

## LEARNER ASSESSMENT SUBMISSION FRONT SHEET

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<b>Assessor Name</b>	Neil Wickham

<b>Unit</b>	8 - Mobile Apps Development
<b>Assignment Title</b>	2 - Designing Your Mobile App for CambriaTek

<b>My Literacy Targets</b>
<ul style="list-style-type: none"> <li>-Sentence structures</li> <li>-Paragraphs</li> </ul>

<b>My Numeracy Targets</b>
<ul style="list-style-type: none"> <li>-Ratios</li> <li>-Decimals</li> </ul>

<b>Submission Declaration</b>
I certify that the evidence submitted for this assignment is my own. I have clearly referenced any sources and any artificial intelligence (AI) tools used in the work. I understand that false declaration is a form of malpractice.
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## Introduction

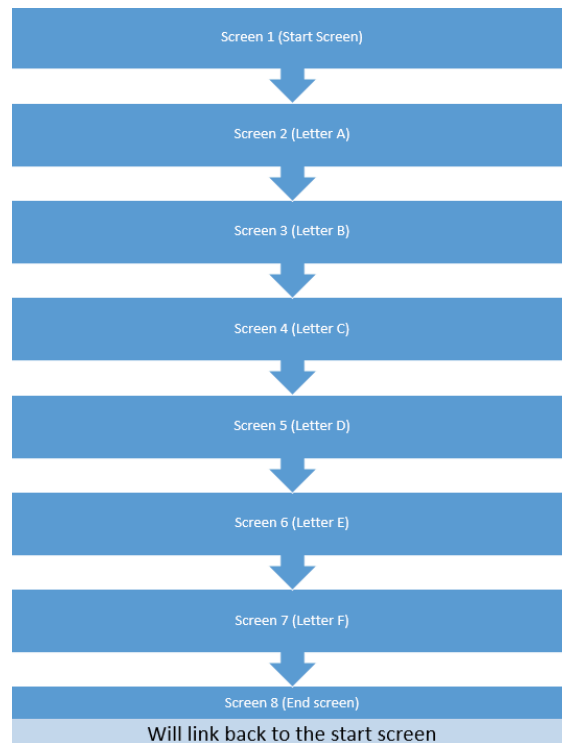
In this assignment I will be designing and planning the prototype interactive mobile app for CambriaTech.

**Note: any spaces in the screen name will be replaced by \_ for example: start screen = start\_screen**

## Purpose and requirements

The purpose of the prototype app is to help small children (ages roughly 3-7) get familiar with the letters of the alphabet. Since it is a prototype the app only needs to have the first 6 letters of the alphabet. The user requirements are as follows: Simple interface, appealing to 3-7 year olds (colourful, big text and buttons etc), be designed to help children learn both the shapes and the sounds of the alphabet, not be graded/give negative feedback, be a fun educational app for the kids.

## Structured diagram for letter app



## Storyboards

Screen name: Start Screen				
<div> <div>Banner (rainbow text)</div> <div></div> <div>           Picture of the alphabet so the children know what the app is for             Plain white background         </div> <div> <div>The</div> <div>Start</div> <div>Button</div> </div> </div>			Assets	Events (Inputs and Outputs)
			Ban.jpg Letters.jpg Start.jpg	You'll be able to press the start button to advance to the next screen but that's about it, simple but that's kinda the point
			Design notes/Alt ideas	Method of solution
			Background will be plain white so the colours aren't too overwhelming for the children  Comic sans will be used for most text due to it being easy to read for young children	This page is meant to serve as the starting screen of the app. This screen alone will have a simple interface, be colourful and easy to read as well as promoting a fun app for children to learn letters

