

Coding in HTML with Intel and CoderDojo

A guide to delivery



Introduction

This project is the first of three that have been produced to help you, and your students, master coding in HTML5, CSS and JavaScript. Each project is presented as a challenge – Intel and CoderDojo have provided code for a Piano App that has bugs in it. The task is to fix the bugs and turn the app into a game.

By the end of this first module, students will have sufficient knowledge of HTML to fix one of the bugs. The second bug can be fixed at the end of the second project in the series, which focuses on CSS. In the third project, students learn JavaScript and add a scoring feature to turn the app into a game.

We have produced an e-learning module that has a set of video tutorials provided by Intel's Steve Cutler that introduce over 20 HTML tags to students with examples of how they are used to create various features within a web page. By the end of the e-learning module, students will have learned enough tags to produce a webpage with headings, text, images, a table, lists and an audio player. They will also have the skills to fix the bug in the Piano App code, which is available for download from the website.

Earning Open Badges for work on this project

The Tech Partnership Badge Academy is directly aligned to the TechFuture Classroom. You can find the Badge Academy by clicking on the Badges link at the top of the Learning Hub window.

Within each TechFuture Classroom project, there are between 2 and 6 badges available for students to earn for the work they complete within the projects. In this HTML5 project, there are three available badges:

HTML Coder – students receive this badge for working through the e-learning module and reaching the end. This badge is automatically verified ¹– the platform recognises when the student has completed the module.

HTML Debugging – students receive this badge for working through the associated e-learning module (HTML5 Debugging Open Badge) and achieving a pass mark. This badge is automatically verified.

Webpage Coder – students receive this badge for building a webpage from HTML5 code. This badge is awarded when teachers verify completion of this task. If you wish your students to attempt this badge, we will provide you with the code the student needs to insert into the platform to gain the badge. Email sue@thetechpartnership.com to receive the code. *Note, this code*

¹ Badges with a red icon are verified automatically by the platform for completion of e-learning.

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is changed monthly to ensure students are not sharing the code between them! The criteria that students need to meet to gain this badge are shown at the end of this document.

Resources provided

On the course page, there is a bank of resources underneath the e-learning modules that scroll using the arrows at each end of the row. You are provided with the following resources:

- > The e-learning module which students can work through individually in the classroom or at home
- > Information on how to download Notepad++
- > Placeholder text for students to use on the activities
- > Downloadable code for the Piano App
- > A guide to downloading and using the code
- > A video by Steve Cutler showing students how to fix the problem in the Piano App code embedded in the HTML Debugging Badge e-learning module
- > Student Log in both MS Word and PDF versions – this includes a ‘Tag Table’ that students complete as they learn about each tag and how it is used in the code.
- > Copyright free images for student use
- > Copyright free MP3 tracks for student use

Steps in the e-learning content

The following table shows the steps in the e-learning and the HTML tags introduced.

Steps in the e-learning content	Resources
Writing HTML5 in Notepad++, downloading the software, watching Steve start using Notepad++ and using the break, body and html tags	Downloading Notepad++
Understanding and using tags, introduction to formatting tags for heading, bold, italics	Placeholder text
Inserting images into HTML5 using the image tag and ensuring they appear underneath one another	Copyright free images
Inserting hyperlinks in HTML5 using the anchor tag (<a>)	
Creating a table in HTML5, specifying number of columns and rows	.
Adding lists to the web page using the ordered list, unordered list and list item tags	
Adding input fields and buttons to a page so users can add information to the web page	
Dividing up a web page with the <div> tag	
Adding audio to your web page, using provided MP3 tracks	Copyright free MP3 tracks
Adding a head section and title to the web page using the tags <head> and <title>	



Timings for delivery

TechFuture Classroom projects are built for flexibility and different ways of use.

Students can work through the e-learning, with Notepad++ open, completing each coding activity and taking the required screenshots and adding them to the Student Log as they progress. It is likely that this method of delivery will take a minimum of three (50 minute) lessons for completion, including some homework tasks.

Students could also work through the e-learning without building the code, just gaining knowledge of the way HTML5 works, and what the tags do, without using Notepad++. Whilst we do not recommend this way of delivery, it would reduce significantly the time needed for this project to be completed. Students could complete the e-learning this way in one lesson, with homework. They would also be able to gain the **HTML Coder badge**.

Fixing the code (and to earn the **HTML Debugging badge**) would take another lesson.

For keen students, they can code their own website (and earn the Website Coder badge) which could be a homework task or project. You would be required to verify their completed website against the criteria below to award this badge, giving successful students the code to upload to the platform to gain the badge.

Note, for individual award of badges, students must be logged into their own account.

Flipped classroom delivery

It is possible to use TechFuture Classroom projects for flipped classroom delivery. When students have their login details, they can access the platform at any time from home and school. Students could complete the e-learning at home, and apply their new knowledge of HTML5 tags and syntax in the classroom. All that would be required in class would be Notepad++ to build the code.

Criteria for the Website Coder Badge

To gain the Website Coder Badge, you will have seen a student use HTML5 code to create a web page that has all of the following features:

- 1 Headings in bold, separated paragraphs of text
- 2 Images that appear underneath each other, rather than side by side
- 3 A hyperlink to an external website that is suitably presented
- 4 Either a table or an ordered list of items
- 5 A field for user input of name and address or other relevant information
- 6 An audio player that is able to play one or more MP3 tracks

The site should also have a theme that incorporates the above features sensibly (that is, the table or ordered list fits with the page theme).

When a student completes this task and you are happy with the quality of work, you can issue the code for the student to enter into the platform for badge awarding.

If you have questions or queries about this project, contact learning@thetechpartnership.com and we will do our best to respond within 48 hours.