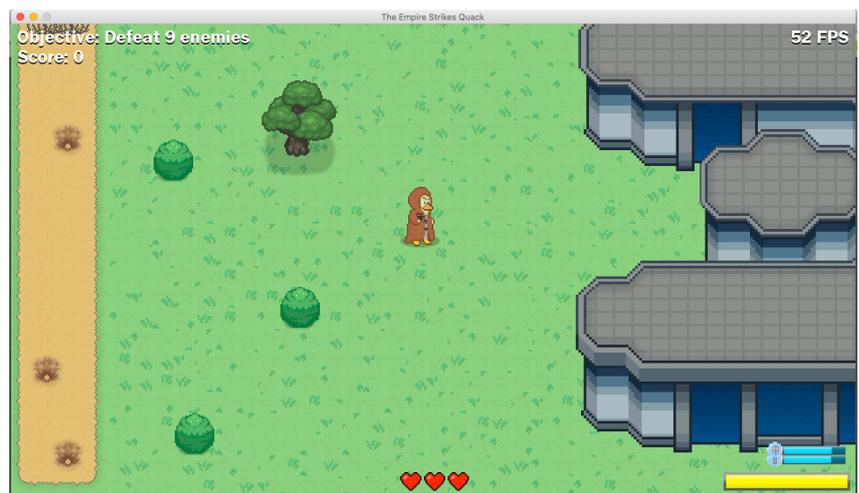


The Graphical User Interface (GUI) is one of most important aspects of games, seen as prospective users will likely judge the game on its visual impression. It serves to accommodate interactions between users and the game. A well designed game can fail to capture user interest if its interface proves difficult to use and and unintuitive. We designed our GUI so that it satisfies the requirements but also simple and fun to play.

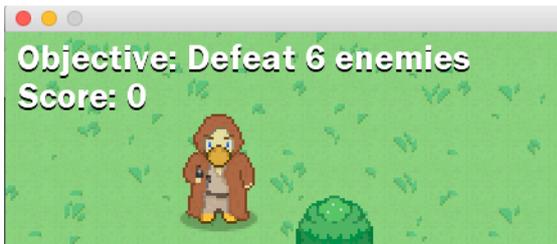
One of the main principles of game GUI design is that *a good UI tells you what you need to know, and then gets out of the way*.<sup>[1]</sup> Throughout our GUI we have maintained the important information which is current or helpful to the user, but little else.

- G5** of the Requirements<sup>1</sup> required us to have a 'health' system. We decided to represent the player's current health with hearts, where each heart represents 2 health points. The justification for **G5** was to provide a challenge to the player as they progress and encounter danger, so we felt that this design gives greater ease for estimating enemies health, and acquiring a whole heart would give a better sense of accomplishment. Moreover, this method has been utilised by popular games such as Minecraft<sup>[2]</sup> so it gives the player some familiarity. Once our team (Pochard) took control over this project we changed the position of the "hearts" on the screen from bottom left corner to the bottom middle of screen. We feel this improves the visibility of the game, since the hearts are now closer to stamina and power-ups bar on the right corner.
- C2** states that there are three distinct movement modes, in which one of them is 'flying' as mentioned in detail in **C5**. To show this to the user, the player's stamina is to be represented by a yellow bar in the bottom right corner of the screen. This automatically decreases when the player decides to fly and once empty, the player can no longer do this action until the bar has filled up again (Through automatic regeneration). This reflects the justification for **C5** which states that if this action was constantly available, there would be no reason to use any other movement. We chose the colour yellow because it is a fairly neutral colour in game and there is no convention for stamina. We felt a bar was the best way of representing this because progress along the bar can be gauged, clearly showing how much time is remaining in flying, or how much time is left before this ability is restored again.
- G11** states that the player should be able to obtain distinct 'powers'. A blue bar is located on top of the stamina bar in the bottom right corner. This bar shows how much time is remaining for a power-up effect, after one has been acquired. When a power-up has been picked up by the player, the bar starts to empty until done, when the power-up's effects are no longer active. As with stamina it was felt a bar was the best way of showing time because it is a clear representation of continuous countdown. It is



<sup>1</sup> These correlates to the requirements, found in the Appendix *Appendix3.pdf*

coloured blue to differentiate it from the player's stamina and the background. Previously multiple power-ups could not be held at one time however as a team we felt this punished the player somewhat for collecting power-ups, therefore we implemented stackable power-ups. This is represented by each power-up displaying its icon (in the bottom right corner) and a bar (as above) next to it. As many power-ups can be had at once, we reduced the size of each bar to stop them from dominating the real estate on screen.



● The player's objective for the level is located in the top left corner of the screen. This corresponds to I5 of the Requirements, stating that the current objective will be displayed at all times on screen. The objective is printed in whole so the user can clearly see what the win condition for that level is, at all times during play, addressing I5.

- G4 requires the game to have a 'point' tracking system, whilst I2 states that the obtained points will be displayed at all times. To address this, the current score of the game is situated in the top left hand corner of the window under the objective, represented by an integer. This is the clearest way of presenting the information, but is not needed to be prominent, since the player is not checking it often. An abstracted point representation could be confusing and unclear.
- In our implementation, we have added the a new point tracking feature to the game using two integers. The first a red integer indicates the amount of damage caused to an enemy. The second a white integer is the score added to the the total score of the player. Once implemented we noticed a greater feeling of feedback and satisfaction than our initial implementation as the score no longer felt as abstract and the game looks more fun to play. We were inspired by games such as "Borderlands" [3]
- The original game has a standard mouse pointer as a way of shooting for user. We felt this implementation could be improved to gives greater ease of usability, so we have implemented a crosshair feature together with an eight-directional aiming system. This will be a generic crosshair familiar to the majority of the people. We feel this additional design will make the game appear more polished, as we are no longer creating back end structures, the game therefore looks more like a final product.
- New Requirement I6 describes how the user should know they have gained points. When an enemy character is "killed" then the number of points gains appears, in a "floating" effect from the enemy which disappears. This gives the user immediate, clear feedback when they score points. The points scores disappears after a few seconds as to not clutter the game play screen.



## **Bibliography**

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