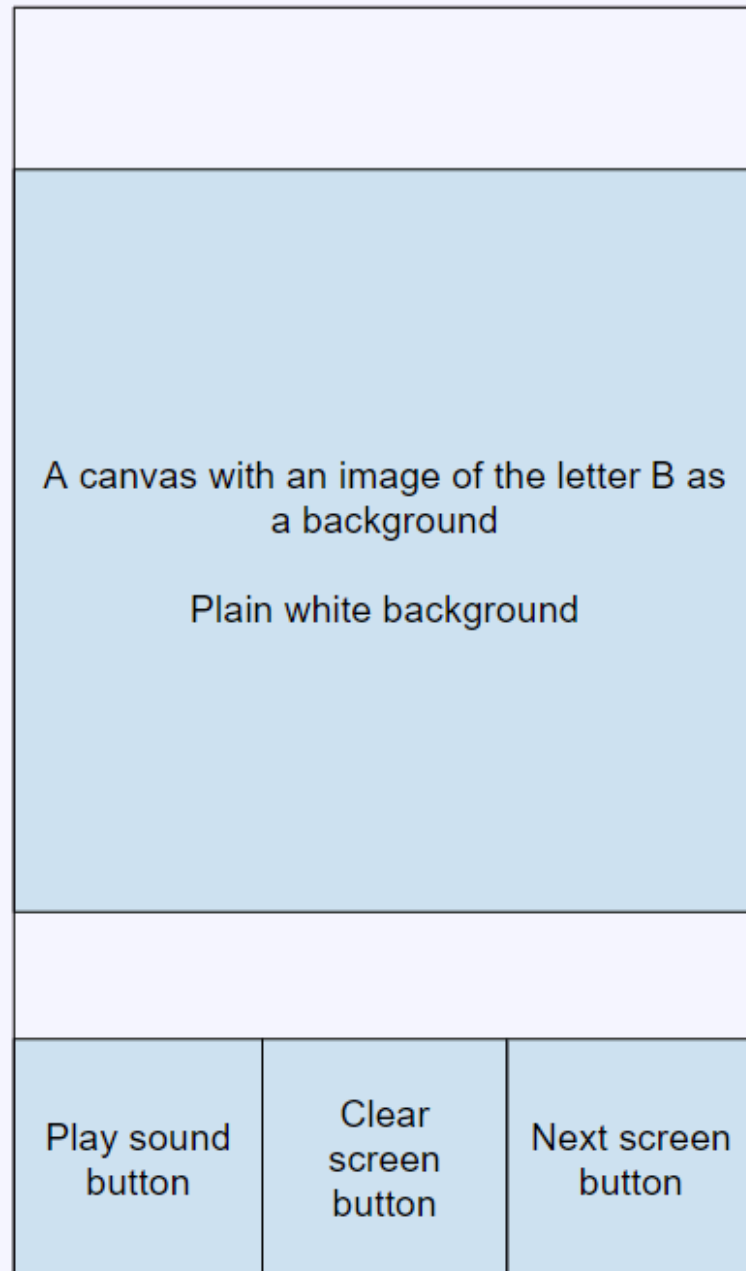
was considering having some music that'd play whilst the app was open but decided not to do it.

## Screen name: Letter A

<p>Picture of the letter A that will double as the background for a canvas so children can draw over the letter</p> <p>Plain white background</p>		
Play sound button	Clear screen button	Next screen button

Assets	Events (Inputs and Outputs)
<p>A.jpg Clear.jpg Play.jpg Next.jpg A.mp3</p>	<p>The play sound button can be pressed and it will have a person saying the letter A</p> <p>The clear screen button will erase any drawing on the screen so the child can try again</p> <p>Next screen button takes them to the next screen</p> <p>The image acts as a canvas and will be able to be drawn over</p>
Design notes/Alt ideas	Method of solution
<p>Background will be plain white so the users can focus in on the letter specifically and focus on that</p> <p>Three buttons in the same place as the start button on the first screen was just to keep the layout somewhat the same</p> <p>I'll probably just make the paint colour black but I have considered making it the complimentary colour instead in order to create a contrast</p>	<p>The purpose of this page is to help the user learn about the letter A, it will allow the user to hear how it's pronounced as well as how to write the letter</p>

