

UNIT 8B - MOBILE APP DESIGN REPORT

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User requirements

Purpose

I have been asked to develop an educational, interactive mobile application by EduTek, a leading educational publisher. EduTek have asked me to design and produce an interactive application that will help children learn the different letters of the alphabet.

To achieve this, I must produce a design for an interactive mobile application which must contain a minimum of six letters of the alphabet and I must demonstrate the uses and any added features of my design.

Target Audience

The target audience for this educational mobile application is children aged four to seven years old. The aim of this mobile application is to educate young minds about the alphabet whilst, maintaining their interest in an entertaining and simple to use application.

While designing and creating this application, it is extremely important for me to use bold, primary colour schemes, interactive graphics and simple goals and targets to maintain the attention of the target audience.

Tools

To create this application, I plan to use a wide range of tools to demonstrate the product to EduTek throughout each stage of the development.

I will use Microsoft PowerPoint to create the mock-ups/prototypes of the designs as well as most of the assets, and I will use Adobe Fireworks and Photoshop to create/edit some of the assets for my designs. I will record my own audio files using a voice recording application on my android smartphone and save all audio files as mp3 files.

I will use the software development kit, Visual Studio, to develop the windows mobile application, and I will write the application in Xaml programming language using C#. I have optimised the assets to reduce the file size of each image in order to speed up my game's loading times and improve the quality of the graphics.

Assets Table

File Name	Description	Source
Apple.PNG	Hand drawn image of an apple edited using photoshop and PowerPoint.	Hand drawn by Sophie May, edited in Photoshop and PowerPoint.
Balloon.PNG	Hand drawn image of balloons edited using photoshop and PowerPoint.	Hand drawn by Sophie May, edited in Photoshop and PowerPoint.
Carrots.PNG	Image of happy cartoon carrots sourced from creative commons free images, on open clipart made by cyberscooty.	https://openclipart.org/detail/246055/funny-carrots https://openclipart.org/download/246055/cyberscooty-funny_carrots.svg
Duck.PNG	Hand drawn image of a duck edited using photoshop and PowerPoint.	Hand drawn by Sophie May, edited in Photoshop and PowerPoint.
Elephant.PNG	Hand drawn image of an elephant edited using photoshop and PowerPoint.	Hand drawn by Sophie May, edited in Photoshop and PowerPoint.
Fish.PNG	Hand drawn image of a fish edited using photoshop and PowerPoint.	Hand drawn by Sophie May, edited in Photoshop and PowerPoint.
A_correct.PNG	Typed A "scrabble" piece to be shown when answer is correct. Made in PowerPoint.	Made by Sophie May, edited in PowerPoint.
A_is_for...._.PNG	Typed sentence "A is for...." To be displayed when the screen loads, made in PowerPoint.	Made by Sophie May, edited in PowerPoint.
A.PNG	Typed letter A made in Fireworks. This is displayed once the user types letter A.	Made by Sophie May, edited in Fireworks.
pplle.PNG	Typed word "-pple", made in PowerPoint. This is displayed when the screen loads	Made by Sophie May, edited in PowerPoint.
LetterAsound1.mp3	Sound played once picture is clicked. "A is for".	Made by Sophie May using microphone on smartphone.
LetterAsound2.mp3	Sound played once answer is correct. "Apple"	Made by Sophie May using microphone on smartphone.

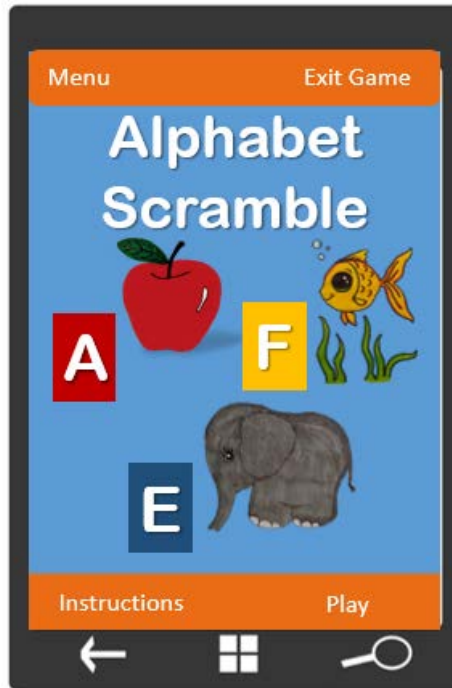
B_correct.PNG	Typed B "scrabble" piece to be shown when answer is correct. Made in PowerPoint.	Made by Sophie May, edited in PowerPoint.
B_is_for...._.PNG	Typed sentence "B is for...." To be displayed when the screen loads, made in PowerPoint.	Made by Sophie May, edited in PowerPoint.
B.PNG	Typed letter B made in Fireworks. This is displayed once the user types letter B.	Made by Sophie May, edited in Fireworks.
alloon.PNG	Typed word "-alloon", made in PowerPoint. This is displayed when the screen loads	Made by Sophie May, edited in PowerPoint.
LetterBsound1.mp3	Sound played once picture is clicked. Made using microphone on smartphone. "B is for..."	Made by Sophie May using microphone on smartphone.
LetterBsound2.mp3	Sound played once answer is correct. "Balloon"	Made by Sophie May using microphone on smartphone.
C_correct.PNG	Typed C "scrabble" piece to be shown when answer is correct. Made in PowerPoint.	Made by Sophie May, edited in PowerPoint.
C_is_for...._.PNG	Typed sentence "C is for...." To be displayed when the screen loads, made in PowerPoint.	Made by Sophie May, edited in PowerPoint.
C.PNG	Typed letter C made in Fireworks. This is displayed once the user types letter C.	Made by Sophie May, edited in Fireworks.
arrot.PNG	Typed word "-arrot", made in PowerPoint. This is displayed when the screen loads	Made by Sophie May, edited in PowerPoint.
LetterCsound1.mp3	Sound played once picture is clicked. Made using microphone on smartphone. "C is for..."	Made by Sophie May using microphone on smartphone.
LetterCsound2.mp3	Sound played once answer is correct. "Carrot"	Made by Sophie May using microphone on smartphone.
D_correct.PNG	Typed D "scrabble" piece to be shown when answer is correct. Made in PowerPoint.	Made by Sophie May, edited in PowerPoint.
D_is_for...._.PNG	Typed sentence "D is for...." To be displayed when the screen loads, made in PowerPoint.	Made by Sophie May, edited in PowerPoint.

