Weekly Diary – Justin Pornasdoro

# Project Pitch

1. **Cross framework CRUD web app generator\***

The most common type of commercial application is what is known as a CRUD web application. A web interface to a database that is used to digitise the bureaucracy of an organisation. Most professional software developers repeat very similar tasks over and over to create these kinds of web application. The goal of this project is to use as simple a specification as possible to define a CRUD application and then automatically use this specification to produce all of the extra code, html, config and other files needed to create a web application with popular web frameworks.

CRUD applications consist of the following:

Typically, users fill in web forms which have some web logic to prevent users from submitting the forms unless the input is ‘valid’ e.g. date of birth not after the current date.

The forms correspond to ‘objects’ stored in a database. Completing the forms typically create an instance of the object in the database.

There is usually a means of viewing the objects and updating them (i.e., viewing the form filled out and having a save button to update the object instance)

There are then often actions that occur when the forms are completed, usually in the form of causing others to do work, for example sending an email to someone with parts of the email filled out by fields of the object being saved.

Instead of an email the system might create a ticket of work and assign it to a person. These tickets can be viewed through the system.

The systems typically have a user login system

The system also tends to have a logging system keeping track of stats about how it is being used to help management.

Such systems also tend to have an admin interface for viewing the system and logging stats and adding/removing/updating users.

There is a large amount of similarity in these web apps even though they are typically implemented in different programming languages and different web frameworks.

The purpose of this project is to define a minimal set of information that can create the majority of a common CRUD web app project:

Specify the objects that store information using a models.json file,

The set of pages that are visible and the flow between them as a views.json file, most views are automatically generated from the models (they are just means to store an instance of the object)

Some simple logic e.g. store object in database, send email in a contollers.json (views can specify controller logic to be run when a form is complete)

The project is to create one or more ‘back ends’ that take the json files and generate code, framework configs etc. to produce the web app using that framework. The intention is to follow an existing tutorial for creating a CRUD web app (https://blog.miguelgrinberg.com/post/the-flask-mega-tutorial-part-i-hello-world) but alter it so that a python project generates the output of the tutorial from .json configuration files. Going through the full tutorial for a given backend is likely to be too much work but getting the user login, create, update and delete functionality for a given .json working would be a good area to focus on.

Multiple students can work on this project with each student focusing on a different back end language or collaborating to implement one language in greater detail.

# Week 1 – 11/01/21

## Tuesday 12 January 2021

Started to look into the links John had sent me and followed his guidance of using Flask with Python. Luckily, I’ve had a lot of experience with Python due to my computer science A-Level. I watched this video [https://www.youtube.com/watch?v=oC483DTjRXU&ab\_channel=CoderFoundry](https://eur02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.youtube.com%2Fwatch%3Fv%3DoC483DTjRXU%26ab_channel%3DCoderFoundry&data=04%7C01%7Cjpornasdoro01%40qub.ac.uk%7C2af550c785d84b57105b08d8b72aa1ea%7Ceaab77eab4a549e3a1e8d6dd23a1f286%7C0%7C0%7C637460741015322575%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=44vr9Z5ZUpc2rNQkZ2dbnh7GA%2F3GIWeCIrArVilFrsA%3D&reserved=0). Also read these articles that John had sent me about a Flask Tutorial and MVC for Flask Application which I didn’t really understand.

So, I decided to just get stuck in and find my own tutorial in video format. I found a windows tutorial that went over the basics. ([Flask Tutorial #3 - Adding Bootstrap and Template Inheritance - YouTube](https://www.youtube.com/watch?v=4nzI4RKwb5I&ab_channel=TechWithTim)). I aim by the end of the day to have finished this tutorial and have a re-read of MVC for Flask Application.

It was hard to find a tutorial that was using Windows. I decided to reinstall PyCharm in case of any incorrect installs I have done before.

## Thursday 14 January 2021

Still working through the tutorials, aiming by the end of the day to finish these sets of tutorials, and then moving on to something more advanced. I’ve now learned about sessions, bootstrap themes, incorporated my own navbar and currently working on message flashing.

I have a couple more tutorials that I have to do however I’ve just finished be able to store and retrieve data from a database using SQL. I’ve now moved onto a full stack tutorial ([Fullstack Flask React Tutorial - Master Flask Basics And Build A Python Flask React App | 2020 HD - YouTube](https://www.youtube.com/watch?v=cb1vy1HpVwk&t=3515s&ab_channel=THESHOW)). Finding it pretty hard but I’m getting there. Currently he’s using Visual Studio Code which I’m not sure I need to change. I’ve successfully installed Node.js and React.

## Friday 15January 2021

Tried to continue the tutorial, however, wasn’t working. I’ve decided to take for the rest of the day and try not to burn myself out of coding. Taking your advice John that it’s not a sprint. I am to focus on just react however I may need to ask John if I need to do that. My presumption of my project is kind of a website builder?

## Sunday 17 January 2021

Tried to just mess around with another react tutorial however has no breakthroughs.

# Week 2 – 18/01/21

## Monday 18 January 2021

After clarifying on what my project entails with John. I decided to just start from the group up instead of just blindly following a tutorial! During today I just watched videos on how react works and more importantly where reacts is placed in a MVC paradigm. As I understand it is the View component, Controller component would be flask and the Model would be my database to my understand.

## Tuesday 19 January 2021

I have decided that today, I will be solely focusing on just learning React from the group up and then hopefully trying to connect Flask once I’m comfortable to. I’ll be starting from the official React website to learn this. So, I finished the Tic Tac Toe example but I still don’t really understand. I found a complete beginner’s guide, but it is 5 hours long. This does not really work with how long because I like being fast. However, I’ve hit a point where I feel like I won’t ever get to hang of react and thus failing the module.

## Wednesday 20 January 2021

- Today I will be taking up the format of the example diary that John had given the class.

- For today Ill be following this 5 hour react tutorial ([Learn React JS - Full Course for Beginners - Tutorial 2019 - YouTube](https://www.youtube.com/watch?v=DLX62G4lc44&t=1576s)).

- I’ll be setting small goals today and try not to just set massive goal that doesn’t seem achievable (trying to take baby steps)

- Today I’ll also being using VSCode as it has been recommended to me to be using for react.

- In the first few minute of the tutorial, I realized that the tutorial is supposed to be used with an online React learning environment which required a membership. I then luckily found this update to date free tutorial on making a todo list. ([React JS Crash Course 2021 - YouTube](https://www.youtube.com/watch?v=w7ejDZ8SWv8&t=1424s&ab_channel=CodeDripbyAaronJackCodeDripbyAaronJack)).

- 25 minutes in and it’s still making sense which is a good thing. But I’m afraid I may have to start learning javascript basic concepts.

- Couple more minutes in, I think I’m starting to understand.

