

Web Project Structure

Motivation

- Maintaining a coherent and consistent structure significantly simplifies the management and evolution of the web project
- Every type of file having its place simplifies decision making and keeps the project from becoming chaotic and error prone

```
iot-web-ejs
├─ harp.json
├─ public
│   ├─ assets
│   │   └─ images
│   │   ...
│   └─ includes
│       ├─ _curriculum.ejs
│       ├─ _footer.ejs
│       ├─ _header.ejs
│       ├─ _sponsors.ejs
│       └─ _summary.ejs
├─ index.ejs
├─ strands
│   ├─ _layout.ejs
│   ├─ data.ejs
│   ├─ devices.ejs
│   ├─ maths.ejs
│   ├─ networks.ejs
│   ├─ programming.ejs
│   └─ project.ejs
└─ style.css
```

Project Structure

- harp.json
- public
 - assets folder
 - includes folder
 - other content folder(s)
 - index.ejs
 - style.css

```
iot-web-ejs
├── harp.json
├── public
│   ├── assets
│   │   └── images
│   │   ...
│   ├── includes
│   │   ├── _curriculum.ejs
│   │   ├── _footer.ejs
│   │   ├── _header.ejs
│   │   ├── _sponsors.ejs
│   │   └── _summary.ejs
│   ├── index.ejs
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│   │   ├── _layout.ejs
│   │   ├── data.ejs
│   │   ├── devices.ejs
│   │   ├── maths.ejs
│   │   ├── networks.ejs
│   │   ├── programming.ejs
│   │   └── project.ejs
│   └── style.css
```

harp.json

- Required for Harp server
- Can be use to store information available to the web pages
- We will leave blank for the moment

```
{  
  "globals":  
  {  
  }  
}
```

public folder

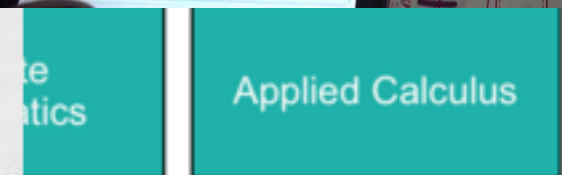
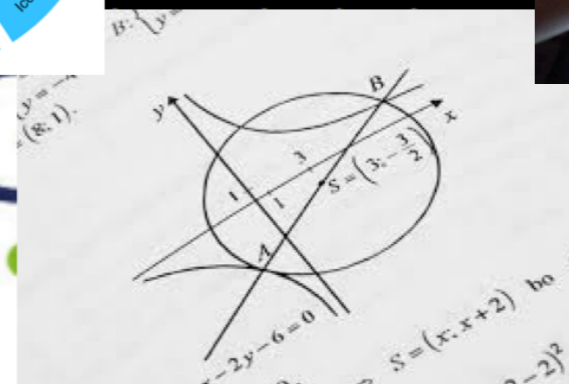
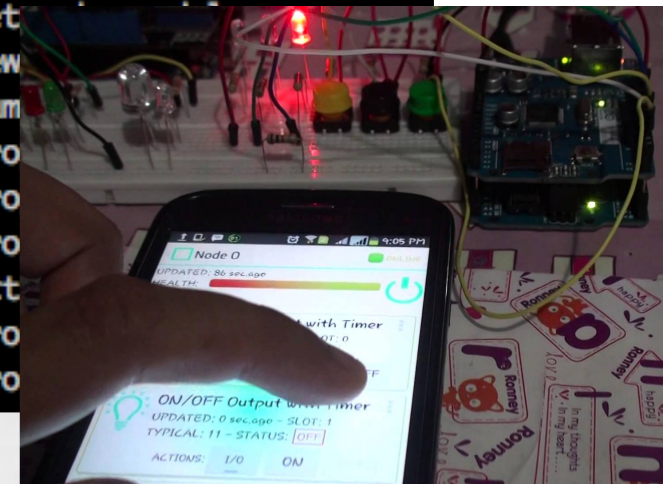
- All of our project files must be in the public folder.
- If we were building an web application (as opposed to a web site), then other folders would be required in addition to public

```
iot-web-ejs
├─ harp.json
├─ public
│  └─ assets
│     └─ images
│     └─ ...
├─ includes
│  └─ _curriculum.ejs
│  └─ _footer.ejs
│  └─ _header.ejs
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│  └─ _summary.ejs
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│  └─ maths.ejs
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│  └─ programming.ejs
│  └─ project.ejs
└─ style.css
```

Assets folder

- Contains all 'read only' files for your project. i.e. files you will not edit or modify
- Typically:
 - images
 - css libraries
 - js libraires

```
assets
├── images
│   ├── automotive.png
│   ├── banner.jpg
│   ├── ctrg.png
│   └── iot
│       ├── data
│       │   ├── data-1.png
│       │   ├── data-2.jpeg
│       │   └── data-modules.png
│       ├── devices
│       │   ├── devices-1.png
│       │   ├── devices-2.png
│       │   └── devices-modules.png
│       ├── maths
│       │   ├── maths-1.png
│       │   ├── maths-2.jpg
│       │   └── maths-modules.png
│       ├── networks
│       │   ├── networks-1.jpeg
│       │   └── networks-1.png
│       ├── net
│       ├── new
│       ├── program
│       ├── pro
│       ├── pro
│       ├── project
│       ├── pro
│       └── pro
```



