GUI Report

(#) refers to the requirement number in the full list of requirements.
Any links in the report will link to relevant screenshots of the game.

The first interaction the player has with the game is through the main menu. Notice the two input boxes, ‘Player 1’ and ‘Player 2’, the ‘AI’ check box and the two buttons, ‘Start Game’ and ‘Quit’. These are presented in this order, descending down the screen, because it signifies the order in the which the option should be thought about / interacted with. Also note the relatively large size of the buttons. We believe that larger buttons will make for a greater user experience. By thinking about what kind of people will play the game during open days and other promotional events (#39) we found that people who may have poor eyesight would struggle to see small buttons, therefore, we concluded this would be the best solution to gain a better user experience overall and to also decrease time wasted on the main menu for those who struggle to see. We also achieve this shorter menu time by having as few options as possible available to the player. In addition, by having the window take up the whole screen, players are more likely to focus on starting the game. The reason why we believe this is a good UI design to follow is because our requirements state that our game should be playable on ‘Any computer capable of running Unity’ (#4). This means that if someone were to play our game on a relatively small screen, they would still be able to comfortably interact with the UI.

Once the player is in the game, notice how the bulk of the permanent GUI is displayed on a bar at the top of the screen. By convention in modern interface design for applications (e.g. web browsers) the most useful information is displayed at the top, so for consistency we have done the same. All the games vital information is displayed and is always visible to the player: food, energy, ore and money along with the current game phase, the end phase button, settings and shortcuts. This meets our requirements as the information is all up to date and available permanently to the player to make decisions from (#32). The food, ore and energy icons have graphics to represent them, which gives new players a reference as to how much of one resource they own, these visual prompts provide better accessibility to new players trying to learn the game as the resources are more distinguishable.

Also note the options button in the top right corner of the screen which is represented by a cog icon. When clicked it displays a drop down menu and a quit button (#34). The use of the cog is a universal symbol for settings in modern GUI design, and its placement at the top right is similarly significant as the placement for game settings.

Another example of significant placement is the countdown clock, which tells the player the time left for the current phase. The clock is placed next to the current phase information as part of our effort to compartmentalize relevant information into the same area, which leads to a better user experience. This feature is required in order to maintain positive user interactions because during the time-limited phases, players would be annoyed if they were suddenly moved onto the next phase unexpectedly.

A pop up help box is placed at the top left of the screen displaying helpful instructions and hints the player may need to view during the current phase. This ensures the inexperienced player has a clear understanding of the game's mechanics and structure; the box acting as a guide through the rules of the game and actions they may undertake. We believed this was an extremely important feature due to the nature of how our game will be presented to the public (#39), where it is likely that people who have little understanding of the game's progression will be playing it. Extending from the principle of 'less is more' [1], the box may be optionally hidden so as not to cluster the screen or irritate experienced players who do not need the information it provides. Once this box is hidden, it will not appear until the user actively reopens it. We believe that more experienced players would find it annoying if they received useless hints every phase as in the previous implementation of the game. This would obscure a small portion of the map and potentially hinder their performance. This box is visually indicated to the player by the chains 'attaching' it to the permanent top bar. This ensures the interface is user friendly for different subsets of players equally.

The market that the player uses for trading will generate a lot of information that would be useful to the player, such as how much they can buy from and/or sell to the market and why a transaction is declined. Therefore the system displays both the balance and the stock that the market currently has. Due to the supply and demand mechanic within the game (#25), the prices that the market offers also need to be regularly updated (#26). This needs to be displayed to the user, otherwise, if the user buys and sells for a fixed price despite the stock number, the game would become unbalanced, meaning the player would either get bored or frustrated, both of which drastically decrease their user experience. Thanks to these features, the user can easily calculate and determine what they should or shouldn't buy, which enhances their gameplay experience by not having spend time gathering this information.

The gambling menu (#28) and auction system (#21) that we added rely on similar information that is used in the market such as money and resources owned. This information is needed so that the player can make informed decisions on what they should do next within these features. It would negatively affect the user experience if they were to gamble or buy things on the auction with knowing how many resources they had because they could be denied a transaction without knowing why. These menus also share the same style and aesthetic because we believe that this is necessary to meet the futuristic aesthetic requirement (#40)
With the auction, listing items and displaying items up for auction is very intuitive for players of all experience levels. This intuitiveness is accomplished in several ways. Notice the icons that correspond to each text field. By using this approach, players will find it easier to quickly sell/buy the resources they want because of our firm belief that icons are more memorable than text. Following this, more time can be spent immersed in the game instead of worrying about the UI, thus improving the user experience.

Roboticons can now be removed from from tiles by using the appropriately labelled button. We all agree that labelled buttons and small windows surrounding the map are the most user friendly ways to interact with the system and display information respectively. This is because only covering small portions of the screen results in less obstruction of the game

world, meaning an improved user experience due to being able to interact with more of the map more of the time, especially during the timed phases. The buttons that are used in the main menu, help box, market, gambling and auction windows, tile menus and the end screen enhance the user experience for novice users being located close to the feature that they are affecting. We all agreed this was a reasonable approach, because moving the mouse shorter distances means less work for the user that produces the same result(s). This greatly improves their user experience.

When a tile is affected by a random event or has a roboticon installed this is now indicated with an icon on the tile. By doing this, the user can easily see which tiles have been affected by these features, because we believe that users will be able to identify icons much quicker than trying to read what would have to be relatively small text, which improves the experience for those who have may have poor eyesight.

Also, by making the highlight of tile ownership more noticeable, the experience of poor sighted users will improve again. As you can see from our screenshot, the ground itself is highlighted as well as the tile border and the colours used for each player and the cursor have a high contrast between each other. This again is especially important during the timed phases where the user experience could drop dramatically if they have to waste time finding out information they should be able to easily obtain.

Alongside the tile icon(s) that represent a random event, please notice the message that explains the details of the event at the bottom of the screen. With the placement of this message, we continue to follow our principle of minimising the obscuration of the map which can heavily influence the user experience, especially if too much of the map is obscured during timed phases as explained earlier. Another aspect of this feature are the unique icons to represent each possible event, which helps experienced players to quickly identify what and where the event is, while also accommodating to novice players who can learn to make visual connections to effects in the game. Thus, the user experience for all players greatly increases with this GUI implementation thanks to our belief that icons are better than text, mainly for people with poor eyesight as explained in the previous paragraph.

At the end of the game, we implemented an end screen that displays the scoreboard and the option of ‘play again’ or ‘quit’. We thought an end screen was necessary because our requirements state that the system must calculate a score (#23) and there must be a winner who is awarded an appropriate title (#24). This along with the buttons meant that we found it easier to implement a separate screen that gives the user all this information. This also makes the end game easier to understand for less experienced players, by providing a quick and obvious way to play the game again or to stop playing, enhancing the experience that they have.

More advanced information is abstracted away using windows to display specific data, as stated in the requirements where the software should implement a system of menus (#33). For example, the information about the Roboticons a player owns is accessible intuitively by

either clicking on a Roboticon on the map, or through the ‘Roboticons’ shortcut. Shortcuts are utilised to present frequently used or important information to a player as easily as possible; this is good interface design because the user does not have to go searching for the information they need [1].

[1] D. Quintans (2013, Jan. 22). “Game UI By Example: A Crash Course in the Good and the Bad”. Tutsplus [Online]. Available: https://gamedevelopment.tutsplus.com/tutorials/game-ui-byexample-a-crash-course-in-the-good-and-the-bad--gamedev-3943 [Accessed: Jan 19/01/2017].