- I’m starting to understand the overall structure of a webpage and also how components work with props

## Thursday 21 January 2021

- Still working through the tutorial just trying to take my time and just going through what I just typed instead of just blindly following it.

- I still believe I need to learn the basic concepts on JS as there’s certain things that make sense because of previous language concepts but it is still pretty confusing.

- But I am filling a bit more confident about react however, the concept of making this to be a generator is still far from my grasp.

- Finally finished the pure react tutorial I do get some of it. I’m having a hard time figuring out what’s a variable name and what’s a js construct! I would love to just go through the code with somebody who knows stuff, but I’ll get through it.

- Now I think I have two options, to keep continuing just learning react or start learning how to connect it to flask and re-learn MySQL. I hope to discuss this matter with John tomorrow in our meeting.

## Weekend 22-24 January 2021

- Decided to just try to research the best bootcamp that I can try to duplicate, however didn’t have great success.

- The main problem was there was no full bootcamp that solely focus on the Flask and React. Mostly were a mix of React + Node.Js or another backend

- I did research the pros and cons of node.js against flask and it does seem “easier” to code when both the front and back end are in the same language

- I was also kind of put of due to the fact that I couldn’t do my way of teaching it to myself. Which was just learning flask and react in a more traditional way, learning the basics etc. I do not really like the idea of just following a tutorial and just blindly copying code. I do understand that I will learn some of the code from the bootcamp. But I do understand John’s viewpoint as there isn’t really enough time to focus on each framework so he’s just trying to dedicate as much time as possible to the main focus of the project which is the automation.

# Week 3 – 25/01/21

## Monday 25 January 2021

- So, I’m going to try to be more productive this week. John was saying how we should be on this every day just for small bursts. It’s a marathon not a sprint.

- Found a skillshare fullstack with Node.js and React. I do hope this is a good bootcamp and I do believe knowing node.js would look better on my portfolio and it would help with my overall java programming.

- I will be going through it and trying to think is this an optional thing to add into the application or is this necessary and then I’ll right down the code in a separate word doc. This will help me further down the line when trying to automate this whole process.

- So, the bootcamp has really got me excited, it’s lengthy but it covers three projects, Tic Tac Toe, Movie and Actors searching database and finally an instant messaging service.

- I think the instant messaging service will be valuable as this will allow the creation of a ticket system!

- I finally found another solid foundation I can start from 😊

- So, the pre-requirements of this bootcamp are knowing HTML and CSS which I don’t have any experience in but hopefully I can do this.

- The installed applications are node.js, git (git bash) and bash

- The bootcamp is pretty good so far as it also goes through what extensions should be installed with vscode

## Tuesday 26 January 2021

- Still following the tutorial and being taught the basics of Git which is pretty useful as I’ve never used it before

- Just going over the basics of Node.js, finding it a bit boring and I want to skip it, but I am afraid I’ll miss something

- Just finished going over the basics of React, which I do not really like learning. I am more of seeing how basics work through examples instead of seeing the concept stand alone.

## Wednesday 27 January 2021

- Going to start the first project today which is a basic Tic Tac Toe.

- Already having problems with just install dependencies

- Finally, just do a whole reinstall of the whole react app and got the dependencies working!

- Then just added some lint and prettier.rcs to aid programming

- Running into some really annoying problems which cause me to have to do things that don’t follow the bootcamp to fix them which annoys me a lot because I don’t want it to affect me later down in the bootcamp.

- For example, the eslint enforces this rule on my editor but in the bootcamp it doesn’t enforce it even though we used the same eslint.

## Thursday 28 January 2021

### Aims

- Finish Tic Tac Toe tutorial

- Go over what I’ve learnt from the tutorial

- **Current GitHub Progress:** https://github.com/JustinYuann/TicTacToe

### Thoughts

- JavaScript call back functions are weird, and I need to learn them. I’m using w3schools to try to understand them.

- I’ve been able to follow the tutorial just fine, it’s just I’m blindly coding which I hate. I don’t really feel like I’m learning something.

- I am currently getting stuck on some lines of code that I don’t understand. I feel like I shouldn’t focus on them and just keep going to try to push for the automation, but it just bugs me.

- After some confirmation, I was told to learn some of the aspects that I don’t understand because if you don’t understand what you’re coding how will you learn to automate it

- I am placing comments throughout the code to hopefully try to drill all the information into my brain.

- I’m currently doing my final commits and I was able to start the history function

## Friday 29 January 2021

### Aims

- Finally finish the Tic Tac Toe Tutorial ☹

- Research JSON

### Thoughts

- I feel like I am finally understanding the code, it is just taking me very long for me to understand what the codes means

- I’m really happy and excited to keep learning and starting to finally understand it, it’s just I feel like I’ll be left behind and won’t be able to finish the project.

- I’m feeling a lot of pressure because I still need to figure out the backend and the model

- But since I am in “Groove” I may be able to program a lot during the weekend and hopefully not burn myself out :)

- After the meeting, I feel more confident about the project and the support John can give me.

- I just found another tutorial which is about creating a form and stuff like that so, more tailored to my problem

## Saturday 30 January 2021

### Aims

- Start new bootcamp (leaving the tic tac toe)

- Don’t expect to finish it just get into a groove with it

### Thoughts

- Kind of gutted that I could not finish the original bootcamp but in the end it would only be teaching me React and Node JS, which forgets the database

- I’ll be starting this bootcamp ([Learn React, MongoDB, Nodejs and Express by coding a charts generator | Raymundo CH | Skillshare](https://www.skillshare.com/classes/Learn-React-MongoDB-Nodejs-and-Express-by-coding-a-charts-generator/655300638/projects))

- I have also been looking at parsing JSON files into other languages, and it’s been done before which is a good sign. It’s “Do-able”!

# Week 4 – 1/02/2021

## Overall Aims

- Finish the Bootcamp

- Finish the static HTML webpage

## Monday 1 February 2021

### Aims

- Finish 10 tutorials today (Currently on Tutorial 4!)

### Thoughts

- New week, new mindset

- I feel like I’m not working fast enough so I’m going to push myself more

- My aim for today was going to be “get through the tutorial” but that was too broad and didn’t really give a metric to hit so I decided onto ten videos.

- I choose this because video 10 goes through the final part of APIs

- So, I wanted to just finish a whole topic for one day

- Successfully got done 10 videos which I’m pretty proud of

- I’m now able to create basic APIs that query MongoDB and that also take in user inputs

- I’m deciding to stop today as I don’t want to burn myself out btu also that I need to focus on my other projects

- Tomorrow I am to do more tutorials, I’ll be aiming for 8 as I have an appointment

# Tuesday 2 February 2021

### Aims

- Finish 6 tutorial videos today

- Start the HTML static web page

### Thoughts

- Don’t really feel anything per say, I’m just going through the tutorials and I feel like that’s all I can do at the moment

- Just ran into a bug that didn’t appear in the tutorials and I was able to troubleshoot which I think is pretty good progress

- Did some testing on my APIs and it currently connects to the DB and saves to it!

