

# Unit 8 Mobile App Development

## **Introduction:**

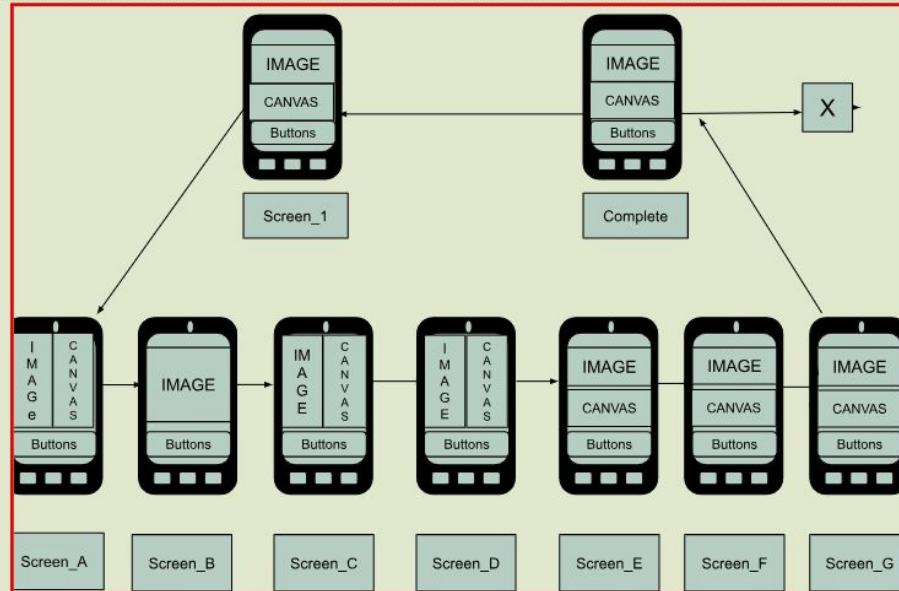
*I have been given the go ahead to design an interactive prototype for an alphabet app that will help children 3-7 years learn the alphabet. The app created will have the letters of the alphabet, start screen and completion screen. Age appropriate interest to keep the children interested and engaged is a key requirement of this development. Shapes and sounds are to be used to help the children recognise the letters, and not be grades, or achievements for this app, as the motivation is to learn the alphabet, have fun and stay motivated is the goal. Sound and images will be added into the app to spark interest and motivate learning.*

*The start screen when clicked will sound the letter out loud, canvas is added so the child can draw around the letter with their finger and the app has a next button that takes them to the next page until the complete page which upon initialising sounds out automatically the alphabet and an option to sound out play button , where they will be given an option to leave or start again. All of these have been seen in various tables and diagrams that were created for the app prototype.*

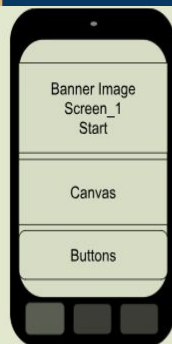
# Unit 8 Mobile App Development

Key points of requirement:

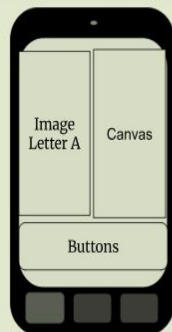
- Interactive alphabet app for ages 3-7 years.
- Learn the shapes and sounds of the letters.
- Keep the child motivated and engaged in learning.
- No reward or achievements need to be included for this app.



