

Internet Programming General Questions

- HTTP (see notes 16 HTTP Review)
 - basic
- HTTP GET vs. POST
 - Get
 - Can be cached
 - Requests remain in browser history
 - Can be book marked
 - Has length restrictions
 - Not secure
 - Should only be used to retrieve data
 - Post
 - Never cached
 - Requests are not stored in browser history
 - Cannot be bookmarked
 - Have no restriction on length of data
- HTTP vs. HTTPS
 - HTTPS is the secure version of HTTP
 - Require a certificate
- IP addresses (what the parts mean)
 - 4 parts, 8 bytes each, can be followed by a port which directs traffic
- Thick vs. Thin client
 - Thin clients
 - Small code, most of work is done by the server
 - Thick clients
 - Do a lot of the work on the client side.
 - Does not require a constant connection to the server
- Synchronous vs. Asynchronous function calls (notes 01)
 - Synchronous is waiting -> Asynchronous is not waiting
- Meaning of "callback" functions (notes 01)
 - basic

Javascript Programming

- == vs. === operator
 - == type casts
 - === does not

- var vs. let vs. const
 - All instantiations get hoisted (just a javascript thing)
 - Var can be hoisted up
 - Let is restricted to its current scope (hoisting to top of scope which is always smaller than var)
 - Const is essentially let but the value cannot be changed (is mutable tho)
- javascript arrays and strings (know how to use these, they will use code examples)
 - basic
- Thick vs. Thin client
 - basic
- Javascript modules and the exports keyword
 - Require to get modules
 - Export to make them available
 - Refer to A2 where we made modules
- Meaning of "callback" functions
 - To call back
- Meaning of closures (notes 10)
 - Closure is when an inner function makes use of out of scope references
 - This includes global variables
 - Upper scoped variables
 - Inner scoped variables

Node and express:

- Building static server with node vs express
 - Express is built with its own node module
 - A static server could be built only using a single js file
 - Express uses routes to get the appropriate files
 - Serving a file in js is usually just returning the result of a file read
- Correct MIME types
 - Label used to identify the type of file being sent or received
 - Types include:
 - Image
 - Text
 - Application
- Asynch file reading
 - fs.readFile(filename, encoding, function(err, data))
 - Is asynchronous

Guaranteed one question will be why is this function wrong:

- The output statement will output too early

Understanding package.json

- Dependencies include the modules your app will need in order to run
- Provides other useful information about the app
- Includes start and test scripts
 - Start script is what is used to start the app "npm start" -> "node <yourserver>.js"

APIs: RESTful API is html packages

- Standard for apis to make them easier to use
- User requests what they need via url request. ezip
- Know the difference between rendering templates like Handlebars and Jade/pug
 - Both are templating engines, the biggest difference is the syntax
 - Pug removes html and creates its own html code from what code you have written
 - Handle bar still uses HTML
 - Uses `{{}}` and `{{{}}}` to access elements and information
- JSON
 - Java Script Object Notation
 - Json is a file or string
 - It has replaced XML
- Express routes and middleware
 - App.use is how to say you are using a middleware
 - `app.use(logger('dev'))`

Databases:

- Do not need to know syntax, only differences
Mongo = JSON vs SQLite = relational database
- JSON vs XML (new vs old)
 - JSON and XML are files stored as text.
 - JSON is faster and easier to read and use
 - JSON has access to arrays which XML does not
- What is database normalization (removing duplicate copies)
 - Database normalization is cleaning up anomalies in a server
 - Anomalies may occur when a deletion is not completed properly, an insertion was made in an incorrect location, an update did not update the necessary data and the database goes to an inconsistent state.
 - Deletion of duplicates would need a unique identifier. From the unique identifier, compare to see if the possible duplicate is the smallest of said unique identifier. If it is not, delete it as it is a duplicate, remember to group by what you're checking duplicates for.
- What is the meaning of the relational database table vs JSON storage
 - Relational databases stores data as a table

- JSON storage stores files

Applications //TODO

STUDY SONG DATABASE (tut 09)

STUDY NODE STATIC SERVER (notes 07)