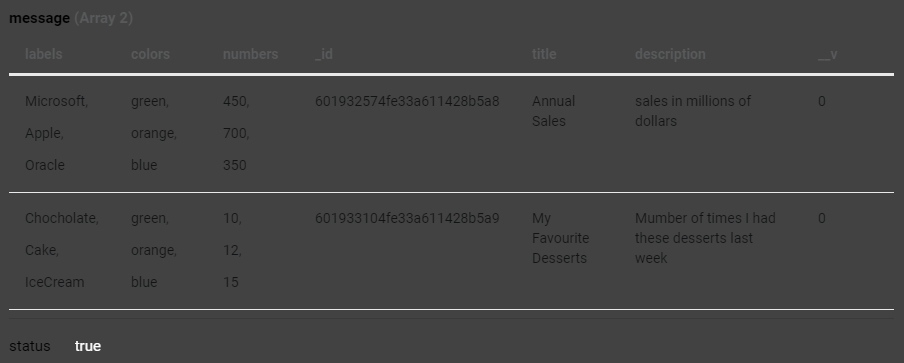
- Looked onto the other videos and later its start focusing on React which is nice change because I’m working on the model and controller

- One problem is I don’t really know what I’m coding at the moment because I’m not sure if it is node.js or express

- Over the course of this tutorial, I’ve started to become more confident with all the structures which is really great

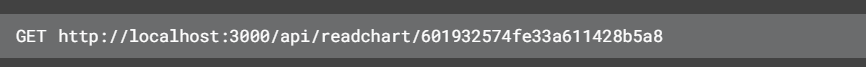
- Did some more research and figured out the express is another framework on top of node.js which makes it more simpler

- The API is now able to read the data from the MongoDB and successfully return it to the testing software called

- Above you can see the existing objects that I’ve added into the database and was able to retrieve them using this GET method

- I’m feeling like this is all coming together, I’m starting to learn the code and how it works.

- Progressing through the tutorial I can now query a database with a specific ID and retrieve the corresponding object, you can see below





- Ran into some problems due to the tutorial being a whole year old which means a lot more optimisation to the packages.

-Luckily, I was able to troubleshoot and then continue with the tutorials however I do fear there may be a change of syntax that could cause more problems in the future

## Wednesday 3 February 2021

### Aims

- Finish 7 Tutorials

- GitHub Repository: [JustinYuann/ChartGenerator (github.com)](https://github.com/JustinYuann/ChartGenerator)

- Start work on the HTML Static Page

### Thoughts

- Sadly, yesterday I couldn’t start HTML web page due to other modules having to take my time

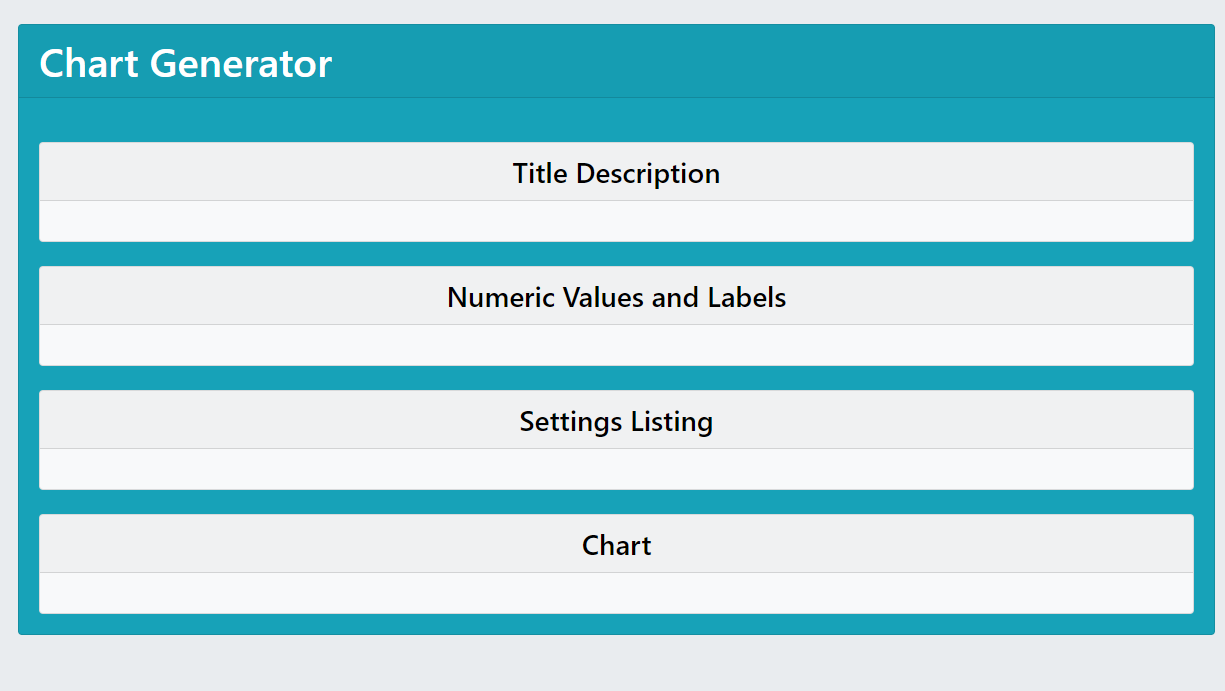
- I’m starting to worry about my time management skills as I have another ongoing project in my other modules which is group based which adds a lot more complications

- The progress currently is going well, I’m around halfway through the tutorial and I haven’t run into many bugs except some typos I made

- All this web development made it easier to read some HTML code from the HTML Templates and I hope that I can do the page in around a day

- I am using a node module called webpack which is kind of like what I’m making where I must make a template and then it rights the files. I hope to look further into this.

- As I’m going through this tutorial more and more of it is more outdated than what I was taught in the previous bootcamp but I’m able to alter some of it to fit to the new syntax which I’m pretty proud of



- After a few more videos I was able to create this using Reacts’ Bootstrap which I think I’ll pulling components from in the future

- Currently stumped on a bug that I can’t fix since Reacts’ syntax has been updated

- I was able to start some work on the HTML static page and was surprised on how much HTML code I could understand, probably from all the JS code I’ve been writing.

-Luckily, I was able to still continue the tutorial and finish 7 videos

## Thursday 4 February

### Aims

- Get entry fields to save things to the database!

- Finish HTML web page

### Thoughts

- After an hour of researching documentation, I was able to get an entry value to display.

- The error was a single typo when declaring a component which was annoying

- Today instead of trying to get to a certain number of tutorials, I’ve decided to go until I can save fields into the database.

