

# Quiz document

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## Intro

The aim of this document is to research and design a user interface for a quiz game. The UI must be functional and well-presented with a consistent theme throughout. The navigation must also be efficient and the menus aesthetically pleasing.

The UI must incorporate different types of interactive elements such as radio buttons, checklist and scroll bars etc. The game will also be played using an xbox 360 controller, this should be kept in mind at all times, the layout should reflect this. The UI should be easy enough for people of all ages to use with ease and should give clear feedback where applicable of the users feedback.

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### GREG SECTION

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## Layout screens/pages and flow through game

### Introduction screen

When the game window opens, (which will be read in from an external file, so unknown until runtime) text will appear in an Arial Bold pt16 Font the reads a murt and greg production, its origin will be the centre of the text gotten by dividing its height and width

by 2. This origin will be set on the window similar to above, but just by dividing the width and height of the window by 2. This will place the text on the centre of the window. After three seconds, the text will fade away, a blue rotating `sf::circle` shape called earth with an earth texture on it. once the X position of earth is greater than 0 and the x position, plus the shapes height is less than the window height (This will mean the circle is on screen).

Another circle shape much bigger than the window will appear, and begin rotating and scaling down, as if it were a comet speeding towards earth getting smaller as it goes into the background.

The new circle shape will have a ball texture. Once it has been scaled down towards a negligible value, the screen will shake the window a little (moving the earth up and down slightly) this will make the title drop down from the top of the screen, and bounce off the centre of the screen as if were affected by gravity, Once the tile settles, 3 seconds will pass and the next screen begins

## Splash screen

A large `sf::rectangle` shape called scoreboard with a scoreboard texture on it will appear on screen, and be the size of the window. The team names, as well as their scores will just be `sf::string`s for simplicity's sake, their position will be over where the blank spaces on the scoreboard will be.

Another `sf::string` with the text a pete like production in a [digital dream](#) bold pt 16 font will begin scrolling, from the right side of the screen to the left, the scroll will not be smooth however as the the text position will only update once every second using `deltaTime`. (this is to add authenticity)

This text scroll will be along the bar provided on the scoreboard. Once the text finishes scrolling, or the player presses the A button, the screen will transition

## Main Menu

The player will be presented with a trophy case, and a door with an exit sign to the right of it.

The trophy case will be 75% of the screens height, and 60% of its width, with the exit door being 70% of the window height , and 15% of the width. The remaining space will be used to place the title of the game along the top of the screen. The title will just be the word 'QUIZ' in a currently undecided font face.

Any other empty pace will be stylised to look like a wallpaper/painted walls.

Inside the trophy case itself, there will be three shelves (dividing the case into three equal parts).

on the top-most shelf will contain two gold trophies (sf::rectangleshape with a trophy case texture) equal distance apart from each other and the case border. These two trophies will act as the buttons the player will press to enter quiz 1 and quiz 2 respectively.

The second shelf will contain a silver trophy (created same as above) with a wrench on it, this trophy will signify the options menu.

The bottom most shelf will have a bronze trophy with a sheet of paper with writing on it, this will be how the player accesses the credits screen.

The door to the right of the trophy case is also itself a button, pressing A on the 360 controller will exit the game while highlighting the door.

A small translucent text box will open along the bottom of the window while highlighting any of the trophies/door that gives a brief description of what that particular one does, and it's name.

## Quiz 1, Question 1

as stated in the behaviour of each screen, quiz 1 section, this section will be themed around the colour blue to represent 'easy'. There will be a pale blue 'question bar' along the top of the screen, taking up 10% across the top. The question itself will be white text with a black outline to make it easily readable.

The four buttons containing answers will be placed in line above each other, but not touching. The player will be able to scroll through the questions by moving down or up to each question,. Each button will be a slightly darker blue than the background, with a thick dark blue border around them, to provide contrast. The text inside will be white with a black border again, to keep consistency.

The confirm button will be green for contrast and be flush towards the bottom right corner of the game window. There will be a notch in the top right of it to further separate it from the four answer buttons.

The players score will be ever present on the top right of the window, beside the question.

confirming brings you to the text question in the quiz one section

## Quiz 1, Question 2

Question 2 will have the same general layout as question one, but all buttons will be present on the window. The buttons themselves will be slightly smaller than the ones above to accommodate the extra buttons.

The buttons will be laid out in an 4x3 grid, with the middle row being empty space. The outer sides will contain buttons.

No other layout changes will occur on this question.

confirming brings you to the next question in the quiz one section.

## Quiz 1, Question 3

Question 3 will have the same general layout as question one, But no button bar the confirm button will be on screen.

A black bar containing a text cursor inside it will be smack dab in the middle of the window.

If the player presses A on the 360 controller while highlighting the black bar, an on screen keyboard will appear (see diagram for accurate look)

.The keyboard section itself will take up 70% of the lower screen , with the remaining 30% being used to show what is being typed in. The layout will be a qwerty style keyboard only featuring letters, numbers, enter, backspace and the spacebar.

Once the player presses the A button on the 360 controller while over the enter key, the string they entered will show up in the former black bar.

Once the player presses the a button while highlighting the confirm button, they will be shown their final score, then credits will roll, then be returned to the main menu.