D.PNG	Typed letter D made in Fireworks. This is displayed once the user types letter D.	Made by Sophie May, edited in Fireworks.
uck.PNG	Typed word "-uck", made in PowerPoint. This is displayed when the screen loads	Made by Sophie May, edited in PowerPoint.
LetterDsound1.mp3	Sound played once picture is clicked. Made using microphone on smartphone. "D is for..."	Made by Sophie May using microphone on smartphone.
LetterDsound2.mp3	Sound played once answer is correct. "Duck".	Made by Sophie May using microphone on smartphone.
E_correct.PNG	Typed E "scrabble" piece to be shown when answer is correct. Made in PowerPoint.	Made by Sophie May, edited in PowerPoint.
E_is_for...._.PNG	Typed sentence "E is for...." To be displayed when the screen loads, made in PowerPoint.	Made by Sophie May, edited in PowerPoint.
E.PNG	Typed letter E made in Fireworks. This is displayed once the user types letter E.	Made by Sophie May, edited in Fireworks.
lephant.PNG	Typed word "-lephant", made in PowerPoint. This is displayed when the screen loads	Made by Sophie May, edited in PowerPoint.
LetterEsound1.mp3	Sound played once picture is clicked. Made using microphone on smartphone. "E is for..."	Made by Sophie May using microphone on smartphone.
LetterEsound2.mp3	Sound played once answer is correct. "Elephant"	Made by Sophie May using microphone on smartphone.
F_correct.PNG	Typed F "scrabble" piece to be shown when answer is correct. Made in PowerPoint.	Made by Sophie May, edited in PowerPoint.
F_is_for...._.PNG	Typed sentence "F is for...." To be displayed when the screen loads, made in PowerPoint.	Made by Sophie May, edited in PowerPoint.
F.PNG	Typed letter F made in Fireworks. This is displayed once the user types letter F.	Made by Sophie May, edited in Fireworks.
ish.PNG	Typed word "-ish", made in PowerPoint. This is displayed when the screen loads	Made by Sophie May, edited in PowerPoint.

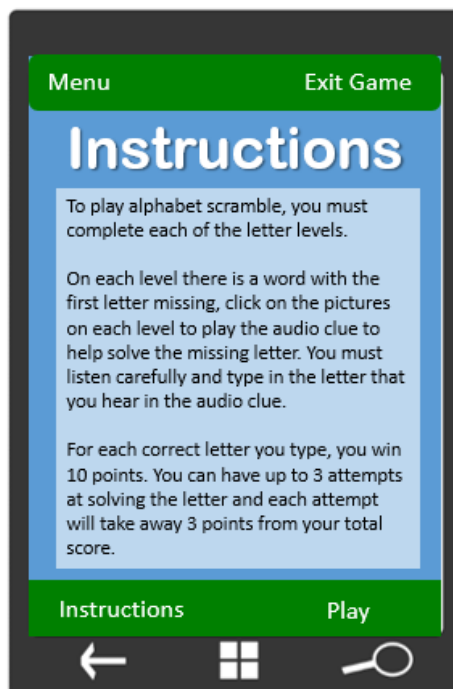
LetterFsound1.mp3	Sound played once picture is clicked. Made using microphone on smartphone. "F is for.."	Made by Sophie May using microphone on smartphone.
LetterFsound2.mp3	Sound played once answer is correct. "Fish"	Made by Sophie May using microphone on smartphone.
Title_Main.PNG	This is the typed png image of the games title "Alphabet Scramble". Made in PowerPoint.	Made by Sophie May, edited in PowerPoint.
Group_Image_Objects_Main.PNG	Group of images to be displayed on title main menu screen once it loads.	Made by Sophie May, edited in PowerPoint.
Instructions_Title.PNG	This is the typed png image of the instructions title "Instructions". Made in PowerPoint.	Made by Sophie May, edited in PowerPoint.
All pre-defined code	All pre-defined and altered code provided in this document.	Sourced from tutor, altered by Sophie May.

Designs

Design: Option 1
Screen: 1
Letter: None
Title: Main Menu



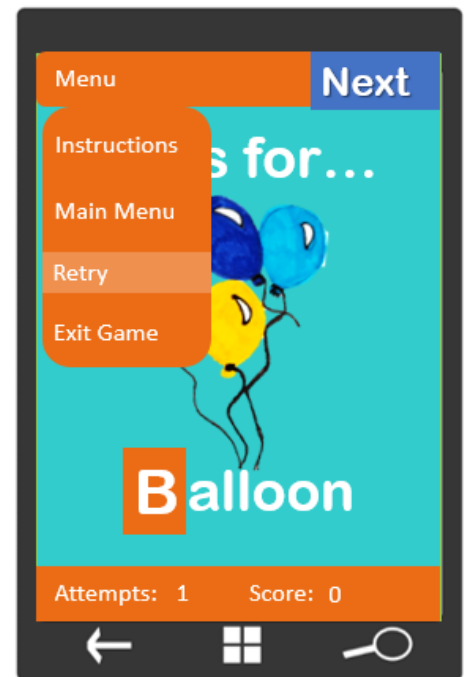
Design: Option 1
Screen: 2
Letter: None
Title: Instructions



