

## **Requirements**

Group Number: 10

Team Name: Decassociation

Group Member Names:

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**Single Statement of Need:** *The system shall allow a user to interact and control cooks to prepare and deliver dishes on virtual customers' demands.*

*"You are to build a single-player game that requires managing the staff around a kitchen, who will be preparing various dishes requested by customers coming into the Piazza Restaurant."*

## Introduction

By following the initial brief set out for us, we've managed to set fundamental requirements that were necessary to provide for our game. After a meeting with our customer, we further understood what would be required to implement into the project.

Each user and software requirement has been recorded in the following tables with a unique but comprehensible ID that relates to the requirement. This was needed as we can refer to our requirements directly without confusion.

With each requirement, we made sure to write a fitting and clear description to best explain its purpose and why it must be implemented as part of our game. The selection was a group process as we would each submit a requirement and decide together if it meets our brief and is needed for the game.

For the user requirements, we made sure to avoid any confusing technical terms and focused on what the players would be able to carry out and interact with in the game.

Our functional requirements focus on what the game must do to follow the brief and meet our customer's expectations. These are the technical actions that the system will take in order to meet the user requirements.

The non-functional requirements focus on the quality of our game and the user's experience. In order to avoid potential issues in the future, we've specified a fit criteria to achieve for the game to hold our systems to a specific standard and provide an estimation on player's experience interacting with the game.

## User Requirements

ID	Description	Priority
UR_GAME_MODES	The game will offer multiple different game modes for the users to play.	Shall
UR_COOKS	The game shall let the player control multiple cook characters, one at a time. Cooks should be locked out for a certain amount of time when they are used up.	Shall
UR_INGREDIENTS	Each cook should be able to interact with and carry ingredients retrieved from the pantry. These should be transferable to cooking stations.	Shall
UR_RECIPES	The game shall have recipes for salads, burgers, pizzas and jacket potatoes.	Shall
UR_STATIONS	The game shall have various preparation stations which will be used to gather and prepare the ingredients according to the recipes.	Shall
UR_CUSTOMERS	The game will have customers that can be interacted with, who will give demands that require a specific recipe to be made for the demand to be fulfilled.	Shall
UR_REPUTATION_POINTS	The game shall have reputation points that act as lives for the player.	Shall
UR_POWERUPS	There will be powerups available to the player that will improve their performance in the game.	Shall
UR_TUTORIAL	The game should have a tutorial to guide players on how to play the game, including controls and mechanics.	Shall
UR_DIFFICULTY	The game will offer multiple difficulty settings for the user to choose between.	Shall
UR_LEADERBOARD	There should be multiple leaderboards for different difficulties.	Shall
UR_GAME_SAVES	The state of the game will be able to be saved and reloaded when the user resumes the game.	Shall
UR_PLATFORM	The game should be able to run on at least two different platforms.	Shall
UR_UX	The game shall offer a pleasant user experience.	May
UR_AESTHETICS	The game should use 2D graphics and the presentation of the game should be catered to general audiences.	May

UR_ACCESSIBILITY	The game should be designed with features and menus that improve accessibility for the users.	May
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## Functional Requirements

ID	Description	User Requirement
FR_SCENARIO_MODE	The game will offer a game mode where the player has to serve a set number of customers until all customer demands have been fulfilled or until the player loses all reputation points.	UR_GAME_MODES
FR_ENDLESS_MODE	The game will offer a game mode where the player has to serve an endless amount of customers until they lose all reputation points, in order to achieve a high score.	UR_GAME_MODES
FR_COOK_ACTIONS	The system shall allow the user to set actions for the cooks by means of interactions between customers or stations.	UR_COOKS
FR_COOK_CONTROLS	The game shall allow the cooks to move between stations by clicking or pressing direction keys and switch between cooks by pressing a key.	UR_COOKS
FR_DEMANDS	A customer's demand should appear on screen up until it has expired or has been accepted.	UR_CUSTOMERS
FR_NUMBER_OF_CUSTOMERS	Depending on the gamemode, the customer will have to serve either a set amount or endless amount of customers.	UR_CUSTOMERS
FR_SALAD	The system will allow the user to combine cut lettuce, tomatoes and onions to make a salad.	UR_RECIPES
FR_BURGER	The system will allow the user to combine fried patties and toasted buns to make a burger.	UR_RECIPES
FR_PIZZA	The system will allow the user to combine cooked dough, tomato paste and cheese to make a pizza.	UR_RECIPES
FR_JACKET_POTATO	The system will allow the user to combine cooked potatoes and beans to make a jacket potato.	UR_RECIPES
FR_PREPARE_STAGE	The user should take control of the staff member at certain points in time. If they have failed, they have to repeat the step.	UR_RECIPES

