



Tiffany Tech

Smuffy

Dan Devices

Chew-Chew

# Welcome, budding coders!

Say hi to our heroic adventurers: Dan Devices and Tiffany Tech. Together they are the best of friends, and an amazing team who love to explore and help each other whenever they can.

Dan adores devices, Tiff loves tech, and both are on a constant quest to learn and make learning fun. The friends are joined by their pets, Smuffy and Chew-Chew, who help out in their own special way. Together... they are **The QuestKids!**

In this book, they'll help you get started with professional game developers' languages: HTML and JavaScript. Tiffany, Dan, Smuffy and Chew-Chew, together, will take you from the basics to coding your own professional-looking games – all **in easy steps**.

Even includes challenges for each game and mods to make your games unique and more fun to create!

About the author: Max Wainwright is an experienced computing teacher and has taught in the UK and Singapore. He also has significant experience of working in the EdTech industry, including working as an Educational Software consultant for major companies such as Discovery and LEGO. Currently, he teaches coding in a London primary school and runs an innovation group supporting other schools.

THE  
QUESTKIDS®



in easy steps  
BOOKS FOR KIDS

# Coding with

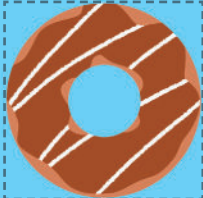
# HTML & JavaScript

Create Epic Computer Games

`y=y+3;`



`y=y+2;`



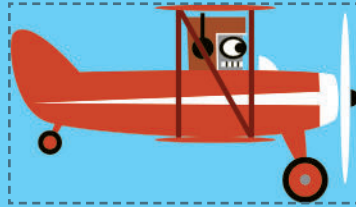
canvas



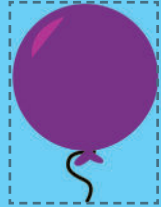
`<img>`



`src='plane.png'`



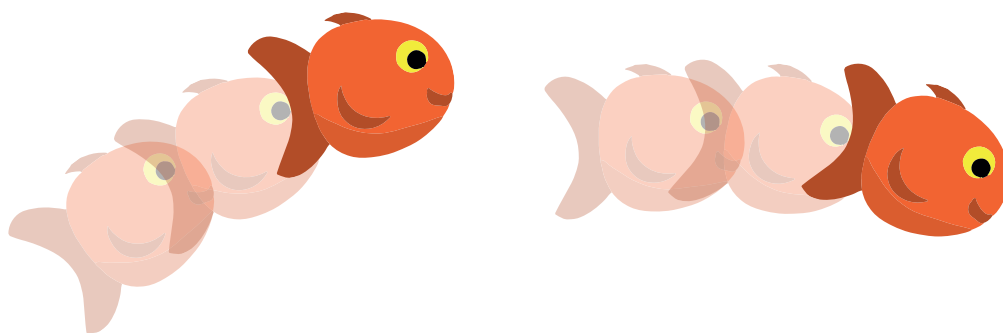
`height:90px;`



`y=y+1;`



Max Wainewright



## To create the games in this book you will need:

- a computer or laptop with a proper keyboard – an iPad or any other tablet will not work so well.
- an internet connection to download resources used in the book.

It is recommended that children should be supervised when using the internet, especially when using a new website. The publishers and the author cannot be held responsible for the content of the websites referred to in this book.

For further help and resources with this book, visit [www.maxw.com](http://www.maxw.com) or [thequestkids.com](http://thequestkids.com)

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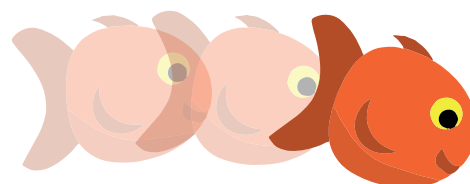
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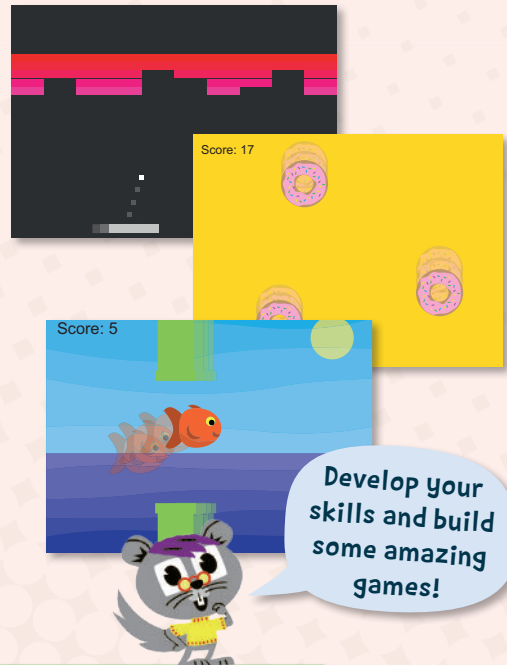


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# Getting Started

In this book you will learn how to create your own games using HTML and JavaScript. These are some of the coding languages used by professional game developers.