Design: 1
Screen: 3
Letter: A
Title: Letter A



Design: 1
Screen: 4
Letter: B
Title: Letter B



Design: Option 1

Screen: 5

Letter: C

Title: Letter C

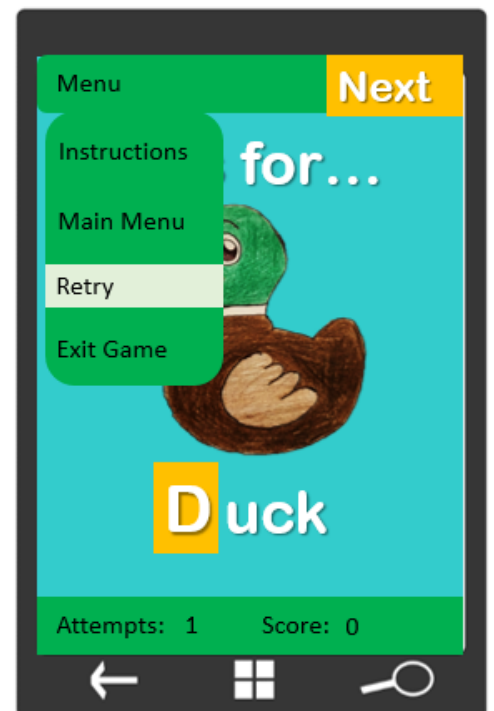
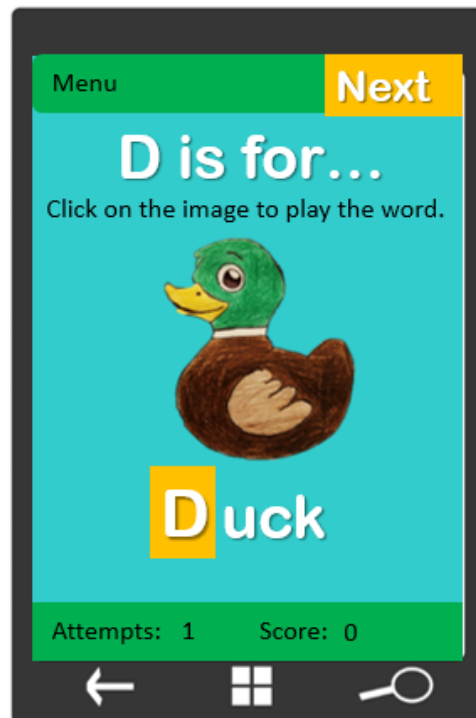


Design: Option 1

Screen: 6

Letter: D

Title: Letter D



Design: Option 1

Screen: 7

Letter: E

Title: Letter E



Design: Option 1

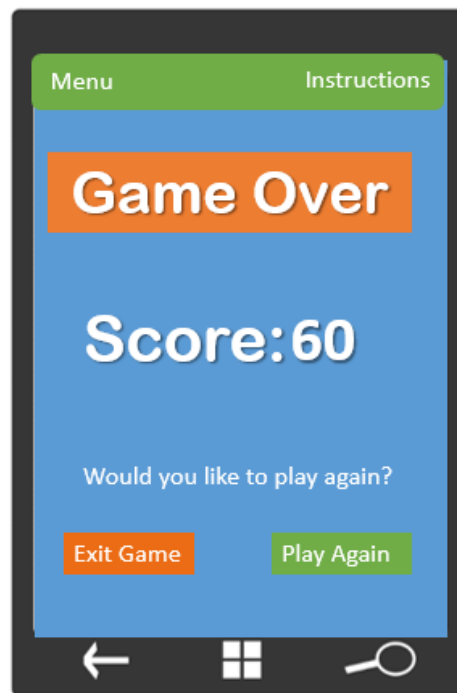
Screen: 8

Letter: F

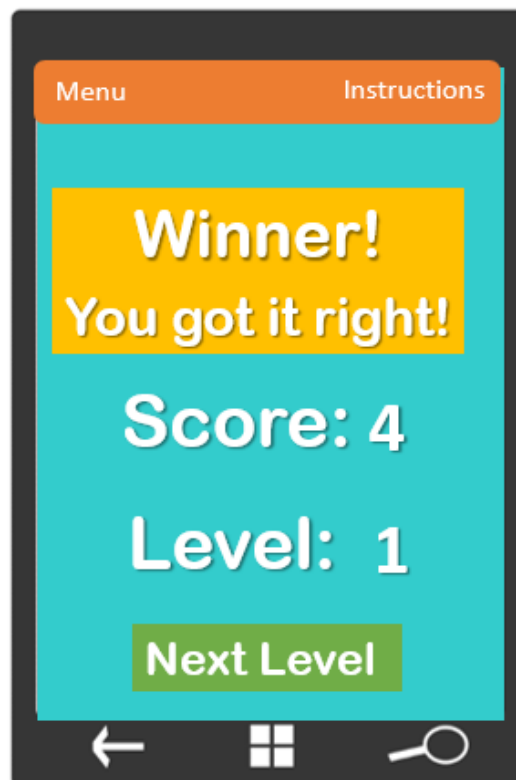
Title: Letter F



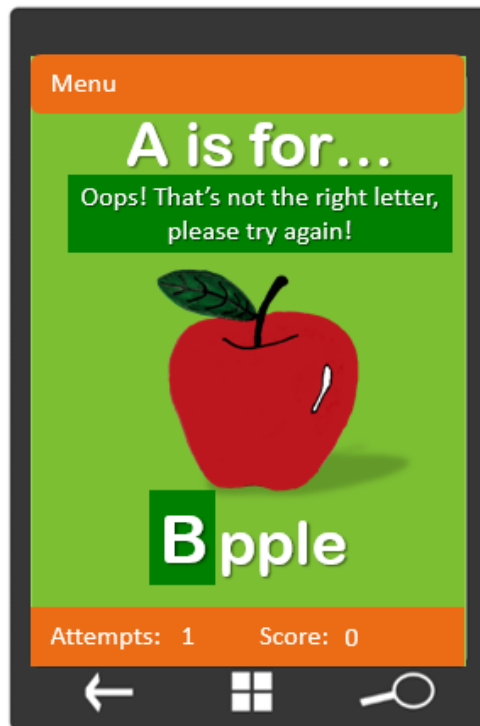
Design: 1
Screen: 9
Letter: None
Title: Game Over