## Quiz 2, Question 1

See Quiz 1 question 1 for layout, as this is nearly identical just with a red colour scheme has opposed to blue to signify 'hard' quiz, and the questions being different. The confirm button is still green though

## Quiz 2, Question 2

Same as above, just in relation to quiz 1 question 2

## Quiz 2, Question 3

same as above, just in relation to quiz 1 question 3

## Credits

The credits screen will begin by slightly fading the main menu screen , then moving the sf::strings up the screen from the bottom off screen until they go above the top, to be again off screen. Once the final credit has gone above the screen, the credits screen will close and the player will be returned to the main menu, with the main menu no longer being faded.

The player may skip the credits at any time by pressing the A button on the 360 controller. This returns the player to the main menu. Credits can be slowed down/ speed up with the left stick (see behaviour section for more details)

## Behaviour of each screen

### Introduction Screen

The first screen the player is introduced to, this screen will serve as our small intro cutscene.

a 'Murt and Greg' production will appear on screen, fades away. Some quiet space music begins playing as earth scrolls up, rotating around the z axis from the bottom of the window until it is around the centre of the screen.

Exciting music begins to play as a 'whoosh' sound effect is heard. A football on fire zooms passed the screen and hurdles towards earth, getting smaller and smaller.

Eventually a small 'thump' is seen on the planet from the ball landing.

The thump knocks the title, QUIZ, down from the top of the screen. The game will prompt the user to press the 'A' button on their 360 controller to progress to the next screen

### Splash Screen

A large Scoreboard will appear on screen, similar to one you would see at large sporting events.

The two team names will be the 'Windows phones' and 'Time is irrelephant'. The score will be 2-1 to windows phones (those parts are purely flavour text). Across the centre of the scoreBoard, the text 'A Pete-Like Production' will scroll across to the rhythm of that song you hear at baseball games. Once the text has finished scrolling across, and the music finishes, the scoreboard will 'power down' (screen goes black).

## **Main Menu**

A trophy case will appear on screen with the title 'QUIZ' above it. The player will be auto-highlighted around the top left most trophy. A text box along the bottom of the screen will let the player know that this is the 'play quiz one' button (just textured as a trophy). In the bottom right of the screen, we will let the Player know that A confirms and left stick moves.

Should the player move the left stick over, the play quiz two trophy would be highlighted.

Three other options are highlightable from this screen. A trophy with a wrench on it (Options)

A paper document (Credits screen) and the exit door to the right of the trophy case (Exits the game). Each trophy makes a 'moving metal on a wooden surface' noise, whereas highlighting the door makes a door open noise.

## **Options**

A new, semi-translucent window will open above the trophy case screen, it will contain two slider bars both set to 50 % by default. Both of these are Music volume and SFX volume respectively.

Like the trophies, the player may navigate between the two using the left stick. Pressing 'A' on one of them will lock on to that slider, giving it a gold outline.

Should the player move the left stick now, the slider will decrease / increase to 0%-100% depending on where in the slider bar it is. Should the player press B while locked on to a setting, it will return the value to its previous value. Pressing A will update it to that new value the player deciding upon.

Pressing B with no slider locked on, the player is returned to the trophy case screen.

## **Quiz 1 , question 1**

Quiz 1, the easy questions will have a blue colour scheme. The background will be pale blue in colour, each button will have a blue box around them, with a light blue border. There will be six buttons present, four of which will be present on screen at any given time,

Five of the buttons will be possible answers (only one will be correct) , the sixth button will be a confirm button.

While only four buttons are present on screen, the player may scroll the screen up or down at any time by moving the right stick in the corresponding direction the player wishes to scroll.

pressing the A button will lock in a highlight choice. Pressing A on the same one will unlock it.

When an answer is locked in, the player highlights the confirm button and presses A, the game will check if its the right answer.

Regardless of whether it was right or wrong, the player will progress to the next question. The score will be shown in the top right of the screen. If the player answered correctly, the score will read '1:3 correct' else it will stay '0:3 correct'

Should a player attempt to press the confirm button without locking in an answer, a message box saying 'please choose your desired answer' . Pressing A will close this text box.

The question will appear along the top of the screen, with a definitive line under it so the player knows they can't highlight it, The question will be 'How many goals are there on a regular football pitch' . the five possible answers will 'one', 'two', 'three', 'four', and 'five' The text will be a undecided font at the moment.

## **Quiz 1 , question 2**

Question 2 will use the same colour scheme as above, as it is in the same 'easy' section.

There will be nine buttons on screen , with eight of them containing possible answers to the question, and a confirm button at the bottom of the screen, located to the middle-bottom of the screen.

Unlike the previous question which used radio buttons (Choosing another answer deselected the last one pressed), this question uses checkbox buttons.

Should the player press A while highlighting a button, the highlighted button will 'lock in' with a gold outline, similar to above, but the player may lock in multiple answers for this question, minimum one.

Once the player is happy with their answer(s), they will highlight the confirm button. The score will update similar to the last question and the player will advance to the next question.

Should the player press confirm without locking in an answer, a similar text box to the last question will appear.

The question for this question will be 'What metals are used as rewards in the olympics' and the possible answers will be 'Gold', 'Silver', 'Bronze', 'Steel', 'Brass', 'Iron' , 'Oak' ,and 'Jazz'

font will be same as above



## Quiz 1 , question 3

Question 3 will use the same colour scheme as above.

The player will be greeted with an 'empty bar' and below it a confirm button.

should the player highlight the bar and press the 'A' button on the 360 controller, a new window will appear on screen with a space for text with a text cursor at the start of it. Below the space with the text cursor, an on-screen keyboard will be visible (No fancy characters, just a qwerty keyboard layout, also includes a backspace, space and enter button.)

