Unit 8D – Evaluation of the Mobile Application

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Table of Contents

Review

Why the App is Suitable for the User Requirements, Purpose and Target Audience

The purpose of the game is to educate children to read and learn the alphabet, my application contains learning screens and a quiz game at the end of the app, this enables young children to learn and apply what they learn in the quiz game. This aspect of the application allows the user to develop independent learning skills while they use the application as they need to apply what they learn on the learning screens to the corresponding images on the quiz screen.

The program not only teaches the first 6 letters of the alphabet but it also bridges the gap and introduces the user to reading simple words by reading out the letter of the alphabet that corresponds to the image and the word on screen ("A is for" apple image is shown and the word apple is shown).

The target audience of the game is young children aged roughly between 4 and 7 years of age and I believe, based on how simple my application is to use and navigate, my application is very suitable for the target audience. I think the use of primary colours and hand drawn cartoon images also add to the overall suitability of my application. The colour scheme is bright and bold primary colours with a good level of contrast to make the components of the app stand out. The reason I decided to create a design with such bold colours was to make the app stand out for young minds, children are attracted to bright bold colour schemes so naturally it was the best choice to engage my target audience to the game.

How the Peer Feedback Affected the Application

The feedback I received from James Saunders highlighted a few areas for me to change and improve upon. The first of which was the feedback messages that were displayed to the user on screen, he suggested adding audio clips reading out this feedback to the user and I decided that due to the young age of the audience this might be a good idea, as audio feedback to output to the user may help to encourage and educate them while they are using the quiz game. The additional feedback also reinforces the programs' usability and accessibility by helping the user to understand what is written in the feedback messages by providing audio feedback.

The point James mentioned was the lack of feedback screens such as a game over screen or a completion screen to inform the user that they have completed the game. This was also a point that I initially intended to implement, but I could not figure out how to program it so I was forced to scrap the idea. However, after receiving James' feedback, I decided this element was too vital to leave out, so I spent an entire day figuring out how to program this element

and was able to do so by creating two additional buttons called btnEnd1 and btnEnd2. These buttons enabled me to direct the user to the feedback screens based on the overall score that the user achieved during the quiz game. If the score was a perfect 60 points by the end of the 6 attempts, the button"End1" is enabled and the user is directed to the winner screen. If however, the score was 50 points or less by the end of the 6 attempts, the button "End2" is enabled and the user is directed to the game over screen. The addition of these two screens enables the user to gain feedback based on their total score which enables the user to strive towards an end goal, which is getting a perfect 60 score.

How Testing Affected the Application

The testing aspect of the project was a crucial element of this application as it was used to help detect and identify faults in the programming of the application and usability errors. During the testing, there were some errors identified errors which affected the usability of the program. The first error was that the "Quiz" button on the main menu screen didn't function, it was supposed to direct users to the quiz game screen, but it just wasn't linked to any screens, to fix this, I had to check the navigation code for the quiz button to see if it had not been linked and sure enough, it had not been linked to a screen. The navigation was then fixed as shown in the faults section of development report.

The next error was the images for the game, I couldn't figure out how to get them to load and once again thanks to the testing I was able to fix this before the product was completed and refined, the error was down to a variable name being incorrect and the data type set to integer instead of string, this was simple to fix and the images did load after this error was fixed.

The final issue I found during testing but could not work out how to fix it, I therefore decided to leave it for the refinements part of the project in order to refine the code for the application. The problem was that the program wasn't always recognising when the mouse had left an area for the correct image and was not adding up the attempts correctly as a result. To fix this I looked through the actions I could assign to the images, such as mouse leave, mouse event and I found one called Tap, as the program was designed to be used on a mobile application anyway I decided that the tap action might be more applicable to the app as it is a mobile function to "tap" the images.

Once, I had altered all six images with this tap function and removed the mouse leave function, the attempts score worked perfectly and the application's code had been refined to a more usable function. The testing portion of this project really helped to identify problems but the down side to it was that it was frustrating to sift through, however, without the faults in the program may not have been corrected and the overall suitability of the program might not have fulfilled the requirements for the audience. This enhanced the usability of the application to the user and improved some of the key functions of the app.

How the Project Constraints Affected the Application

The constraints of this project were extremely irritating, this has been the most boring and frustrating project I have encountered. The main constraint was the pre-defined code that we were supplied with, not only was it very messy and clearly not written correctly as the list method was not written to industry standard, so from the start the project felt doomed. How can you adapt pre-defined code that is incorrectly written when you don't know how to manipulate it to create your program?

The answer is you have to self-study, I scoured the internet for online tutorials and isolated each line of the pre-defined code individually to be able to tailor it to my program. This aspect of the development was painful to do, but as we had been given no detailed instruction on how to do this, I felt it a necessary measure to take.

This is where the experience constraint comes in, as I have no previous experience building mobile applications and have only used CSS and HTML before, so I knew very little about programming in C#. We only had about two weeks to code the program and virtually zero guidance, again the answer here was self-study to allow myself to understand enough about C# to be able to create the program, without self-studying, I would not have been able to create a suitable program for the target audience.

The last constraint was time, as I have said we were only given a few short weeks in order to program this application and the task was extremely daunting as I had little to no experience with programming a mobile application and I was really beginning to struggle, I managed to extend the timeframe enough to complete the project but it was a very scary time for me, if I had to do it all over again I'd have probably outsourced the project to someone else as it was more trouble than it was worth.

