Task 2 - Project Research Narrative

Engineering Project Management

Ashwin Rajesh - 14259321

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1 Project A: Raspberry Pi

The Raspberry Pi is a single board computer developed by the Rapberry Pi Foundation in the UK. The original Model B board was released in February 2012, after which it rapidly gained popularity becoming the best-selling british computer by 2015 (Collins, 2022). It is a credit-card sized circuit board that includes an ARM-compatible CPU as well as a GPU, making it capable of running a full-fledged desktop operating system. The Pi was originally intended to give students access to programmable hardware, which would increase the number and calibre of students that apply for computer science at Cambridge (Collins, 2022). However the model was far more popular than anticipated, and has seen use in areas outside it's target market due to it's low cost and modularity.

The project is extremely relavant to the discipline of software engineering. The purpose of the Raspberry Pi is to give young people the tools equip themselves with important programming knowledge that can shape their career. It is a fundamental building block to gain domain knowledge in areas such as embedded software development and has also seen uses in robotics, web development and automation, making it an instrumental tool for software engineers.

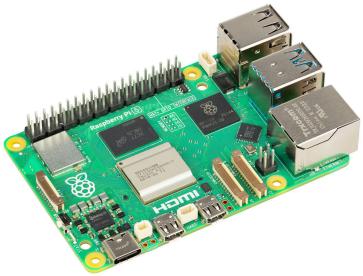

Figure 1: A Raspberry Pi board

1.a Why the Pi was successful

Initially, the Raspberry Pi Foundation set out to build a curcuit board that meets the criteria of being small size, low cost, and low power consumption (Yu, 2016). This was a well-defined scope which was not subject to change over the course of the project, which gave it stability inspite of the challenging criteria.

Furthermore, the project was under a strict timeline, as it was already advertised that the Pi would be available to purchase in 2012 (Heath, 2018). Although a deadline that is too harsh can often be detrimental to a project's success, in the case of the Pi, it provided a sense of urgency to the team, allowing them to overcome technical difficulties at an accelarated pace and deliver the product on time.

1.b Learnings

Researching into the Raspberry Pi project reveals elements that make a project successful. For example, it is very important to have a clearly established project scope. This will allow the team to be focused on the right thing, and not distracted by changing requirements. The project also shows that deadlines are not always bad, infact, they can be a motivation to overcome obstacles for the team.

2 Project B: Google Glass

Google glass is a family of smart glasses produced by Google. It's main features were a heads up display, a built-in camera and Internet connectivity through natural language voice commands. It was developed by Google X, a facility within google that was focused on improving commodities by a factor of 10, through efforts called "moonshots". The product was launched in 2014, however pulled from the market by 2015 (Weidner, 2023).

The purpose of Google Glass was to take a leap forward in the way humans interact with technology, and provide a more seamless and hands-free way to interact with the internet, by integrating it directly into smart glasses. However, the product ultimately failed due to underwhelming sales and negative customer reception (Gvora, 2023).

The google glass project is relevant to the discipline of software engineering as it is a project that marks the importance of requirements elicitation and implementation for software-embedded systems. Often times, the software can make the difference between a project successfully meeting requirements and a project failing to satisfy stakeholders. In the case of Google glass, lack-luster software contributed to the poor execution of the Google Glass project.

2.a Why Google Glass Failed

3 Project C:

4 Project D:

5 Project E:

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