The player will be able to use the d-pad to move between each 'key' , or use the left stick for a more 'free' feeling.

When the player presses the A button on the 360 controller, whichever current key is highlighted will take effect. if it was a letter key, that letter will appear where the text cursor was, and the cursor itself will move forward to the right of the letter.

If that key was space, a blank space will be created and move the text cursor forward to the right of the blank space.

if that key was the backspace key, the text cursor will move back to the left one, and erase whatever letter was there before it, if any at all. if there was nothing to delete, the text cursor remains in place.

if that key was the enter key, the on screen keyboard fades away, returning the user to choice they were just one. The 'blank space' now contains whatever the user entered in the on screen keyboard menu.

The player will then highlight the confirm button and press A on the 360 controller, allowing the user to see their final score, then opening to the credits screen.

Should the player lock in confirm with now text entered, a text box will appear telling the player to press the A button while highlighting the blank space provided to enter their answer.

The question will be "How many breaks, or half times are in a typical game of football"

The appropriate answers the game will accept will be 'two' 'Two' 'TWO' '2' '10' and finally the roman numerals 'II'

## Quiz 2 , question 1

Quiz 2 will be the hard section, Color scheme will be same same as the last quiz, just replace blue with red.

See quiz 1, question one for behaviours, only changes will be the questions and appropriate answer.

The Question will be "Where is the Arsenal FC home stadium"

Answers given will be “London” “Dublin” “Manchester” “Louth”

## **Quiz 2 , question 2**

This question will have the same application as above, except its mirror will be quiz one, question 2 with the question and answers being different

The question will be “Which of the following are actual golf score names”

and the answers given will be “Bogey” “par” “Falcon” “Eagle” “double par” “double Eagle”

“Quadruple Bogey” “Strike”

## **Quiz 2 , question 3**

Similar to above, except this question mimics quiz 1 question three, except with the red color scheme, and a different question and appropriate answers

The question will be “What is the term for loading an arrow into a bow in regards to archery”

The accepted answers will be “knocking” “Knocking” “KNOCKING” “knocking it” “Knocking it”

“KNOCKING IT” “... the/an arrow” “...the/an arrow” “KNOCKING THE ARROW”

## **Credits**

The credits screen will have a similar style to the options menu, the credits will scroll upwards from the bottom of the screen containing a few moving balls and other such sporting equipment.

(see Transition of behaviour screens credits segment for more details)

The player may return to the main menu at any point during the credits by pressing any of the 4 face buttons on the 360 controller. Moving the left stick to the left will slow down the credits, and moving it to the right will speed them up.

## Appearance of each screen

### Introduction

The intro screen will feature a large circle along the left of the screen, this will have an earth texture on it, a small football will zoom towards it, creating a small 'dust cloud' where it lands on earth. the thump causes the title to fall from the top of the screen down towards the centre (see diagram for design)

### SplashScreen

This screen will have a scoreboard on it, similar to one you would find in a stadium of a major sporting event. Along the left will be the team 'Windows phone' with their name abbreviated to WNDPH, and their opposing team, the time is irrelephants, abbreviated to TIMELE.

The score will be 2-1 to the windows phones. the score will be just below their team names

The text ' A pete-like production' will scroll along the bottom of the scoreboard, from right to left.

### Main Menu

The player will be presented with a trophy case, and a door with an exit sign to the right of it.

The trophy case will look like a typical one found in the likes of schools, the title of the game will again appear over the case.

Any other empty pace will be stylised to look like a wallpaper/painted walls.

The trophy case will have two gold,one silver and one bronze statue (see first section for more details)

The exit door looks like a fire escape door, just to get the point across its for exiting

### Quiz 1, Question 1

all quiz one questions have a blue colour scheme. There will be buttons presented to the player in a scrollable list, with the confirm button/question/score remaining in the same section for all questions (see section one for more details)

## Quiz 1, Question 2

Same as above, but the questions will be organized into a grid (3x3 with the cross section between the four corners having nothing). No other design changes

## Quiz 1, Question 3

No buttons on this one, bar the confirm button. A small black text bar will be present on the screen. Entering that will pop up a qwerty keyboard on screen just missing special characters.

## Quiz 2, Question 1

Same as quiz 1 question 1, just red colour scheme and different question/answers

## Quiz 2, Question 2

similar to the above scenario, except mirroring Question 2 on quiz one

## Quiz 2, Question 3

Once again, close to the one above this, except for quiz 1 question 3, QWERTY keyboard layout will remain unchanged and black in colour

## Credits

The credits will open on top of a faded background , and begin scrolling from the bottom of the screen towards the top, similar to most movies or other games. There will be a couple headings, such as Developed by:Murt and Greg, produced by:Peter lowe and IT carlow, music by:[TO BE DECIDED], art by:Murt and Greg and finally Design done by:Murt and Greg Once finished, the game will fade back to the main menu.

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**MURT SECTION**

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# Transition Behaviour of Screens

## Introduction to Splash Screen Transition

Once the introduction has finished its animation/text the words will disappear and the globe will move into the centre of the screen and then it will begin to increase in size, this will give off the effect of zooming in on the planet(Like it is entering the world of quizzes). Once the screen has been completely encapsulated by the globe it will disappear and the splash screen will begin to do its thing.

