# What should we discuss this week?

* Imports and modules
* Temperature Check
* CORS errors
* Your final project and what is expected
* 37 Project ideas

# Imports and modules

Still struggling with modules and imports? This might help. I love minimalist examples

<!DOCTYPE html>  
<html lang="en">  
<head>  
 <title>Basic Math</title>  
</head>  
  
<body>  
<script type="module">  
 // this code works great  
 // first of all the script block specifies that it is a module.  
 // Hence it knows about cool stuff like import  
 import { sqRoot, getUrlVar } from './basicMath.js';  
 let ***num*** = getUrlVar('num'); // get the value of the URL param: **num**

if (typeof num === 'undefined') num = 137; // default to 137  
 let ***ans*** = sqRoot(***num***); // calculate the Square Root  
 ***console***.log(***ans***); // log to console  
 // push to the web page for fun

***document***.body.innerText = `The square root of ${***num***} is ${***ans***}`;

</script>  
<script>

// after you have seen that the sqRoot code below does not work.  
 // console.log(**num**); Uncomment this line  
 // you will see that the variable num is also not visible between script blocks either  
 // it is as if the script tag inserts an opening and closing set of curly braces around the code,  
 // thus scope blocking everything in the tag  
  
 // looking in the console you will see that this code does not work

// What are your thoughts on why that is?

// it seems like if we imported the file from above it would still be visible  
 // but that is not how modules work. The SCOPE of the imports is just in that script tag  
 let ***ans*** = sqRoot(441); // sqRoot is undefined. We cannot get past this point  
 ***console***.log(***ans***);  
 ***document***.body.innerText = `The square root of 441 is ${***ans***}`;  
</script>  
</body>  
  
</html>

basicMath.js

// basic utility function  
// return the square root of a number  
export function sqRoot (num) {  
 return ***Math***.sqrt(num);  
}  
  
// this is something fun I just picked up  
// My hate for alert messages knows no bounds  
// now I can add some input variables to the path URL to pass in to my code  
// ?num=100&name=Brigham Young University-Idaho&message=today is a good day!  
export function getUrlVar(pathVar) {  
 let vars = {};  
 ***window***.location.href.replace(/[?&]+([^=&]+)=([^&]\*)/gi,(m,key,value) => vars[key] = value);  
 return vars[pathVar];  
}

Above you see two script tags**. In the first script block** you have a working example of the import statement. The tag specifies the required **type=”module”**. Inside the tag you have the import of a function from basicMath.js and we use the sqRoot function as expected.

**But in the second script block** it all begins to fall apart. Your editor MIGHT show the color of the sqRoot function is a sad gray where it is a happy bright color in the top script block. (last semester that was the case with WebStrom, but I see now it shows a regular function color) Already the editor is communicating to you that it does not recognize the sqRoot function. That is because we are in a new block of code and the scope has changed. The import is limited to the block it is imported into. While your editor might not be showing this syntax color change the browser console will inform you that sqrRoot is not defined.

I added a fun little piece of code I found this week. It will extract the URL parameters and let me use them in my app. As I detest!!! Alert messages, this allows me to add params to the URL and use them in my code. Add **?num=42** to your url and you’ll see the square of 42 displayed on the page.

I hope that helps. I had problems myself with import until I understood this concept of Scope as implemented with the script tag.

# CORS Errors

These crop up occasionally, especially when you are picking up someone else’s code. My primary browsers are Safari and Chrome. For Chrome I have added an extension

**Moesif Origin & CORS Changer**

This one is actually more popular: **Allow CORS: Access-Control-Allow-Origin**

Experiment with both and see which works best for you.

For Safari go to the Develop tab and Disable Local File Restrictions

Graphical user interface, text, application

Description automatically generated

Here is a very nice discussion on CORS. <https://www.moesif.com/blog/technical/cors/Authoritative-Guide-to-CORS-Cross-Origin-Resource-Sharing-for-REST-APIs/>

# Temperature Check

How is everything going? Make sure you are doing the examples. Some of them are just cut and paste. That is important to get the muscle memory going. But after you do the simple examples expand them on your own. Make the code your own. Add some variations. Just a few at a time. If you take too big of a step and it breaks, then you have 5 things that changed, and you don’t know which one was the culprit. Small incremental changes are your safest bet. Bounce ideas off of your team members, do code reviews if you get stuck. And as a last resort give me a holler!