Design: 1
Screen: 10
Letter: None
Title: Game Over

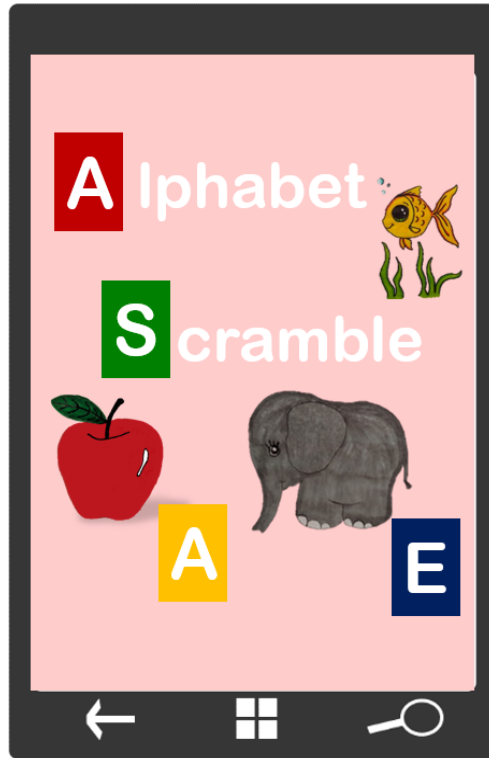


Design: 1
Screen: 3
Letter: A
Title: Error
message



Alternative Designs

Design: Alternative
Screen: 1
Letter: None
Title: Main Menu



In this alternative design for the main menu screen there are no buttons to allow the user to click through to the next screens, this affects the usability of this alternative application design and renders the design useless.

The use of contrast between the white text and the pink background also affect the accessibility of the design as the user may not be able to see the text due to unsuitable contrast between the two colours.

This design is poor and I will not be using it.

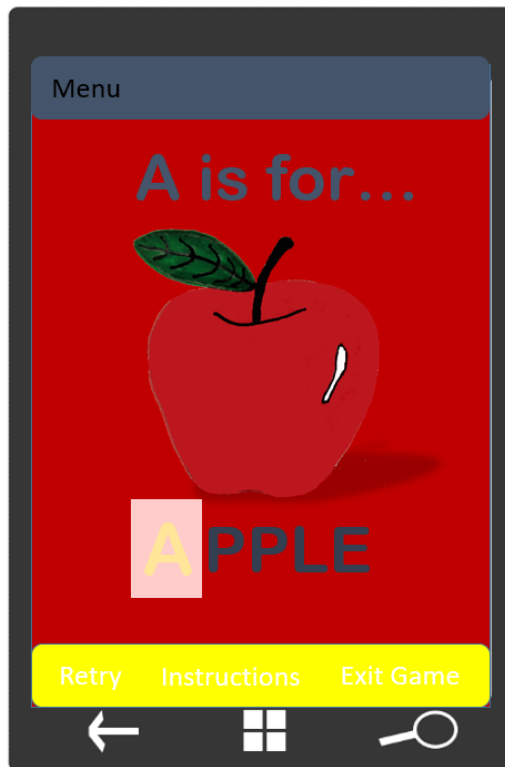
Design: Alternative
Screen: 2
Letter: None
Title: Instructions



In the alternative design for the instructions screen, there is only one instruction on how to play the letter game and it does not contain much detail which could make the application difficult to use as the instructions on the aim of the app and how to use it are not included.

Another issue is the font size and colour of the font on the play button. The play button is extremely small in size and as it is a light shade of green, it makes the button almost impossible to see against the bright green background. This is a big problem for any users with visual impairments as they may find it extremely difficult to locate and use and they may struggle to progress with the application. This design is poor and I will not be using it.

Design: Alternative
Screen: 3
Letter: A
Title: Letter A



In the alternative design for the letter A learning screen the colour contrast for the text on the screen is an issue. If any users have visual impairments they will be unable to view the text on the screen and will find it difficult to progress in the game.

Another issue is there are no next buttons on the screen so the user will be unable to progress to the next screen.

The dark red background is also an accessibility issue as the apple image blends into the background. Users may find it unpleasant or uncomfortable to look at as it does not stand out comfortably in this design, they may also be unable to see it as it blends in so well. This design is poor and I will not be using it.

Design: Alternative
Screen: 4
Letter: B
Title: Letter B



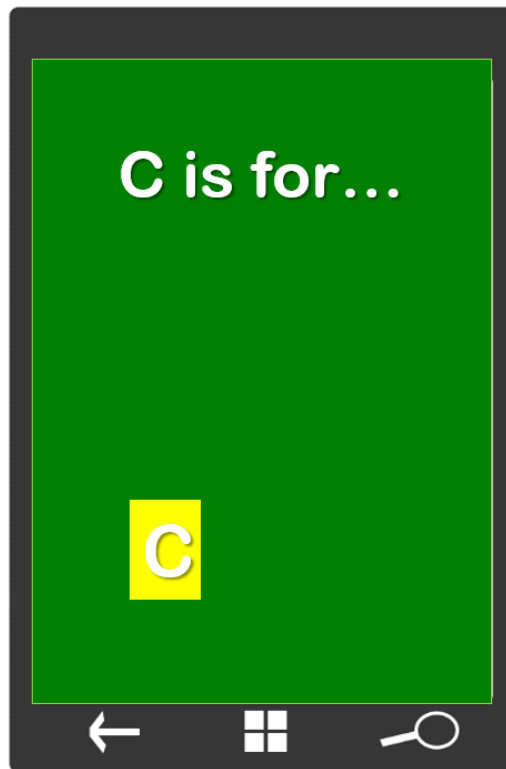
In the alternative design for the letter B learning screen the colour contrast for the text on the screen is an issue. If any users have visual impairments they will be unable to view the text on the screen and will find it difficult to progress in the game.

Another issue is there are no next buttons on the screen so the user will be unable to progress to the next screen.

The lack of images is also an issue as the user will not have anything to associate the word balloon with, which may make the learning aspect of the game very boring and could lead to them not using the application.

This design is poor and I will not be using it.