This will be quite simple to implement, we will start off by getting rid of the “quiz” text that was at the end of the intro, this will be done by simply stopping it from drawing. Then slowly transition the globe into the centre of the screen by decrementing from its x position and then setting the position of the circle shape to this new position, we don’t want it to be instant because the user will find it more difficult to understand what has happened if it is instantaneous. Finally we’ll gradually increase the size of the circle shape using the SFML command `setSize` and increase its size by a certain amount each frame. Then once it is big enough to encapsulate the entire screen, we will stop drawing it and then proceed to the splash screen.

## Splash Screen to Main Menu Transition

Once the splash screen has finished doing its thing this transition will begin with volleyballs which will begin to fall from the top of the window(their position will be set outside the window and they will begin to appear from outside the screen), clearing the screen as they fall. When they reach the bottom of the screen they will begin to pile up on top of each other “tetris-style”. Once the screen is full of balls they will slowly fade away and then the main menu will be drawn.

Another easy one to implement, we will create an array of circle shapes and append each of them with the same volleyball sprite. Then using a loop we’ll give each volleyball a number between 1-4 and this will be used for the delay between each volleyballs movement as we don’t want them all to fall at the same time. They will begin to fall in ascending order the number 1s will move first and there will be a two second delay between each wave. When the balls with numbers two and and four start moving they will begin to rotate as they descend. We will use the sfml shortcut “`getGlobalBounds`” to do collision detection and if a ball reaches the bottom of the window or another ball it will stop moving and rotating simultaneously. The bottom of the

window detection will be done using the position of the circle shape at its centre and its radius if both together equal the y coordinate of the bottom of the window they will cease all movement. Then once the “if” statement which will constantly be checking if all the balls have stopped moving is true we will stop drawing them altogether and the main menu will be drawn..

## Main Menu to Options

If the user clicks on options from the main menu, A basketball will appear in the bottom left of the screen and then a basketball hoop will appear roughly two thirds of the way up the screen on the right. The ball will begin to rotate and arc into the basket. Once the ball lands in the net everything will stop drawing and the options menu with the sliders will appear.

This will be a little more difficult than the others so far as the ball will not travel in a straight line. We will use a circle shape and a rectangle shape to store the sprites. Once the shapes are drawn the ball will be rotated clockwise using the sfml rotate function. Then using two vectors we will set the position of the circle shape using one of the vectors and update it as it travels and use the 2nd vector to offset it's path giving it a curving effect like someone has just thrown a free and has aimed above the basket. Then once the ball's position reaches its goal x and y position we will stop drawing it and proceed to the options menu, displaying the slide bar for the volumes.

## First Quiz Transitions

To create a sense of uniformity we decided to use the same transition between each question on the quizzes . If we ever decide to add more questions we can just repeat the transition again. For the first quiz we decided to go with poker chips which will fall from the top of the screen and start piling up, then a stick will appear and drag the chips off the screen. The chips will just be circle shapes appended with a poker chip sprite. The rake/stick will be a rectangle shape. Once all the poker chips have stopped moving completely the rake will move in from the right side of the screen, then rotate anti-clockwise until it touches the poker chips and then it will leave the way it came in.

## Credits

Once the quiz has been completed the screen will fade to black and the credits will begin to scroll down from the top of the window unless the user has selected the

document icon which represents credits from the main menu. Simultaneously different types of balls will appear from different sports(Soccer, volleyball, tennis) and begin rotating in place clockwise and anti-clockwise at different points on the left and right sides of the screen.

At the end of the last question on either quiz we will draw a black rectangle that encapsulates the screen with max opacity and slowly decrease that value each frame, then the credits will start and we'll clear the window in black. We will have an array of circle shapes and then hard code their positions. Each one will be appended with a different sprite and will rotate clockwise or anti-clockwise depending on their position in the array. The credits will be drawn given a position and will be drawn above the window and will slowly move down each frame until it goes off the window at the bottom, once all the credits have been exhausted the screen will be cleared and we will draw the text "Thank you for playing" in the centre of the screen.

## Feedback Behaviour of Controls

### Basic control behaviour

On the xbox 360 controller the buttons we will be making use of are the two thumbsticks(left for the manipulation the the cursor mostly and right for scroll bars), the d-pad or directional pad(Will function similarly to tabbing through a form on the internet, except it will move the cursor to the centre of the next button in the direction pressed on the directional pad), the "a" button(For confirming the user's choices in each menu and the answers in the quizzes) and the "b" button(For going back to the previous window if applicable). Some of the other buttons will receive a small bit of functionality on certain screens but for the most part they will have no use outside of those situations. These include the "x" button, the "y" button and both the left and right bumpers.

The left thumbstick will be used by the user to control the cursor on the screen which will be a dart sprite and wherever the tip of the dart is the user will be able to interact with the user interface elements of the game. The thumbstick will give a greater degree of freedom than our implementation of the dpad will when it comes to how fast you can move around the screen though the directional pad will be more efficient in certain situations especially when the user gets more familiar with the UI. Depending on the size of the buttons/scroller it may be difficult at times to get the cursor perfectly where you want it utilizing the thumbstick so we decided it would be important to have an

alternative way to navigate the screens, that being said the thumbstick is probably the most natural and most efficient way for console gamers to traverse the UI elements of the game.

The right thumbstick will mostly be used on screens containing a scroller and moving the thumbstick up or down will cause the scroller to do the same, the window will then reflect the changes by moving up or down.

