

# **ENG1 Group 9**

## **User Requirements**

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## INTRODUCTION TO REQUIREMENTS

In order to elicit our requirements, we conducted numerous methods of collection. One such method was the research of different requirement types and the tailoring of the examples given to our own needs. There were also requirements outlined in the initial brief handout given to us, which also helped figure out further requirements upon closer study of said brief. We also used past experience to research similar games to the one described by the brief, such as *Overcooked*, to find requirements applicable to those games that were also applicable to ours.

A customer meeting held on 22<sup>nd</sup> November at 16:30pm with Antonio Garcia-Dominguez allowed us to negotiate the boundaries of certain requirements and also to refine certain vague examples of requirements. We were also able to ask about certain accessibility features and refine the non-functional requirements for them, along with outlining the constraints and their limits.

Requirements were a heavy topic of discussion before proceeding with the development of our project "*Piazza Panic*" due to the importance of them in the software engineering cycle. They were rigorously tested against what was found in our research and then discussed again to determine the suitability of the requirements for the project.

## USER REQUIREMENTS TABLE

| ID              | Description  | Priority |
|-----------------|--|----------|
| UR_UX           | The game should be visually enticing and be representative of a kitchen environment. | Should   |
| UR_FINISH_LEVEL | The user will be able to finish a level after a given amount of time.                | Shall    |
| UR_INTUITIVE    | The controls/actions should feel natural to the user.                                | Should   |
| UR_CHEF         | There is a chef that can be controlled by the user.                                  | Shall    |
| UR_PROGRESSION  | There should be an indicator of how far through an action a player is.               | Should   |
| UR_CUSTOMER     | There shall be customers at the restaurant.  | Shall    |

|               |  |        |
|---------------|--|--------|
| UR_ALERT_USER | When a new event occurs or an action is complete it should be clear to the user. | Should |
| UR_ACCESSIBLE | The game shall tailor to all types of users.                                     | Shall  |
| UR_UI         | There shall be a user interface.   | Shall  |

## FUNCTIONAL REQUIREMENTS TABLE

| ID                         | Description  | User Requirements       |
|----------------------------|--|-------------------------|
| FR_CHANGE_LEVEL_DIFFICULTY | The user should be able to select between multiple levels of difficulty prior to starting a game | UR_UX                   |
| FR_QUIT_LEVEL              | The user shall be able to pause and quit the level.  | UR_FINISH_LEVEL         |
| FR_GRAB_ITEM               | The chef can pick up items in the kitchen.   | UR_CHEF                 |
| FR_PLACE_ITEM              | The chef can place items in the kitchen.   | UR_CHEF                 |
| FR_MOVE_CHEF               | The chef can walk around the kitchen.  | UR_CHEF                 |
| FR_CHOP_ITEM               | The chef can chop an item.   | UR_CHEF                 |
| FR_COOK_ITEM               | The chef can cook an item.   | UR_CHEF                 |
| FR_DISPOSE_ITEM            | The chef can put an item in the bin.   | UR_CHEF                 |
| FR_NEW_CUSTOMER            | A customer can arrive at the restaurant and order one item.                                      | UR_CUSTOMER             |
| FR_SERVE_CUSTOMER          | The chef can serve a complete meal to a customer and they will leave the restaurant.             | UR_CHEF,<br>UR_CUSTOMER |
| FR_PAUSE                   | The user can pause the game midway through and access a menu.                                    | UR_UI                   |

## NON-FUNCTIONAL REQUIREMENTS TABLE

| ID                        | Description   | User Requirement | Fit Criteria   |
|---------------------------|---|------------------|--|
| NFR_DISTINGUISHABLE       | Each item and chef will be distinguishable from each other in a way other than just colour. | UR_ACCESSIBLE    | All colourblind users can play the game.   |
| NFR_CUSTOMISABLE_CONTROLS | The controls can be rebound.  | UR_ACCESSIBLE    | Users with disabilities can fit the controls to their requirements.                |
| NFR_ADJUST_VOLUME         | The user can adjust the volume before or midway through the game.                           | UR_ACCESSIBLE    | Users hard of hearing or with sensitive hearing can adjust volume to their liking. |

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MEETING NOTES FOR REFERENCE

When would the configurable number of customers be applied (exclusively before or can be updated if too easy)?