## Screen name: Letter B



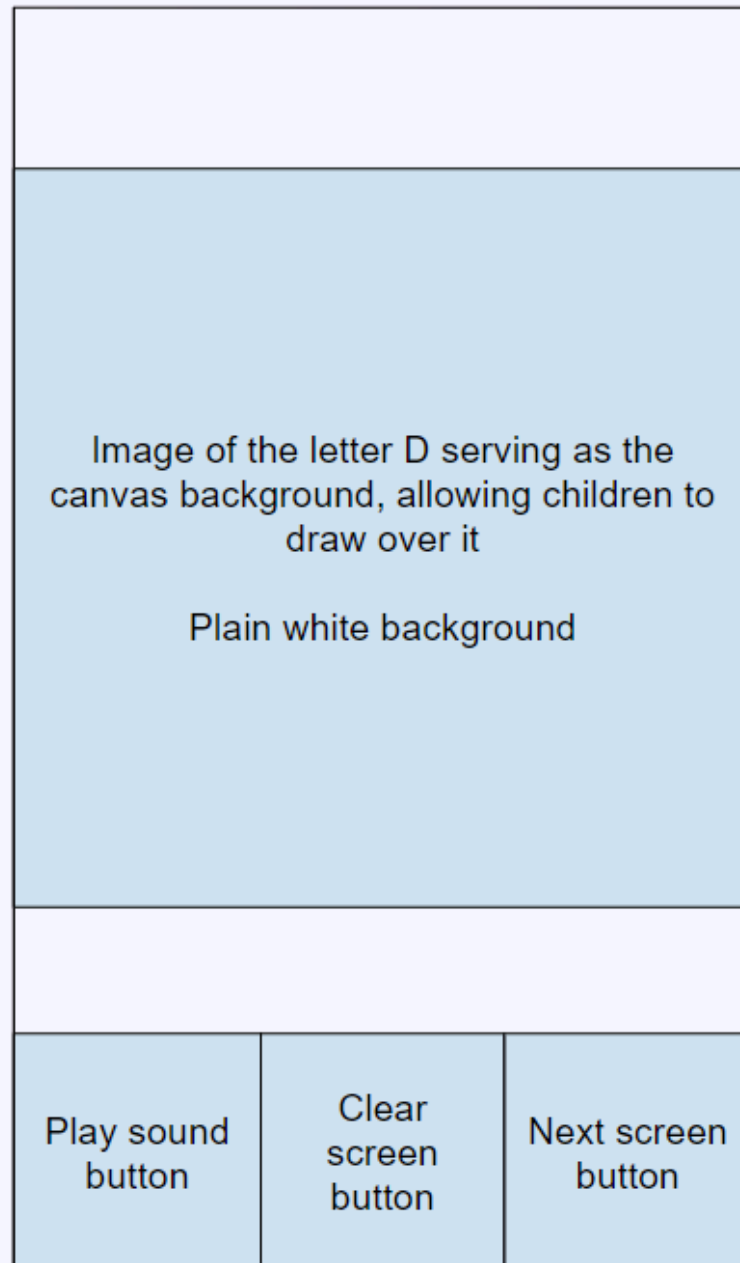
Assets	Events (Inputs and Outputs)
<p>B.jpg Clear.jpg Play.jpg Next.jpg B.mp3</p>	<p>The play sound button can be pressed and it will pronounce the letter B in a british accent</p> <p>The clear screen button will erase any drawing on the screen so the child can try again</p> <p>Next screen button takes them to the next screen</p> <p>Image is a canvas to be traced over</p>
Design notes/Alt ideas	Method of solution
<p>Background will be plain white so the users can focus in on the drawing over the letter</p> <p>Three buttons in the same place to keep the layout somewhat the same</p> <p>Paint colour black as it is clear and won't be the same colours as the letter images</p> <p>I could add an image that starts with B like a bike</p>	<p>This page helps the user learn how to say and write the letter B</p>

## Screen name: Letter C

<p>This canvas has a background image containing the letter C</p> <p>Plain white background</p>		
Play sound button	Clear screen button	Next screen button

