



**ADDIS ABABA SCIENCE AND TECHNOLOGY
UNIVERSITY**

**SCHOOL OF ELECTRICAL AND COMPUTER ENGINEERING
SOFTWARE ENGINEERING DEPARTMENT
SYSTEM ANALYSIS AND MODELING**

**PHASE-II
GROUP PROJECT SECTION-E**

GROUP MEMEBERS	ID NO
I. YONATHAN ALAMREW	ETS 1739/14
II. YONATHAN ASHENAFI	ETS 1740/14
III. YOHANNES MESAY	ETS 1704/14
IV. TEMESGEN GETYE	ETS 1533/14
V. YONAS WORKNEH	ETS 1725/14
VI. YOHANNA BETSIHA	ETS 1701/14

SUBMITTED TO: MRS.LELISE DANIEL

Contents

The Requirements	3
Approach	3
Methodology	3
The Stakeholders	3
Requirements General Overview	3
Requirements Terminology	3
FUNCTIONAL REQUIRMRNTS.....	5
Authentication/Authorization Requirements	5
User/Visitor Requirements.....	5
Contributor Requirements	5
Admin/Moderator Requirements	6
Recipe Management Requirements.....	6
Meal Planning and Shopping List Requirements.....	6
Community and Social Features.....	6
Mobile Responsiveness	7
Analytics and Reporting	7
Accessibility	7
Notifications	7
NON FUNCTIONAL REQUIRMNETS	7
Scalability Requirements:.....	7
Interoperability Requirements:.....	8
Compliance Requirements:	8
Cultural and Regional Requirements:	8
Environmental Requirements:	8
Legal and Ethical Requirements:	8
User Support and Training Requirements:.....	8
Performance Monitoring and Logging:	8
Portability Requirements:	9
Reliability, Maintainability, and Availability Requirements:	9
Security Requirements:	9
Integrity Requirements:	9
Documentation Requirements:.....	9

The Requirements

This section delves into the requirement engineering process, emphasizing both the functional and non-functional aspects shaped by our strategic approach.

Approach

Market Research:

Our approach involves market research aimed at understanding our customers. Through an extensive analysis of the market and reverse engineering of competitors' solutions, we've identified customer needs and market problems.

Methodology

Research Techniques:

We initiated a market research stage, identifying customer segments and demographics. Utilizing observation without intervention, surveys (both digital and printed), and we closely examined industry problems and user perspectives.

Engaging Experts:

We consulted food experts to gain insights into potential solutions. Low-fidelity prototypes were employed to gather user feedback during the requirement engineering process.

The Stakeholders

Primary Stakeholders:

- Experts: Individuals with significant industry experience, including chefs and nutritionists.
- users: Primary end-users for whom the website is designed.

Requirements General Overview

The system will encompass some broad requirements addressing significant challenges:

- Community Support for Users Features: Tackling issues of inconsistency and the absence of like-minded peers.

Requirements Terminology

- Recipe Contributor: User with privileges to submit and edit recipes.
- Recipe Consumer: General user browsing and utilizing recipes.

- Admin/Moderator: Authorized user with content management responsibilities.
- Recipe: Culinary instructions specifying ingredients and cooking steps.
- Ingredient: Individual component used in recipe preparation.
- Cuisine: Distinct style or method of cooking, often associated with a region.
- Dietary Restriction: Specific limitations or preferences related to food choices.
- Meal Plan: A schedule outlining daily meals for a specified period.
- Notification: System-generated message alerting users to updates or activities.
- User Profile: Personalized space containing user information and preferences.
- Authentication: Process of verifying and confirming user identity.
- Authorization: Granting specific access and privileges based on user roles.
- User Interface (UI): Visual layout and design facilitating user interaction.
- Responsive Design: Website layout adjusting to various device screens for optimal user experience.
- Analytics: System-generated reports on user activity, popular recipes, and demographics.
- Accessibility: Ensuring the website is usable and navigable for individuals with disabilities.
- Notification Preferences: User-configurable settings for receiving updates and alerts.
- Content Management: Tools for administrators/moderators to curate and feature recipes.
- Search Criteria: Parameters for users to filter and find recipes (e.g., ingredients, cuisine).
- Comment Section: Area for users to leave feedback and engage in discussions..
- Recipe Update: Modification or addition to an existing recipe by the contributor.
- Security Measures: Protocols safeguarding user data and ensuring privacy.
- Password Encryption: Secure method of encoding and protecting user passwords.
- Usability: Overall user-friendliness and ease of navigation on the website.
- Mobile Responsiveness: Ensuring a seamless experience on various devices, including smartphones and tablets.