No team activity this week. Use the time to make sure you are up to speed on all of the previous topics. And take a deep breath, make yourself a root beer float.

# Time to start thinking about your final project

I am sharing some projects from previous semesters this week. These examples are all over the place. Some simple, some complex. When you create your project surprise me! I can accept almost any idea. If you want to do a to-do app, then blow out the windows! If you want to do a concentration game, then do it with style and panache. I do not expect a terribly complex app. But I do expect something that required an investment of time and your talent. Consider something you could reference in a job interview. This class has been about front end web development. You should be joining multiple coding topics into a single app. AJAX, LocalStorage, Events, CSS, modules, import/export, high order functions (filter, map, reduce). Each individually is very basic. Bringing them together in a symphony of integrated code makes a statement. I encourage you to make a statement with your code.

You will notice the lack of a rubric for this final project. Since the department does not supply one, I use this to grade the project.

Project is worth 100 points (51% of your grade, so pay attention)

**Meaningful usage of the following topics**

30% Third party APIs

More than a wimpy Chuck Norris API is not going to cut it (<https://api.chucknorris.io/jokes/random>). There are MANY great APIs for weather, travel, sports, NASA, movies, music, Anime, search, GPS, maps. Check out <https://rapidapi.com/marketplace>. I expect an API should return a good rich JSON result set. Something with an array you can iterate through. Weather for the next 8 days, 10 matching movies, song list for an artist, books from an author, pictures from a Mars rover, sports scores. BTW, if you do this you will also get the points for JSON and it is impossible to do a good job here without some serious JavaScript. APIs+JavaScript+JSON and you already have 80% of the points!!

30% JavaScript

I expect some honest logic going on here. Validating the screen data, looping through an array of JSON data to display to the screen, creating and using events, changing element styles with JS, changing element classes to use different CSS rules.

25% CSS

Use Transforms to round the edges of your input fields, add shadows. Use Transitions to enlarge an input field on focus, and shrink it on blur, wiggle an input field when bad data is entered. Add borders. Don’t go overboard. CSS should subtly add style to a page, not whack you over the head.

20% JSON

JSON is the *lingua franca* of our time. Don’t use it at your peril.

15% Events

Use events to enhance the user experience; increase the size of the input field on focus or add a shadow. React to a button click. Initialized the page with data once the onload event triggers.

If you have CSS rules for pseudo-state-selectors (hover, focus, checked, after, before) I’ll recognize these as events as well.

10% LocalStorage

LS is a nice to have. By design it is local to current device. It is not available as you move around from phone, to tablet, to laptop. But it is nice to know how to implement. It can add value to an app to remember the user from their last visit. Not a lot of points but fairly easy to add to an app.

Yes, this adds up to more than 100%. You can get 90%+ without using APIs. But you can see how biased this is towards using them. They are extremely useful and are ubiquitous in enterprise development.

Below is a list of projects from semesters past. I can vouch for ‘most’ of the links for have not tested everyone.

May the good code be yours!