Assets	Events (Inputs and Outputs)
<p>C.jpg Clear.jpg Play.jpg Next.jpg C.mp3</p>	<p>Pressing the play button triggers the pronunciation of the letter C</p> <p>Pressing the clear button erases any drawings on the canvas</p> <p>Next screen button takes them to the next screen</p> <p>The image acts as a canvas and will be able to be drawn over</p>
Design notes/Alt ideas	Method of solution
<p>Background will be plain white so the users can focus in on the letter specifically and focus on that</p> <p>Three buttons in the same place as the start button on the first screen was just to keep the layout somewhat the same</p> <p>Black coloured paint</p> <p>I could try and implement a praise system that tells the user good job anytime they click the clear screen button</p>	<p>The purpose of this page is to help the user learn about the letter C, it will allow the user to hear how it's pronounced as well as how to draw the letter</p>

## Screen name: Letter D



Assets	Events (Inputs and Outputs)
D.jpg Clear.jpg Play.jpg Next.jpg D.mp3	<p>The play sound button, when pressed, will play a person saying the letter D</p> <p>The clear screen button is for erasing any drawings on the screen, so the child can try again</p> <p>The next screen button will take them to the following screen</p> <p>The image serves as a canvas that can be drawn over</p>
Design notes/Alt ideas	Method of solution
<p>The background will be simple and white so users can easily concentrate on the letter</p> <p>I'll keep three buttons in the same spot as the start button to make things look the same</p> <p>I'll use black for drawing</p>	<p>This screen is dedicated to the letter D, it is very similar in purpose to its predecessors but it's the letter D rather than another letter. All of the audio will be spoken in a british accent so that children do not develop american accents and to make it feel more familiar to them</p>

## Screen name: Letter E

<p>A picture of the letter E will also be the canvas background</p> <p>Plain white background</p>		
Play sound button	Clear screen button	Next screen button

Assets	Events (Inputs and Outputs)
<p>E.jpg Clear.jpg Play.jpg Next.jpg E.mp3</p>	<p>Pressing the play sound button will have someone say the letter E.</p> <p>To start over, the clear screen button erases any drawings on the screen.</p> <p>Clicking the next screen button moves to the following screen.</p> <p>The image works as a canvas that can be drawn on.</p>
Design notes/Alt ideas	Method of solution
<p>The background will stay simple and white, making it easy for users to focus on the letter.</p> <p>I'll place three buttons in the same spot as the start button to keep things consistent.</p> <p>For drawing, I'll stick to using black.</p>	<p>This screen is about the letter E. Just like every screen that came before it and the following screen, it is designed with children as the target audience, it has a simple interface and minimal features to keep the child focused on learning the letters of the alphabet</p>