The green “a” button will mostly used as an “enter” key and will be confirmation or it will try to use anything where the cursor is if applicable. It will also have the functionality to unconfirm a decision in the case of radio buttons or checkbox lists. The user can not continue without this functionality so it is of utmost importance that it works.

The red “b” button will be used to go back to the last screen before the current one, this won’t always be applicable but in the use case where the player would like to go back and change their answer or go back to the main menu from options it would be useable and more efficient than using the thumbstick to navigate to an exit button and pressing the “a” button to then return to the main menu.

The d-pad is going to work similar to tabbing on a form on the internet, whenever right or left on the d-pad is pressed it will move the cursor to the first button and the user can then traverse the buttons using the d-pad, once the cursor has reached the last button if the user presses right on the dpad again the cursor will go back to the first button. Depending on the placement of the buttons in the window it will also be possible to go to buttons directly above or below the cursor by pressing up or down on the d-pad respectively.

The “x” button will only be used on the third question of both quizzes. If the keyboard is visible and the string is not empty it will delete the last character in the string. If the string is empty it won’t do anything. The “y” button will also only have functionality under the same conditions but it will add a space character to the string if pressed by the user.

The two bumpers will also only be of use on the third question of the quizzes. They will be used to index through the string without deleting any letters. To keep it ergonomic the left bumper will go left one character at a time and the right will go right.



## Intro Screen

On the introduction screen the cursor will not appear on the screen anywhere. Both thumbsticks, the d-pad and the “b” button will have no functionality here but the “a” button will function like an “any-key” and you can skip the intro to the splash screen.

## Splash Screen

Similar to the introductory screen, on the splash screen most of the buttons will have no functionality except for the “a” button and the “b” button. The “a” button may be used to skip from the splash screen to the main menu. The “b” button may be used to go back to the introduction screen. This functionality is extremely important for users who think our transitions are so cool they want to see them again, or for people who skip out of habit but then regret their decision to do so.

## Main Menu

Most of the buttons will have functionality on this page except the right thumbstick. The cursor will be drawn on this screen and will begin in the top-left as we naturally read from right to left and top to bottom. The user will be able to control the cursor with the left thumbstick and can move it in any direction. If the cursor would go off the screen its position is reset to the edge of the screen as it would be pretty awkward to navigate the menu otherwise especially for some users who enjoy moving the cursor where it shouldn't be. The “a” button may be used to enter into any of the modes on the menu provided the cursor has been placed above one of the buttons via the thumbstick or the d-pad because if it is not above them then nothing will happen. The d-pad may also be used to navigate the main menu. whenever the right or left button on is pressed on the d-pad, it will move the cursor to the next corresponding button. Once the cursor has reached the last button if the user presses right on the dpad again the cursor will go back to the first button. If a button is directly above or below the cursor if up or down is pressed on the d-pad the cursor will jump to it. Once again pressing the “b” button will return the user to the previous screen which would be the splash screen in this case.

## Quiz menus

The quiz menus will have full functionality, we thought of the purpose of the “b” button almost solely for instances where users would want to go back and change their answers. The first question in both quizzes will have radio buttons, the user can use the thumbstick or directional pad to navigate the radio buttons and press then the “a” button to select their answer. This will result in the buttons being highlighted. The second

question will consist of a check box and once again the user can manoeuvre the buttons but this time they may select more than one answer the right thumbstick will also achieve its functionality here as there will be a scroll bar on the right and the user can manipulate it with either the cursor or the right thumbstick. Finally the third question will feature character input and a keyboard with many buttons which the user can select representing the alphabet among other functions, this is also the only menu where the “x”, “y”, left bumper and right bumper will be of use. The “x” button will delete the last character in the string, the “y” button will add a space character to the string and the two bumpers will traverse the string without editing it.

## Credits

None of the buttons will have functionality on this screen because the peoples names and their work contribution are far too important to give the user control, nobody likes to skip the credits anyway, am I right?

## Sound Effects

There will be several sports themed sound effects incorporated into the UI. The volume of which can be controlled from the options menu. Whenever the user hovers over an element of the UI that they can manipulate and presses the “a” button the game will produce the sound effect of a dart hitting a dart board. For comical effect if the user presses the “a” button when they’re not hovering over an interactive part of the UI the game will make a noise akin to a dart missing or the universal sound of an arrow missing and vibrating that everyone is familiar with. Whenever the user presses the “b” button to go back a screen the game will play a fast “rewind” noise to signify to the user that they have transitioned to a previous screen.

The radio buttons on the first question in both quizzes will make a noise depicting it, similar to the buttons on a cassette tape player, whenever the player hovers over one with the cursor and presses the “a” button to confirm their selection. On the second question, on each quiz, if a player chooses one of the answers the game will make a tick noise similar to the sound of a pencil being used to write but discernible as a tick. The third question will make a keyboard noise, like someone is typing whenever the user confirms a letter on the keyboard and enters a character.

For the credits, whenever they start rolling down a sound like an old projector will play, giving it a kind of antique movie kind of effect. Then once the credits have finished

playing and the message “thanks for playing” appears a voice will say “You Rock!” before the window closes, ending the game.

## Layout Behaviour of Screens/Controls

### Introduction

This screen has no UI elements to interact with. Once the animation has finished there will be a prompt for the user to press the “a” button on their 360 controller to progress to the next screen. If the user then presses the “a” button the transition to the splash screen will begin (zooming in on the globe).