- But first order on the agenda is getting the HTML page done!

- Got the HTML page done and found it an enjoyable experience.

- But I feel like I ramble to much in it and kind of giving a general guide on how to start any project instead of this one specifically, I probably will go over it again and just read and ask John if that approach is okay.

## Friday 5 February 2021

### Aims

- Re-word HTML static page

- Link the correct GitHub to the page

- Get 5 more video tutorials done

### Thoughts

- I want to re-word my HTML page, I feel like it’s too general

- Of course, there are some areas that are specific to the project but other areas that are more generalised like how I conducted my research and how other should to.

Honestly, not sure but I’ll try my best!

# HTML Static Page Reasoning

I designed my tutorial in a way that would attract a person like me, a person that’s jumping deep into Web Development and Full Stack without any prior knowledge. I designed in such a way that you could trust the website but that’s is my own opinion, I would just a website’s information if it looked better. My target audience for this was beginner programmers like myself that don’t really have preference to technologies to use or any opinions. I tried my best to make it easily understandable for people that had a small amount of background knowledge to coding. Also, I wanted my guide to be able to be applied to many projects not just mine. I’ll be going over each section of the webpage and why I decided to add it.

I added Research because at the time of receiving this project I didn’t really know where to start! I came from a basic programming background and didn’t really know what to research or even how to get started. I gave advice that I would give myself and what John gave me at the start of the project which I found useful like; understand the problem the project is trying to fix. So, in the research section I stated what that but as well as how I came to that conclusion which was through online videos and tutorials.

The Approach section, I choose to add this because I thought this was would be a good section for people that have never really done a project to this size. Especially with the mindset, which I found very useful to stop myself from just getting fed and going in circles, in my opinion without it, I probably would’ve moved to a different module. The “Setting up my tools” section, this would be good for those that like procrastinating by trying to get their set up perfect instead of doing work. Finally, the “What Tutorials Did I Follow” is useful because I didn’t know where to look, I saw all of these sites that offered very high pricing, so I added it to ensure people know that there’s site like YouTube and Skillshare which are free or very affordable.

The “Programs” section, I added it because people especially with learning new concepts don’t really want to worry about their programs, they want to just focus on the code. That’s why I recorded the set up of some programs and what videos I followed.

The “My Errors and Bugs”, I added it for a guide if somebody encountered my problems but also it addresses some questions I had when I first learning React like the different between the component types. I do like I didn’t just add coding bugs I found but also mental “bugs” I had with tutorials being not up to date or dead links in the descriptions. I also wanted to add which tutorials I had followed to aid the reader.

In the “Current Progress” section, I wanted to show what has been completed not just little snippets of code. I tried my best to show visually what I’ve done because it’s a web app. I tried to show the best parts that I was proud to show and what I found the most difficult.

Overall, I think the website is a great place to direct somebody when they want to start a project for web development. I do know that it has no information about the automation, but I just didn’t want to add information that may not be accurate as this could be shared among other students like myself and a main point in my tutorial is get accurate information that you can just trust! I plan to add to this website because I enjoyed the process of making it and its good practice for HTML formatting.

# Week 5 – 8 Feb 2020

### Aims

- Get create-react-app command to be automated

## Monday 8 Feb 2020

### Aims

- Research and test Java functions to run commands in the CLI

- Start a GitHub repository for my research

### Thoughts

- Feedback came from the first assessment and it’s kind off put me down, I feel like this proof that I work too slowly and should stop going so in-depth into small things.

- I’ll try to keep moving forward, there’s just some personal problems having at the moment

- Currently looking at Java Runtime and how they execute CLI commands

- I was able to run system wide commands using Java but not commands that are external like Py and NPM

## Tuesday 9 Feb 2020

### Aims

- Make a java program to automatically create the basic “create-react-app” command

### Thoughts

- I’m still going through overall mentally but I have contact Student Well Being services, I will tell John about this before the Friday meeting.

- Currently seeing other that have tried to “NPM” commands using Java which means it has been done, the problem is, that it requires the program to know where “NPM” is stored

- Another problem is a lot of people are talking about Mavin and specific Java things which I don’t really understand but I’ll keep searching.

- Many Stack Overflow users are recommending or mentioning to use Maven. I will now be researching what is Maven

- I’m starting to learn that I’m building a Build Tool that creates Source Code

- Success I’ve got npm commands running, in a specific directory however, it’s stuck, the command line interface isn’t updating

- I was able to stop using RunTime and moved onto ProcessBuilder which is simpler and more allowed me to actually get Java code to run the command “npx create-react-app”

- Then I was able to research and find a Java GUI folder selector, which allowed users to select the folder where the React app will be stored

## Wednesday 10 Feb 2020 – Thursday 11 Feb 2020

No work done due to personal reasons.

## Friday 12 Feb 2020

### Aims

- Take values from a JSON file and replace them in a JS file

### Thoughts

- I don’t think my personal circumstances should affect my coding more hopefully

- Tired to run the folder chooser today but it simply didn’t want to run which wasn’t great

- I’ve got the file chooser to run but it returns the directory as a “file” object which is weird and the “toString” method isn’t liking it.

- w3Schools reference for blog posts.

- pyimagesearch reference for the how to guide

## Saturday 13 Feb 2020 – Sunday 14 Feb 2020

### Aims

- Understand what types of people, ill be adding in the system

- Try to understand further the LinkedIn example

- Make an attempt of creating a JSON file and creating the form for it!

### Thoughts

- I’ve got a list of types of forms that example JSONs could make

- Honestly, just feel lost in the project and the personal problems I’m going through doesn’t help so I’m going to seek for a Exceptional Circumstances form.

## Tuesday 16 Feb 2020

### Aims

- Obtain smaller steps to bigger step which is how to read and render dynamic components just from a JSON

- Revisit How to Guides and Blog Posts

### Thoughts

- Today’s meeting was very informative and gave me the confidence in myself to code

- Before I felt very lost in the project and I just saw it as too complex

- I’ve now found a great tutorial on creating a Form from a JSON, but the only thing dynamic is the headings which is a great step

- The only niche detail I’m concerned about is what if the JSON exceeds the existing amount of dynamic entry fields

- Hit a problem where I can’t import a JSON file for some reason, super annoying

- By passed and I’m able to read JSON files and specific parts.

