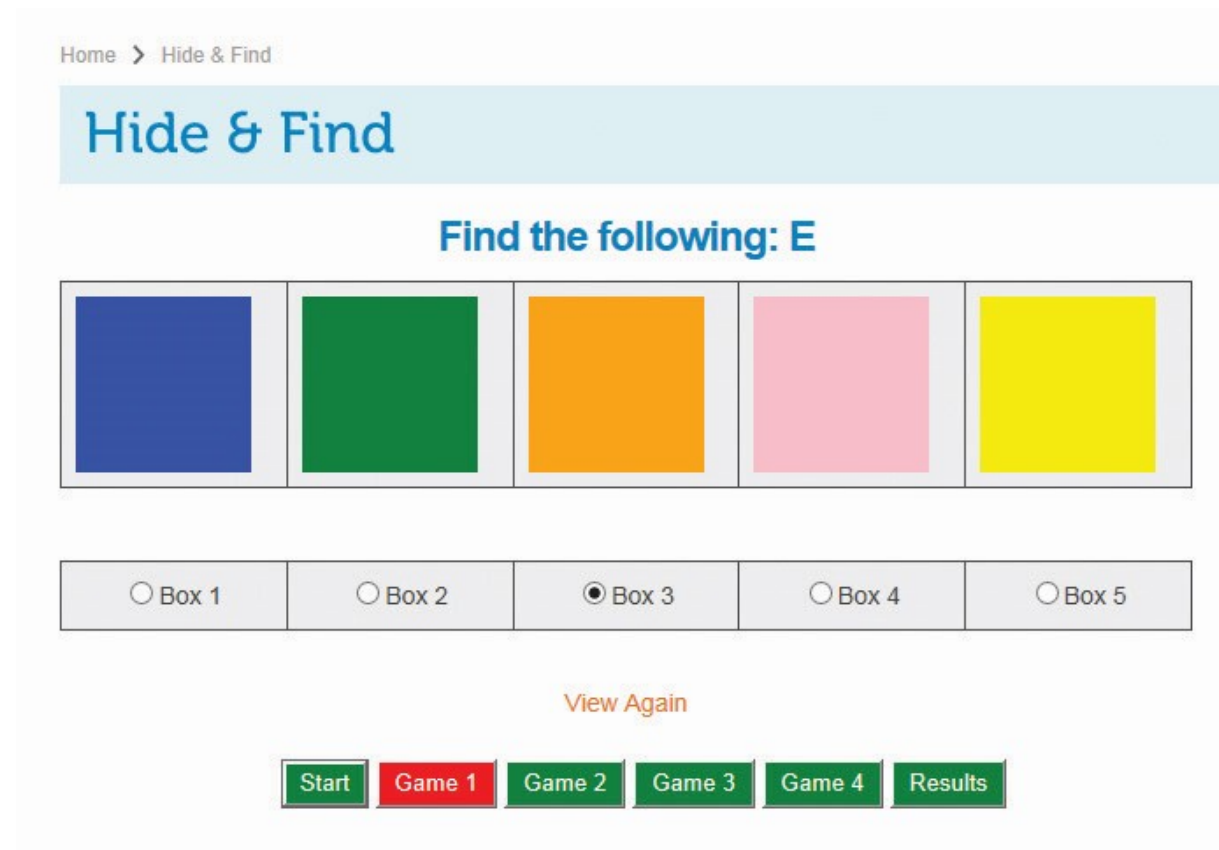


Hide & Find Page

This plugin shows the user a set of characters for a second and then hides them, the user has to pick the correct character that was asked for.

Figure 19. Hide & Find



The screenshot shows the 'Hide & Find' game interface. At the top, there is a breadcrumb trail 'Home > Hide & Find' and a large blue header 'Hide & Find'. Below the header, the instruction 'Find the following: E' is displayed in blue. A row of five colored squares (blue, green, orange, pink, yellow) is shown. Below the squares, there are five radio buttons labeled 'Box 1', 'Box 2', 'Box 3', 'Box 4', and 'Box 5'. The 'Box 3' radio button is selected. Below the radio buttons, there is a 'View Again' link in orange. At the bottom, there is a row of buttons: 'Start' (green), 'Game 1' (red), 'Game 2' (green), 'Game 3' (green), 'Game 4' (green), and 'Results' (green).