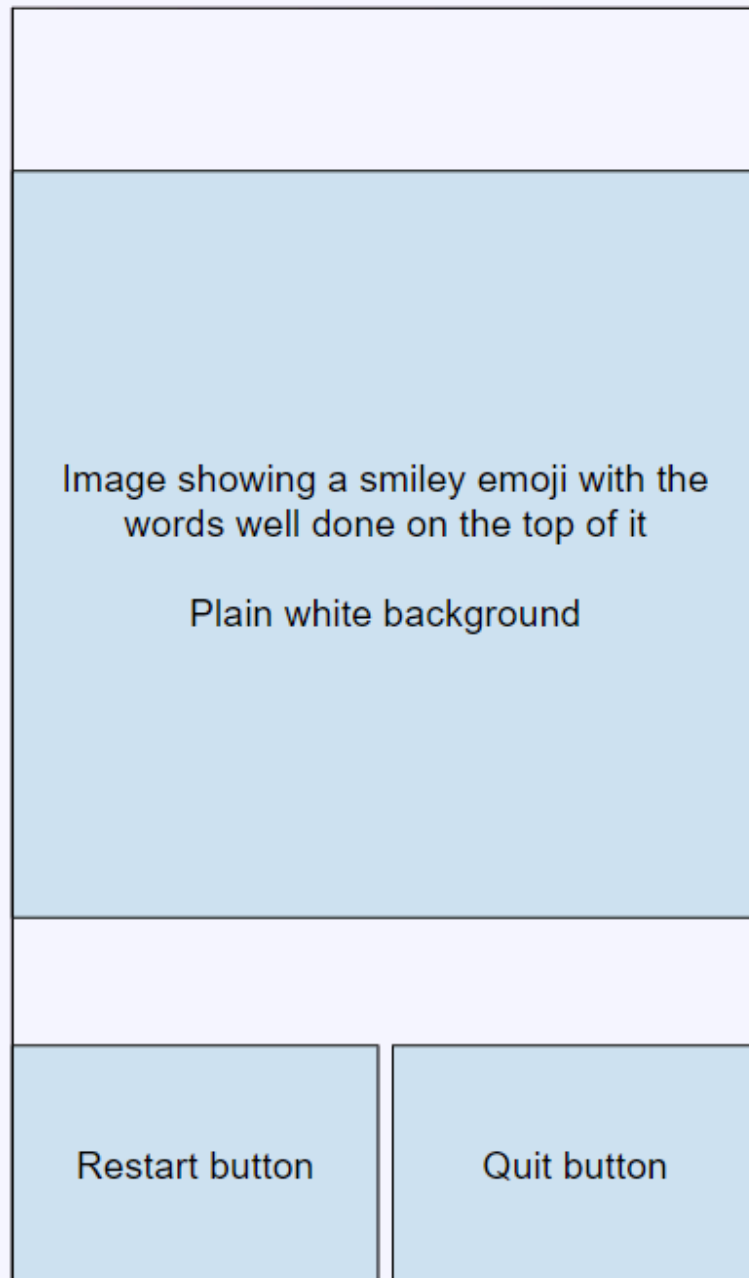


## Screen name: Letter F

<p>The letter F's image will be the canvas background, providing a space for children to draw over it.</p> <p>Plain white background</p>		
Play sound button	Clear screen button	Next screen button

Assets	Events (Inputs and Outputs)
<p>F.jpg Clear.jpg Play.jpg Next.jpg F.mp3</p>	<p>The play sound button will play a person saying the letter F when pressed.</p> <p>To try again, the clear screen button erases any drawings on the screen.</p> <p>Clicking the next screen button takes them to the following screen.</p> <p>The image serves as a canvas that can be drawn over.</p>
Design notes/Alt ideas	Method of solution
<p>The background will be simple and white so users can easily concentrate on the letter</p> <p>I'll keep three buttons in the same spot as the start button to make things look the same</p> <p>I'll probably use black for drawing</p>	<p>This screen is all about the letter F. Like the screens before it, it's made for kids aged 3-7 . It's simple and doesn't have many things on it so that kids can concentrate on learning the alphabet.</p>

## Screen name: Complete

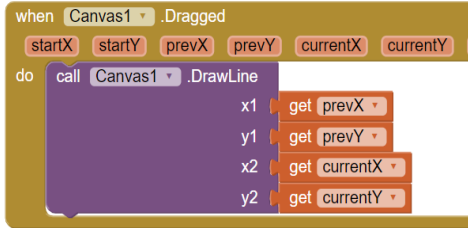
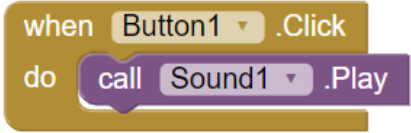



Assets	Events (Inputs and Outputs)
Splash.jpg Quit.jpg Restart.jpg	The restart button takes the user back to screen one  The quit button closes the app down entirely
Design notes/Alt ideas	Method of solution
The background will stay clean and white, at this point just to keep everything totally consistent  I'll stick with three buttons in the same spot as the start button for a consistent layout  For drawing, the color choice will be black	This is the final screen, it is supposed to congratulate the child for completing all of the letters. This will encourage the child to carry on learning via positive reinforcement rather than criticizing them

## Pseudocode

Screen	Start	Letter A	Letter B	Letter C	Letter D	Letter E	Letter F	Complete
Pseudocode	If Start button pressed display Letter A Screen	If Sound button pressed play Letter A sound. If finger drag across canvas draw line. If clear button pressed clear Canvas. If next button pressed display Letter B screen	If Sound button pressed play Letter B sound. If finger drag across canvas draw line. If clear button pressed clear Canvas. If next button pressed display Letter C screen	If Sound button pressed play Letter C sound. If finger drag across canvas draw line. If clear button pressed clear Canvas. If next button pressed display Letter D screen	If Sound button pressed play Letter D sound. If finger drag across canvas draw line. If clear button pressed clear Canvas. If next button pressed display Letter E screen	If Sound button pressed play Letter E sound. If finger drag across canvas draw line. If clear button pressed clear Canvas. If next button pressed display Letter F screen	If Sound button pressed play Letter F sound. If finger drag across canvas draw line. If clear button pressed clear Canvas. If next button pressed display Complete screen	If Restart button pressed display Start screen. If Quit button pressed Close app