We will begin by getting images to move and making code run when they are clicked. Later, we'll find out how to control things with keyboard presses and how to run code repeatedly with timers. Variables will let us keep track of where things are and how many points players score. You'll learn how to import images and add sounds to bring your games to life!



Develop your skills and build some amazing games!

## 1 Find a text editor

You need a program called a text editor to type in your code. You may have one on your computer. If not then ask someone if you can download one.



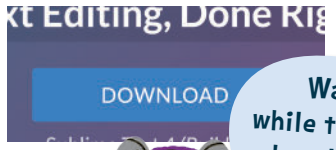
Open your web browser and go to [www.sublimetext.com](http://www.sublimetext.com)

We recommend Sublime Text, which is free to use.



## 2 Download it

Click the **DOWNLOAD** button at the top of the page.

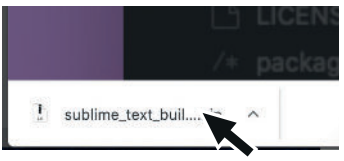


Wait while the file downloads.



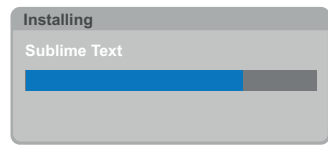
## 3 Run the download

Double-click the downloaded file to start installing the software.



## 4 Install the download

The software should now start to install on your computer.



Follow any steps shown on screen to get your text editor installed.

HTML stands for HyperText Markup Language.



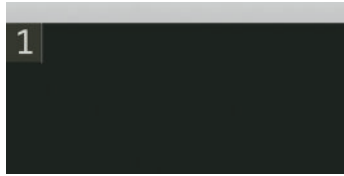
**HTML** was designed as a way of creating and linking together pages of information around the world. The first version of HTML was coded by Tim Berners-Lee.

# Saying Hello

## 1 Start a new HTML file

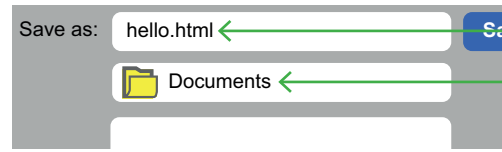


Open your text editor.



## 2 Save your file

Click **File > Save**.



Type in **hello.html** as the file name.

Browse to your Documents folder.

Save

Click **Save**.

## 3 Start coding

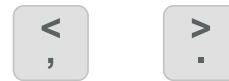
Type the first line of code.

```
1 <html>
```

Hold down the **Shift** key...



...and press these keys to get the symbols you need:



In HTML these are usually called **angle brackets**.

The colours change automatically to help you read your code.



## 4 Finish the code

Finish typing the code.

```
1 <html>
2   <h1>Hello</h1>
3 </html>
```

Start of the HTML.

Add a heading that says Hello.

End of the HTML.



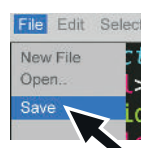
Press the Enter key at the end of each line.



## 5 Check your code

Look through your code and compare it with the code above. Check you have typed all the code and symbols in each line correctly.

## 6 Save



Click **File > Save**.

Keep saving your work regularly!



Now, your first HTML page is ready. Next, we need to find out how to view it.



## AUTO-COMPLETE

You might wonder why we saved the file before we start typing any code. This was to tell the text editor we are typing HTML.

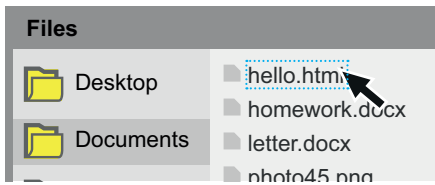
```
1 <html>
2 <h
   t h1
   t h2
   t h3
```

After you have made a few games you will start to remember parts of HTML. Auto-complete will help make sure your code is typed correctly.

# Viewing Your Page

On pages 4–5 you learned how to create a web page. Now, we will find out how to view the page. Like all HTML pages, we will do this with a web browser.

## 1 Open your Documents folder



Open your Documents folder and double-click the **hello.html** file.

## 2 View your page



Your web page should appear, looking like this. Congratulations!



Don't worry if it isn't working yet.

## ! Check for errors

If your page doesn't work then go back and check your code carefully.



Make sure you typed the code exactly as shown. Check you have typed the `<`, `>` and `/` symbols correctly.



Then, save your page in the text editor again, and refresh your web page.

## 3 Make some changes

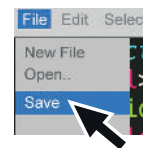
Go back to your text editor and try changing your code.

```
1 <html>
2   <h1>Hello everybody!</h1>
3 </html>
```

*Add some more text to the code. Make sure it still ends correctly.*

## 4 Save your file

Click **File > Save**.