This plugin is a fun active game to help develop short term memory. First the user logs in giving their name and age. They start the game by pressing game 1, where they are given a question such as "Find the following: A" and showed a set of five random characters between A and E in five different boxes, this is displayed for only a second and then are hidden from the user by coloured boxes. The user clicks a radio button under the box they think the character is hidden.

They can press view again, to uncover the boxes and view the characters again for only a second. By clicking game 2 they move son to the next game; there is four games in all. When the user has finished game four they press end, to finish the whole game. A popup screen tells the user if they click the result button they can see their results. The results show what question they were asked and what answers they had given. At the bottom of the screen they can start the whole game again.

Hide & Find Game Design & Development

We each had to come up with a plug-in for our WordPress Website. Since we were doing a children's educational website we decided to come up with a simple game which we could develop as a plug-in. This game would have to be suitable for young children, while still being fun and educational. There are many stages involved in designing and constructing such a plug-in.

Planning Stage

After doing research into kids games and how children learn, I wanted to make a game which would help develop short term memory plus be fun and interesting at the same time.

Game Idea

I came up with my own idea for a kids game, which was simply to show the characters A to E placed randomly in five different boxes then hide it after a second, they would be asked to find a particular character, and select the box they think its hiding behind. As it was a kid's game, they would have the opportunity to view the characters again and their position, by pressing a view again button, which would uncover the hidden boxes for a second. As the game progressed the game would get harder, by having less time to view the characters. At the end the results of the game would be shown.

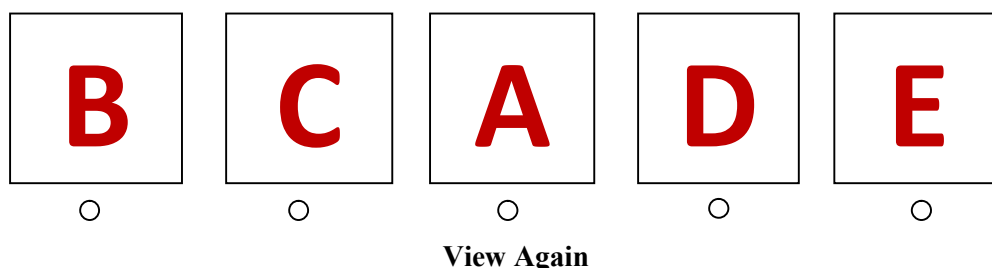
Game Design

I developed this game first by drawing out my idea on paper, when having my idea fully drawn out, wrote it out on a word document, then showed it to my team members, who liked this idea. This is my basic design for my game:

The user gets shown five characters randomly placed in five boxes.

Figure. 26

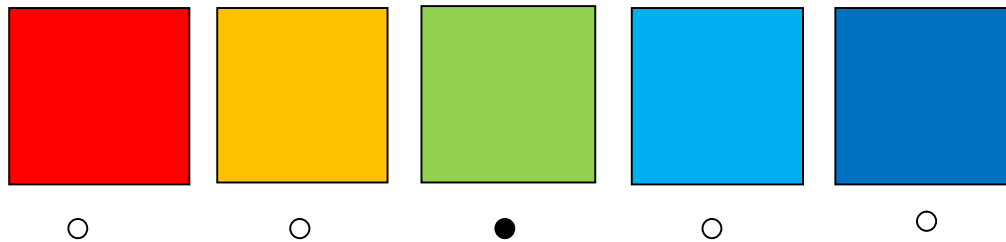
Find A



After the boxes appear on screen for a second they are hidden. They are asked to find a character.

Figure. 27

Find A



View Again

You click on the radio button underneath of box you think is the right answer. You are also given the change to view the answers again, by pressing the view again button which uncovers the boxes. At the end of the game results are given such as

Figure 28. Results

<u>Game Results</u>	
Name: Tommy Age: 6	
Game 1	Game 2
You were asked Find: A	You were asked Find: C
You picked : C	You picked : C
Game 3	Game 3

Colour Scheme

As this game is meant for kids, it had to be very colourful. So when the game first starts you are presented with white characters inside against a red background. The characters are then hidden using the colours blue, green, orange, pink and yellow.

Level Overview

The game starts easy enough but gets more difficult, by giving less time to view the answers as the game goes on.

Software

The software my game will use is Html, Php and JavaScript.

Html

HyperTextMarkup Language is the language used in creating web pages. Html start tags(<html>) and end tags (</html>)are elements used in html to display content in a web browser

Php

Php code is a server side scripting language used in web development. Php commands can be used directly in Html documents.