FR_INGREDIENT_STATION	The game shall have ingredients stations where each type of ingredient can be gathered from.	UR_STATIONS
FR_CUTTING_STATION	The game shall have cutting stations where certain ingredients can be transformed from an uncut state to a cut state.	UR_STATIONS
FR_COOKING_STATION	The game shall have cooking stations where certain ingredients can be transformed from an uncooked state to a cooked state. If left too long, the ingredient can also be transformed to a burnt state.	UR_STATIONS
FR_ITEM_STATION	Users should have stations to leave their ingredients when not being prepared.	UR_STATIONS
FR_SERVING_STATION	The finished meals should be brought to the serving station to be served to customers.	UR_STATIONS
FR_MAIN_MENU	The user shall be greeted by a main menu when they run the program which will allow them to access other sub-menus and play the game.	UR_ACCESSIBILITY
FR_SETTINGS_MENU	The system shall allow the user to change attributes of the game through a settings menu.	UR_ACCESSIBILITY
FR_RESTART_MENU	The system shall give the user the ability to restart or exit the game when necessary.	UR_ACCESSIBILITY
FR_HIGH_SCORE	The user shall be able to see and compare the high scores.	UR_LEADERBOARD
FR_REPUTATION_POINTS	The reputation should decrease if the player fails to satisfy customers' demand in a certain amount of time.	UR_REPUTATION_POINTS
FR_INGREDIENT_DESCRIPTION	Each ingredient will be described in text to avoid confusion of the design.	UR_INGREDIENTS
FR_DIFFICULTY	The difficulty settings will adjust the time between customers arriving, with smaller periods of time for higher difficulties.	UR_DIFFICULTY
FR_GAME_SAVES	The game should save the current game state to a file, then should be able to read that file to reconstruct the game state when the player wishes to resume it.	UR_GAME_SAVES

## Non-Functional Requirements

ID	Description	User Requirement	Criteria
NFR_OPERABILITY	The system shall be operable by any new player.	UR_UX	90% of players should be able to play the game without any external help.
NFR_DOCUMENTATION	The system shall be accompanied by detailed instructions on how to set up and play the game.	UR_UX	99% of players should be able to access these instructions and understand how to play.
NFR_RESPONSIVENESS	The game shall respond quickly to user input.	UR_UX	The game will respond within <1/60 seconds to user input
NFR_AVAILABILITY	The game should be playable for the majority of time it is open.	UR_UX	The game should be in the playable state for >95% of the time it is open
NFR_FRAMERATE	The game should perform at 60fps or higher.	UR_UX	The game should perform at >60fps for >95% of users
NFR_RESOLUTION	The game should be able to accommodate for different screen resolutions that the user's screen may have.	UR_UX	The game's resolution should adapt to fit the screens of 99% of users.
NFR_TUTORIAL	The user will be able to understand how to play the game based on the tutorial, which will contain no technical jargon.	UR_TUTORIAL	95% of users will understand the gameplay based on the tutorial.
NFR_PLATFORM_AVAILABILITY	The game should be playable on the systems of most players.	UR_PLATFORM	The game should be available on more than one platform, and the platforms chosen should allow the game to be available to >95% of users.