Design: Alternative
Screen: 5
Letter: C
Title: Letter C



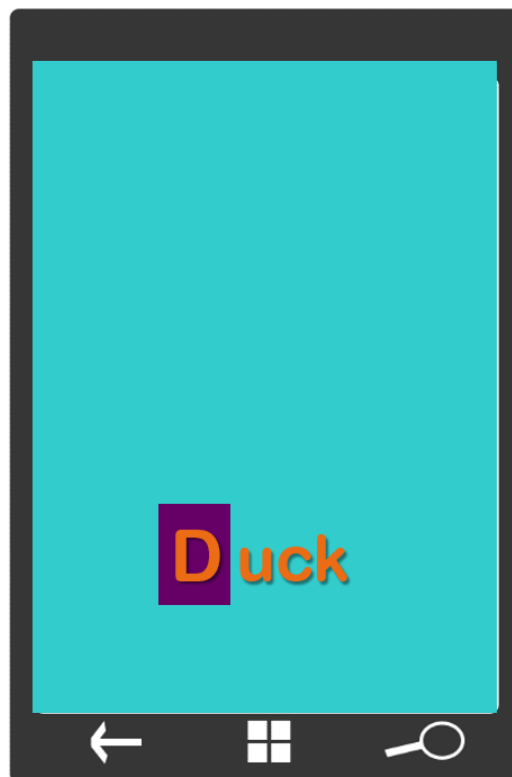
In the alternative design for the letter C the design does not contain any buttons to allow the user to navigate around the application which renders the design unfit for its intended purpose and therefore useless.

The contrast between the yellow letter C and the green background is unacceptable for comfortable viewing and would not be fit for anyone with visual impairments.

There are no images or words contained in this screen so the user does not know what word starts with the letter C, therefore making the text useless.

This design is poor and I will not be using it.

Design: Alternative
Screen: 6
Letter: D
Title: Letter D

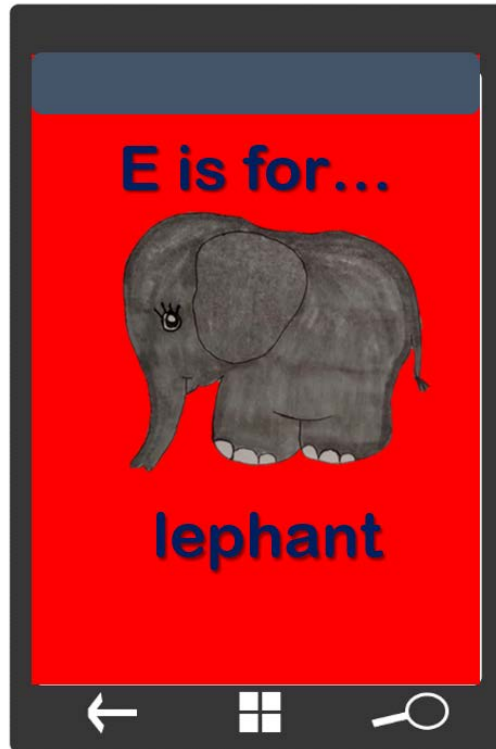


In the alternative design for the letter D the design contains no images to relate to the word duck and the screen looks empty and may confuse the user as to what they are supposed to do.

The design also contains no buttons to allow the user to progress to the next screen, therefore making it unfit for its intended purpose and useless as a design.

The choice of colours are horrible and there is nothing on the screen to entice or even reward the user for using the application. It is unlikely the user will want to use the application due to this poor design and I will not be using it.

Design: Alternative
Screen: 7
Letter: E
Title: Letter E



In the alternative design for the letter E there is an image of an elephant but the word elephant is missing the letter E, this could be confusing to the user as they are supposed to be associating the word with the letter E.

There are no buttons on the screen for the user to click through to the next screen so the user is unable to move on from this screen, therefore this design is unsuitable for the purpose it was built for.

The choice of colours are ugly and insipid, they also cause problems for people with visual impairments who may not be able to see the text due to the colours on screen.

This design is poor and I will not be using it.

Design: Alternative
Screen: 8
Letter: F
Title: Letter F



In the alternative design for the letter F the design's layout looks very strange and doesn't follow the natural movement of the users' eyes.

The colour scheme is rather unpleasant and not at all good for users with visual impairments.

There are no buttons included in this design to allow the user to navigate around the application which is neither good for usability nor is it in line with the client brief.

The word fish is missing the letter F and there are no clues as to what the user is supposed to do on this screen

This design is poor and I will not be using it.

Pre-defined Code

```
// example method loads list with file names for letter images and sounds

public void loadImagesSounds()
{
    listColoursL1.Add("A");
    listColoursL1.Add("B");
    listColoursL1.Add("C");
}

//example method to test maximum count has not been reached
public void checkCount()
{
    if (check > 4)
    {
        txtCheckCount.Text = "Game Over";
        btnPlay.IsEnabled = false;
        check = 0;
    }
    else
    {
        txtCheckCount.Text = check.ToString() + " attempts taken" + " Score: "
+score.ToString();
    }
}

//example method to load letters when play button is pressed
public void loadImages()
{
    //set the variable with the first image
    uri1 = new Uri("/Assets/" + listLettersL1[0] + ".png", UriKind.Relative);
    img1.Source = new System.Windows.Media.Imaging.BitmapImage(uri1);

    uri2 = new Uri("/Assets/" + listLettersL1[1] + ".png", UriKind.Relative);
    img2.Source = new System.Windows.Media.Imaging.BitmapImage(uri2);

    uri3 = new Uri("/Assets/" + listLettersL1[2] + ".png", UriKind.Relative);
    img3.Source = new System.Windows.Media.Imaging.BitmapImage(uri3);

    uri4 = new Uri("/Assets/" + listLettersL1[3] + ".png", UriKind.Relative);
    img4.Source = new System.Windows.Media.Imaging.BitmapImage(uri4);
}
```

```

private void Play_Click(object sender, RoutedEventArgs e)
{
    //call the method to load the letters when the play button is pressed
    loadImages();

    //select a random number between 0 and 4
    number = randomIndex.Next(0, 4);

    //select a random number between 0 and 4
    soundFile = listLettersL1[number];
    //set the source code for the sound
    SoundClip.Source = new Uri("/Assets/" + soundFile + ".mp3",
UriKind.Relative);
    //set to play
    SoundClip.AutoPlay = true;
    SoundClip.Play();

}