JavaScript

JavaScript is a lightweight scripting language developed for the client side. JavaScript can be inserted directly into HTML documents, or can be linked to an JavaScript file outside the main page.

Research

For my game to work research was needed in how to build a plug-in from scratch, there are many good tutorials online in building and constructing plug-ins which were really helpful. The php code in a plug-in is quite different than an ordinary php file, so a lot of understanding of plug-in code was needed before even attempting to build one. For my game to work scripts and code was needed which would allow to my game to function, any code gathered has all been referenced at the back of the book.

Game Implementation

Coding

Since we had done Html /Php last year, and was very familiar with the code and how it worked, it seemed a good idea to write my code in Html / Php format first and then transfer it to a plug-in, when it was working. I created a table in html and created five boxes going horizontal across the page, using a css style sheet. I placed five characters from A to E side these boxes.

What I wanted to achieve was when the page reloads the characters would swap around. I had used a Php function last year which did this. I stored the characters in an array, and then by using the shuffle function, the characters would swap around every time the page reloads.

The next thing I wanted to do was have the characters on view for a second and then hide them, from the viewer. I achieved this by using a JavaScript, which would hide a css div element after a second.

At this stage having all the elements working, it was time to get this working as a plug-in.

Plugin

I had done a short “hello world” plug-in at the end of the last semester, which simply outputted the words “hello world” to screen. I used this plug-in as the basis for my new plugin. I changed the name to plugin Test, its description and short code and uploaded it to Word Press.

WordPress allows you to edit code directly and add it to the plug-in by pressing the update button, so I included the contents of my Php file, and updated it, what came back was a load of errors.

I thought it would be best to start again, and include each element at a time, the first was the table, the next was the radio buttons and finally the view again button, if any errors came up during the construction I would go back and change the code, till my basic game elements were included.

Now it was time to get them working. The first thing that had to happen was every time the page reloads was have the characters swap around so by changing the div tags on the characters and adding a Php array and shuffle code. After a few attempts, the whole five characters were swapping around and working ok.

Now it was time to include my script for hiding the characters, so I included the script that had worked in the Php file. The script works by invoking a css div tag after a specific time period, by placing this div over a box element, it hide the character after a second. I did the same for all five boxes and got them all working at once.

Getting results back

At this point the game was not working if you clicked on a radio button it did nothing. We had used a Html / Php form to get results before, which when the form was filled out and the submit button was pressed would send the information to a new page. I entered this code directly into my WordPress plugin, spending many attempts trying to get it working correctly.

Changing games

I wanted my game to be able to change games without adding extra Php files to my plug-in while still keeping the results. If I included a refresh button, it would only reload the page and so would lose and any result taken in. What I wanted was to be able to change content, but still being on the same page. I found a piece of JavaScript code online which would allow me to do this, it allowed a user to

view a single paragraph of text, and when a button was pressed a new paragraph would appear, replacing the last one, on the same page. I used this code to change games plus adding in the Log-in page and the results page.

The Log-in page

The log-in page takes in the users name and age. It is a simple form which uses Php variables to store input as a string. When the user enters their details and presses the submit button this input is saved and later outputted on the results page.

Figure 29. Login



The screenshot shows a web form with the title "Enter your details" in blue. Below the title are two input fields: "Enter Full Name :" and "Enter Your Age :". A "Submit" button is centered below these fields. At the bottom of the form is a horizontal row of six buttons: "Start" (red), "Game 1" (green), "Game 2" (green), "Game 3" (green), "Game 4" (green), and "Results" (green).