Only at the start, with easy medium hard difficulty settings with different score requirements for each for example. Not in the middle of the game.

How many cooking stations should be available to begin with?

If starting with one cooking station of each type then it is possible to allow more of the same type to allow more efficient cooking

With the existence of closed stations, should the customers be able to order food that isn't able to be cooked yet, forcing the player to spend points to open?

How long should customers be coded to wait for food?

Game session should be 5-10 minutes so take into account based on difficulty to calculate for each level

Should customers be able to order multiple recipes at once?

Meals should consist of just one order of a food item. E.g just a burger. This is not a major factor as more difficult stages will just feature more customers with different types of order

Should the recipes be visible in-game?

Recipes should be represented in the game, depending on the control scheme. For example moused base customers have a bubble over their head that shows the recipe that they want. If keyboard based just hover over the order. Could be integrated into a map or the pause menu.

Should variations on each recipe be available?

No variation. Burgers are burgers.

Any additional accessibility features you would like?

Colour perception disabilities. Don't differentiate based solely on colour. Could differentiate by different chefs having different hats.

Nice to have - Customise the controls through the menu to aid people with mobility issues. Also possibly allow different input types such as types of controller specifically designed for mobility issues

Do you want there to be a login feature and user profiles?

No but leaderboard system would be nice so would likely record the players names so e.g. a speedrunning community could be created to increase competition within the game. Inputs would need to be filtered to prevent inappropriate names. Just needs to be a locally saved file.

Should there be a save/load game feature?

No - Keep it simple. Old school arcade style game where pausing the game is enough

NEEDS MOVING - For endless mode have different recipes give different points for difficulty

Does the game require sound design? If so, sound effects, background music?

Sound effects required. Background music is nice to have. Can't only have visual cues, e.g. Noise for new customers or cutting noises to specify when cutting is finished.

Which platform does the game need to be able to run on?

Windows and something else. Should be cross platform

E.g. windows and Mac

In theory correct coding will inevitably lead to cross platform compatibility.

Needs testing throughout on all platforms which will be supported due to slight differences between each platform.

Must support multiple screen sizes and resolutions. All on screen components must be visible on all resolutions.

Shouldn't look extremely stretched on particular screen resolutions

Majority of screen resolutions should be supported 4:3 16:9. For obscure resolutions the screen could be able to pan to ensure all the screen can be viewed.

E.g. larger screens should just be able to view more.

What are the minimum computer spec requirements for the game to run?

So long as all of us can run on laptops and lab PCs then it is fine.

Who is the target audience for this game?

Whoever would attend uni open day. 16-18. Nothing gory family friendly.

Retro looking possible fun.

Are there any other requirements you'd like us to be aware of that we haven't mentioned (outside of what's in the product brief)?

Movement style up to us.

Pause menu - Have volume controls in-game

Tutorial - How to play Screen accessible from the main menu with screenshots and instructions of how to play with win/lose mechanics. No need for an interactive tutorial as it is too complicated to implement.

Showing progress on tasks - Indicate how much time is left for the task. Progress bars for cooking progress. Change visibles at certain points e.g. how cut an item is.

Way of discarding unwanted items.

Need a station more like a countertop for other cooks to grab the food/items to be left. E.g making a burger and someone leaves someone else could take the burger that is already on the counter

No cleaning of dishes.

Needs collision detection for cooks

Impose a limit on how many things can be stacked in a meal item. Since simple recipes have 3 ingredients.

Any advice going forward?

Try to do a vertical slice through the game first, Minimally playable before integrating more complex features. Focus on core mechanics before improving fun and adding more ingredients.

Version Control System

Area to share files

Communication

Track Different team member roles

Website - The look of the website is not marked, just needs to be the collection of all deliverables.