Lesson 7 - Creating a web page tool bar

Expected Time: Two 45 - 60 minutes.
It is suggested that Lesson 1 should conclude at step 5

Aspect of National Curriculum Programme of Study covered:

KS2 objective a - Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts

KS2 objective f - select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information

KS2 objective c - Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs

KS2 objective g - Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Objectives
Student will be able to;
- design, input and test a set of increasingly complex instructions
- design a programme where a particular outcome will happen based upon an action inputted by the user
- detect and correct errors in algorithms and programs

Ongoing objectives
- Use technology respectfully and safely
- Understand that communication online can be seen by others
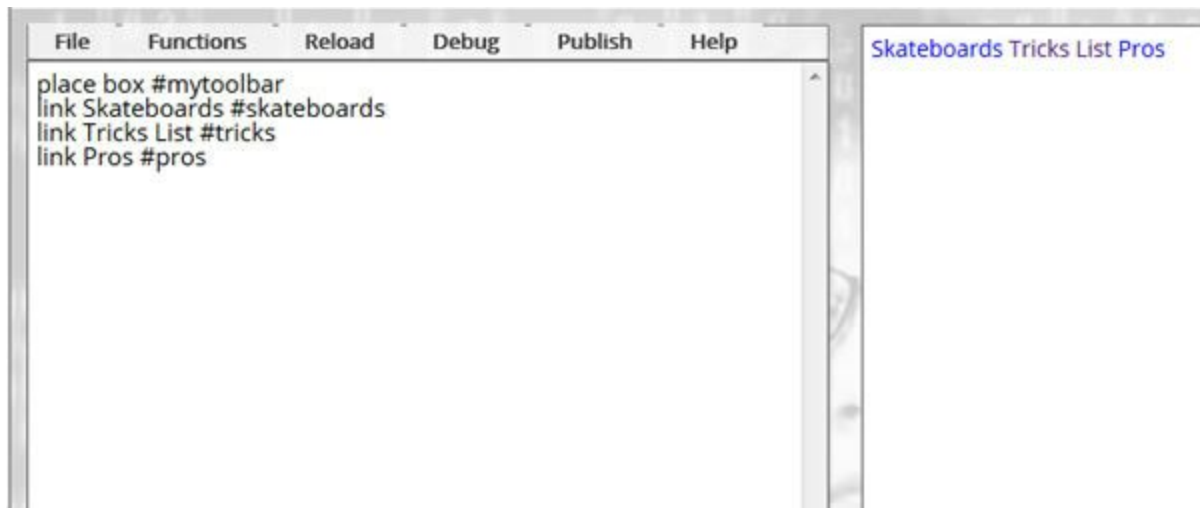- Evaluate and select digital online content responsibly and discerningly

<u>Activity</u>

Step 1. This lesson will guide you through making a tool bar for a web page with links to other sections of the page/site. Start by opening up a new whiteboard session Click here to open in a new tab

Step 2. Click on the left hand box on the whiteboard page and type in the following commands.

> *place box #mytoolbar*
> *link Skateboards #skateboards*
> *link Tricks List #tricks*
> *link Pros #pros*

Your whiteboard should now look something like this:

We have created a box, also known in web programming as a div and placed three links inside it. Now lets add some styling to make it look like a toolbar.

Step 3. Add the following code to your whiteboard:

background grey
lineheight 30px
fontweight bold
margin 10

So what this code does is set the background of the new box/div to grey. Sets the lineheight of box to 30 pixels which will be enough to hold the buttons. Using lineheight rather than just the height command means that the buttons will be vertically in the middle of the box. The font is then set to bold using the fontweight command and a 10 pixel margin is placed around the outside of the box.
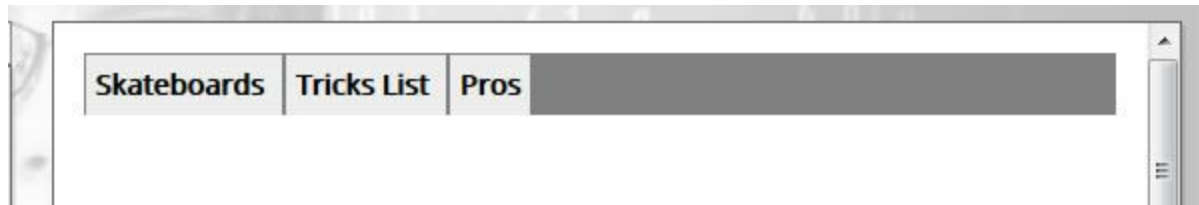
Step 4. Now lets add some style to the individual links and turn them into buttons. You target the links within a box/div by adding :a to the target.