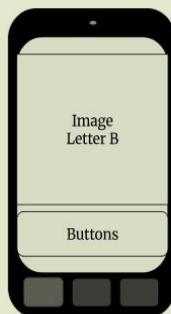
# Unit 8 Mobile App Development



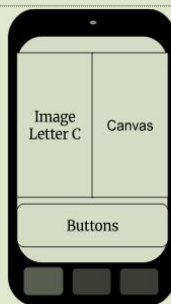
<b>Assets</b> StarButton.jpg CloseButton.png TheAlphaamp-ttsfree(dot)com(2).mp3 Aphabettimage.png  When the red quit button is clicked the app closes.  When the next button is clicked the app moves to screen_A	<b>Events method of input/output</b> When app is opened a child's voice speaks using a player.  Canvas to allow the child to draw around the picture with their finger.  When the red quit button is clicked the app closes.  When the next button is clicked the app moves to screen_A
<b>Design notes/ Alternative ideas</b> Play sound using a button.	<b>Method of solution.</b> <b>What does it do?</b> The child is met with a picture that describes the alphabet and a canvas to copy on.  The two buttons provide a way to leave or continue to the next screen which is screen_A.  The sound plays automatically on the screen to introduce the child to the app and keep them interested.



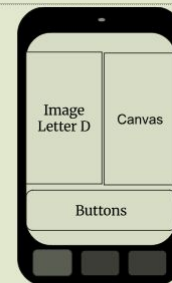
<b>Assets</b> antantdownload.jfif Ahh-Amp3-output-ttsfree(dot)com(2).mp3 Close.png NextButton.png PlaySoundButton.png	<b>Events method of input/output</b> Next Button clicked to go to Screen_B <b>Play Sound Button</b> when clicked speaks out loud. <b>Button</b> Quit when clicked exits the app. Next button clicked to take you to Screen_B <b>Canvas</b> allows drawing round the picture.
<b>Design notes/ Alternative ideas</b> Could add sound effects to each button.  Horizontal Arrangement 2 background was changed to green to enhance the buttons.	<b>Method of solution.</b> <b>What does it do?</b> Canvas when clicked can draw around the picture with finger. When sound button is clicked the child's voice speaks out and sounds out the letter A. The quit button when clicked closes the app. Next button when clicked takes you to the Screen_B



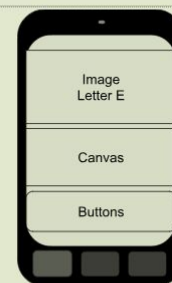
<b>Assets</b> BATAanimals-alphabet-b-is-for-ba ts-vector-21425648.jpg Bah.Bmp3-output-ttsfree(dot)com(2).mp3 PlaySoundButton.png NextButton.jpg	<b>Events method of input/output</b> Play sound Button when clicked speaks.  Quit Button clicked exits the App.  Next Button when clicked goes to Screen_C  Canvas: drawn a line around the picture.
<b>Design notes/ Alternative ideas</b> Horizontal arrangement background was white but i decided to change the colour to make the buttons stand out.	<b>Method of solution.</b> <b>What does it do?</b> Picture of a bat with the letter B. Canvas so the child can draw a line around the picture.  Click the sound button and a child's voice speaks the letter, sound and animal out loud.  Click the Next button and the child is taken to the next letter on Screen_C.  Click the quit button and the app is exited.



<b>Assets</b> NextButton.png PlaySoundButton.png CCATdownload(D).jfif Kah.Cmp3-output-ttsfree(dot)com(2).mp3 Canvas	<b>Events method of input/output</b> Play sound Button when clicked speaks.  Quit Button clicked exits the App.  Next Button when clicked goes to Screen_D  Canvas: drawn a line around the picture.
<b>Design notes/ Alternative ideas</b> Horizontal arrangement background was white but i decided to change the colour to make the buttons stand out.	<b>Method of solution.</b> <b>What does it do?</b> Picture of a Cat with the letter C. Canvas so the child can draw a line around the picture.  Click the sound button and a child's voice speaks the letter, sound and animal out loud.  Click the Next button and the child is taken to the next letter on Screen_D  Click the quit button and the app is exited.



<b>Assets</b> Dah.Dmp3-output-ttsfree(dot)com(2).mp3 DDOGGaminals-alphabet-d-dogs-illustration-78247641.webp NextButton.png PlaySoundButton.png	<b>Events method of input/output</b> Play sound Button when clicked speaks.  Quit Button clicked exits the App.  Next Button when clicked goes to Screen_E  Canvas: drawn a line around the picture.
<b>Design notes/ Alternative ideas</b> Horizontal arrangement background was white but i decided to change the colour to make the buttons stand out.	<b>Method of solution.</b> <b>What does it do?</b> Picture of a Dog with the letter D. Canvas so the child can draw a line around the picture.  Click the sound button and a child's voice speaks the letter, sound and animal out loud.  Click the Next button and the child is taken to the next letter on Screen_E  Click the quit button and the app is exited.