- Also redid the github

## Wednesday 17 Feb 2020

### Aims

- Add support for other types such as drop down menu and also checkbox

### Thoughts

- Finally got the drop-down menu and checkbox down on the react side just need to figure out how to connect it to a node.js backend and create json database

## Thursday 18 Feb 2020

### Aims

- Further develop the form to create an object and be saved onto a JSON file

### Thoughts

- Currently figuring out how to manipulate a JSON file to get specific values

- There is an warning message about components but I don’t know how to fix it but it’s currently not affecting the functionality of the code

## Friday 19 Feb 2020

### Aims

- Start working on the CRUD functionality

- This means to Start to Set-Up some views for example manager and employee view

- Start work on the Blog Post

### Thoughts

- I’ve currently only been working creating JSON forms but not being able to create objects within the system using a defined JSON file

- Remove field\_id

- React Tabulator

## Monday 22 Feb 2020

### Aims

- Continuing working on Blog Post

- Look at pyimage search again remember

### Thoughts

- Feeling positive about this week

- Currently making a example JSON file like this:



- I can see how I can create a form but it wouldn’t allow the form to have different options if myself my education is “A-Levels”

- I’ll ask John about this tomorrow morning

## Tuesday 23 Feb 2020

### Aims

- Start convert the formalise.py into javascript

### Thoughts

- After tinkering with the webserver and formalise.py

- I’m understand now on what I need to do!

- Aiming by tonight that I should have a pretty basic formalise for now

- Got a recursive search going through the JSON! Which is pretty good progress!

## Wednesday – Thursday

### Aims

- Start figuring out how to render the components recursively

### Thoughts

- I’ve figured out how to search through the json and get each of the individual values!

- I’ve ran into some problems, trying to get the recursive search going through react to render components

- This is probably due to my lack of knowledge with javascript in general

## Friday 26 February 2021

### Aims

- Get a tree structure working with fields that use item data for example:



- Heading would be “Type”, then a field with a placeholder of “Item”

### Thoughts

- I’ve starting to get back into a roll for programming

- The code should work? But it’s these little niche things that I don’t know about javascript that I need to learn and figure out.

## Saturday 27 February 2021

### Aims

- Start working on the “submit button”

- Meaning start working on the backend and create a altered JSON

- Continue with the blog post

- PyimageSearch references

### Thoughts

- So I’ve got the recursion, kinda working!

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- As you can see, this is what the parser looks like. Now I need to be able to obtain all the values of each field and create a JSON object from those files#

## Tuesday 1March

### Aims

- Continue working on the blog post

- implement React Forms instead of <h1> and inputs boxes

### Thoughts

- The reason why I’m moving to React Forms

- Allows for data retrieval to be easier as you would just call the whole <Form> header instead of going through each input box

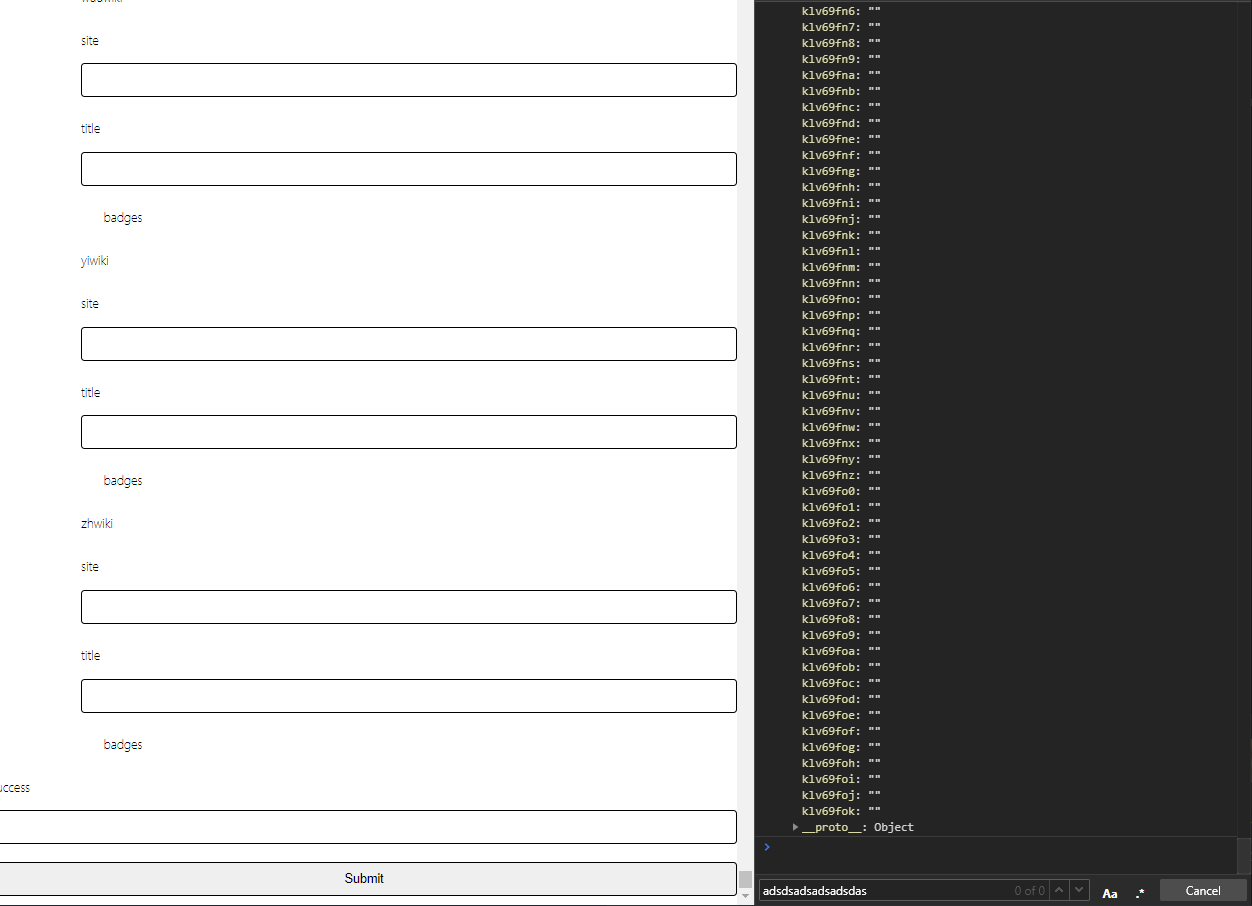
- Styling is much easier for the future

### Thursday 4 March

### Thoughts and Progress

- So I’ve been working on getting the React Form working with the JSON file. However the program is there are so many “key”s with the same name in the BartSimpson.json

- This problem means that I either need to set each field a unique “key” value then when creating the new JSON to some how correlate that back to the normal one.



- As you can see I was able to generate random keys for each field

- Now I need to think of a way to corelate each value to the correct key and field in the json

- This would probably need to add a unique id to the json aswell!

- Here’s my train of thought

- You make a copy of the base JSON file

- You make each “Key” unique

- You then iterate through that and create the form from that

- However you will need to figure out a way to uniquely identify whilst still being able to display the original data

- For example, if you have “jusab1-pageid”

- I need to figure out how to extract that for each every Key in the system

- My worry is that the ID will have different lengths but I can fix that

- You then have now this json/array object with new user values

- Then you finally create another copy of the base JSON (bartsimpson) then just simply iterate through it since everything will hopefully be in the same order!