The Game

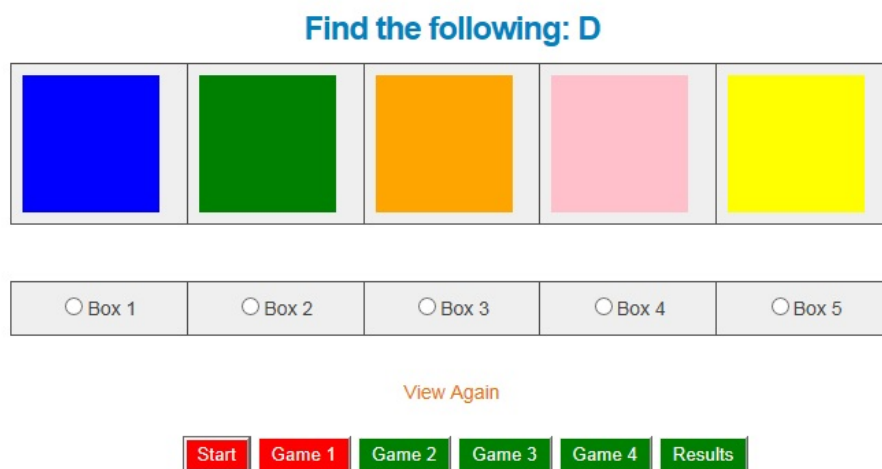
They start the game by pressing game 1, where they are given a question such as "Find the following: A" and showed a set of five random characters between A and E in five different boxes, this is displayed for only a second and then are hidden from the user by coloured boxes. The user clicks a radio button under the box they think the character is hidden. They can press view again, to uncover the boxes and view the characters again for only a second.

Figure 30



The characters are hidden from the user by coloured boxes. The view again button allows the user to uncover the boxes and view the characters again.

Figure. 31



By clicking game 2 they move son to the next game, there is four games in all. When the user has finished game four they press end, to finish the whole game. A popup screen tells the user if they click the result button they can see their results.

JavaScript's / CSS Style sheets

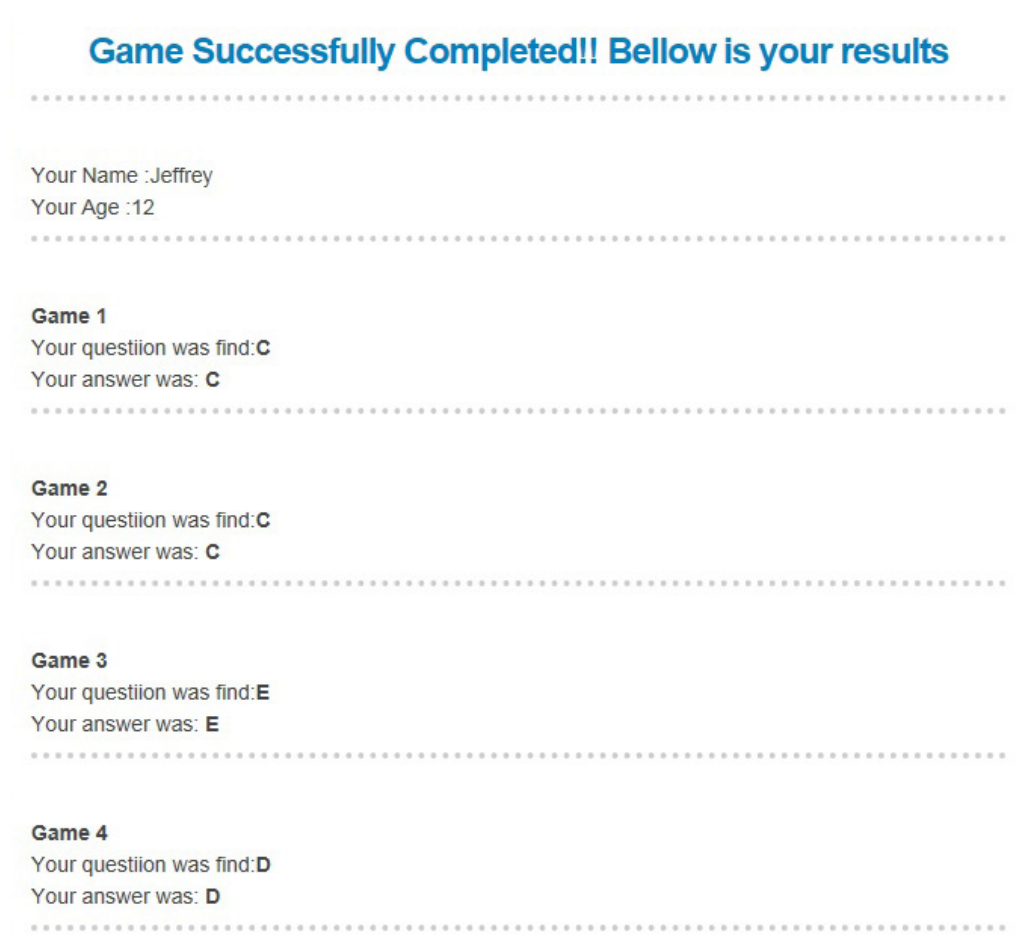
At this point all my scripts and style sheets were on the one Php file, they had to be in their own file. I found Php code online which would allow me to achieve this. I copied the style sheet code and

JavaScript code and created new files in my plug-in folder style.css and script.js and placed all the code in these files

The Results page

The results page shows their name, age and what question they were asked and what answers they had given.