<b>Assets</b> E-is-for-Elephant.jpg Ehh.Emp-output-ttsfree(dot)com(2).mp3 PlaySoundbutton.png NextButton.png	<b>Events method of input/output</b> Play sound Button when clicked speaks.  Quit Button clicked exits the App.  Next Button when clicked goes to Screen_F  Canvas: drawn a line around the picture.
<b>Design notes/ Alternative ideas</b> Horizontal arrangement background was white but i decided to change the colour to make the buttons stand out.	<b>Method of solution.</b> <b>What does it do?</b> Picture of a elephant with the letter E. Canvas so the child can draw a line around the picture.  Click the sound button and a child's voice speaks the letter, sound and animal out loud.  Click the Next button and the child is taken to the next letter on Screen_F  Click the quit button and the app is exited.



# Unit 8 Mobile App Development

 <p>Image Letter F</p> <p>Canvas</p> <p>Buttons</p>	<p><b>Assets</b></p> <p>Fish.mp3-output-ttsfree(dot)com(2).mp3 ifishand-letter-f-is-for-fish-vector-1-940x773.jpg NextButton.png PlaySoundButton.png Quit Button canvas</p> <p><b>Design notes/ Alternative ideas</b> Horizontal arrangement background was white but i decided to change the colour to make the buttons stand out.</p>	<p><b>Events method of input/output</b> Play sound Button when clicked speaks. Quit Button clicked exits the App. Next Button when clicked goes to Screen_D Canvas: drawn a line around the picture.</p> <p><b>Method of solution. What does it do?</b> Picture of a fish with the letter F. Canvas so the child can draw a line around the picture. Click the sound button and a child's voice speaks the letter, sound and animal out loud. Click the Next button and the child is taken to the next letter on Screen_G Click the quit button and the app is exited.</p>
 <p>Complete Image Well done</p> <p>Buttons</p>	<p><b>Assets</b></p> <p>ifishwelldone.gif Playagainmp3-output-ttsfree(dot)com(2).mp3 Fullalphamp3-output-ttsfree(dot)com(2).mp3 NextButton.png PlaySoundButton.png</p> <p><b>Design notes/ Alternative ideas</b> Horizontal arrangement background was white but i decided to change the colour to make the buttons stand out.</p>	<p><b>Events method of input/output</b> Play sound Button when clicked speaks. Quit Button clicked exits the App. Start again button when clicked goes to Screen_1 Canvas: drawn a line around the picture.</p> <p><b>Method of solution. What does it do?</b> Picture of a star. Canvas so the child can draw a line around the picture. Click the sound button and a child's voice speaks the letter, sound and animal out loud. Click the start again button and the child is taken to the next letter on Screen_1 Click the quit button and the app is exited.</p>

 <p>Image Letter G</p> <p>Buttons</p>	<p><b>Assets</b></p> <p>GGOATdownload(2).jflif Gah.Gmp3-output-ttsfree(dot)com(2).mp3 PlaySoundButton.png NextButton.png</p> <p><b>Design notes/ Alternative ideas</b> Horizontal arrangement background was white but i decided to change the colour to make the buttons stand out.</p>	<p><b>Events method of input/output</b> Play sound Button when clicked speaks. Quit Button clicked exits the App. Next Button when clicked goes to Screen_D Canvas: drawn a line around the picture.</p> <p><b>Method of solution. What does it do?</b> Picture of a fish with the letter G. Canvas so the child can draw a line around the picture. Click the sound button and a child's voice speaks the letter, sound and animal out loud. Click the Next button and the child is taken to the next letter on Screen Complete. Click the quit button and the app is exited.</p>
---	--	--

