

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.son
- 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
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    │   └── _summary.ejs
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    ├── strands
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    │   ├── devices.ejs
    │   ├── maths.ejs
    │   ├── networks.ejs
    │   ├── programming.ejs
    │   └── project.ejs
    └── style.css
```

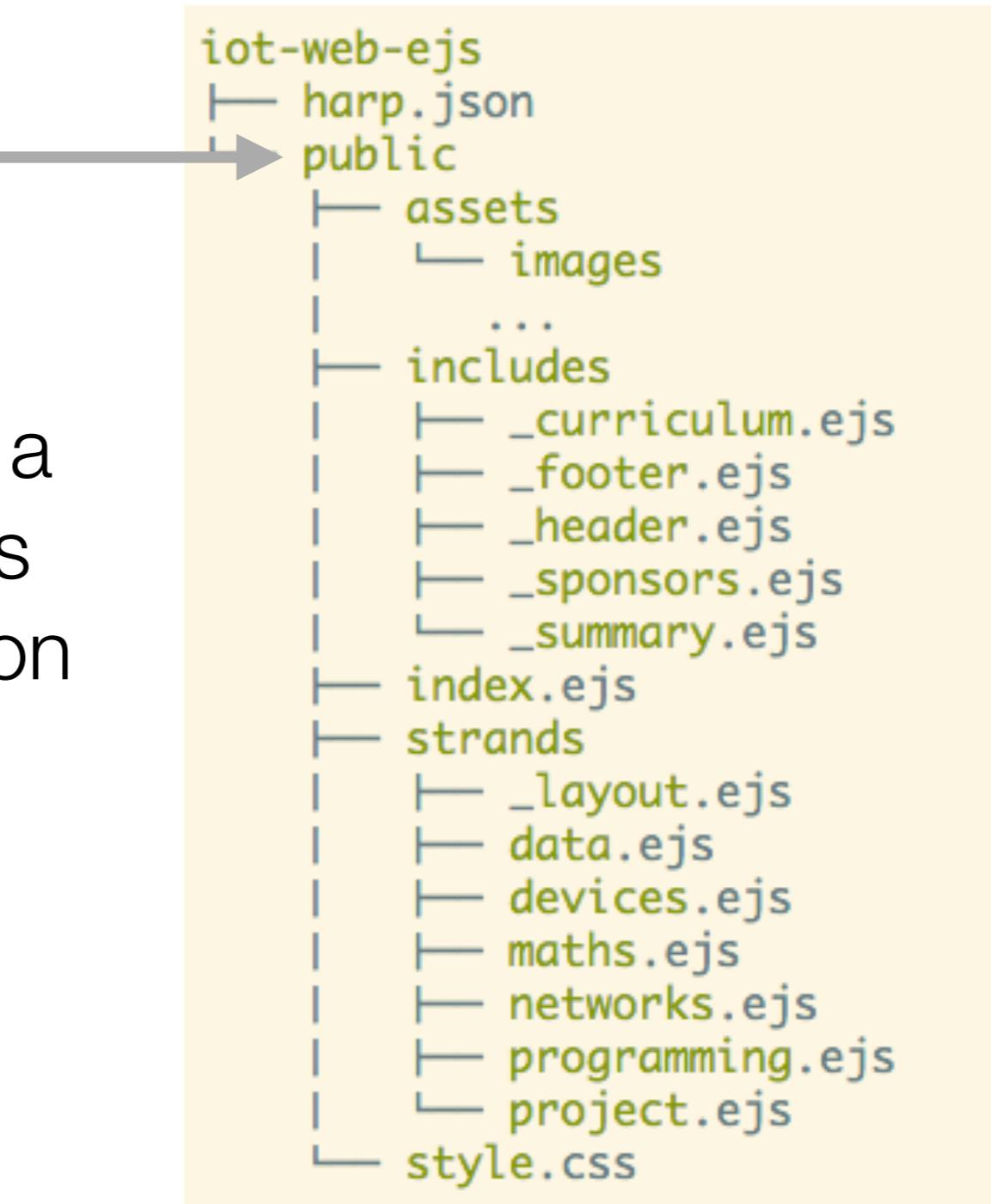
harp.json

- Required for Harp server
- Can be used 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

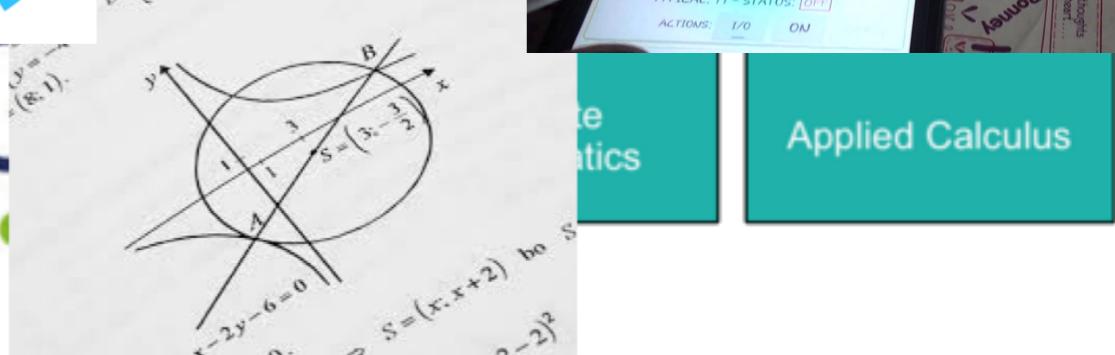


Assets folder

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

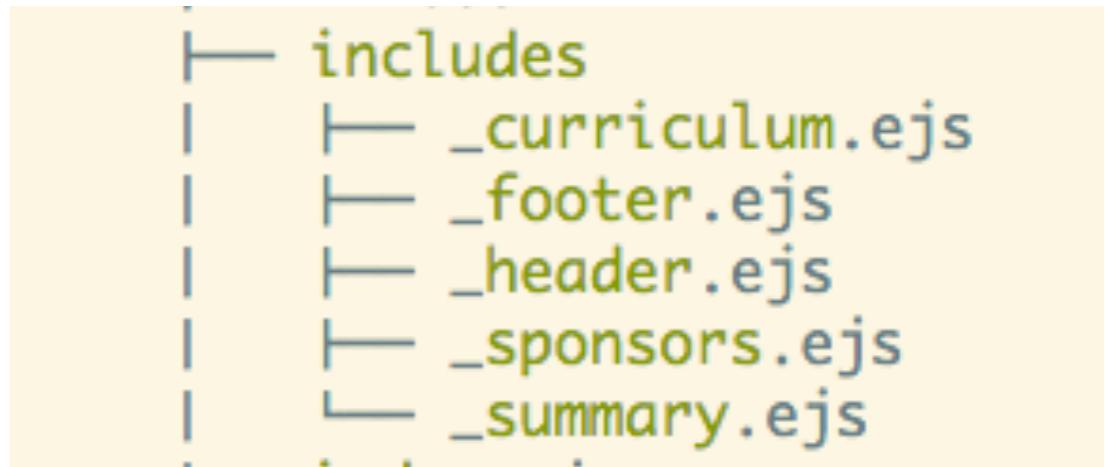


TSSC



Includes Folder

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



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[Networks](#)

This strand will explore modern networks and cloud technologies. 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 and compelling portfolio of IoT

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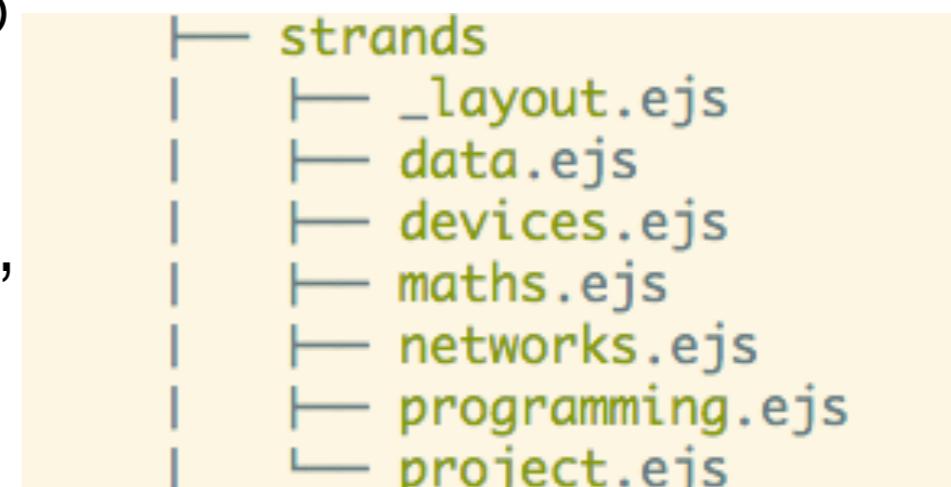
Introduce foundation concepts for many of the more applied concepts in the other Strands. Learn mathematical techniques in a modern context and apply core principles in new and interesting ways.

[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.

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



The screenshots show the following content:

- Mathematics Learning Path:** Describes the Mathematics Strand, which underpins other strands. It covers Discrete Mathematics, Applied Calculus, Mathematical Methods, and Statistics & Probability across Years 1-4.