## 5 Refresh



Click the **Refresh** button in your web browser.

## 6 View the changes



The changes should show up in your web browser. If it doesn't work, go back and check your code very carefully.



Repeat Steps 3 to 6, practising making more small changes.

# HTML & JavaScript

So far, we have made a simple web page using HTML. HTML is a language that can put things on a web page. To make the things on a web page move around, we need to use another language called JavaScript. These two languages are used together to make online and mobile games.



Here are some of the things we'll be using JavaScript to do.



## Timers

We will use timers to repeat sections of code up to 100 times every second.



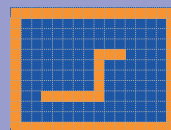
## Mouse listeners

These can make code run when something is clicked or the mouse is moved.

score=5

## Variables

These will keep track of things like the score in a game or the coordinates of an image.



## Canvas

This is a special HTML object that JavaScript can draw images and shapes on.



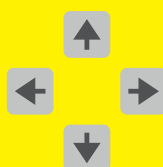
## Random numbers

So games are different each time, we will use code to move images to random places.

moveIt ()

## Functions

Functions are a way to reuse sections of code, and keep it organised and easy to read.



## Keyboard listeners

These make code run when a particular key is pressed.

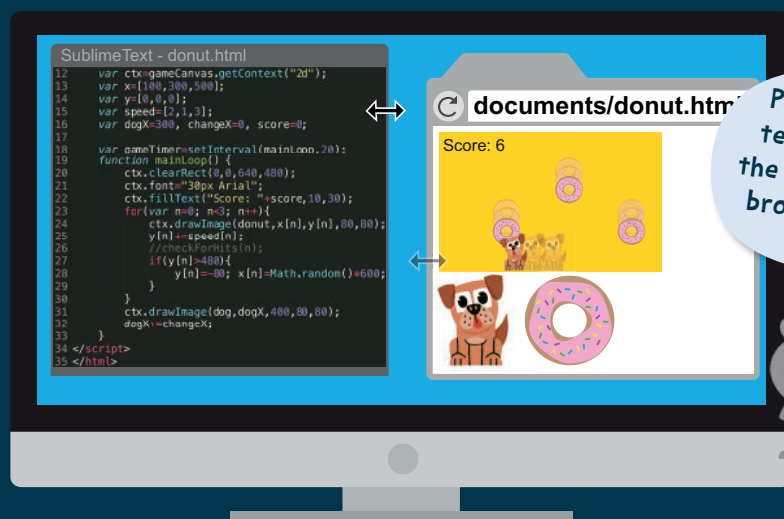


## Sound

Audio elements can load sound files. JavaScript makes these play with code.

## ARRANGING YOUR SCREEN

It's useful to be able to see your code and the web browser at the same time. That way, you can make changes to your code and easily see the effect. If your screen is big enough, you should try to arrange your screen like this:



Position your text editor on the left and your browser on the right.

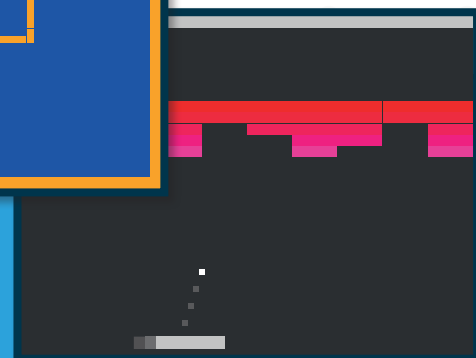
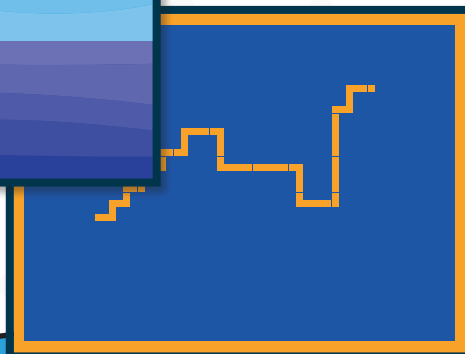




The QuestKids® series is designed to make learning fun!  
Let the two best friends along with their pets inspire  
you to make learning fun.

Using the proven approach of learning **in easy steps**, this guide is:  
• Easy to follow • Fully illustrated • Packed with tips

Learn the basics of making games  
with HTML and JavaScript – programming  
languages used by professional game  
developers. Step-by-step, this book will  
guide you to create your own  
epic computer games.  
Ideal for coders with some  
experience, wanting to  
take their  
coding to the  
next level!



Inspiring  
games to code  
plus challenges  
and mods.



You'll learn how to:

- Use HTML & Javascript to code a series of games
- Make images move and respond to keyboard presses
- Draw objects on the HTML canvas, and use variables and timers
- Import images and add sounds to personalise your projects
- Develop your skills and build some amazing games!

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