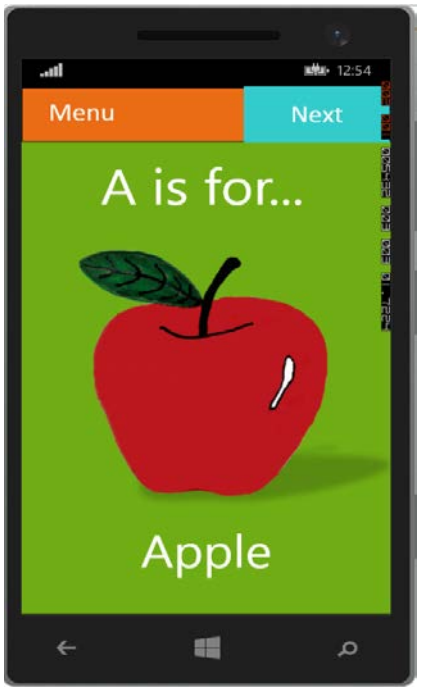
Justifications

The purpose of this task was to design an interactive application that will help to educate young children to learn the alphabet and I believe I have fulfilled this requirement in my design. I have included interactive components such as images, sounds, and a quiz game to allow the children to test what they have learnt by selecting the correct images on the screens which match the sounds played. To interest my audience, I have used bright and vibrant colours to attract their attention as well as drawing my own images to use in my designs.

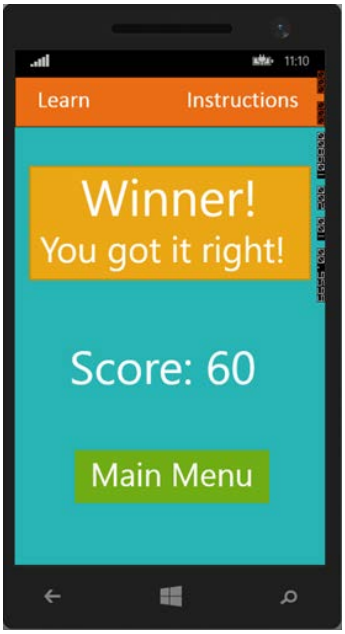
My initial design did not actually include sounds, I was not originally going to feature them, but I decided this was a poor decision as children rely on verbal praise in order to learn. Therefore, I recorded some sounds to place into my program to allow the user to match up the images to the associated sounds and send audio feedback to the user.

The changes I made were to enhance the program and complete the overall look. The first change was the exit game button and a play button on the main menu, I changed these to a quiz button and a start button to allow the user to access the quiz game from the main menu and the start button allows the user to browse through the learning screens. I felt this improved the main menu as the quit game button actually didn't function and it seemed better to allow the audience a choice, which allows them to develop decision making skills. The next change I made was to the instructions screen and again the same change was made, a quiz button and a start button, this was made for consistency across the program as this style appears throughout the application, making it easy to operate the program.

Next was the learning screens, letters A-F, upon reflection of the pre-defined code and the requirements of the brief I found it impossible to continue with my initial idea to create a missing letter application, so I designed a quiz game to enable me to keep the original learning screens that I had already created but still fulfil the clients' requirements. I started by removing the letter text fields, attempts counter and score counter from the learning screens (A-F) and then I simply added a clickable word to each screen which plays the corresponding sound. For example, on screen A, the word Apple appears beneath the image of an apple, once the user clicks the word, the corresponding sound is played which allows the user to associate the letter A to the sound with the image Apple. The original design is shown on the left, the new design is shown on the right.



Another change was the addition of the quiz game screen (as shown below). It was included to fulfil the inclusion of the list method from the pre-defined code. It works by playing an audio file, such as “apple” and the user must match that audio file to the correct image by clicking on the image of the apple. This screen then adds “+1” to the attempts counter and “+10points” to the score counter, the user then presses the start/next button to play another sound, this can be done up to 6 times with a total score of 60 points being the goal. If the user gets a perfect 60 points, the winner screen is displayed, if not then the game over screen is displayed.



The next change has already been mentioned and that is the addition of the winner screen (shown left). This is the winner screen that I have included as part of the refinements of this program. I originally planned to have this in my initial design but had to scrap the screen as I did not have any idea on how to program it into my game, but after the feedback was given to me by James Saunders, I decided to add the winner screen back in. This allowed me to both give the user an end goal to work towards (a perfect 60 point score) and an opportunity to give the user feedback at the end of the quiz.

The final alteration made was the addition of the game over screen (shown left). This is the game over screen that I included as part of the refinements of the program. I originally planned to have this in my initial design but had to scrap it as I did not have any idea on how to program the screen into my game, but after the feedback was given to me by James Saunders, I decided to add the game over screen back in. Again, this was due to the lack of user feedback at the end of the quiz game, so I decided to add this screen into my application as well as the winner screen.

Overall, I believe I have demonstrated why this application is fit for its intended purpose, the code has be edited to fit my design, I have updated the mouse leave action to a tap action for a more accurate result with the mobile platform and I have added in additional feedback screens to support my quiz game, the colour scheme is bold and bright to interest a younger audience and the cartoon images add a sense of fun to the app, and the application contains

6 letters of the alphabet. I therefore, conclude that this application has fulfilled all the requirements as stated in the brief.

Further Improvements

The first improvement I can suggest is to add additional sounds to the screens, maybe some “victory” music to the winner screen or some moving animations. The second improvement I can suggest is additional learning screens to cover the whole alphabet (letters A-Z). The third improvement I can suggest is additional quizzes with varying levels of difficulty to engage the user and hold their interest in the application. The final improvement was suggested to me by James Saunders during his feedback on my application, during his review, he failed to read the instructions page for the program and therefore did not understand how to use the application, so maybe adding an audio narration of the help instructions will help users will help with this.