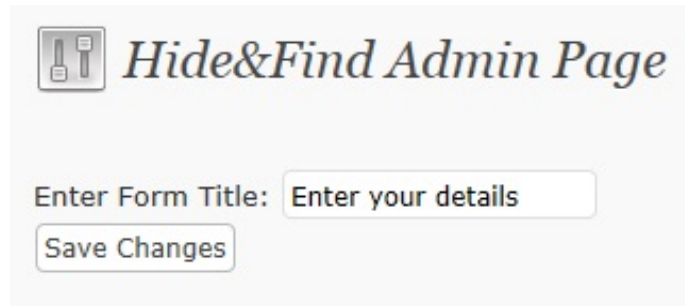
Figure. 32



Admin Panel

I wanted an Admin Panel in my game which would allow me to make changes to the game without changing the code directly. My plan was to be able to change the questions being asked, to whatever questions I wanted easily by just entering the question directly into a text box area and pressing save. Unfortunately this would not work properly, and could only get one question to work correctly, so instead I used it to change the title on the log-in page instead.

Figure. 33

The image shows a web interface for an admin page. At the top left is a small icon of a key and a lock. To its right is the title 'Hide&Find Admin Page' in a stylized, italicized font. Below the title, there is a form with two input fields. The first field is labeled 'Enter Form Title:' and the second field is labeled 'Enter your details'. Below these fields is a button labeled 'Save Changes'.

Game Functions

Buttons – changes to the Log-in screen, game level and results page.

Radio buttons – takes in choices picked

View Button - lets you view characters again for a second.

Admin button – brings you to the admin page

Expandability of Game

From the start I developed my game, with the notion of expanding it to include images and numbers, so code was left in for this purpose.

Can the game more interesting by:

- Less seconds to view the boxes
- Adding more boxes as the game gets harder
- Adding a timer button which counts down,
- Two player games completing to try and finish the game the quickest

Figure 34. Use Case Diagram

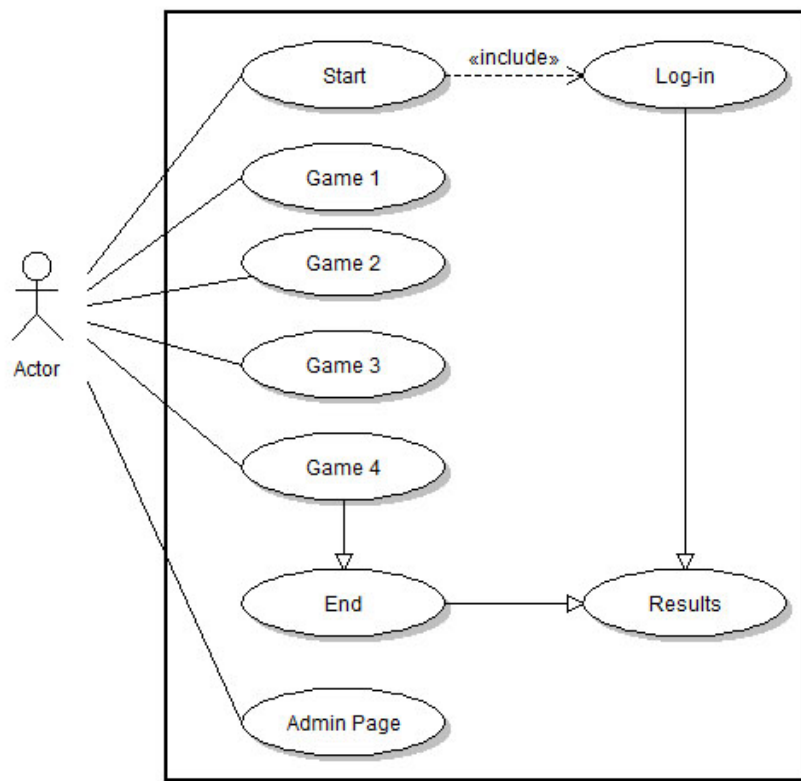


Figure 35. Sequence Diagram