Includes Folder

- Reusable ‘fragments’ of pages
- Deliberately given the “_” prefix (explained later)
- These templates can be imported to other pages via the ‘partial’ statement

```
├── includes
│   ├── _curriculum.ejs
│   ├── _footer.ejs
│   ├── _header.ejs
│   ├── _sponsors.ejs
│   └── _summary.ejs
```

Department of Computing & Mathematics
BSc (Hons) the Internet of Things



Waterford Institute of Technology
INSTITIÚID TEICNEOLAÍOCHTA PHORT LÁIRGE

Programming

Learn a broad range of programming and problem solving skills, including exciting new platforms.

Networks

This strand will explore modern networks and cloud technology. Be able to configure, network and

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At the heart of many IoT applications is data: measurements, events alarms and other information that must be relayed, stored and ultimately turned

programme. Your projects will combine skills acquired from the other strands and enable you to build a comprehensive an compelling portfolio of IoT

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Devices

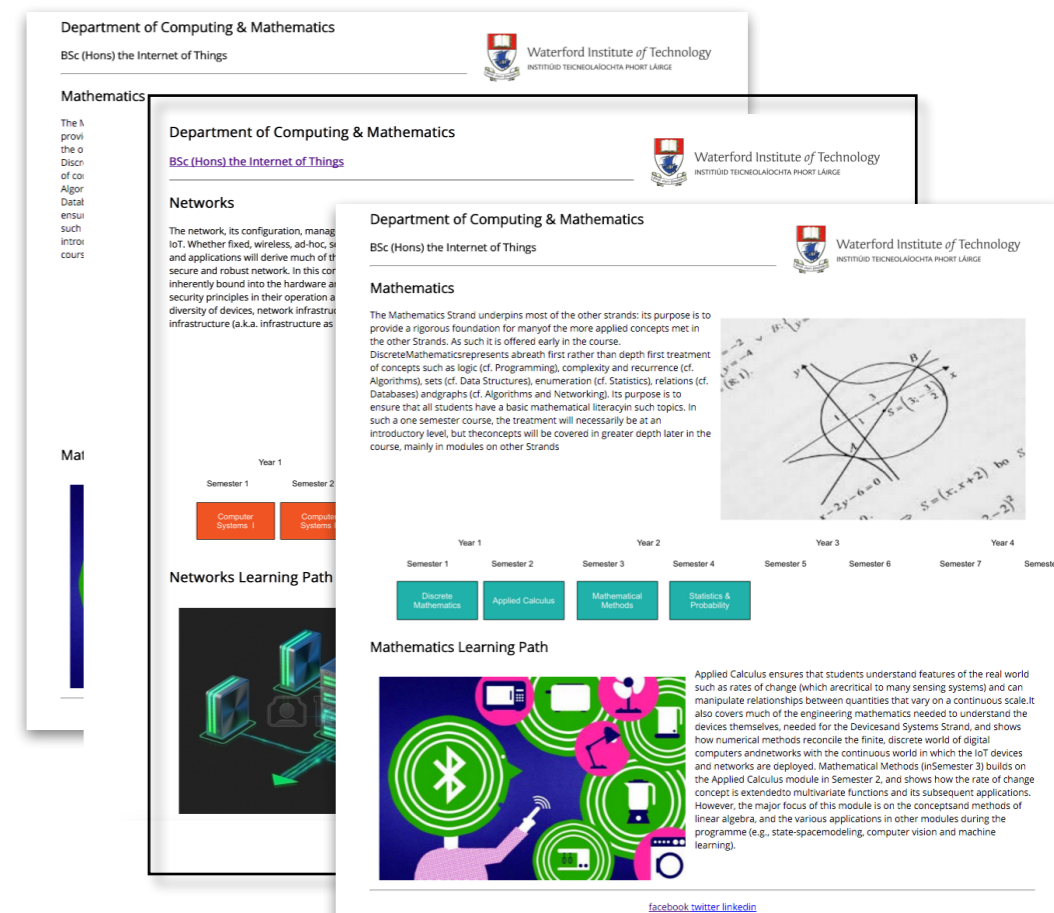
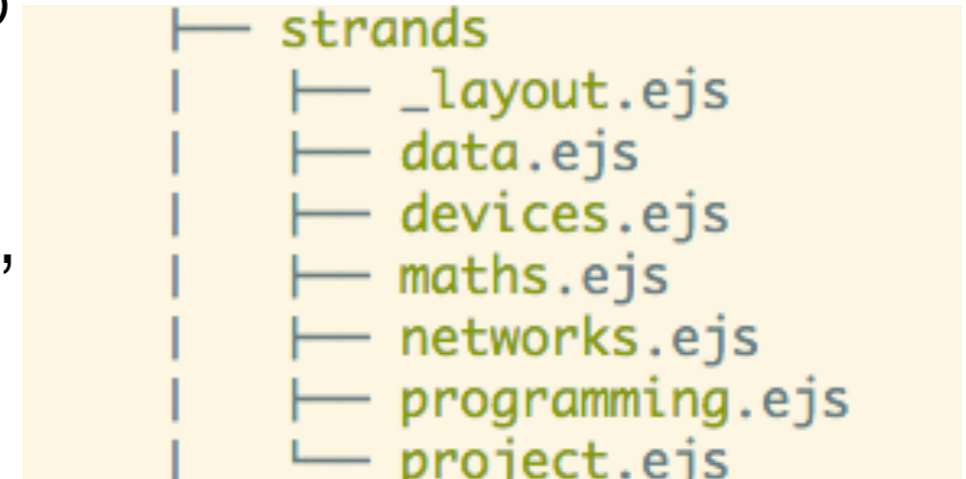
The 'Things' we connect to are often physical devices. These can range from simple temperature sensors to sophisticated control systems like traffic lights or cameras. Connecting to and interacting with the physical world is the subject of this strand.

