

**Internet of Things Project 1**

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**Course:** BSc in Computing L8

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**Project Title**: Turn on/off led with browser

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**Background / Introduction:**

This is a very simple project to turn on/off led with browser. It has some challenges. From my friends I got the motivation for this project, as they did their project in fourth year to turn on/off fan with the cell phone. This idea really amaze me and I also saw so many project like this on tembo library and on the website msdn so I also thought that I will do something similar to this, but the problem was that all the projects were looking very complex and I was not sure that this will work for me so I talked to my lecturer. After talking to her, I decided to go with this project but on a small level so made it in two parts, so in first part of my project I will show the turn on/off light with browser.

**Requirements:**

I used Trello Board to do the requirements as it’s easy to use and it its saves all my progress.

Here this is a link to my Trello Account.

<https://trello.com/b/97pCOttP/arduino-project-part-1>

**Methodology:**

Firstly I had to make web browser so I revised my web design notes from semester 1 and made it. Then I had to connect pc with the Arduino to run the bridge sketch to turn on/off led. I reread my rest lecture from Moodle where I found a good information to run bridge sketch. It took a lot of time to connect Arduino as we just have two hours class but after a lot of trials complete this step. After the bridge sketch is working now I have to think about how to link Arduino to web browser.

I put the link inside the form to make a connection between Arduino and browser. Link was working, led was turned on/off with the link but I couldn’t figure out how to insert the link inside the on/off buttons. This is where I badly stuck so I saw so many tutorials but they were not related to my project as they were for very complex projects. I got too much confuse so I talked to my friends who had same kind of project but it’s not worked for me as they use raspberry pi and made socket to connect.

Then I talked to one of my classmate about it and got some information. Our whole class had quite similar projects so we help each other. So then I again start my research, after a lot of struggle I found that I was doing mistake, I made select buttons and we can’t insert links in select buttons so I have to make link button on html and style them on css, by doing this way both on/off buttons will working with the links and led will turned on/off with them. Now all I had to do the practice again to get more familiar with this project and then will demonstrate in class. At this point I had meet all the hardware and software requirements, I just need some extra time with Arduino boards. I track all my progress in Trello board.

**Success Criteria for Project Completion:**

I know that I have met the requirements for my projects as at the end led light is turning on/off with the browser. I did everything step by step as I explained everything in above heading by following my project layout on Trello board. It helps me to do everything quite smoothly.

**What were your main learnings in implementing this project?**

From this project I had learn so many things as this project involves so many little things but the main thing that I learn from this project to get more comfortable with Arduino Boards and now I can do so many things with these boards quite easily.

This is a small project after this I have to do the big one so then I will use my knowledge from this project such as I will connect to the Arduino same way, will use the same form that I made for this with the little adjustments, run the bridge sketch but this time I will deal with the cell phone instead of browser. So this small project will help me to do the big project.

**References:**

I used these two resources to search for my project and get some idea to do the project.

<https://temboo.com/library/>

<https://msdn.microsoft.com/en-us/internetofthings.aspx>

Except them I haven’t use any particular resources to complete my first part of the project because all the tutorial I had seem they were not related to my project as they were quite complex. I did web design in first semester so I have the knowledge to make the web form. I used my semester 1 notes and made web browser for my project. I used bridge sketch to turn on/off light. I knew about running bridge sketch as in our module internet of things one of our lecture was based on rest so I used lecturer notes from Moodle ([https://it**sligo**.ie/student-hub/student-on-line-services/**moodle**/](https://itsligo.ie/student-hub/student-on-line-services/moodle/)) for further information. And the last thing that wherever I got stuck, to insert link in on/off buttons so here I did a lot research and these two websites were quite useful.

[www.w3schools.com](http://www.w3schools.com)

getbootstrap.com/css/

Here I found how to make link buttons on forms and then style them on css.