FUNCTIONAL REQUIREMENTS

Authentication/Authorization Requirements

- FR01001: [HIGH] Allow users to register for an account
- FR01002: [HIGH] Allow users to log in with their credentials
- FR01003: [HIGH] Allow users to reset their password if forgotten
- FR01004: [HIGH] Classify users into roles (e.g., regular user, contributor, admin) upon registration
- FR01005: [HIGH] Assign appropriate privileges based on user roles
- FR01006: [HIGH] Show confirmation message upon successful registration or login
- FR01007: [HIGH] Allow any user to browse recipes without authentication
- FR01008: [HIGH] Allow authenticated users to submit new recipes
- FR01009: [HIGH] Provide personalized services based on user roles and preferences
- FR01010: [HIGH] Deny unauthorized users from accessing certain features (e.g., recipe submission)
- FR01011: [HIGH] Implement secure login mechanisms to protect user accounts

User/Visitor Requirements

- FR02012: [HIGH] Allow users to search for recipes based on various criteria (e.g., ingredients, cuisine, dietary restrictions)
- FR02013: [HIGH] Display detailed recipe information, including ingredients, instructions, and nutritional information
- FR02014: [HIGH] Allow users to rate and leave comments on recipes
- FR02015: [HIGH] Enable users to bookmark/save favorite recipes
- FR02016: [HIGH] Provide a user-friendly interface for easy navigation and recipe discovery

Contributor Requirements

- FR03017: [HIGH] Allow contributors to submit new recipes
- FR03018: [HIGH] Enable contributors to edit and update their submitted recipes
- FR03019: [HIGH] Allow contributors to upload images for recipes
- FR03020: [HIGH] Implement a review process for submitted recipes before they are published
- FR03021: [HIGH] Notify contributors of the status of their submitted recipes (e.g., pending, published)

Admin/Moderator Requirements

FR04022: [HIGH] Provide administrators/moderators with tools to manage user accounts

FR04023: [HIGH] Allow administrators/moderators to review and moderate user comments

FR04024: [HIGH] Enable administrators/moderators to manage reported content

FR04025: [HIGH] Implement content management tools for administrators/moderators to curate featured recipes

Recipe Management Requirements

FR05026: [HIGH] Allow contributors to edit and update their submitted recipes Contributors can modify recipe details, including ingredients, instructions, and images. Version control to track changes made to recipes.

FR05027: [HIGH] Allow contributors to delete their recipes.

Contributors can remove recipes they no longer wish to share.

Confirmation dialog to prevent accidental deletion.

Meal Planning and Shopping List Requirements

FR06028: [HIGH] Enable users to create meal plans

User-friendly interface to schedule recipes for specific days.

Option to generate a shopping list based on selected recipes.

FR06029: [HIGH] Allow users to customize meal plans

Drag-and-drop functionality to rearrange recipes within a meal plan.

Add notes or comments to each day's meal plan.

FR06030: [HIGH] Provide a printable shopping list

Automatically generate a shopping list based on selected recipes.

Option to print or download the shopping list.

Community and Social Features

FR07031: [HIGH] Implement a user forum or community

Users can discuss recipes, share cooking tips, and ask questions.

Moderation features to ensure a positive and supportive community.

FR07032: [HIGH] Enable users to share recipes on social media

Integration with social media platforms for easy recipe sharing.

Open Graph meta tags for optimized sharing on platforms like Facebook.

