Initial Ideas

I have decided to make an app which helps pilots and enthusiasts prepare for flight with a Meteorological Terminal Aviation Routine Weather Report (METAR). This helps them to be able to plan their initial journey as they can predict fuel requirments and which Runway is being used from this information. Traditionally, this is given via Radio using a TTS but the pilot still has to decode this information. My app will automatically fetch the data using an API, decode the information and present it in a understandable method. You would search for the METAR by entering a International Civil Aviation Organization (ICAO) airport code and it would fetch the data based on this. If you forget your ICAO, there should be a service to search for these quickly.

To program the app, I will be using the Kivy Framework on python. Python is a complex but easy language to learn and comes with lots of built in modules and methods which can boost the production of the App.

Kivy is the best framework for this app as it is very versatile as well as adaptive. Firstly, the Kivy Language acts as a mix of CSS and HTML but for a App, it makes it very easy to style your app using many different layout methods, each with their own advantages. Secondly, the framework natively supports the majority of operating systems such as: Window, MacOS, most types of Linux, Android and IOS (these are the main ones). Finally is its native built-ins such as the screen manager which makes transitioning between different sections of the much easier, the Object Property built in which can help with moving and handling properties between the app, the Kivy language as well as the python code and the built in URL Request class means that there is no need to import the urlib module so being able to natively support api requests which extremely useful as it is one of the main aims/ uses of the App.

There will be a custom user system where a JSON file will be used to store user info such as username, email, password (hashed and with salt using the haslib python builtin module) as well as recent searches which can help pilots who do regular routed eg: Manchester to London twice a day. Perhaps there could also be customisable user experience with avatar photos and even help with accessibility. Accessibility help may include: enlarged text to help with some visual impairments, colour blindness support for people with partial or full colour blindness, a Text to Speech (TTS) system using the google TTS api. to aid pilots so they don’t have to have their phone in front of them but on the side with the METAR read aloud. Multiple language support with the help of the google translate api and finally a dark mode because why not and it may help with night flights, I guess.

To conclude, the project is a app to get METAR reports.