```

```

//Code for each letter. Code responds to a letter being clicked.
private void img4_MouseLeave(object sender,
System.Windows.Input.MouseEventArgs e)
{
    //each time the user makes an attempt increase the check variable
    check = check + 1;

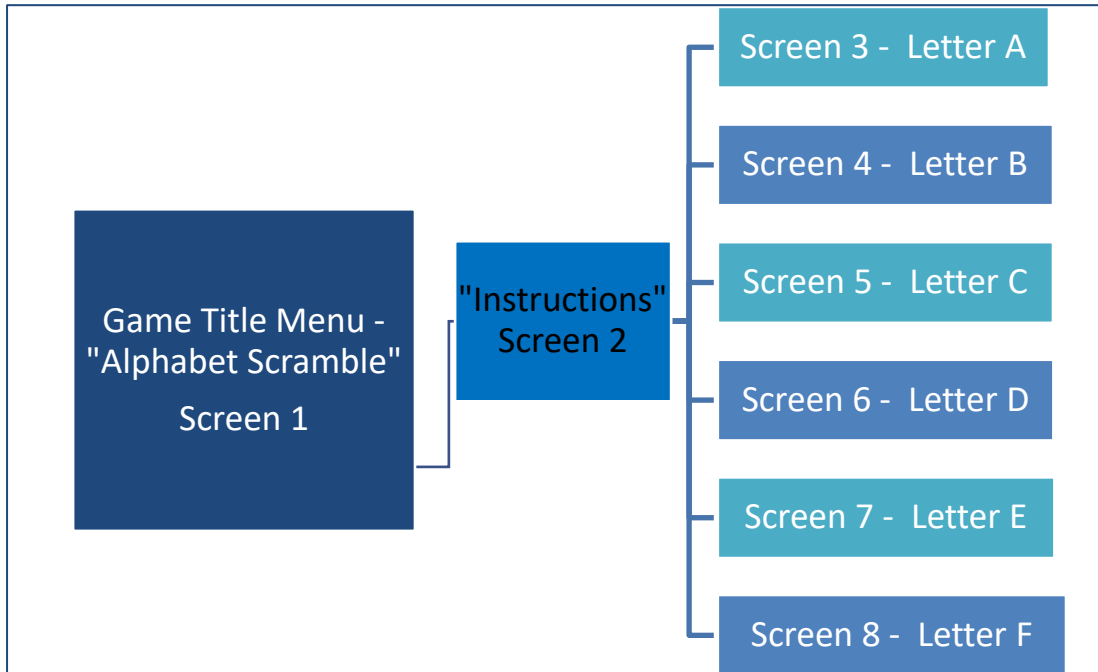
    if(soundFile == listLettersL1[3])
    {
        txtMessage.Text = "You have selected " + listLettersL1[3];
    }
    else
    {
        txtMessage.Text = "Sorry, You have selected the wrong Letter";
    }

    //set the score on game
    txtScore.Text = "Score: " + score.ToString();

}

```

Hierarchy Chart



Test Plan

Test No.	Description	Test Data	Expected Result	Actual Result
1	Test that the text buttons work (such as Menu, Instructions, Exit Game, retry buttons).	Run the program and manually click on each button.	All text buttons will operate as intended once the user has clicked on them.	N/A
2	Test that the sound on each level (6 in total) works when the user clicks on the images.	Run the program and manually click on each image on all six levels to check that the sound plays as intended.	I expect that all the sounds are linked to the correct images on the right levels and the sound plays once the user clicks on the image.	N/A

3	Proof-read and spellcheck the text content of the alphabet game to make sure no errors are present.	Run the program and click through each level, reading the text on every level.	The written content of the game including buttons, instructions and answers will contain zero errors.	N/A
4	Graphics and images should be optimised for performance and checked for quality.	Run the program and click through each level, checking the images as you progress.	The images and graphics will be optimised to reduce loading times and will be compressed to increase the quality of the graphics.	N/A
5	Audio and sounds will be checked and tested for their quality.	Run the program and click through each image on each of the 6 levels to make sure the sound is not quiet or muted.	The sounds and audio will be audible and clear so that the audience can hear it properly and the sounds will play once the user clicks on each image on each level of the game.	N/A
6	Check that each level works correctly and is completable.	Run the program and complete each level.	The game will run smoothly, and each level will run in sequence (screens 1-8) and the levels will run correctly as designed.	N/A
7	Check that the total score is counted correctly.	Run the program and complete each level.	The game will count the score correctly as the user progresses through each level.	N/A
8	Check that the attempts are counted correctly and deducted from the total score.	Run the program and complete each level.	The game will count the number of attempts and the score correctly as the user progresses through each level and deduct the number of attempts from the total score.	N/A

9	Check that the answer for each level is correct.	Run the program and complete each level.	The game will run smoothly, and each answer will be linked to the correct level.	N/A
10	Check that the error messages display when the user inputs incorrect answers.	Run the program and complete each level incorrectly.	The game will display an error message each time the user inputs the wrong answer for a total of 3 attempts, then it will display a game over screen.	N/A

Description of Main Program Tasks

Inputs

- User inputs letter (string) data into the text field.

Outputs

- Prompt message is displayed to the user "Click on the image to play the word".
- Audio is played to the user.
- Error message is displayed to the user "Oops! That's not the right letter, please try again."
- "Winner" screen is displayed to the user.
- "Game Over" screen is displayed to the user.
- Try again message is displayed "Do you wish to play again?"

Description of Solution Method

Once the play button on the main menu has been activated by the user, the program will display the 1st level of the game (screen 3, letter A). A prompt message will be displayed once the 1st level has loaded, which will read "Click on the image to play the word", the user will then select/tap of the image and the audio assigned to that image will be played to the user.

