About Me:

Name: Benjamin Webb

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I live in Perth, Western Australia. My education to date is vast are varied. In previous years I have studied Visual Art (Cert III), Multimedia (Cert III and IV), Performance Music (Cert III, IV, and Diploma), Music Business (Cert IV), and an introductory course into Automotive Mechanics (Cert II). Over the past 5 months I have been teaching myself Spanish as I have recently returned from a trip to Mexico.

In my free time I write and play music in a band and am part way though building a modular synthesiser. I also design and print 3d models, such as parts for a remote control camera drone.

Interest in IT:

It has become a part of everyday life. I got into IT at a young age when my family first got a computer and the internet. Since then I have learnt good amount about how computers work, how to build them, and how to fix them. I enjoy building things, from playing with Raspberry Pi's and 3d printers to programming, IT has become a very integral part of it. I do numerous IT related tasks for my family, such as trouble shooting computer and network problems as well as replacing components and upgrading software.

I chose to study through RMIT as I could do the course I wanted online and at my own rate which is important to me as I work during the day. I have not studied online before so having the ability to choose my own study times is beneficial.

I hope to learn how different roles in the IT industry operate. I also hope to expand my knowledge on programming and project management.

Ideal Job:

https://www.seek.com.au/job/38574454?searchrequesttoken=257bb3ab-cb05-4a84-9538-5fbb0c210f66&type=standard

This role requires an Application software engineer to create and modify software for use with CNC machines. This role requires working closely with the customer to achieve their needs.

This position requires a degree in software engineering or computer science as well as engineering mathematics. Having an understanding of 3d framework and programming language is also desired in this role.

I currently have experience with the use of CNC machines. I also have a basic understanding of computer programming languages.

My plan to obtain these skills and qualifications is to complete a bachelors in IT through RMIT. An additional course in mathematics may also be required.

Personal Profile:

https://www.16personalities.com - Mediator

The results of this personality test have me as a creative time. Some of my approaches may be impractical for a team to achieve but mediators are open minded and flexible. When forming a group it is important to have someone with a realistic and grounded idea of what needs to be done.

http://www.educationplanner.org/students/self-assessments/learning-styles-quiz.shtml - Auditory :35%/Visual: 40%/Tactile: 25%

As predominantly a visual learner I learn better with graphs and diagrams. While working with a group it is important for visual learners to be able to see the information and communications from the team. Having a good communication tool, such as a messaging service or chat board, would help with team work.

http://vark-learn.com/the-vark-questionnaire - Visual 3, Aural 3, Read/Write 5, Kinaesthetic 5.

According to this learning styles test, I am both a Read/write and a Kinaesthetic learner. Read/write learn better with lists, graphs, notes and other print forms so having access to chat boards and messages would be beneficial in a group environment. Kinaesthetic learners learn best through practical exercises, examples, trial and error.

Project Idea:

The Project I wish to work on is the building and programming of a multi voiced synthesiser using a small single board computer such as a raspberry pi or arduino. I have found many types of synthesiser projects out there but none of them are what I am looking for: a semi programmable multi-voiced synthesiser which can recall programmed patches via MIDI input and physical buttons.

The world of music workstations is huge and ever growing. I want to find and build an alternative budget synthesiser setup that doesn't require Korg or Roland kind of money. As live music moves more away from hardware synthesisers to software based ones, laptops have become more prevalent.

The project will feature a standalone synthesiser with some physical controls powered by a Raspberry Pi single board computer. Receiving MIDI signals via GPIO pins would be preferred but receiving a signal through USB would be suitable providing latency issues are dealt with. Having the ability to choose bit rate and sample rate will be required to give the best response depending on the hardware chosen. Having access to WIFI or Ethernet will make editing stored presets and sounds much easier. Incorporating a small screen with the implementation of a simple user interface will make using the simpler and more convenient to use.

This project will require a raspberry pi along with SD card, sound card, and controller. The software I plan to use is PureData (https://puredata.info) and Raspbian OS (https://www.raspberrypi.org/downloads/raspbian/). Using software like Notepad++ (https://notepad-plus-plus.org) will be required to read, write and modify the coding. Github (https://github.com) will be required to back up the project files as progress is made.

Skills required for this task will be an understanding of how PureData works, learning how to program on a Raspberry Pi, and a basic understanding of Python script. This project will also require learning how to attach a GPIO pin to the code to allow external controls. Some basic soldering and electronics knowledge may also be required for the final assembly of this project.

Outcome: By the completion of this project I intend to have a fully functional synthesiser running on an affordable raspberry Pi which will be controllable from an external keyboard as well as inbuilt controls. This project will have to ability to recall preset sound patches and have a GUI for ease of use.