Software Engineering

Restaurant

Software Requirements Specifications

Flavor Haven

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Project: Restaurant

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Document Purpose and Audience

- **Restaurant Software.**
- **Restaurant software is a system that helps streamline the operations of a restaurant. It encompasses everything from order taking, inventory management, customer relations, restaurant accounting, to marketing and customer loyalty programs.**
- **Customer read this document.**

Introduction

Software Purpose

Restaurant software is a system that helps streamline the operations of a restaurant. It encompasses everything from order taking, inventory management, customer relations, restaurant accounting, to marketing and customer loyalty programs.

Software Scope

- **Search and Browse.**
- **Meal Planning.**
- **Ingredient Conversion.**
- **Security.**
- **Usability.**

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Definitions, acronyms, and abbreviations

- **Restaurant software is a system that helps streamline the operations of a restaurant. It encompasses everything from order taking, inventory management, customer relations, restaurant accounting, to marketing and customer loyalty programs.**
- **ARMS: Automated Restaurant Management System.**
- **AM: Assistant Manager.**
- **Bubble Dancer: Dishwasher (staff).**
- **COL: Cost of Labor.**
- **COMS: Cost of Meals Sold.**
- **Comp: Give something away free.**
- **Dead Plate: Food that is nearly or totally unservable.**
- **DELCO: Delivery Carryout Restaurant.**
- **Deuce: A table with only two seating spaces.**
- **Dupe: The ticket/information that gets submitted to the kitchen.**

Requirements

Functional Requirements

- **User Registration and Authentication: Allow users to create accounts securely and log in using email or social media accounts.**
- **Search and Browse: Enable users to search for recipes based on various criteria such as cuisine, ingredients, dietary restrictions, and cooking time.**
- **Recipe Collection: Provide a diverse collection of recipes ranging from appetizers to desserts, with options for different skill levels.**
- **Personalized Recommendations: Utilize machine learning algorithms to suggest recipes based on users' preferences, past searches, and cooking history.**
- **Meal Planning: Allow users to plan their meals for the week by saving recipes to a calendar and generating shopping lists.**
- **Ingredient Conversion: Offer a feature to convert ingredient measurements between different units for easy cooking.**
- **Cooking Timers and Instructions: Provide step-by-step instructions for each recipe along with built-in timers to help users keep track of cooking times.**
- **Community Interaction: Enable users to rate and review recipes, share their cooking experiences, and interact with other users through comments and forums.**

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- **Integration with Grocery Stores: Allow users to add ingredients directly to their shopping lists from partner grocery stores' websites or apps.**
- **Accessibility Features: Ensure the app is accessible to users with disabilities by providing features such as voice commands, screen reader compatibility, and high contrast modes.**
- **Social Sharing: Allow users to share their favorite recipes or meal plans on social media platforms to inspire others.**
- **Video Tutorials: Provide video tutorials for complex recipes or cooking techniques to assist users in mastering culinary skills.**
- **Seasonal Recommendations: Offer seasonal recipe suggestions based on local or regional availability of ingredients to encourage seasonal cooking.**
- **Offline Access: Enable users to access previously viewed recipes and saved meal plans offline for convenience, especially in areas with limited internet connectivity.**
- **Allergy Alerts: Implement allergy alerts for recipes to notify users of potential allergens based on their dietary restrictions or preferences.**
- **Virtual Cooking Classes: Organize virtual cooking classes or live cooking sessions with professional chefs to engage users and provide interactive learning experiences.**

Non Functional Requirements

- **Performance: The app should be responsive and able to handle a large number of users concurrently without significant slowdowns or crashes.**
- **Security: Implement robust security measures to protect user data, including encryption of sensitive information, secure authentication protocols, and regular security audits.**
- **Scalability: Design the app architecture to be scalable, allowing for easy expansion as the user base grows.**
- **Compatibility: Ensure compatibility with a wide range of devices and operating systems, including smartphones, tablets, and web browsers.**
- **Usability: Prioritize intuitive design and user-friendly interfaces to make the app easy to navigate and use for users of all skill levels.**
- **Reliability: Minimize downtime and errors through thorough testing and monitoring of the app's performance.**
- **Privacy: Respect users' privacy by clearly outlining data collection practices, obtaining consent for data usage, and providing options for users to control their privacy settings.**
- **Localization: Support multiple languages and regional preferences to cater to a global audience.**
- **Regular Updates: Commit to regular updates and improvements based on user feedback, technological advancements, and changing culinary trends.**