The user will listen to the clue and input/type the letter data into the available text field, the program will check the data entered by the user against the stored solution for that image/level and relay a message back to the user based on the entered data.

If the answer is correct, the program will display a "winner" screen to the user. However, if the answer is wrong, the program will display an error message to the user that reads "Oops! That's not the right letter, please try again."

If correct, the program will then check is the level is less than or equal to level 5. If the level is number 5 or less than 5, then the program will direct the user to the next level/screen and the program will repeat this

process. If the level number is over 5 (such as level 6), the user will have reached the end of the game and they will be directed to the game over screen and their score will be displayed. The user will then be asked if they wish to play again and if they answer yes, they will be returned to the main menu, if they answer exit game, the program will close.

If answer is incorrect, and the error message has been displayed, then the program will check the number of attempts the user has completed for the level, if the number of attempts completed is 2 or less, the program will allow the user to try again and input data. However, if the user has used 3 attempts on the level and failed all three times, the program will again direct the user to the game over screen and the try again process will activate.

Test Data

Test Data	What it does	Expected Result	Actual Result
<pre>//example method to test maximum count has not been reached public void checkCount() { if (check > 4) { txtCheckCount.Text = "Game Over"; btnPlay.IsEnabled = false; check = 0; } else { txtCheckCount.Text = check.ToString() + " attempts taken" + " Score: " +score.ToString(); } }</pre>	<p>This is the code to count the number of attempts the user makes on the game, the method checks that the user has made 4 attempts or less, if the number of attempts is greater than 4 then the if condition is carried out by the program, if the number is 4 or less, the program carries out the else condition.</p> <p>We can test this part of the program by running the program and making up to 4 attempts on the game to check the program is carrying out the else condition of this method. And we can also test the if condition of this method by making 5 attempts on the game to check that the program is outputting the game over screen and that the play button is disabled.</p>	<p>I expect the application to check the number of attempts is 4 or less and to carry out the else conditional statement.</p> <p>I expect the application to check the number of attempts and if it has exceeded the maximum number of attempts (4) the program will carry out the if conditional statement.</p>	N/A
<pre>private void img4_MouseLeave(object sender, System.Windows.Input.MouseEventArgs e) { //each time the user makes an attempt increase the check variable check = check + 1; }</pre>	<p>This is stating that when the user's mouse leaves the area of "img4" this will count as an attempt and the check variable number must be increased by one, so 1 will be added to the check counter to make "check +</p>	<p>The expected outcome is that when an attempt is made the program will check to see if the number of maximum attempts</p>	N/A

```

    if(soundFile == listColoursL1[3])
    {
        txtMessage.Text ="You have selected "
+ listColoursL1[3];
    }

    else
    {
        txtMessage.Text ="Sorry, You have
selected the wrong colour";
    }
}

```

1". We can test this by making two attempts and checking to see if the counter has added 1 to the counter each time.

And if the user has selected the correct image/colour that correlates (is the same as or equal to) the sound file, then the program will carry out the if conditional statement and a message will be displayed saying "you have selected + listColoursL1[3]" is output to the user. We can test this by selecting the correct image that matches the sound file and checking that the correct message "You have selected + listColoursL1[3]" is displayed to the user, this will check that the correct conditional statement is being read by the program.

If however, the sound file is not the same as or equal to the image/colour selected, then the else condition is followed and the message "Sorry, you have selected the wrong colour." Is displayed to the user. We can test this by selecting an incorrect image that does the sound file and checking that the correct message "Sorry, You have selected the wrong colour" is displayed to the user, this will check that the correct conditional statement is being read by the program.

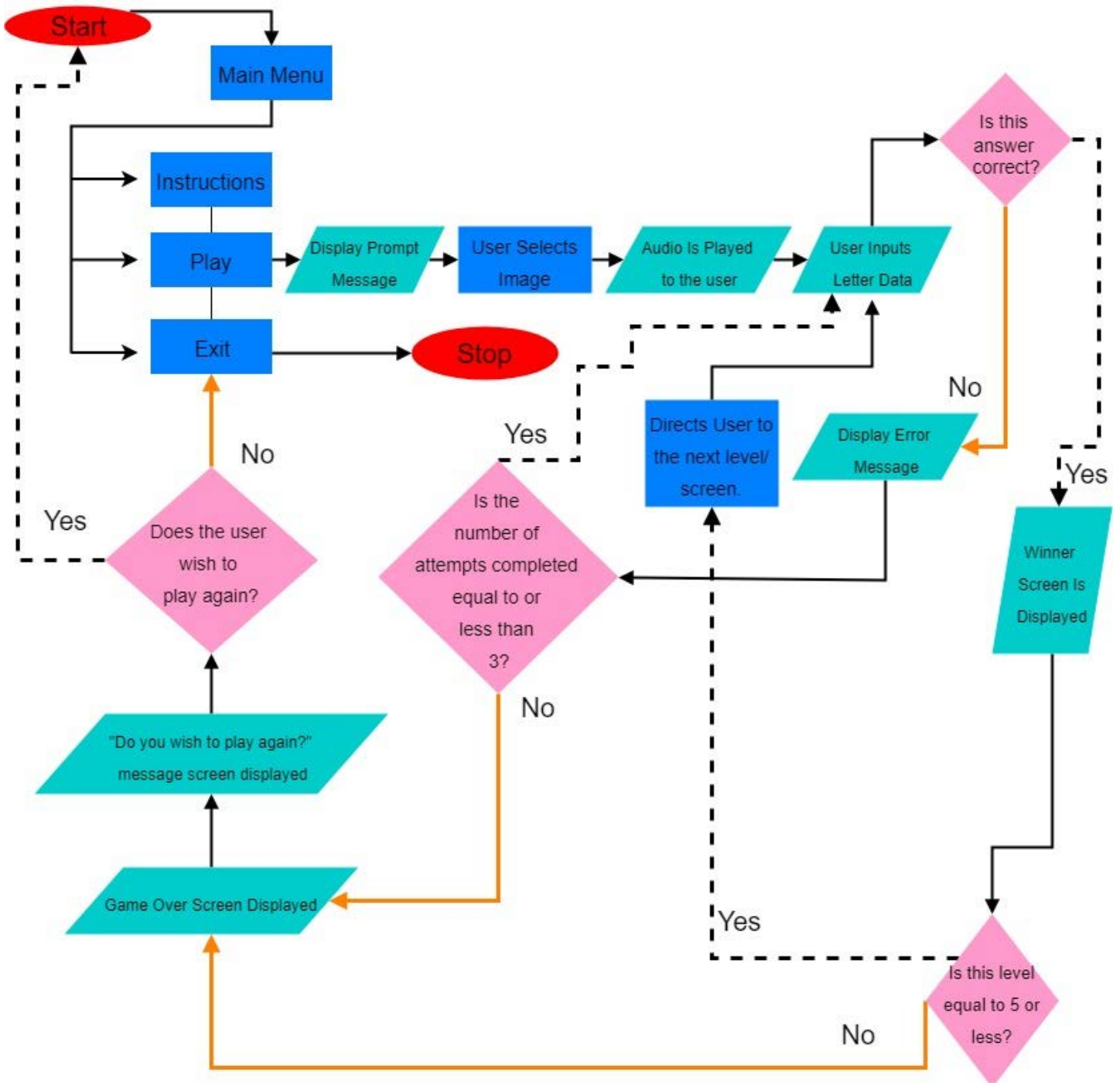
This section is then duplicated for each of the four colours/images.

