The application will be hosted on a web server, and it does not require a large amount of storage space for both the application itself and the database to be used.

3.2.2 Organizational Requirements

3.2.2.1 Availability

- The application will be accessible 24/7, allowing users to access it anytime, every day.
- The application will be available to any user with a PC connected to the internet, enabling them to access their data from anywhere.
- The application will be designed to minimize downtime, as the data used by users is sensitive and time-sensitive.
- Scheduled maintenance activities will not impact the functionality of the system, and in case of any unforeseen issues, unscheduled maintenance will not result in more than 1 hour of downtime for the application.

3.2.2.2 Latency

The latency of the web application will be influenced by:

- The strength of the internet connection.
- The size of the database.
- The effectiveness of the algorithms employed for retrieving data from the database.

3.2.2.3 Monitoring

- The system will be developed with a strong emphasis on security and reliability. The user interfaces will be designed to be user-friendly and it is expected that system crashes will be minimal.
- Field validation will be implemented for various operations such as login, adding new customers or suppliers, updating personal information, changing passwords, etc. If the input does not meet the requirements, the system will display specific error messages to inform the user of the issue.
- Informative error messages will be prepared for most possible error scenarios, enabling users to understand and address the problem effectively.

3.2.2.4 Maintenance

- The system will be developed using MySQL for the database and APACHE server. Therefore, these two platforms will be used to maintain the application.
- The application will be developed in modules so it can be easily extended. New modules can be easily added to the application anytime.
- In case of system malfunction, a system restart should help. If that does not help, then maybe the server is down, so the maintenance department should be contacted.
- In case of any software update or bug correction, the users will be informed.

3.2.2.5 Operations

The system will provide various operations to the users, including:

- User login and access to personal information at any time.
- Limited access to the information entered in the system, only for those who require it.
- Adding, updating, and deleting pastry products.
- Viewing available product information.
- Ordering pastry products from the supplier and allowing customers to order from the website.
- Rating the service of the pastry shop.
- ntacting the pastry shop administrator.

The application will be available 24/7, with peak hours expected to be from 8 AM to 11 AM and 4 PM to 7 PM, though these may vary depending on daily fluctuations in visitor requests.

Due to the sensitivity of the information entered into the system, hashed passwords will be used to ensure security.

3.2.2.6 Standards Compliance

Our newly developed application is designed to digitize the order system for our pastry shop. The website includes online payment functionality, which adheres to strict security standards to safeguard cardholder data and ensure secure payment processing. As a responsible pastry shop, we comply with all relevant food safety regulations in our jurisdiction. This includes proper handling, storage, and labeling of food products, as well as adherence to health and safety standards during food preparation and handling. We also obtain all necessary permits, licenses, and certifications required for operating a pastry shop in our country.

3.2.2.7 Portability

- The system will be web-based, ensuring consistent operation across different operating systems.
- Users only require a computer or mobile phone with an internet connection to access the system.

3.2.3 External Requirements

3.2.3.1 Security

To ensure the security of our system, we recognize that the information stored in the database is sensitive and subject to legal regulations. As per the law No.9887, dated 10.03.2008, amended with law No.48/2012, "On the Protection of Personal Data", it is required that the personal information of each user remains private and accessible only to authorized individuals. As a measure to protect this information, hashed passwords are used for secure storage in our system.

3.2.3.2 Protection

To safeguard the system from unauthorized access, modification, disclosure, destruction, or misuse, we will implement the following precautions:

- Encryption of sensitive information, such as passwords, using hashing methods to protect user privacy.
- Maintaining a log of user activity for accountability and tracing any potential issues.
- Placing responsibility on the admin for ensuring the authenticity of user-entered personal data, with the system not being held liable.
- Implementing data validation checks, including special character validation and other specific conditions, before inserting or updating data in the database.
- Using pop-up windows to confirm intentional actions and prevent accidental actions by users.
- Ensuring that each customer only has access to their relevant information, maintaining privacy and data segregation.

3.2.3.3 Authorization and Authentication

The Authorization and Authentication factors:

- User authentication will be based on the use of usernames and passwords.
- Authorization will be determined by the user type, allowing access only to respective information based on their role.
- Sessions will be used to track the currently logged-in user for enhanced security.
- In the event of incorrect login credentials, a notification will be displayed to the user to alert them.

3.3 Domain Requirements

The web application functions as a website for a privately owned pastry shop, with the primary goals of promoting its products and services, engaging with customers, and facilitating online transactions. The website acts as a virtual representation of the pastry shop, providing a platform to connect with potential customers, showcase its offerings, and establish its brand image. To ensure the security of sensitive information, access to the website is restricted to registered users with valid accounts on the software.