target #mytoolbar:a
margin 1
padding 5
colour black
background #EEE

This code first targets the links inside the box. Then we place a 1 pixel margin around each button and set the inside padding of each button to 5 pixels. Remember that margin is a gap on the outside of the target and padding is a gap on the inside. The font colour is then set to black and the background is set to a light grey. The light grey is specified as a RGB value (Red Green Blue). This starts with a # and then a value for each colour ranging from 0-F i.e. the complete range from no colour to full colour is 0,1,2,3,4,5,6,7,8,9,A,B,C,D,E,F. So solid red with no other colour is #F00 because the red value is set to F full and the other colours are set to zero. Solid green is #0F0 and solid

blue is #00F. If you want to mix colours you can try mixing full red with a little bit of blue to get pink for instance with #F07. Try changing this value to something other than boring grey. If the colour is too dark you might have to change the colour of the text on the line above.

Step 5. Reload the code and you should end up with a toolbar like this:

Step 6. Why don't we make the links go somewhere? Let's first reset the target. We do this because we are currently targeting the toolbar and instead of adding content there we want to add it to the main page. We then place our first box/div and call it #skateboards. In step two we created a link to this #skateboards so now we must create a div called #skateboards so the link goes to the correct place. Note that the hashtag (also known as div ID) is case sensitive and should be all one word. Make sure it matches the hashtag in step 2 exactly We can then give it a title, border and write some text in the box**:**

> *target reset*
> *place div #skateboards*
> *border 1*
> *title Skateboards Page*
> *type write whatever you want here, just dont press enter without entering another type command.*
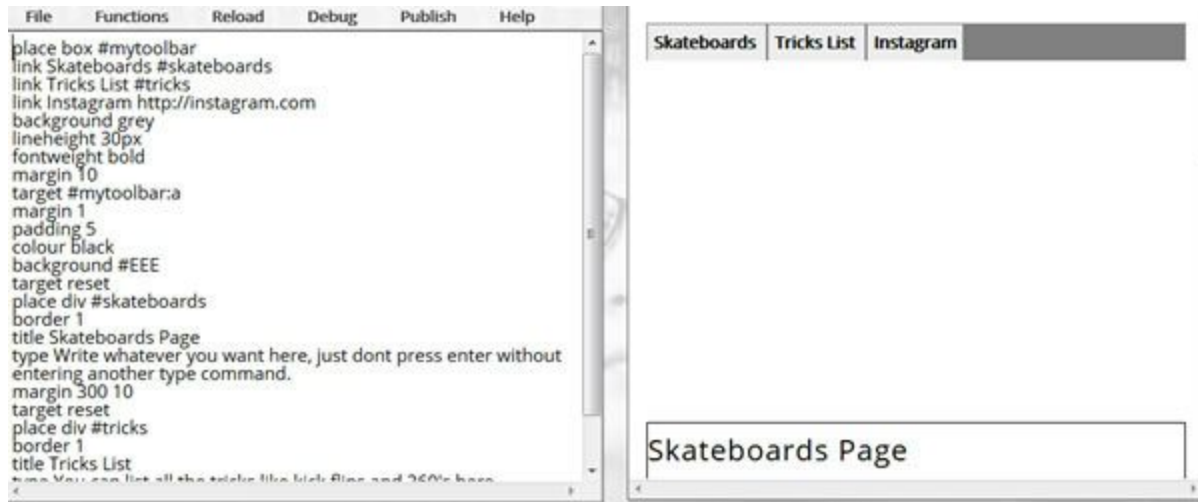
Step 7. Lets give the box a really big margin so we can move it down the page and add the second box:

> *margin 300px 10px*
> *target reset*
> *place div #tricks*
> *border 1*
> *title Tricks List*
> *type You can list all the tricks like kick flips and 360's here.*
> *margin 300px 10px*

Step 8. Let's turn the last button into an external link to another website. So on line 4 of your code where it says "link Pros #pros" change that to:

> *link Instagram http://instagram.com*

Step 9. Reload the code or publish the web page and test each link. The first two buttons should scroll the page down to the boxes on the web page you have designed and the 3rd should lead to instagram because we put in an external address.

```
File      Functions      Reload      Debug      Publish      Help

place box #mytoolbar
link Skateboards #skateboards
link Tricks List #tricks
link Instagram http://instagram.com
background grey
lineheight 30px
fontweight bold
margin 10
target #mytoolbar:a
margin 1
padding 5
colour black
background #EEE
target reset
place div #skateboards
border 1
title Skateboards Page
type Write whatever you want here, just dont press enter without
entering another type command.
margin 300 10
target reset
place div #tricks
border 1
title Tricks List
```

Skateboards	Tricks List	Instagram

Skateboards Page

ChildScript.com - Lesson Notes

Lesson 7 - Creating a web page tool bar

This lesson gives the children an opportunity to review previous lessons whilst also learning more complicated coding language. There may also be opportunity for children to detect and correct errors.

By the end of the lesson the children should have created a web page toolbar with links.

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Technical vocabualry - Div's and link's

A 'div' is technical coding language that refers to a box which has been or needs to be created. A 'link' refers to a word / image which the user can click on to take them to another web page.

Creating a 'Link'

The code which must be entered accurately is '#skateboards and #mytoolbar' ensure there are no spaces between these words or symbols and be aware that it is case sensitive. Use lowercase. This is important as later on in the code, when the tool bar needs to be altered, it must be referred to without the spaces and using lowercase letters.

In the lesson examples the tool bar boxes are called Skateboards, Tricks and Pros. You can change the names of the links to anything which is suitable for the web page you are creating.
For example;

place box #mytoolbar
Link **Restaurants** #restaurants
link **Things to do** #thingstodo
link **Beaches** #beaches
background grey

Font

Fontweight bold is used to change the font to bold. The style of font which is required can be altered by entering font followed by the name of the font needed, this was learnt in lesson 1. The size of the font can also be altered by entering the size of font you require

font times new roman
font size 20

Background colour

To change the background colour of the whole web page the background colour must be entered before the box/div have been created. Entering a background colour after the 'div/box instruction will change the background colour of the box/div only.

background yellow *//changes the colour of the whole web page*
place box #mytoolbar
link Skateboards #skateboards
link Tricks List #tricks
link Pros #pros
background grey *//changes the colour of the div/box*

This could be a challenge for the children to work out once you have completed the first 3 steps of the lesson. pose the question;
'How can we change the background colour of the whole web page so that it is different to the colour you have chosen for the toolbar?

Lineheight / Margins / Padding

It is suggested that the children experiment by changing the numerical values.
In Step 7 there are two numerical values given after the word margin. The first numerical value refers to the margin between the box you have created and either the top of the page or the box above it and bottom of the page or a box below it.. The second numerical value refers to the space required between the box and the left and right hand side of the page.

#RGB (Red Green Blue) values

This aspect of code, at first glance, can be confusing, however once it is understood it is very clear and simple. Firstly, following the # there are only 3 spaces available for instruction to be entered into e.g #000, Each 0 referring to Red, Green then Blue. As only a single digit can be entered into each space only the numbers 0-9 can be used and then the computer has to switch to letters because no 2 digit number can be entered into a single space. The colour range going from light to dark is;

  0 1 2 3 4 5 6 7 8 9 A B C D E F

light ——————————————————————▶ Dark

ChildScript.com

Target reset
The word target followed by #mytoolbar or reset tells the computer which part of the page the following instructions/code refer to. Target reset is used when you wish to return to, and work on the main page.

Saving work
Any code/work which is created can be saved, however it will be saved to the computer which is being used. You will not be able to access any work completed and saved from another computer. To access any saved work go to file, load and click on the piece of work you need.

Publishing work online
Any work which is published online will be given an independent URL. To view the work online keep a record of the URL you have been given and type it into the address bar. If you reload a piece of work to edit it using childscript.com and publish it to the web again you will be given a different URL address. A list of recently published web pages is available from the whiteboard under the publish menu.

Bugs
This is a fairly complicated code with opportunities for bugs however once you know what to keep an eye out for these can be easily identified and corrected. The most common bugs will be those associated with making the link between the toolbar at the top and the box it refers to on the main page;
- Ensure that only lowercase letters have been used with no spaces following the # when first making the link. (step 1).
- When creating the box further down the page that the link in the toolbar will take the user to, ensure that the children have used lowercase with no spaces after place div…. (step 6)
- when the children want to enter a second box on the main page which corresponds to the second link ensure that they have typed target reset before trying to place the next box with 'place div..'