# Unit 8 Mobile App Development

## *Justification and constraints:*

*At first the app layout was Horizontal 1 and 2, I chose to add a 3rd for the purpose of housing the canvas as when I tried to add the canvas to the drawing, I found that only four of the eight canvas screens worked well for the app. I chose this also to show the child an obvious place to draw and to keep the picture in view of the child to copy the image if the child chooses. The picture, and canvas on screen1 show the full alphabet, thus encouraging the child to write the letters how they see fit to have a play around with the letters for fun.*

*With the use of a text to speech, using the child voice ana I created sounds, letters and motivational speech that help direct and teach the child the letters. The app does not use rewards but does congratulate the child, and provide an encouraging message at the end and giving the option to go back to the beginning and play again. The pictures have an animal that coincides with the letter for example A is for ant.*

*The full alphabet plays automatically when the complete screen is initialised to further reinforce the learning and participation of the child. A picture of a star is present to reinforce that the child has done well and to encourage the child to continue to learn. I decided on a star as children are usually marked, and rewarded with stars from parents and teachers when completing milestones at this age.*

*The Animals are not all in the same type of picture colouring, format, or theme, and this is to keep the child's interest as the changes provide some mystery in very subtle ways. The options for the animals were determined by the child's age, what I felt would be most familiar to the child, most likely to be recognised in everyday life through home, tv etc...*

*Player Speech list;*

*The full alphabet*

*The alphabet. Learn with me.*

*Ahh A is for Ant.B is for Bat.*

*Kah C is for Cat.*

*Dah D is for Dogs.*

*Ehh E is for Elephant.*

*Fah is for Fish.*



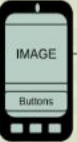
*Gah is for Goat.*

*You are awesome. shall we play again?*






# Unit 8 Mobile App Development

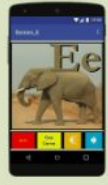


Screen_A		
Completed Screen	Blocks (with comments)	Initial plan/design
		
<p><b>Comments:</b> The app layout changed from the initial design plan. The screen has a simple layout using four horizontal arrangements to section the page into two. Image is merged with the canvas. A clear canvas button was added after feedback was given.</p> <p><b>Interactive alphabet app for ages 3-7 years;</b> All assets, and developments have been in line with the age appropriate requirement;</p> <p><b>Learn the shapes and sounds of the letters.</b> The child is met with the sounds of the letter, pictures of a letter and an animal that describes the alphabet letter also. The changing colours, animals and theme of the pictures help teach the child the alphabet.</p> <p><b>Keep the child motivated and engaged in learning.</b> Canvas to draw on with their fingers to copy the image, sounds to motivate the child as the child can copy the sound the child's voice on the player is making. The four buttons provide a way to leave, clear canvas, play sound and continue to the next screen using consistent color, placement and text to help the child navigate the app. The changing colours, animals and theme of the pictures help teach the child the alphabet and stay motivated. The sound button and canvas is always placed in the centre of the four buttons with bright orange color with the sound picture indicating its purpose clearly to the child.</p> <p><b>No reward or achievements need to be included for this app.</b> When the sound button is clicked, a child's voice speaks using a player, keeping the child motivated, and to help the child understand the app's purpose. The player at the complete screen tells the child they are awesome and asks if they would like to play again. I used a picture of a star to indicate they have done well and to motivate the child to continue to learn.</p> <p><b>Code with comments to allow for easy maintenance.</b></p> <p><b>Canvas:</b> When a child draws on the canvas with their finger, a picture can be created within the canvas.</p> <p><b>Clear canvas button</b> to clear canvas of drawing.</p> <p><b>Player:</b> When the sound button is clicked, the voice speaks out loud the sound of the letter and the description of the picture.</p> <p><b>Quit button:</b> When clicked exits the app.</p> <p><b>Next button:</b> When clicked, the Screen_A can be viewed.</p> <p><b>Maintainability:</b> All the apps plans and documents contain the code and comments to better maintain, update and change the apps features.</p> <p><b>Portability:</b> The App is available on android phone and some tablets.</p> <p><b>Usability:</b> This app is suitable for people who use android phones or tablets</p> <p>All code is marked with easy to read descriptions.</p>		