Bro. James

# 37 Project ideas

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| --- | --- | --- |
| P - Movie | <https://desolate-plateau-12188.herokuapp.com/> | C David |
| P - Stocks | <https://knightfalkon.github.io/final/final.html> | J Froelich |
| P - Weather | <https://devins-weather-app.herokuapp.com/> | D Cenatiempo |
| P-APOD | <https://naishihchen.github.io/WDD330Portfolio/FinalProject/APODCards.html> | NAI SHIH CHEN |
| P-Aviation Weather | <https://hernanyupanqui13.github.io/wdd330_hernan/final_project/index.html> | Hernan Yupanqui Yupanqui Prieto |
| P-Baseball | <https://eli-b-washington.github.io/wd330/week13/Final_Project/final_project.html> | Eli Bear |
| P-Books | [https://lisbyui.github.io/WDD-330/books/index.html (Links to an external site.)](https://lisbyui.github.io/WDD-330/books/index.html) | Elisangela Alves |
| P-Character Generation | <http://cit261.joshuanilsson.com/topics/project-basics.html> | Joshua Nilsson |
| P-Clothing Picker | <https://wicker-brenda.github.io/WDD330/> | Brenda Wicker |
| P-COVID data tracking (use a CORS extension) | [https://harrevan.github.io/wdd330/challenge2/index.html (Links to an external site.)](https://harrevan.github.io/wdd330/challenge2/index.html) | Evan Harrison |
| P-Flash Cards | <https://greenway-benjamin.github.io/flashcards/flashcards.html> | Benjamin Greenway |
| P-Landscape Planning | <https://plmerideth.github.io/portfolio/week13/landscape/index.html> | Paul Merideth |
| P-Learn Spanish | <http://www.trentonsouth.com/wdd330/project/> | Trenton South |
| P-Mahjong | <https://with-a-k.github.io/wdd330-portfolio/riichi/scorer.html> | Erik Butcher |
| P-Mars Rover | <https://aaroneiche.github.io/cit261/rover.html> | Aaron Eicke |
| P-Monsters | <https://shakerbaker78.github.io/amy_baker_portfolio/block2/monster_faces/index.html> | Amy Baker |
| P-Movies | <https://desolate-plateau-12188.herokuapp.com/> | C David |
| P-Movies | <https://cris-rr.github.io/WDD330/moviePick/> | Cristhians Ruiz Roman |
| P-Movies | <https://lewis-kate.github.io/WDD330/> | Kate Lewis |
| P-Movies | <https://acuna-pablo.github.io/PA.io-WDD330/Final%20Project/initial.html> | Pablo Acuna |
| P-Movies | <https://shrouded-lowlands-62979.herokuapp.com/movie-db.html> | Timothy Bohman |
| P-NASA Images | <http://webworkshop.site/nasa_archive.html> | Darlene Chapman |
| P-Nutrition | https://tjchecketts12.github.io/WDD330.Portfolio/Notes/Block\_2\_Challenge/final.html | TJ Checketts |
| P-Planets | [https://pascual-jamie.github.io/PascualJamie.github.io/solarsystem.html#display-response](https://pascual-jamie.github.io/PascualJamie.github.io/solarsystem.html) | Jamie Pascual |
| P-Poke Breeder | <https://kiadawel.github.io/WDD330KW/poke_breeder/> | Kimi Weldon |
| P-Pong | <https://reed-jason.github.io/projects/tags.html> | Jason Reed |
| P-Racko | [https://nancinewell.github.io/wdd330/ (Links to an external site.)](https://nancinewell.github.io/wdd330/) | Nanci Newell |
| P-Recipes | <https://beckytieman.github.io/WDD330/final/my-final.html> | Becky Tieman |
| P-Solar System | <https://rpollard.com/cit261/space.html> | Roger Pollard |
| P-Star Wars related | <https://abraham-rizky.github.io/WDD330/> | Rizky Abraham |
| P-Stock Quotes | <https://ultra-anger.glitch.me/stock.html> | Elden Chanler |
| P-Task List | <https://zonatto-luiz.github.io/local-storage.html> | Luiz Zonatto |
| P-Time Tracker | [https://onwuchekwa.github.io/onwuchekwa\_wdd330.github.io/challenge\_02/index.html (Links to an external site.)](https://onwuchekwa.github.io/onwuchekwa_wdd330.github.io/challenge_02/index.html) | Sunday Onwuchekwa |
| P-To Do List | <https://zonatto-luiz.github.io/local-storage.html> | Luiz Zonatto |
| P-Weather | <https://devins-weather-app.herokuapp.com/> | D Cenatiempo |
| P-Weather | <http://heather-marie.com/WeatherNow/> | Heather |
| P-Word Search | [https://immense-head](https://immense-headland-29202.herokuapp.com/project/project.html) | David Lambert |