### CSCI 165 Introduction to the Internet and the World Wide Web Lecture 5: Javascript



Jetic Gū 2024 Spring Semester (S1)



### Overview

- Focus: Course Introduction
- Architecture: WWW
- Core Ideas:
  - 1. What is Javascript
  - 2. Hello World



### CSCI165 So Far

- HTML: Markup language for describing the content of a webpage
  - Markdown
- CSS: Styling for HTML, make it look pretty

Javascript: Dynamic webpages, interactive design, run programmes



## Javascript

- Unlike HTML/CSS, Javascript is a programming language
- compilers
  - Standard interpreters: your browser
- For Websites, Javascript operates inside a webpage

• Javascript is a scripting language, meaning it uses interpreters instead of

You open an HTML -> .js files are downloaded -> .js files are executed



### Javascript

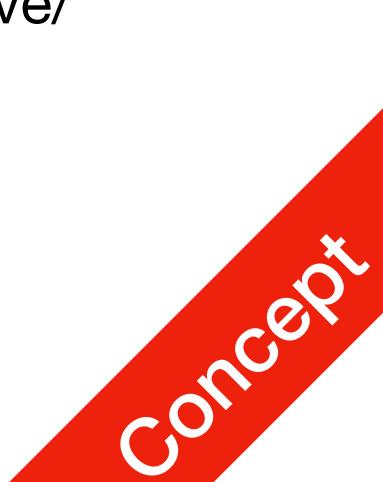


- What can Javascript do?

  - change HTML stuff, etc.

• Respond to an event: like mouse clicks, button clicks, keyboard press, etc.

Modify web content: animation, send/receive user requests, add/remove/



### Javascript

- How do we include a javascript programme into your webpage?
- In the <head> section of your .html file, add <script src="script.js"></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script><
- Then, create script.js next to your .html file, write the following inside: alert('Hello world!');
- Alert is a browser function that creates a pop up alert box
- When the .html file is opened by the browser, your browser will download and execute script.js on your computer



### **P1** Javascript

## Javascript

- Is javascript code safe?
  - Your browser needs to keep malicious code at bay
  - code on the internet
    - javascript/

You need to instruct your browser NOT to run Javascript files on malicious

• Read Cryptojacking: <u>https://hackerbits.com/programming/cryptojacking-</u>



### Javascript functions



be executed. A statement always ends with semicolon.

 The above red bit is called the argument. In this case our argument is a enclosed in **double quotes** or **single quotes**.

alert("Hello World");

• This is called a statement, a statement is a complete code segment that can

alert("Hello World");

String value, where String is a type of data structure. In Javascript, there are many data structures like integer, float numbers, etc. String values are always





### Javascript functions

• **alert** is the name of the function

then immediately parenthesis, enclosed within your arguments

alert("Hello World");

function name(arguments...);

• This is called a function call. A function call starts with the function\_name,



# Functions Call Function Upon Action

- javascript code.
- For example:
- Attention: notice I am mixing double and single quotes here. 'Hello double quotes "alert('Hello World!');"
- What happens when you click?

• A lot of elements have actions in their attributes that you can use to execute

### Click me

World!' is enclosed in single quotes, the whole function call is enclosed in

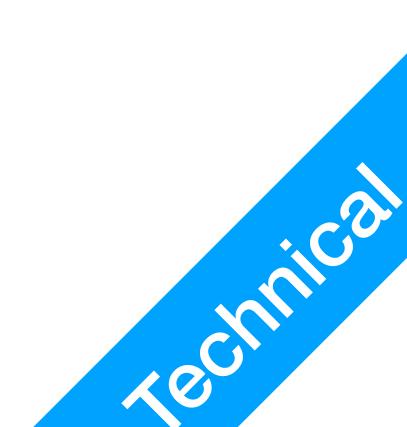


# Functions Call Function Upon Action

• For example:

Click me

- Your browser's HTML parser and Javascript interpreter work kinda separately
  - HTML parser recognises that "alert('Hello World!');" is a string sends alert ('Hello World!'); to the Javascript interpreter
  - Javascript interpreter recognises that 'Hello World!' is a string value sends 'Hello World!' as an argument to function call alert alert prints Hello World! on screen
  - Careful when mixing quotes!







### • Use alert in a Javascript file, add it to your index.html

• Use alert in your HTML file directly through onclick

### Exercise