Screen_B		
Completed Screen	Blocks (with comments)	Initial plan/design
		
<p><b>Comments:</b> The app layout changed from the initial design plan. The screen has a simple layout using four horizontal arrangements to section the page into two. Image is merged with the canvas. A clear canvas button was added after feedback was given.</p> <p><b>Interactive alphabet app for ages 3-7 years;</b> All assets, and developments have been in line with the age appropriate requirement;</p> <p><b>Learn the shapes and sounds of the letters.</b> The child is met with the sounds of the letter, pictures of a letter and an animal that describes the alphabet letter also. The changing colours, animals and theme of the pictures help teach the child the alphabet.</p> <p><b>Keep the child motivated and engaged in learning.</b> Canvas to draw on with their fingers to copy the image, sounds to motivate the child as the child can copy the sound the child's voice on the player is making. The four buttons provide a way to leave, clear canvas, play sound and continue to the next screen using consistent color, placement and text to help the child navigate the app. The changing colours, animals and theme of the pictures help teach the child the alphabet and stay motivated. The sound button and canvas is always placed in the centre of the four buttons with bright orange color with the sound picture indicating its purpose clearly to the child.</p> <p><b>Code with comments to allow for easy maintenance.</b></p> <p><b>Canvas:</b> When a child draws on the canvas with their finger, a picture can be created within the canvas.</p> <p><b>Clear canvas button</b> to clear canvas of drawing.</p> <p><b>Player:</b> When the sound button is clicked, the voice speaks out loud the sound of the letter and the description of the picture.</p> <p><b>Quit button:</b> When clicked exits the app.</p> <p><b>Next button:</b> When clicked, the Screen_C can be viewed.</p> <p><b>Maintainability:</b> All the apps plans and documents contain the code and comments to better maintain, update and change the apps features.</p> <p><b>Portability:</b> The App is available on android phone and some tablets.</p> <p><b>Usability:</b> This app is suitable for people who use android phones or tablets</p> <p>All code is marked with easy to read descriptions.</p>		

Screen_C		
Completed Screen	Blocks (with comments)	Initial plan/design
		
<p><b>Comments:</b> The app layout changed from the initial design plan. The screen has a simple layout using four horizontal arrangements to section the page into two. Image is merged with the canvas. A clear canvas button was added after feedback was given.</p> <p><b>Interactive alphabet app for ages 3-7 years;</b> All assets, and developments have been in line with the age appropriate requirement;</p> <p><b>Learn the shapes and sounds of the letters.</b> The child is met with the sounds of the letter, pictures of a letter and an animal that describes the alphabet letter also. The changing colours, animals and theme of the pictures help teach the child the alphabet.</p> <p><b>Keep the child motivated and engaged in learning.</b> Canvas to draw on with their fingers to copy the image, sounds to motivate the child as the child can copy the sound the child's voice on the player is making. The four buttons provide a way to leave, clear canvas, play sound and continue to the next screen using consistent color, placement and text to help the child navigate the app. The changing colours, animals and theme of the pictures help teach the child the alphabet and stay motivated. The sound button and canvas is always placed in the centre of the four buttons with bright orange color with the sound picture indicating its purpose clearly to the child.</p> <p><b>No reward or achievements need to be included for this app.</b> When the sound button is clicked, a child's voice speaks using a player, keeping the child motivated, and to help the child understand the app's purpose. The player at the complete screen tells the child they are awesome and asks if they would like to play again. I used a picture of a star to indicate they have done well and to motivate the child to continue to learn.</p> <p><b>Code with comments to allow for easy maintenance.</b></p> <p><b>Canvas:</b> When a child draws on the canvas with their finger, a picture can be created within the canvas.</p> <p><b>Clear canvas button</b> to clear canvas of drawing.</p> <p><b>Player:</b> When the sound button is clicked, the voice speaks out loud the sound of the letter and the description of the picture.</p> <p><b>Quit button:</b> When clicked exits the app.</p> <p><b>Next button:</b> When clicked, the Screen_D can be viewed.</p> <p><b>Maintainability:</b> All the apps plans and documents contain the code and comments to better maintain, update and change the apps features.</p> <p><b>Portability:</b> The App is available on android phone and some tablets.</p> <p><b>Usability:</b> This app is suitable for people who use android phones or tablet</p> <p>All code is marked with easy to read descriptions.</p>		