### Splash Screen

Once again there are no UI elements on this screen either and the cursor will not be drawn. The screen will fade out once the text has finished being displayed.

### Main Menu

This screen has five buttons that the user can interact with, this is also the first screen where the cursor (dart) is drawn and the user can manipulate it using the left-thumbstick or the d-pad. Once the cursor is above one of the UI elements it will increase in size slightly, this will give a bit of feedback to the user so it will be easier to tell what they about to enter. These buttons include the 2 quiz buttons, options exit and credits. The two quiz buttons will be represented by trophies. Once the cursor enters the bounds of one of them they will increase in size in an instant by roughly ten percent and makes a “moving metal on a wooden surface” noise. The options button will be represented by a trophy with a wrench on it. The wrench has often been used as an icon in other user interfaces to represent the options/settings the user can manipulate. Most users should be able to tell what it is without reading the text box underneath. The credits will button will be a trophy with a paper document/sheet and the exit button will be a trophy with a door on it. All of these trophies will increase in size when the cursor hovers over them. If the cursor is not currently highlighting any button and the user presses any key of the d-pad the cursor will jump to the quiz 1 button, pressing right will take them to quiz 2 or they could press down to navigate to the credits. Pressing both left and right on the d-pad at the same time will take the player to the options button.

## Options/Settings

Should the player open the options menu, two sliders will appear representing music volume and game volume(SFX). The player can hover over the slider and can manipulate it in two ways. They can either hover over the “slider-button” that represents the level on the bar, gain control of it by pressing the “a” button while the cursor is above it(this will give it a gold outline, giving the user the feedback so they know they can manipulate it now) then move either the left-thumbstick or d-pad left or right to increase or decrease the volume. The second way is to hover somewhere on the bar where the user wants the volume to be and when the user presses “a” the corresponding “slider-button” will jump to that position. This is the only screen where the “b” button has an alternate functionality. When pressed the volume will return to its default setting.

## Quiz menus

The behaviour and layout are identical for both sets of quiz questions they will only vary in difficulty and colour(to signify the difference, blue is easy and red is more difficult).

Question one on both quizzes will both feature six radio buttons and a scroll bar. Only four buttons will be visible on the window initially the user will need to use the scroll bar to to see the other two. They can successfully do this by using the right thumbstick to move the scrollbar up and down or use the left thumbstick to move the cursor over to the scroll bar and hover over the “scroll button” press the “a” button to manipulate it then use the thumbstick or d-pad to move it up and down or alternatively move the cursor to the point on the scroll bar they would like to scroll to and then press the “a” button, this will result in the “scroll button” jumping to that position and the window will reflect these changes. If the user hovers over one of the four buttons which represent the answers to the question, they can press the “a” button to highlight the question, this will change the sprite so it looks like it is highlighted to the user. To submit the answer and proceed to the next question the player must hover over the confirm button and press “a” once again. These movements can also be done using the d-pad to navigate the buttons, this will move the cursor above each button in order. If an answer is highlighted the player can unhighlight it in three different ways: Firstly, by pressing the “a” button again while the cursor is above the currently highlighted answer. Secondly by going down to the 5th button that says “cancel” and pressing the “a” button while the cursor is above it. Finally by selecting one of the answers that are not highlighted and pressing “a” while the cursor is above one of them.

Question two will feature a checkbox with eight possible answers and a confirm button, there is no scroll bar this time so the user will lose the functionality of the right thumbstick. The user can select multiple answers by either hovering over them with the cursor using the left thumbstick or using the d-pad to navigate through the checkbox. The user can lock in or “highlight” an answer using the “a” button and can cancel it the same way. The user can select multiple answers but must select at least one before proceeding. If the user does not select any answers and they hover over the “confirm” button and press “a” nothing should happen.

Question three will feature a text box(a sprite that looks like one) and a keyboard that only becomes visible when you click on the textbox. This question will require the user to input characters to answer the question. The d-pad will lose functionality here unless the keyboard is visible so it will only be possible to navigate to the text box with the left thumbstick. The keyboard will just be a lot of buttons that the user can hover the cursor over or use the d-pad to navigate through. Pressing the “a” button whilst hovering over a letter will input that character into the string on screen. The non-character buttons such as backspace and space will do what there real life keyboard counterparts would do i.e. delete the last character or insert a space. Once the player has finished they can manoeuvre to the “confirm” button and enter their answer. The game logic will check the characters and determine if the answer was correct or not. We also decided to add some functionality to the “x” and “y” keys to create some shortcuts. The “x” key will effectively be backspace and delete the last character but will not do anything to an empty string. The “y” key will insert a space to the end of the screen. The right and left bumpers will be used to index through the string without deleting it, just so users don’t have to delete the entire thing if they made a mistake at the beginning of the word.

## Sound Effects

On the introduction screen once the animation begins some quiet space music will begin to play to immerse the player in the animation and make them feel like they’re in space. Then when the football goes flying past it will make a noise similar to an asteroid breaking into the atmosphere. Once the ball collides with the globe there will be a “thud” noise and then a sound similar to sand dissipating.

For the splash screen when the giant scoreboard appears baseball trumpets begin to play alongside the noise of a full stadium screaming.