## Pre-defined code

Code (Blocks)			
Taken from	<a href="https://appinventor.mit.edu/explore/sites/all/files/hourofcode/DigitalDoodle.pdf">https://appinventor.mit.edu/explore/sites/all/files/hourofcode/DigitalDoodle.pdf</a>	<a href="https://appinventor.mit.edu/explore/ai2/hello-codi.html">https://appinventor.mit.edu/explore/ai2/hello-codi.html</a>	<a href="https://classroom.google.com/c/NjQ5MzAxMDgxOTQw/a/NjU0OTM0NDM0MTMx/details">https://classroom.google.com/c/NjQ5MzAxMDgxOTQw/a/NjU0OTM0NDM0MTMx/details</a>
Used for	<p>Making the letters able to be drawn over and making the app meet one of it's biggest user requirements, allowing the user to learn letter via visual means</p>	<p>Making the sound buttons play the correct sound when clicked, allowing for the users to learn auditorily as well as visually</p>	<p>Making the next button functional,</p>

## Assets/Sources log

Developer name: Chiara Elliottte

Description of asset	File name	Source	Modifications made	Where used
A banner for the front page of the app	Ban.jpg	Self made	N/A	Screen 1
an image showing various letters of the alphabet	letters.jpg	<a href="https://cdn.getmidnight.com/45d07b00b0188a892509950ff919e14e/2023/03/How-many-alphabet-letters.png">https://cdn.getmidnight.com/45d07b00b0188a892509950ff919e14e/2023/03/How-many-alphabet-letters.png</a>	N/A	Screen 1
A button that says start	start.jpg	<a href="#">Link</a>	N/A	Screen 1
An image of a dusting brush	clear.jpg	<a href="https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcQ-s2FUICOpmpvPkXubx1OSZT-QYf-I dsBxi1u9L-pUw&amp;s">https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcQ-s2FUICOpmpvPkXubx1OSZT-QYf-I dsBxi1u9L-pUw&amp;s</a>	N/A	Screens 2-7
Blue button with a speaker symbol	play.jpg	<a href="#">link</a>	N/A	Screens 2-7
An arrow saying next	next.jpg	<a href="https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcTnnbt9 JWm-9-sQDFD8tjpMEkjlvn3ehVCfcouVjOw&amp;s">https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcTnnbt9 JWm-9-sQDFD8tjpMEkjlvn3ehVCfcouVjOw&amp;s</a>	N/A	Screens 2-7
Green button with a restart symbol	restart.jpg	<a href="https://images.freeimages.com/fic/images/icons/2794/metro_ui/512/power_restart.png">https://images.freeimages.com/fic/images/icons/2794/metro_ui/512/power_restart.png</a>	N/A	Screen 8
Red "X" Icon	quit.jpg	<a href="https://st2.depositphotos.com/1216158/7549/v/450/depositphotos_75495973-stock-illustration-delete-remove-quit-icon.jpg">https://st2.depositphotos.com/1216158/7549/v/450/depositphotos_75495973-stock-illustration-delete-remove-quit-icon.jpg</a>	N/A	Screen 8
Splash image showing a face smiling and displaying Well Done	splash.jpg	<a href="#">Link</a>	N/A	Screen 8
An image of the letter A	A.jpg	<a href="#">Link</a>	N/A	Screen 2
An image of the	B.jpg	<a href="#">Link</a>	N/A	Screen 3