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- **Sustainability: Consider environmental impact by encouraging sustainable cooking practices, promoting local and seasonal ingredients, and minimizing food waste through recipe suggestions and portion management tips.**
- **Data Backup and Recovery: Implement regular data backups and robust recovery mechanisms to prevent data loss and ensure continuity of user experience in case of system failures.**
- **Energy Efficiency: Optimize app performance to consume minimal device resources and battery power, promoting energy efficiency during prolonged usage.**
- **Cross-Platform Consistency: Ensure consistency in user experience and functionality across different platforms (e.g., Android, iOS, web) to provide a seamless cooking experience regardless of the device used.**
- **Regulatory Compliance: Adhere to relevant regulations and standards governing data privacy, security, and food safety to build trust among users and comply with legal requirements.**

Performance	• **The system must provide quick response times.**
Scalability	• **The system must be able to handle a large number of users.**
Security	• **The system must have robust security measures in place.**
Usability	• **The system must be user-friendly and easy to navigate.**
Reliability	• **The system must be reliable and provide accurate information.**
Availability	• **The system must be available 24/7.**

System Models

Use Case Model

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Use Case Tables

Use Case Name:	Log in& search for recipes
Actors:	customer
Pre-conditions:	Enter email or social media account
Post-conditions:	Know password

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Flow of events:	**User Action**	**System Action**
	1- User Enter Card and Password.	1- Provide a diverse collection of recipes
	2-looking for the type of food you want	2-system receive order
	3- User Select from the list	
Exceptions:	**User Action**	**System Action**
	1- User Enter Card and Password.	1- Card is invalid and unreadable.
Includes:	All kinds of food	
Notes and Issues:	Card empty, server of the application is down	

Use Case ID:		
Use Case Name:	Suggest new recipes	
Actors:	customer	
Pre-conditions:	Eating first	
Post-conditions:	Give feedback about the food	
Flow of events:	**User Action**	**System Action**
	1- they ask food, and they eat	1- they make dishes that customers suggest
	2-they give their suggestion on food	2-it uses learning algorithms, cooking methods and its history

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Exceptions:	**User Action**	**System Action**
	1- he objected to something to eat	1- it improves it
Includes:	Utilize machine learning algorithms	
Notes and Issues:	Give feedback.	

Use Case ID:		
Use Case Name:	Meal planning &Ingredient Conversion	
Actors:	customer	
Pre-conditions:	Ate these meals before	
Post-conditions:	Prefer these meals	
Flow of events:	**User Action**	**System Action**
	1- User Enter name of meals	2- system saving recipes to a calendar and generating shopping lists.
	1-write down the ingredients and their quantities	2- system saving these in their notes

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Exceptions:	**User Action**	**System Action**
	1- User Enter name of meals	2- these meals not included in the system
	1-write down the ingredients and their quantities	2- system not saving these ingredients
Includes:	All kinds of meals and ingredients	
Notes and Issues:	the user wrote a type of meal that the system is not satisfied with	

Use Case Name:	Community Interaction	
Actors:	customer	
Pre-conditions:	The user has experience with the restaurant	
Post-conditions:		
Flow of events:	**User Action**	**System Action**
	1- the user wrote his opinion	2- system saving this and outputs it to other users
Exceptions:	**User Action**	**System Action**
	1- the user wrote his opinion	1- system not saving these opinion
Includes:	All kinds of reviews	
Notes and Issues:	The user cannot give an opinion or cannot understand these option	

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Use Case Name:	Integration with Grocery Stores& Accessibility Features	
Actors:	customer	
Pre-conditions:	The user has experience with the restaurant	
Post-conditions:		
Flow of events:	**User Action**	**System Action**
	1- user add the ingredients to their shopping lists from partner grocery stores' websites or apps	1- system saving this and displays it to other users
		2- the application is available to all users, even those with disabilities
Exceptions:	**User Action**	**System Action**
	1- user add the ingredients to their shopping lists from partner grocery stores' websites or apps	1- system not saving this and not displays it to other users
		2- the application is not available to all users
Includes:	All ingredients	
Notes and Issues:	Add all ingredients to shopping lists and make application available to all users	