## Friday 5 March

### Aims

- Finish up the blog post

- Try to implement the above thought process, also ask John if you should be adding it to the blog post

- Also add in your diary the reasons for each section in the blog post

### Thoughts

- I have a lot of steps in my head on how to continue to finish the project, I may add those steps in my blog post

- This is because I haven’t had the time due to personal issues to implement those steps but I’d like to give this knowledge to the other person

# Sunday 7 March

### Aims

- Submit Blog Post

### Thoughts

- I’m taking a lot of time making this blog post as I think since this is a on-going piece of work that there should be a solid foundation

# Blog Post Explanation

I’ll be talking about how each section of the Blog Post is relevant and why I added it. I mainly designed this in the view of basic programming experience and never had seen or taken up a project like this before. Overall, my objective for this version of the Blog Post was to set a concrete base of the project talking about what pillars make up the project, like JSONs and Recursion. I aim in the future of this blog post, is to talk about more of my decisions on why I used certain things like 3rd party React form then the Native React Form.

## Overview – What is the project about?

The main reason I added this section is because I feel that it is important to really understand what the purpose and structure of the project is. I feel that adding the “Project Features” was needed to “flesh out” the description, because it be quite confusing just receiving a description of a solution to problem. Talking about MVC and CRUD was needed as the student may have started a different software design pattern which wouldn’t be up to specification. Also giving examples of how they interact each other is helpful in learning and understanding the structure of the project. I mentioned CRUD as it’s something every programmer is familiar with, so I felt that adding it would give them confidence and to be able to relate to something in the project, instead of being throw into something completely new.

## Project Walkthrough – A Walkthrough of the End Project

The main reason I added this is, I think it it’s very important of having example uses case of how the system works. For me having, the system explained in examples really helped to start development and not feel confused or overwhelmed. For example, I was told to convert JSONs to Forms. But I asked for help and examples which really helped me break up the problem into smaller components, for example, read JSONs then determine data types etc. Also adding this section, allows the reader to validate some functionality of the system that they might have been thinking of. Finally, this section explains how the system works? At first, I thought it was magic but having something like this with an example JSON files and how specific data types and views were to be declared would have given me a better direction to the work.

## Current Work – My Work So Far and How to Get It Running

I added this section, as I felt that web development can be quite complicated as there’s a lot of frameworks commands and there’s some outdated methods. Another reason is that this reader how to take existing web apps from Git, run them and learn from them. This allowed me to understand how certain React Components were created or how other people implement recursion inside JavaScript. I ensured that going through each step of the obtaining and running the code was documented as getting running code to user more comfortable on using and building upon my code.

## JSON Structure – Explanation

I added this section, as when I started this project, I didn’t know anything about JSONs and how they work. I thought if going through the available data structures in JSON files would help the reader further down the line when they continue my work, since my current work doesn’t implement different data types or looks for different data structures. Finally, this since this project is based around the parsing and displaying of arbitrary JSONs, I thought it was important to have a solid grasp at JSONs.

## Recursive JSON Structure - Program

I added this section because, if I looked at this function at the start of my project it would’ve gave me a solid foundation to my work. I added a walkthrough as, the function in my eyes looks very complicated. Also, I felt that this function is the backbone of the project working with JSONs and dynamically rendering it. If they don’t understand how this one function works, it will be very hard to figure out how to further develop it! I’ve also added some code sources that I took inspiration and lines from to refine the algorithm as I’m not that confident in recursion.

## Current Problems & Developments

Finally, I added this section, as a log of parts of the system that don’t work. The other function is Developments, this would contain future parts of the system that have yet to be implemented but I have some thoughts on how to implement it. This would mainly be important when I must leave this project. Also, in the section, I am to add notes that I take during the weekly meeting as this student may or may not having meetings with their lecturer.

## Monday 9 March

### Aims

- Think of a way to implement this NPM module called JSON path. [jsonpath - npm (npmjs.com)](https://www.npmjs.com/package/jsonpath)

### Thoughts

- One of the problems I have faced is, trying to figure out how to detect which field has been changed

- This is a problem because some String Value Pairs are the same in the Bart Simpson JSON file

- I’ll have a look at the JSON parser again and to see what I can

## Tuesday 10 March

### Aims

- Get your head around the JSON Path

### Thoughts

- Think of a way to figure out which field has been edited, I really do think the only way is to uniquely identifying each String Value Pair.

### Wednesday 11 March

## Aims

- Finish the Unique ID Key

- Duplicate JSON

### Thoughts

- Was able to finish the Unique ID Key JSON function, but the problem is the copying part of it.

- Currently right now the code is only using the front end portion, meaning that it doesn’t interact with the files on system that is running on it, that the job of the Back-End.

- So now I’m just setting up some Node.js routes

- The reason for this is because the next step is saving the created JSON file onto the system

## Thursday 12 March

## Aims

- Start the Express Server Implementation

### Thoughts

- Needed to split my main-app folder into two parts, Client and API

- This was annoying to do as it required me to move around the project around and the reinstall of the node modules

- Had an error saying that I didn’t have permission to delete a folder, but I was able to bypass it

- Looking to add two routes, which is adding to the existing JSON file and the other is displayed the JSON file that was just created

## Friday 13 March

### Aims

- Finish up the copying and saving on the altered ID JSON file using Node.js

## Thoughts

- Currently just going through a tutorial on how to alter JSON files in Node.js

- Also just researching typical Node.JS file/programming structures

- Developed the ability to run specific functions when hitting a URL

- I’ll be further developing this to ensure that the creation of the ID files

- Since I have the backend started up, I think I can just make a basic folder database, which will be split up into entities and base models

## Monday 15 March

### Aims

- Start sending the files from the backend to the frontend

### Thoughts

- Currently the aim of the sending the files is to allow manipulated JSONs file to be created, saved then sent to the front end!

- This is to allow the modified JSON with Unique IDs to be sent to the front-end where they will be rendered

- All right got some of the routes working to send some files, this is done by the Node.js to hosting the JSON file as a URL like this (localhost:3000/BartSimpson.JSON)

- Node.js then just displays this as text on the screen.

### Wednesday 17 March

### Aims

- Add the ID manipulation function to Node.js

- Send file to the React Front End

### Thoughts

- Just need to research how to store a JSON object as a JSON file on the system

- Also looked into manipulation of a current JSON file, this is for maybe create a base JSON for each JSON created

- This base file would hold all the keys but with no values

- Once the user has changed a JSON object the base file would be altered.

- This would then remove the need for IDs for each field because you want just “copy paste” the values

- Just realised that it won’t work, or I may have to combine both ideas. The problem is each text field needs a unique ID, if not given one. All the fields will carry the same value across the whole system.