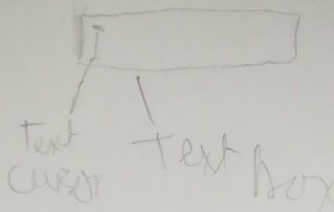
## Outro

Throughout the undertaking of this assignment we realised it was important to do certain sections before others as it was sometimes unavoidable that the same material is spoken about in other sections. In order to keep the document consistent we needed to have the same specifications for all elements of the UI or otherwise we would end up describing two different designs of the same menu and we would then have to go back and revise each section of the document that mentioned that section. This wasted a lot of time and created a lot of work that could have easily been prevented by spending a few minutes to plan each section.

- I feel like we reached our desired goals for the design. The menus are efficiently layed out with an ergonomic control layout with enough animation elements to keep the user entertained. We did not want the game to feel like more of a questionnaire than a game. We felt like the sports theme would attract a higher demographic and the use of colour in the design is consistent. The design could incorporate a little more functionality but there are more than a few ways to do the same thing when it comes to navigating which other quiz GameSpy's usually cut corners and have only one way to do manoeuvre around the menus.

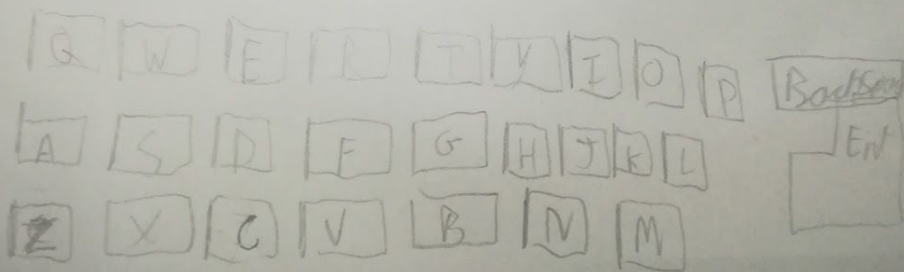
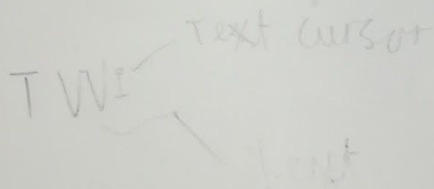
Question 3 (before)

Question: How many parts/half-times in a game of football



confirm

Question 3 (after)



Space

Qwerty Keyboard

## Q.2 Question 2 (before)

Question: what metals are used in medals in the olympics?

Gold

- currently highlighted

Silver

- All check box buttons

Bronze

Bronze

- possible answers

Steel

Iron

Tungsten

Oak

Confirm

## Q.2 Question 2 (after)

Gold

Silver

- 'locked in' answer

Bronze

Bronze

(some are gold and bronze)

Steel

Iron

Tungsten

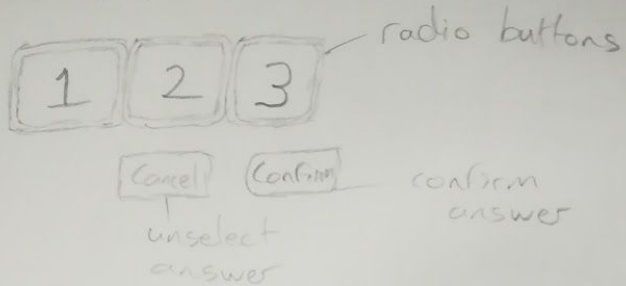
Oak

currently highlighted

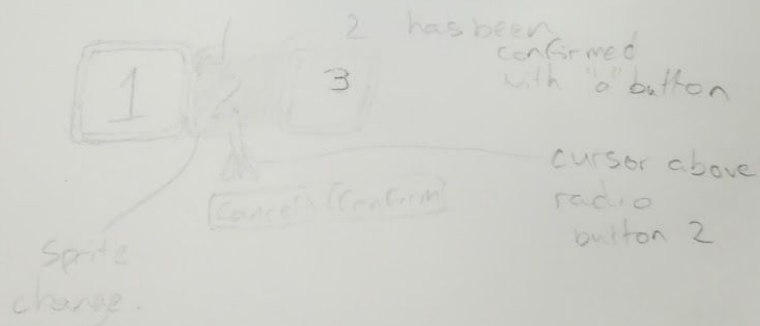


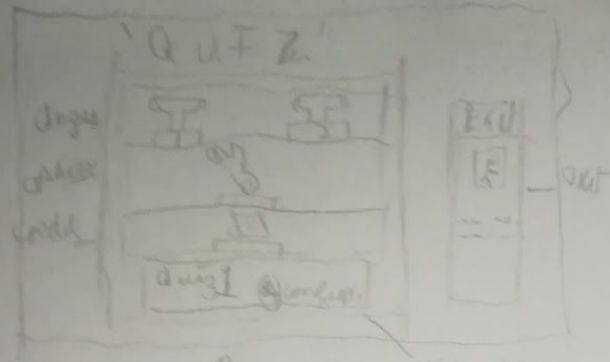
## Cursor / Question One

Question 1: "How many goals on a Football Field?"