# Unit 8 Mobile App Development



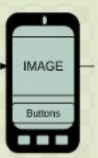
Screen_D		
Completed Screen	Blocks (with comments)	Initial plan/design
		
<p><b>Comments:</b> The app layout changed from the initial design plan. The screen has a simple layout using four horizontal arrangements to section the page into two. Image is merged with the canvas. A clear canvas button was added after feedback was given.</p> <p><b>Interactive alphabet app for ages 3-7 years;</b> All assets, and developments have been in line with the age appropriate requirement;</p> <p><b>Learn the shapes and sounds of the letters.</b> The child is met with the sounds of the letter, pictures of a letter and an animal that describes the alphabet letter also. The changing colours, animals and theme of the pictures help teach the child the alphabet.</p> <p><b>Keep the child motivated and engaged in learning.</b> Canvas to draw on with their fingers to copy the image, sounds to motivate the child as the child can copy the sound the child's voice on the player is making. The four buttons provide a way to leave, clear canvas, play sound and continue to the next screen using consistent color, placement and text to help the child navigate the app. The changing colours, animals and theme of the pictures help teach the child the alphabet and stay motivated. The sound button and canvas is always placed in the centre of the four buttons with bright orange color with the sound picture indicating its purpose clearly to the child.</p> <p><b>No reward or achievements need to be included for this app.</b> When the sound button is clicked, a child's voice speaks using a player, keeping the child motivated, and to help the child understand the app's purpose. The player at the complete screen tells the child they are awesome and asks if they would like to play again. I used a picture of a star to indicate they have done well and to motivate the child to continue to learn.</p> <p><b>Code with comments to allow for easy maintenance.</b>  <b>Canvas:</b> When a child draws on the canvas with their finger, a picture can be created within the canvas.  <b>Clear canvas button:</b> to clear canvas of drawing.  <b>Player:</b> When the sound button is clicked, the voice speaks out loud the sound of the letter and the description of the picture.  <b>Quit button:</b> When clicked exits the app.  <b>Next button:</b> When clicked, the Screen_E can be viewed.  <b>Maintainability:</b> All the apps plans and documents contain the code and comments to better maintain, update and change the apps features.  <b>Portability:</b> The App is available on android phone and some tablets.  <b>Usability:</b> This app is suitable for people who use android phones or tablet  <b>All code is marked with easy to read descriptions.</b></p>		



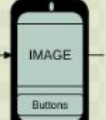
Screen_E		
Completed Screen	Blocks (with comments)	Initial plan/design
		