has been reached, if the number of maximum attempts has not been reached, the program will add 1 to the check counter.

The expected outcome if the user selects the correct image/colour that matches the sound file, is that the program will carry out the if conditional statement and the message "You have selected + listColoursL1[3]" will be displayed to the user.

The expected outcome if the user selects the wrong image/colour that does not match the sound file, is that the program will carry out the else conditional statement and the message "Sorry, you have selected the wrong colour." will be displayed to the user.

Flowchart



Constraints

The main constraint for this project was time, we were only given a few weeks to learn the basics of the project and summon a design to fulfil its requirements and for me this was extremely difficult. The first few weeks I spent brainstorming due to both procrastination and sheer panic at the lack of resources I had at my disposal.

To overcome this, I decided to direct my attention to my previous experience with creating games and play my 10-year-old nieces favourite mobile games to help inspire me, this seemed to help, and I managed to piece together some designs.

For me, a project with a programming language that I have no experience with is a very daunting task and its extremely time consuming, it takes much longer to learn how to code in a language than 4 weeks and that is all I have been given.

I have no idea how I am going to program this design and I will probably end up at the mercy of YouTube, due to the lack of resources on this project. I have tried to create a design which, in my opinion fulfils the requirements of the brief and still simple enough to attempt to develop.

Another constraint with this project, is the programming language itself, Xaml (with C#). Xaml is a language that I have no experience using and I feel fairly out of my comfort zone with it, there's not many tutorials online for this type of application (Windows Phone Application Visual C#) but I think I can work my way through it, however, the set-up of the code looks incredibly intimidating when I think about how much work I'll need to do, I've tried to make the simplest design I can but I still think I'm going to struggle to create it.

Finally, we have the platform that the application is in, Windows Phone Application Visual C#. The application is designed to be used on a windows smartphone, the trouble is that these phones do not exist anymore, Microsoft has stopped producing them and stopped providing security updates for the phones which only adds to the problem. Even if I do figure out how to create the phone, I'd then have to track down the handful of exiled pariahs who still own the windows device and it's doubtful that any of these individuals would fit into the target audience for application.

If that wasn't bad enough, there's also the security risk this poses to both the application and the user, as windows phones are no longer provided with system security updates which means they aren't secure devices to use.

To summarise this, the timescale I was given was miniscule, the resources available to help me create this project are not readily available and the platform the application is to be create on is now virtually extinct and poses a security risk to both the application and the user.

Justifications

The design I have chosen to create is a bold, colourful design with bright colours (red, yellow, blue, orange, green and purple). In my opinion, the design I have chosen fulfils the stated requirements of the brief, primarily the target audience (young children), who are more drawn to bright and bold colour schemes rather than more sophisticated tonal colours.

To design my game, I decided to look at the games and applications already on the market aimed at my target audience, and I again found that the game's colour schemes were always bold and bright with highly interactive features.

It was this research that helped me to come up with the ideas for my game. I came up with the idea of typing in letters to complete a word as the main goal of the game because I found it not only helps teach young children how to spell certain words, it also helps them to phonetically sound out the letters.

I then added a score system and included some audio sounds that will be linked to the images on the screens to allow the user to click on the images to play audio files of me saying the words that are on each screen, this allows the children to associate the different letters in the word with a sound. This aspect of my design clearly fulfils the educational requirements of the brief as I have designed 6 levels with 6 different letters within my game.

The purpose of this task was to design an interactive application that will help young children to learn the alphabet and I believe I have fulfilled this requirement in my design. I have included interactive components such as clickable images which then activate sounds, text fields to allow the children to type letters into to make words that fit the images on the screens and I have used bright and vibrant colours to attract their attention as well as drawing my own images to use in my designs.

I have discarded the other design due to its horrible design, lack of features and unsuitability for the requirements of the brief. I will start by saying it is ugly, the colours clash too much and some of the screens (such as the first letter screen for apple level) are visually repulsive and some of the backgrounds blend in with the colours of the images so you can't see the images very well.

Furthermore, there are no feedback screens in the alternative design, so the user won't be able to find out if they got a letter right or wrong and there is no next button on any of the screens, so the user cannot progress through the levels. To put it frankly the designs are vile and not at all fit for their intended purpose.

On the whole, if I had more time to design the application I would create screens for the rest of the alphabet (all 26 letters) and I would also like to add additional levels of difficulty for each letter so that multiple letters are missing and the user has to fill them in (instead of just the first letter missing) such as "m_ss_ng" but I do not have the time or the skillset to manage that at the moment.

One thing I would like to add is additional sounds when certain events are activated such as a sound when the game over screen appears or the winner screen as I think that would add additional interest to my game.