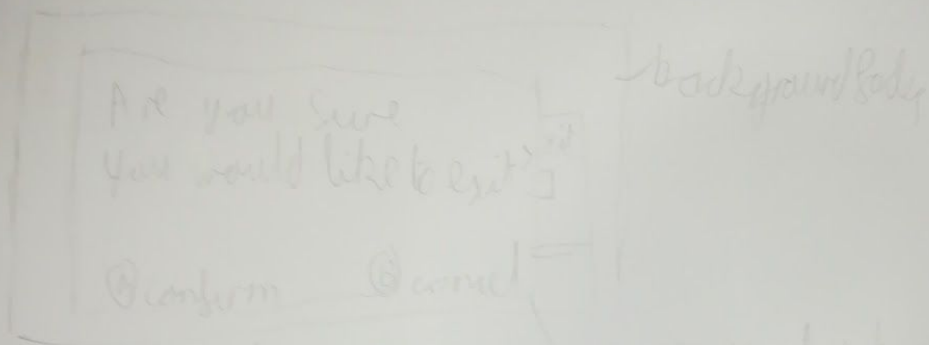


Question 1: "How many goals on a Football Field?"



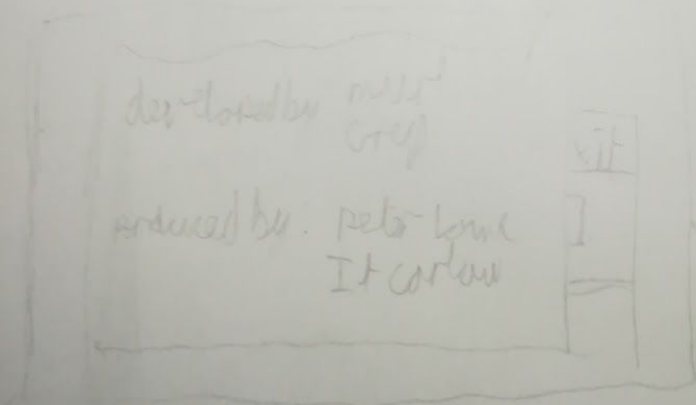


THE 'main menu' Text box

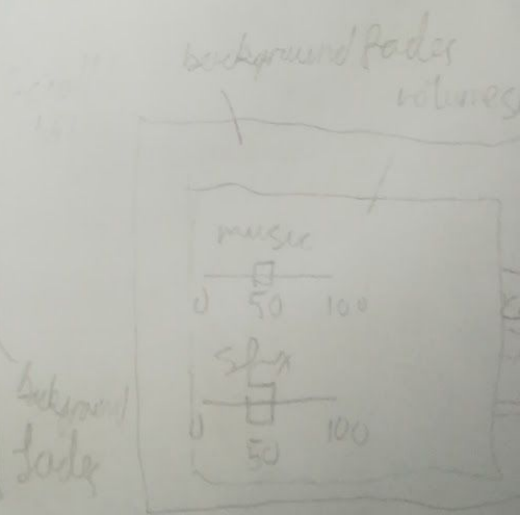


background/body

confirmation box

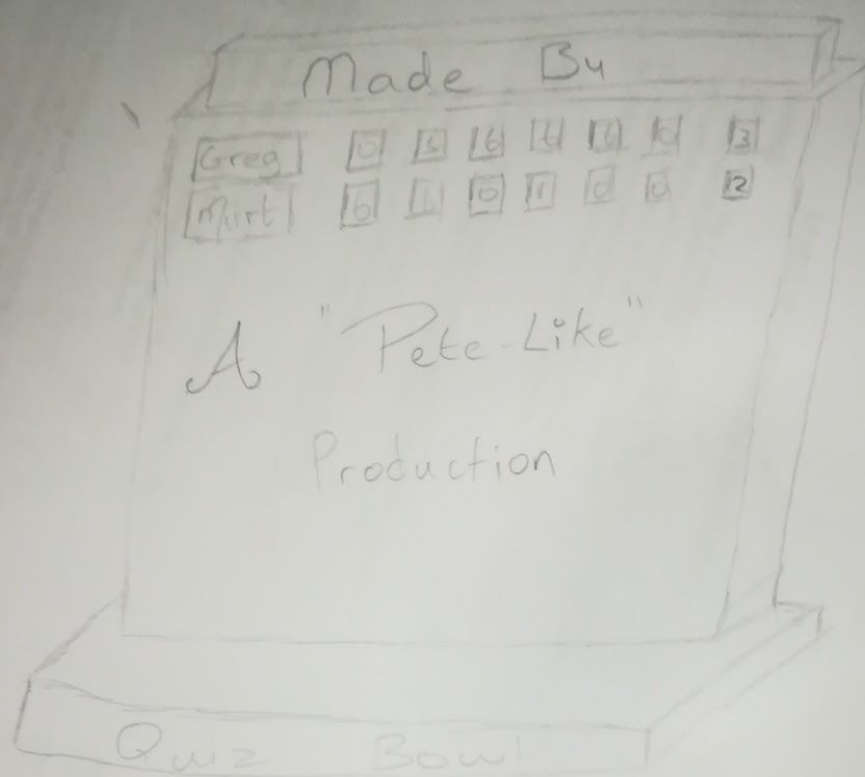


Credits Screen



Options

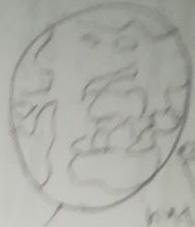
# Splash Screen





"Thud"

Ball hit planet



Ball hit planet

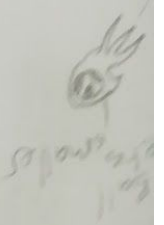


England rotated

Smaller



rotated



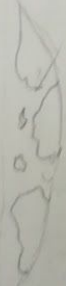
Ball hit planet



Iceland rotated



Catches fire



Globe

Lat 10