letter B				
An image of the letter C	C.jpg	<a href="https://images.squarespace-cdn.com/content/v1/5883caad59cc684854aef84c/1508481898976-B67ASS4N3HGWL73TUQET/C+blank.JPG">https://images.squarespace-cdn.com/content/v1/5883caad59cc684854aef84c/1508481898976-B67ASS4N3HGWL73TUQET/C+blank.JPG</a>	N/A	Screen 4
An image of the letter D	D.jpg	<a href="https://images.squarespace-cdn.com/content/v1/5883caad59cc684854aef84c/1508482664234-NKWDZAF759MLXTUzM3FN/D+blank.JPG">https://images.squarespace-cdn.com/content/v1/5883caad59cc684854aef84c/1508482664234-NKWDZAF759MLXTUzM3FN/D+blank.JPG</a>	N/A	Screen 5
An image of the letter E	E.jpg	<a href="#">Link</a>	N/A	Screen 6
An image of the letter F	F.jpg	<a href="https://images.squarespace-cdn.com/content/v1/5883caad59cc684854aef84c/1508482799058-IVWYOS2AY5OENX5C3LNN/F+blank.JPG">https://images.squarespace-cdn.com/content/v1/5883caad59cc684854aef84c/1508482799058-IVWYOS2AY5OENX5C3LNN/F+blank.JPG</a>	N/A	Screen 7
A person saying A	a.mp3	<a href="https://www.jollylearning.co.uk/resource-bank/learn-the-letter-sounds/">https://www.jollylearning.co.uk/resource-bank/learn-the-letter-sounds/</a>	N/A	Screen 2
A person saying B	b.mp3	<a href="https://www.jollylearning.co.uk/resource-bank/learn-the-letter-sounds/">https://www.jollylearning.co.uk/resource-bank/learn-the-letter-sounds/</a>	N/A	Screen 3
A person saying C	ck.mp3	<a href="https://www.jollylearning.co.uk/resource-bank/learn-the-letter-sounds/">https://www.jollylearning.co.uk/resource-bank/learn-the-letter-sounds/</a>	N/A	Screen 4
A person saying D	d.mp3	<a href="https://www.jollylearning.co.uk/resource-bank/learn-the-letter-sounds/">https://www.jollylearning.co.uk/resource-bank/learn-the-letter-sounds/</a>	N/A	Screen 5
A person saying E	e.mp3	<a href="https://www.jollylearning.co.uk/resource-bank/learn-the-letter-sounds/">https://www.jollylearning.co.uk/resource-bank/learn-the-letter-sounds/</a>	N/A	Screen 6
A person saying F	f.mp3	<a href="https://www.jollylearning.co.uk/resource-bank/learn-the-letter-sounds/">https://www.jollylearning.co.uk/resource-bank/learn-the-letter-sounds/</a>	N/A	Screen 7

## Test plan and log

Developer name: Chiara Elliott

Application: MIT app inventor

Test No	Screen	Test	Expected outcome	Actual outcome	Comments
1	All	Pages load	They will all load correctly		
2	All	Buttons work	All buttons will do what they're supposed to		
3	All	Images load	Images will have no problem loading instantaneously		
4	2-7	Sounds play	Sounds will play as expected		
5	2-7	Drawing works as intended	Drawing will have a few issues that I need to work out		
6	2-7	Clear button functions correctly	Clear button will function as expected		

## Constraints and justifications

### Justifications

- The app's features focus on simplicity and getting the intended purpose of the app to be front and centre. Since the target demographic is 3-7 year olds I feel that the simple interface is ideal
- To create a positive learning environment, the app avoids grading or giving negative feedback. The emphasis is on encouraging and reinforcing learning without introducing elements that might discourage young users
- The app incorporates both visual aids (images of letters) and auditory elements (pronunciations) to create a multi-sensory learning experience
- Adding pronunciations aids enhances engagement, making the app more interactive and appealing to young users
- My design choices account for accessibility features, such as ensuring text and buttons are easily readable and navigable

### Constraints

- I am restricted by a specific deadline to complete the prototype app by, this means that I have limited time to plan and design my app properly
- I lack a lot of technical expertise and that means that I have to keep the app relatively simple or else I won't be able to make it
- Addressing compatibility issues and optimising the app for both iOS and Android platforms adds complexity to my development process, especially given my limited experience