Mobile Responsiveness

FR08033: [HIGH] Ensure mobile responsiveness

Design and optimize the website for seamless user experience on various devices.

Responsive layouts for smartphones and tablets.

Analytics and Reporting

FR09034: [MEDIUM] Implement analytics for user activity

Track user engagement, popular recipes, and user demographics.

Generate reports to identify trends and improve content.

Accessibility

FR10035: [MEDIUM] Ensure web accessibility

Design and develop the website following accessibility standards (e.g., WCAG).

Provide alternative text for images, keyboard navigation, and other accessibility features.

Notifications

FR11036: [MEDIUM] Implement notification system

Notify users of recipe updates, comments, or forum discussions.

Allow users to customize notification preferences.

These additional functional requirements cover aspects such as recipe management, meal planning, community features, mobile responsiveness, analytics, accessibility, and notifications, enhancing the overall user experience and engagement on the food recipes website.

NON FUNCTIONAL REQUIRMNETS

Scalability Requirements:

NR01001: [HIGH] The system should be scalable to accommodate a 50% increase in concurrent users within a year.

NR01002: [HIGH] The database should scale to handle a growing number of recipes and user data without significant degradation in performance.

Interoperability Requirements:

NR02001: [HIGH] The website should be compatible with the latest versions of popular web browsers such as Chrome, Firefox, Safari, and Edge.

NR02002: [HIGH] APIs should be designed following industry standards to allow integration with third-party applications or services.

Compliance Requirements:

NR03001: [HIGH] The website should comply with relevant data protection regulations, such as GDPR or local data protection laws.

NR03002: [HIGH] The website should adhere to web accessibility standards (e.g., WCAG) to ensure inclusivity for users with disabilities.

Cultural and Regional Requirements:

NR04001: [HIGH] The website design and content should be culturally sensitive and avoid any offensive or inappropriate material.

NR04002: [HIGH] Support for different regional cuisines and cooking practices should be considered in the design and functionality.

Environmental Requirements:

NR05001: [HIGH] The website should be designed with energy efficiency in mind, optimizing server resource usage and minimizing environmental impact.

Legal and Ethical Requirements:

NR06001: [HIGH] The website should not host or promote any content that violates copyright laws or intellectual property rights.

NR06002: [HIGH] Clear terms of service and privacy policies should be provided, outlining user rights and responsibilities.

User Support and Training Requirements:

NR07001: [HIGH] A comprehensive help and support section should be available on the website, offering guidance on common issues and FAQs.

NR07002: [HIGH] Online tutorials and guides should be provided for users to maximize the use of advanced features.

Performance Monitoring and Logging:

NR08001: [HIGH] Implement logging mechanisms to capture and analyze system performance, errors, and user activities.

NR08002: [HIGH] Regularly monitor and analyze system performance to identify and address bottlenecks or issues proactively.

Portability Requirements:

NR01001: [HIGH] The website should be accessible and functional on various platforms, including desktop and mobile devices.

Reliability, Maintainability, and Availability Requirements:

NR02001: [MEDIUM] The website should have a reliability rate of at least 99%.

NR02002: [MEDIUM] Critical failures should be limited to no more than 3 incidents per week.

NR02003: [MEDIUM] The mean time between failures (MTBF) should be less than two days.

NR02004: [MEDIUM] The acceptable downtime for system maintenance should be less than 24 hours.

NR02005: [MEDIUM] Any system module should have a maintainability rate of 75% within 24 hours.

NR02006: [MEDIUM] The system should be available 98% of the time in a month.

Security Requirements:

NR03001: [HIGH] User profile data must be kept private and secure.

NR03002: [HIGH] Password encryption mechanisms must adhere to standard compliance.

NR03003: [HIGH] Users should be informed about the consequences of forgetting their password.

Integrity Requirements:

NR04001: [HIGH] Data stored by users, including recipes and comments, must remain unchanged and uncorrupted unless modified by the user.

Documentation Requirements:

NR05001: [MEDIUM] The system should have a comprehensive user manual to facilitate user understanding.

NR05002: [MEDIUM] Clear onboarding instructions should be provided for.