- Networks Learning Path:** Describes the Networks Strand, which covers network configuration, security, and robustness. It includes a diagram of a 3D coordinate system with a sphere and various planes labeled with equations like $x^2 + y^2 + z^2 = 1$, $x - 2y - 6 = 0$, and $S = (x - x_0)^2 + (y - y_0)^2 + (z - z_0)^2 = r^2$.
- Computer Systems Learning Path:** Describes the Computer Systems Strand, which covers topics like Data Structures, Algorithms, and Networking. It includes a diagram of a computer system with various components.

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.

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 computers, mobiles and full workstations.

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.

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 and compelling portfolio of IoT applications and services.

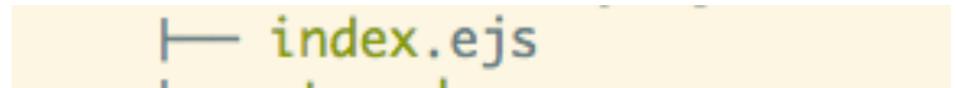
Mathematics
Introduce foundation concepts for many of the more applied concepts in the other Strands. Learn mathematical techniques in a modern context and apply core principles in new and interesting ways.

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TSSG
convergent technologies research group

ctr g
AUTOMOTIVE CONTROL GROUP
Software Engineering for the Connected Car

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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

harp compile

- Useful for deployment...
- .. although not necessary for surge, as the surge service includes an ejs template engine

