SDV602 Journals

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# Introduction:

The journal assessment for SDV602 aims to provide us with a way to analyse and critique our development process which allows for us to further develop and tailor these skills to be useful in our future careers.

Journal 1:

# Milestone 1:

Milestone 1 of our main SDV602 project aims to develop the foundations of a data analysis application. This application will utilize PySimpleGUI and MatPlotLib to create a Graphical User Interface and display data in a way that multiple users would be able to interact with, manipulate and discuss.

To achieve the criteria for milestone 1 I broke the requirements down into smaller stepping stones that would be easier to work through. These stages were;

* Identify a data set to work with
* Basic environment setup
* Module Installation
* Learning PySimpleGUI
* Implementing Data Explorer Screens

To begin with I wanted to try and develop a data source that could easily be kept up to date. I began with the idea of creating a web scraper that scraped both Seek.au and Seek.nz for software developer roles and saved them in corresponding .csv files. This worked very well until seek updated their site to not accept requests from web scrapers, this update was shown in the sites robot.txt file.

After this setback I jumped between a variety of datasets until I came upon an in depth dataset that showed measurements for the 8 major planets within our solar system. This dataset contained a wide array of metrics that could be compared and displayed with a variety of graphs.

Once a dataset had been decided I began setting up my project. First by creating an environment within VS code and then setting up the project file structure. After this initial step I began installing and initializing the modules within the files that I needed to use. This led to my second roadblock, the modules for python had been installed into two separate locations, therefore I had to change the interpreter location when wanting to utilize each module. To remedy this I installed the modules locally within the project. In future projects I will make sure that I have a single location that python stores data.

Once these issues had been ironed out I found it relatively straightforward to develop the project foundations. Creating 3 basic data explorer screens with placeholders for data.

# Conclusion:

In conclusion I found that this milestone reinforced the need to organise and setup the foundations of a project correctly so that you limit the chance of encountering these roadblocks.

Journal 2:

# Milestone 2:

Milestone 2 of the SDV602 project focused upon refactoring our code into a *Model View Controller* (MVC) structure and beginning to organize our data for the application.

Milestone 2 came with its own set of challenges, learning how to break down code into an MVC pattern and then link those files. When it came to developing this section it was very important to name the files in the correct format so that it was straightforward when linking them.

I found that to understand the MVC pattern thoroughly enough to make the best use of it I had to break it down on paper. Once I figured out my own method to developing and maintaining the MVC pattern I found it very straight forward to utilize.

Looking back on this milestone I feel that I put too much of my focus into the development and refactoring of the MVC pattern and not enough focus onto the other aspects that were required for the milestone.

When it came to implementing this milestone I found that my previously selected dataset was too in depth for me to implement reliably. To this extent I moved towards using a dataset revolving around the yearly births and deaths rate for New Zealand, this also had the added benefit of having several years worth of data that could be used to update the original csv and also allows us to test the functionality of uploading and merging csv files.

I found the use of external planning tools crucial to understanding the interactivity of the MVC system in the beginning however by the time I was finishing milestone 2 I found the pattern to be easy to follow, especially when it came to going back and refactoring code as I knew precisely where these files were located thanks to this pattern.

Journal 3:

# Milestone 3:

Milestone 3 for the SDV602 project consisted of implemented multi-user features and producing an essay describing the differences between a previous language we had learned and python.

For the implementation of the multi-user features of this application we were to use the online storage service developed by our tutor. This was a JSONDrop service that allowed for us to have our own cloud storage database that we could sent Structured queries too through the use of a user\_manager file that stored the predefined commands that were available for this service.

This milestone helped to further my understanding and experience with the MVC pattern as it required me to implement additional functionality through the use of new files, buttons and triggers. I was also able to extend the uses of PySimpleGUI while figuring out how to initialise the screen in different locations.

Towards the end of this milestone I really began to become comfortable with the MVC pattern and appreciated its benefits. For this milestone I was able to utilise this familiarity with the pattern to plan what I needed to do and then work through the implementation of those tasks.

Throughout this milestone and the previous milestones the benefits of python over my previously learned languages were hammered home. The simplified learning curve juxtaposed against the power of the language was a pleasant surprise and really encouraged me to learn more.

# Overall Conclusion:

Overall I feel that each milestone helped me to build upon the skills we had developed in class and during self-study that we had developed during the previous sessions. These milestones really helped me to analyse and improve my personal approach towards coding and ways in which I can trouble shoot during development.

I found the premise of the project to be greatly enjoyable and this interest helped to drive my motivation for developing skills that would assist in the project. After working on each milestone I found that my confidence and knowledge of python had been slowly built up to where I began to understand where my next steps laid.