<p><b>Comments:</b> The app layout changed from the initial design plan. The screen has a simple layout using four horizontal arrangements to section the page into two. Image is merged with the canvas. A clear canvas button was added after feedback was given.</p> <p><b>Interactive alphabet app for ages 3-7 years;</b> All assets, and developments have been in line with the age appropriate requirement;</p> <p><b>Learn the shapes and sounds of the letters.</b> The child is met with the sounds of the letter, pictures of a letter and an animal that describes the alphabet letter also. The changing colours, animals and theme of the pictures help teach the child the alphabet.</p> <p><b>Keep the child motivated and engaged in learning.</b> Canvas to draw on with their fingers to copy the image, sounds to motivate the child as the child can copy the sound the child's voice on the player is making. The four buttons provide a way to leave, clear canvas, play sound and continue to the next screen using consistent color, placement and text to help the child navigate the app. The changing colours, animals and theme of the pictures help teach the child the alphabet and stay motivated. The sound button and canvas is always placed in the centre of the four buttons with bright orange color with the sound picture indicating its purpose clearly to the child.</p> <p><b>No reward or achievements need to be included for this app.</b> When the sound button is clicked, a child's voice speaks using a player, keeping the child motivated, and to help the child understand the app's purpose. The player at the complete screen tells the child they are awesome and asks if they would like to play again. I used a picture of a star to indicate they have done well and to motivate the child to continue to learn.</p> <p><b>Code with comments to allow for easy maintenance.</b>  <b>Canvas:</b> When a child draws on the canvas with their finger, a picture can be created within the canvas.  <b>Clear canvas button:</b> to clear canvas of drawing.  <b>Player:</b> When the sound button is clicked, the voice speaks out loud the sound of the letter and the description of the picture.  <b>Quit button:</b> When clicked exits the app.  <b>Next button:</b> When clicked, the Screen_F can be viewed.  <b>Maintainability:</b> All the apps plans and documents contain the code and comments to better maintain, update and change the apps features.  <b>Portability:</b> The App is available on android phone and some tablets.  <b>Usability:</b> This app is suitable for people who use android phones or tablet</p>		

Screen_F		
Completed Screen	Blocks (with comments)	Initial plan/design
		
<p><b>Comments:</b> The app layout changed from the initial design plan. The screen has a simple layout using four horizontal arrangements to section the page into two. Image is merged with the canvas. A clear canvas button was added after feedback was given.</p> <p><b>Interactive alphabet app for ages 3-7 years;</b> All assets, and developments have been in line with the age appropriate requirement;</p> <p><b>Learn the shapes and sounds of the letters.</b> The child is met with the sounds of the letter, pictures of a letter and an animal that describes the alphabet letter also. The changing colours, animals and theme of the pictures help teach the child the alphabet.</p> <p><b>Keep the child motivated and engaged in learning.</b> Canvas to draw on with their fingers to copy the image, sounds to motivate the child as the child can copy the sound the child's voice on the player is making. The four buttons provide a way to leave, clear canvas, play sound and continue to the next screen using consistent color, placement and text to help the child navigate the app. The changing colours, animals and theme of the pictures help teach the child the alphabet and stay motivated. The sound button and canvas is always placed in the centre of the four buttons with bright orange color with the sound picture indicating its purpose clearly to the child.</p> <p><b>No reward or achievements need to be included for this app.</b> When the sound button is clicked, a child's voice speaks using a player, keeping the child motivated, and to help the child understand the app's purpose. The player at the complete screen tells the child they are awesome and asks if they would like to play again. I used a picture of a star to indicate they have done well and to motivate the child to continue to learn.</p> <p><b>Code with comments to allow for easy maintenance.</b>  <b>Canvas:</b> When a child draws on the canvas with their finger, a picture can be created within the canvas.  <b>Clear canvas button:</b> to clear canvas of drawing.  <b>Player:</b> When the sound button is clicked, the voice speaks out loud the sound of the letter and the description of the picture.  <b>Quit button:</b> When clicked exits the app.  <b>Next button:</b> When clicked, the Screen_G can be viewed.  <b>Maintainability:</b> All the apps plans and documents contain the code and comments to better maintain, update and change the apps features.  <b>Portability:</b> The App is available on android phone and some tablets.  <b>Usability:</b> This app is suitable for people who use android phones or tablet  <b>All code is marked with easy to read descriptions.</b></p>		