## Thursday 18 March

### Aims

- Mess around with the editing of existing JSON files and saving them again

### Thoughts

- I think if I set each field a random value, then when the user wants to save the JSON. Each field will be in order, the same order as the base JSON file.

- This then allows the system to take the values in order and then add them to an existing JSON in order.

## Friday 19 March

### Aims

- Test out field theory

- Work on the syntax of declaring JSON types

- Work on getting a date picker

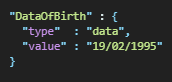
### Thoughts

- Main priority for today is researching a react date picker

- Then figure out how the user will then declare what type the String Value Pair

- I’ll look at the example ones John has sent as feedback

- This is what John wants as the syntax declaration



- Ill first test this out on less complicated JSONs

- I’ll be working through Easter

- Focus on array and dictionaries

- Investigate NPM JSON path

## Sunday 21 March

### Aims

- Explore NPM Path

- Add type recognition

### Thoughts

- Added a filter to check if the first String Value Pair’s Key is “type”

- this type could be seen as number, date, etc

- In JSON you cannot store SVPs in arrays, you can only declare like normal arrays like this [123,3544]

- That is why the user must declare an objects with the first key to be called “type”

- The program will take the value of “Type” and send it to the correct React component

## Monday 22 March

### Aims

- Continue to develop the recursion algorithm

### Thoughts

- I’ve got a date picker working, which is great

- The problem is! The algorithm still goes over the object because it doesn’t know that it has been rendered

- Now I’m research ways to skip certain elements in the loop

- I’ve got the system to skip Objects that have declared types, like date

- I’m looking in if the user should declare Booleans as radios

- This is because radio buttons are usually used to dictate yes or no

- But in total today has been very productive

## Wednesday 24 March

### Aims

- Just keep adding more data types

- Find a new JSON to test this function

- Adjust the saving

### Thoughts

- Date Picker is weird, it wants the user to add a time when not specified

- I may start working on the styling as it’s very messy right now

- I’ve replaced radio buttons with a list they can choose from.

- The current styling wasn’t like two radio buttons side by side

## Friday 26 March

### Aims

- Re-define the employee JSON to incorporate the new data types

- Add JSON File upload

### Thoughts

- First thing is to create the home page on where you’d upload the JSON file

- Going to go through some tutorials

## Friday 2 April

### Aims

- Start to develop the saving and displaying of the JSON

- Update the How To and Blog Post

### Thoughts

- Took a long break from this project

- Going to take another look on the python “Formalise”.

## Tuesday 6 April

### Aims

- Continue updating the Blog Post and How to Guide

- Think of a platform to where to post about this

### Thoughts

- Going to talk through on the Blog Post on the Data Declaration Syntax

- How to Guide to go through how to code detects each variable and what checks I do.

### Ideas for Blog Post

- Talk through how to add more data types/entry types to the system

## Monday 19 April

### Aims

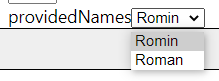
- Add drop down menus

### Thoughts

- The current recursion algorithm only takes the first two values but if the user wants more than one option in the drop down menu it’s not possible

- Going to declare in the syntax that if you want multiple values in the drop down menu, you have to declare an array

- Got it working, the code is very basic, but my JavaScript is a bit rusty



## Thursday 22 April

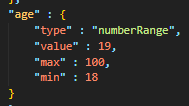
### Aims

- Find a way to find the amount of string value pairs inside an object

### Thoughts

- Need to find a way to allow for more specifications inside certain data types

- For example in range there should be a parameter that allows the min and max



## Friday 23 April

### Aims

- Make the code robust

- Aim for more complete code than just basic features that may or may not work depending on the JSON

### Thoughts

- The submit button doesn’t currently work some odd reason currently debugging it

- Finally got the age working, however the max and min values are being enforced

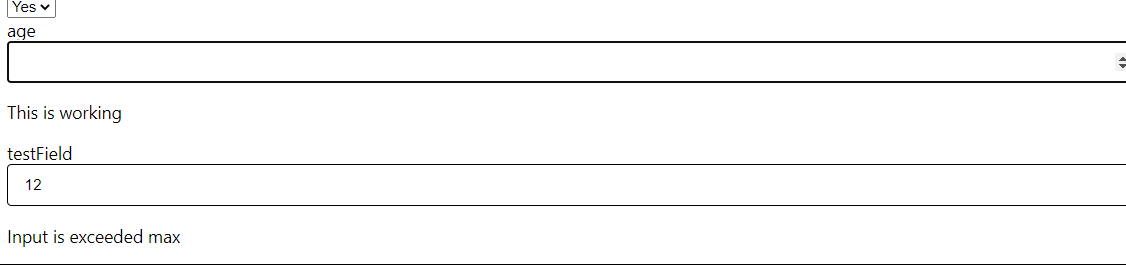
## Saturday 24 April

### Aims

- Start adding optional validation to each data entry type

### Thoughts

- I’m mainly focusing on fine tuning all the types to allow for anybody that takes up this project



- Slightly working but will have to use two different ways to declare error messages

- I’ve added a new syntax declaration called “required” which denies anything fields to be left blank

## Sunday 25 April

### Aims

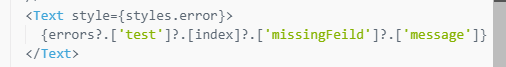
- Fix validation and figure out a way to place variable name

### Thoughts

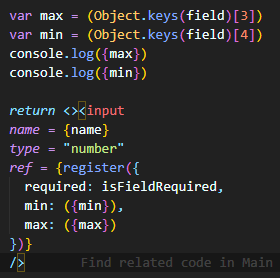
- Stuck with this error that doesn’t allow me to place in variable for some odd reason

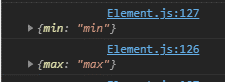
- Expect that there’s a special javascript syntax that must surround the variable

- After an hour and going through multiple google searches I’ve finally found the syntax



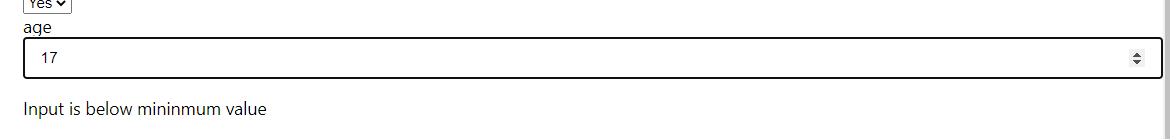
- New error the system doesn’t like obtaining the value of “max” and “min” values and literally just place max and min inside the variables which is not what I want





- Currently getting these, which aren’t the numeric values I want lol

- Figured it out, I wasn’t receiving the “Key” not the value that’s why I was receiving “max” instead of “100”



- Finally got it working

# Monday 26 April

## Aims

- Find a way to not have to declare the special data entry types in a certain order

- For example, value must be first but I want it so that you don’t to declare “value” as first

## Thoughts

- Made a iterator that goes through each object and looks for required, max, min

- Now I’m just trying to implement as much validation for as many data types

# Tuesday 27 April

## Aims

- Finish up the code

- Start work on the testing plan and thinking about which subreddit should I post on

## Thoughts

- I think my code is in a usable state and Ill be taking this day to just clean up any unnecessary comments

- Finally finished my validation section and can check for min, max, required, maxLength and minLength

# Wednesday 28 April

## Thoughts

- Finally finished up cleaning up the code and adding some comments to some parts

- Gonna write up some more of the blog post and how to guide

- Think I’m going to create my social media post on r/react

# Friday 30th April

- So, today’s task is just to look through the r/reactJS subreddit and look at what posts do very well

- The most important part is having a great title and a good cover image.