Use Case Name:	Video Tutorials & Social Sharing
Actors:	system
Pre-conditions:	The user has experience with the restaurant

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Post-conditions:		
Flow of events:	**User Action**	**System Action**
		1- Provide video tutorials for complex recipes
	2- users share their favorite recipes or meal plans on social media	
Exceptions:	**User Action**	**System Action**
		1- Failure to provide video tutorials for complex recipes
	2- users don't share videos on social media	
Includes:	All recipes	
Notes and Issues:	Provide video tutorials and share this videos on social media	

Use Case Name:	Offline Access
Actors:	system
Pre-conditions:	The user has enabled offline mode or the system has detected a loss of internet connectivity.
Post-conditions:	Users can still interact with specific functionalities or content of the system without an active internet connection.

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Flow of events:	**User Action**	**System Action**
	1. User initiates offline mode or loses internet connection.	2. System detects offline status.
		3. System provides access to pre-downloaded content.
Exceptions:	**User Action**	**System Action**
		1-if the system fails to detect offline status accurately, it may incorrectly restrict access to certain features.
Includes:	ALL TIME .	
Notes and Issues:	Offline access enhances user experience.	

Use Case Name:	Allergy Alerts	
Actors:	system	
Pre-conditions:	User has specified their dietary restrictions or preferences in the system.	
Post-conditions:	Users receive alerts when viewing recipes that contain allergens matching their dietary restrictions or preferences.	
Flow of events:	**User Action**	**System Action**
	1. User requests information about a recipe.	2- System retrieves the recipe details.

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		3. System displays allergy alerts if allergens are found.
Exceptions:	**User Action**	**System Action**
	1- the user wrote his types of allergies.	1- the system encounters errors in analyzing the recipe for allergens.
Includes:	All recipes.	
Notes and Issues:	Accurate ingredient labeling and user input are essential for effective allergy alert functionality.	

Use Case Name:	Virtual Cooking Classes	
Actors:	system	
Pre-conditions:	Professional chefs are available and willing to conduct cooking classes.	
Post-conditions:	Users participate in virtual cooking classes and gain new culinary skills and knowledge.	
Flow of events:	**User Action**	**System Action**
	Users register or sign up for the desired class	System announces upcoming virtual cooking classes or live cooking sessions.
	looking for the type of food you want	System provides access to the virtual event at the scheduled time.
	User Select from the list	

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Exceptions:	**User Action**	**System Action**
	1- If the professional chef encounters technical issues or other disruptions 2- If user registration exceeds capacity	1- the system may need to reschedule or cancel the class and notify registered users. 2-the system may need to limit attendance or offer additional sessions.
Includes:	All kinds of food	
Notes and Issues:	Virtual cooking classes provide users with convenient.	

Ownership Report

- **Remove the following notes and any red notes**
- **For every item in this document, write the owners. If someone is owner of something, s/he understands it 100%**
- **Team leader must verify the table with the team members.**

Item	Owners

Policy Regarding Plagiarism:

Students have collective ownership and responsibility of their project. Any violation of academic honesty will have severe consequences and punishment for ALL team members.

1. تشجع الكلية على مناقشة الأفكار و تبادل المعلومات و مناقشات الطلاب حيث يعتبر هذا جوهريا لعملية تعليمية سليمة
2. ساعد زملاءك على قدر ما تستطيع و حل لهم مشاكلهم فى الكود و لكن تبادل الحلول غير مقبول و يعتبر غشا.
3. أى حل يتشابه مع أى حل آخر بدرجة تقطع بأنهما منقولان من نفس المصدر سيعتبر أن صاحبيهما قد قاما بالغش.
4. قد توجد على النت برامج مشابهة لما نكتبه هنا أى نسخ من على النت يعتبر غشا يحاسب عليه صاحبه.
5. إذا لم تكن متأكدا أن فعلا ما يعد غشا فلتسأل المعيد أو أستاذ المادة.
6. فى حالة ثبوت الغش سيأخذ الطالب سالب درجة المسألة ، و فى حالة تكرار الغش سيرسب الطالب فى المقرر.