# Unit 8 Mobile App Development

Screen_G		
Completed Screen	Blocks (with comments)	Initial plan/design
		
<p><b>Comments:</b> The app layout changed from the initial design plan. The screen has a simple layout using four horizontal arrangements to section the page into two. Image is merged with the canvas. A clear canvas button was added after feedback was given.</p> <p><b>Interactive alphabet app for ages 3-7 years;</b> All assets, and developments have been in line with the age appropriate requirement;</p> <p><b>Learn the shapes and sounds of the letters.</b> The child is met with the sounds of the letter, pictures of a letter and an animal that describes the alphabet letter also. The changing colours, animals and theme of the pictures help teach the child the alphabet.</p> <p><b>Keep the child motivated and engaged in learning.</b> Canvas to draw on with their fingers to copy the image, sounds to motivate the child as the child can copy the sound the child's voice on the player is making. The four buttons provide a way to leave, clear canvas, play sound and continue to the next screen using consistent color, placement and text to help the child navigate the app. The changing colours, animals and theme of the pictures help teach the child the alphabet and stay motivated. The sound button and canvas is always placed in the centre of the four buttons with bright orange color with the sound picture indicating its purpose clearly to the child.</p> <p><b>No reward or achievements need to be included for this app.</b> When the sound button is clicked, a child's voice speaks using a player, keeping the child motivated, and to help the child understand the app's purpose. The player at the complete screen tells the child they are awesome and asks if they would like to play again. I used a picture of a star to indicate they have done well and to motivate the child to continue to learn.</p> <p><b>Code with comments to allow for easy maintenance.</b>  <b>Canvas:</b> When a child draws on the canvas with their finger, a picture can be created within the canvas.  <b>Clear canvas button</b> to clear canvas of drawing.  <b>Player:</b> When the sound button is clicked, the voice speaks out loud the sound of the letter and the description of the picture.  <b>Quit button:</b> When clicked exits the app.  <b>Next button:</b> When clicked, the Complete screen can be viewed.  <b>Maintainability:</b> All the apps plans and documents contain the code and comments to better maintain, update and change the apps features.  <b>Portability:</b> The App is available on android phone and some tablets.  <b>Usability:</b> This app is suitable for people who use android phones or tablet  <b>All code is marked with easy to read descriptions.</b></p>		

Screen Complete		
Completed Screen	Blocks (with comments)	Initial plan/design
		
<p><b>Comments:</b> The app layout changed from the initial design plan. The screen has a simple layout using four horizontal arrangements to section the page into two. Image is merged with the canvas. A clear canvas button was added after feedback was given.</p> <p><b>Interactive alphabet app for ages 3-7 years;</b> All assets, and developments have been in line with the age appropriate requirement;</p> <p><b>Learn the shapes and sounds of the letters.</b> The child is met with the sounds of the letter, pictures of a letter and an animal that describes the alphabet letter also. The changing colours, animals and theme of the pictures help teach the child the alphabet.</p> <p><b>Keep the child motivated and engaged in learning.</b> Canvas to draw on with their fingers to copy the image, sounds to motivate the child as the child can copy the sound the child's voice on the player is making. The four buttons provide a way to leave, clear canvas, play sound and continue to the next screen using consistent color, placement and text to help the child navigate the app. The changing colours, animals and theme of the pictures help teach the child the alphabet and stay motivated. The sound button and canvas is always placed in the centre of the four buttons with bright orange color with the sound picture indicating its purpose clearly to the child.</p> <p><b>No reward or achievements need to be included for this app.</b> When the sound button is clicked, a child's voice speaks using a player, keeping the child motivated, and to help the child understand the app's purpose. The player at the complete screen tells the child they are awesome and asks if they would like to play again. I used a picture of a star to indicate they have done well and to motivate the child to continue to learn.</p> <p><b>Code with comments to allow for easy maintenance.</b>  <b>Canvas:</b> When the child draws with their finger produces a picture using white paint.  <b>Clear canvas button</b> to clear canvas of drawing.  <b>Player:</b> initialises when the screen is initialised. The second player when clicked sounds out the child's voice.  <b>Quit button:</b> When clicked exits the app.  <b>Play again button:</b> When clicked, the Scene1 can be viewed.  <b>Maintainability:</b> All the apps plans and documents contain the code and comments to better maintain, update and change the apps features.  <b>Portability:</b> The App is available on android phone and some tablets.  <b>Usability:</b> This app is suitable for people who use android phones or tablet  <b>All code is marked with easy to read descriptions.</b></p>		