- The format is that most of the information is actually in the comments

- I have to make what the purpose of my project

- So it would be to take a JSON like this and turn it into a form like this

- That’s what my vision of the image would be like

- Also most of the media they show is actually video but in my opinion there’s not really a lot of moving parts in mine.

# Social Media Pointers

- Try your best to have an eye catching photo/video

- Describe what the project does and also state what technologies have been used

- Have a name for the project

- Title Format: Project Name – Short description on what the project entails

- Also make sure you choose the correct flair for the subreddit as this can really annoy the moderators

# Why Are Those Posts Successful

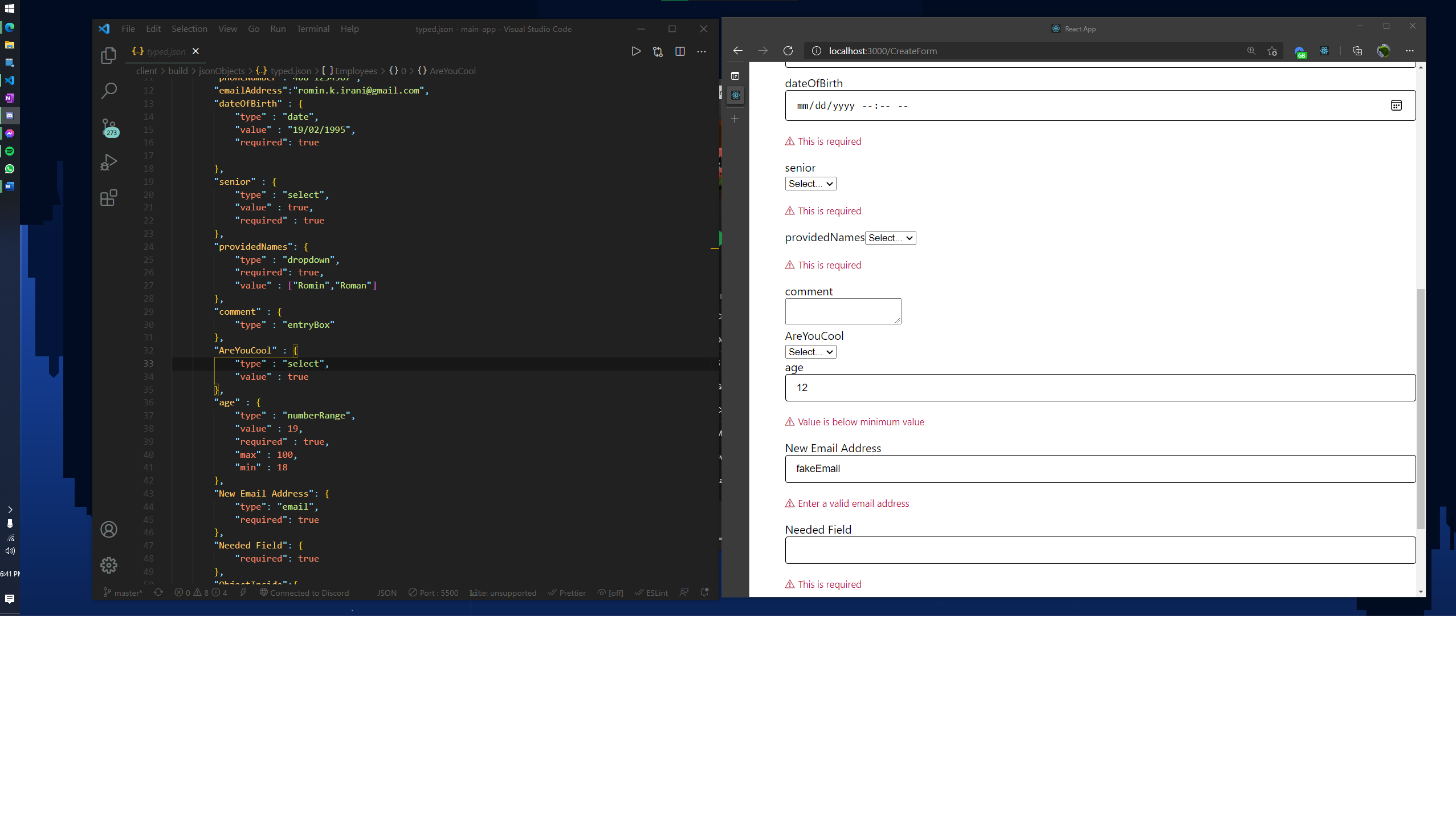
- They’re aesthetically pleasing, they don’t generate any new ideas in functionality but they’re nice to look at for inspiration to other developers

- Posts that have small improvements that were not recognised are very popular as they are easy to implement

- Posts that are completely new ideas, are of course received well but really depends on if the implementation of said idea is executed well

## Social Media Draft

JSONToForm – A JSON Parser that can take a JSON file and turn it into a React Hook Form.



Here’s the repo [JustinYuann/JSONToForm (github.com)](https://github.com/JustinYuann/JSONToForm)

Please ignore the weird folders, still not familiar with github and some folders are for my uni documentation. The code is in the folder called “maincode”.

JSONToForm can basically read a JSON file and turn all the String Value Pairs to a Form. I’ve also added a way to add in fields for certain data types like dates and emails! I hope somebody could built upon my work and use it for something pretty cool!

The purpose for this parser was to allow a user to declare multiple objects with certain permissions and views. This in turn would create a basic web application with multiple views and CRUD abilities.

Anyway, thank you for reading!

# Final Submission

- Comment code

- Push everything to Git then clone and then push it to canvas

- Social Media Post

- Choose were

- Why did you choose there

- Why did you think this community would accept it?

- Show that you’ve analysed the post in that community

- Try to identify what posts the community does or doesn’t like

- How much time did I save someone if they were tasked with the project?

### Test Cases

* Show you breaking it.
* Show checking how it can break.
* Automated and manual test cases

# Easter Priorities

- Implement all declared data types

- Text boxes, lists

# The End

- Thank you for all the help and guidance, I hope you well and safety 😊