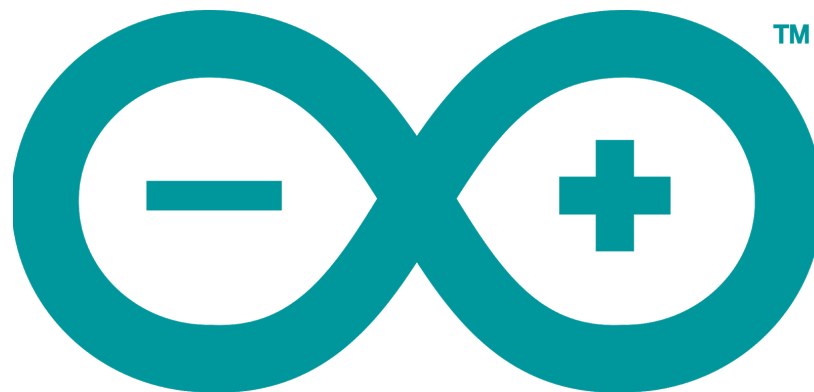
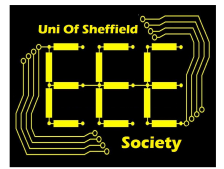




The
University
Of
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Arduino Labs

Session 5

Design Challenge 1

Introduction

In this and the following session you will have the chance to work on a program in order to complete a design challenge that I am about to set for you! This challenge is a chance to use and hone the skills you have learnt over the previous sessions. Of course you will also be able to use this time to ask questions and discuss other parts of Arduino!

The Design Challenge

I am purposefully making the design challenge open ended to allow you to use your creativity! Try and think of an interesting project you could complete using the LED Matrix Display. Is there a way it is used in the real world that you could replicate? Do you have a problem in your daily routine that you could solve with it?

There is a prize, so in order to guide you I will be judging against the following criteria:

1. Creativity \Rightarrow Can you think outside the box and use the LED Matrix in an interesting way?
2. Technical Knowledge \Rightarrow Can you use the constructs we have covered in the previous sessions to implement your code in an efficient and effective manner?
3. Code Style \Rightarrow Is your code readable and maintainable? Have you used functions? Have you commented the code?

So. What are you competing for? It seemed only fitting that the prize for an Arduino Design Challenge would be an **Arduino Kit!**



Hopefully the winner of this kit will be able to use it to further their understanding of Arduino and build some brilliant projects with it! If you want to truly learn programming then the best thing you can do is to get as much experience as possible. **That means doing as many projects as possible!**

Remember that you can ask questions during the sessions and get help whenever you need it! The demonstrators are here to make sure you understand the software and hardware.

Time Constraints

You will be given this session and the next session to work on the project. If you would like to work on the project in your own time between Session 5 and 6 then you are welcome to do so. Judging will take place towards the end of Session 6 so make sure your project is ready for then!

Some Inspiration

If you are looking for some inspiration here are a few projects that have been made using Matrices of Neopixels similar to yours:

[Tetris on a Neopixel Matrix](#)

[3D Compass using Neopixels](#)

[Raspberry Pi Blinky Display](#)