Mathematics

Introduce foundation concepts for many of the more applied concepts in the other Strands. Learn mathematical techniques in a modern context and apply core principles in new an interesting ways.

Other Content folders

- Groups related parts of your content into folders
- These can share a common “_layout.ejs”
- ‘strands’ is a name selected for the IoT web site
- your project should select a different appropriate folder name
- You may have more than one such folder



index.ejs

- The “Home” or “Start” page
- Must be called index.ejs (not home)
- Will be the default page loaded when the site is deployed

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Programming
Learn a broad range of programming and problem solving skills, including exciting new platforms, software tools and languages. Use these skills to build apps for mobile, cloud and device based IoT applications. Evolve a portfolio of fascinating applications.

Data Science
At the heart of many IoT applications is data: measurements, events alarms and other information that must be relayed, stored and ultimately turned into knowledge. Learn the fundamentals of modern approaches to data in this strand.

Devices
The 'Things' we connect to are often physical devices. These can range from simple temperature sensors to sophisticated control systems like traffic lights or cameras. Connecting to and interacting with the physical world is the subject of this strand.

Networks
This strand will explore modern networks and cloud technology. Be able to configure, network and manage all categories of computer systems from simple controllers to single board board computers, mobiles and full workstations.

Project
Building exciting IoT projects in every semester of the programme. Your projects will combine skills acquired from the other strands and enable you to build a comprehensive an compelling portfolio of IoT applications and services.

Mathematics
Introduce foundation concepts for many of the more applied concepts in the other Strands. Learn mathematical techniques in a modern context and apply core principles in new an interesting ways.

Supported by leading edge research at...

TSSG
c t r g
convergent technologies research group
AUTOMOTIVE CONTROL GROUP
Software Engineering for the Connected Car

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index.ejs

style.css

- The main stylesheet for your site
- You may have additional stylesheets in certain circumstances

```
body {
  max-width: 80%;
  margin: 0 auto;
  font-family: 'Open Sans';
}

.header-crest-img {
  float: right;
  margin: 1em;
}

.footer-social-links {
  text-align: center;
}

.footer-img {
  height: 90px;
}

.strand-right-img {
  float: right;
  margin: 1em;
  height: 350px;
}

.strand-left-img {
  float: left;
  margin: 1em;
  height: 350px;
}

.strand-timeline-img {
  height: 80px;
}

.strand-modules-img {
  height: 75px;
}

.strand-modules-double-img {
  height: 150px;
}

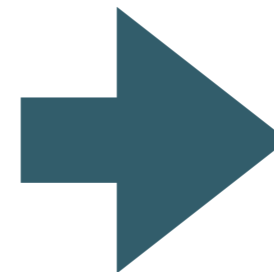
.strand-modules-treble-img {
  height: 310px;
}
```

└─ style.css

Compiling pages

- “harp compile” command will generate a ‘build’ of the web site in **www** folder, replacing all templates with a generated static version of the site
- Useful for deployment...
- .. although not necessary for surge, as the surge service includes an ejs template engine

harp compile



```
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│  └─ assets
│     └─ ...
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│     ├── devices.ejs
│     ├── maths.ejs
│     ├── networks.ejs
│     ├── programming.ejs
│     └─ project.ejs
└─ style.css
├─ www
│  └─ assets
│     └─ images
│     └─ ...
│  └─ index.html
│  └─ strands
│     ├── data.html
│     ├── devices.html
│     ├── maths.html
│     ├── networks.html
│     ├── programming.html
│     └─ project.html
└─ style.css
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