**1. Introduction**

This report will be analysing the challenge of there being a lack of simple user-friendly PC building softwares, as well as a software solution to this issue. In section 2, we will be breaking down the challenge and whether it is a major issue. In section 3, we will be explaining our solution and its functions and features.  
 **2. Challenge  
  
*Why is it a challenge?***

Currently, there are a multitude of Personal Computer(PC) building softwares and websites, being PC Builder1 and PCPartPicker2 to name a few.  
  
However, there is a lack of beginner-friendly versions that can offer some assistance to the average Joe when it comes to PC building. All these websites are more tailored towards PC building enthusiasts who know a lot more about computer parts compared to the general public. If a newbie entered this website, they would be thrown into a sea of computer parts, where they wouldn’t be able to make heads or tails of whatever component they are looking at. Thus, when it comes to building PCs, be it for work, at home or for gaming, it is crucial that everyone should have some guidance to avoid any accidental purchases, no matter if it is at an individual level or a company level.  
 ***Why is it such a big deal?***Outdated hardware in PCs is a common problem in businesses, especially in small ones. It requires regular maintenance, and will experience crashing and slow performance more commonly, which increases expense for maintenance and decreases work efficiency. However when businesses try to integrate new technology, they need to evaluate whether the investment in the equipment would be worth it, or if there are other alternatives that offer a better price or perhaps a longer PC life. In summary, both of these scenarios hold significance in impacting the business in the long term as computers do not come cheap and also have significance when it comes to business having an efficient workflow. Some businesses have no idea what the perfect balance is for the PCs they want in their office, yet they may lack knowledge on how to build the most suitable PC they require.

**3. Description**

***What is the software system solution?***

The software system solution we suggest for this problem is a software application “PC Builder Software” that provides clients with some form of information, allowing them to have a rough idea of the parts of the computer system that they need to purchase to minimally meet the requirements to run the programme the clients wish to open.

**4. Functionality & Features**

***What are the functions of the software?***

The main function of the software system is to help clients build a computer system that maximises efficiency and minimise cost. Another function the software offers is to educate clients on their way around basic computer systems. Lastly, a function of the software is to provide a convenient and user friendly alternative as interaction is made virtually.

***What are the features of the software?***

*Feature 1: Personalised PC based on Needs*

Clients are asked basic computing questions about their needs such as the main use for their computing system and their maximum price budget range. This is to allow the software to get a basic understanding about your computing system to ask further questions so the software will develop a computing system that specifically targets clients needs and provides them with the best possible system.

*Feature 2: Needs for Specific Programmes*

After selecting their basic computing needs like for gaming, office ,or home use. The software systems will ask further questions to get a better understanding of the performance and parts you wish your computer system to have, and then provide the client with the relevant information in the end. For example, Jamie is a professional esports player for Fortnite and wishes to build a new computer system. Software receives the input from Jamie and provides a computer system based on his needs. Computer system provided to him will have a more powerful graphic card, greater processing powers and a larger storage compared to the average computer system used by people.

*Feature 3: Educational Tips*

In the software, there will be a small character that provides the user with some tips and information to teach and educate the user about computer systems. For example, what certain parts are entitled and their purpose in the computer system.

*Feature 4: Custom PC Building*

There will be a section in the software that allows the user to customise their own computer system and the software will then provide the relevant information like the total cost and its performance level to the user to allow the user to see for themselves if their requirements are met or not. This is to allow the users to further customise the recommended system or to build their own if they have prior knowledge to their liking to run the programme they wish to open.

**5. Feasibility  
  
*Is it feasible?***This solution is feasible as it only requires simple requirements and information from the client. For example, their budget, number of PCs required, PC requirements, and etc. The software will then provide the most recommended PC suited for their purposes and other needs . The development of this solution is also able to be done, as it does not require complex coding on the provided programming software to fulfil its purpose.  
  
***What software and equipment will be used?***

Since the requirements and the inputs required from the client are not very complicated, we will be using scratch. A beginner friendly coding software to programme and design our solution. As for equipment, we will be using Cosmo to help us introduce and educate others about our software.

***How are we going to use scratch?***

We will be using the coding and designing aspects of scratch to create our software solution. For coding, the main functions we will be using are the “if” statements as the software requires many user interactions with the users. “Show” and “Hide” will also be another common function used as there no will be many images that need to be shown, while others need to be hidden. For design, scratch allows us to design our very own characters and background in the software itself, while customising them to be able to write our ideas out as text or moving characters to pull the attention of viewers. Scratch also allows for background switching letting us be more versatile in how we desire to showcase our ideas in a comprehensible manner.

***How are we going to use Cosmo?***

For Cosmo, we will be using its talking feature to help us propose our solution idea to clients and others, convincing them to use our software to help them solve some of their business problems. And with the addition of Cosmo’s emotion feature, it also helps make the proposal with Cosmo and the team more interactive and interesting. Next, we will be using Cosmo to help us introduce users to our software system. For example, what is our software, how it works, what are some of the features present in the software, and lastly help guide users through the software of what the user needs to do. The way this works is, when Cosmo detects a face, it will start introducing itself and shortly after execute with the functions mentioned, by first giving a brief walkthrough of our software and then instructions for the software.

**6. Coverage  
  
*What industry does this software system cover?***This software system covers all industries since all have some form of reliance on computers that ranges from data storage, running programs for extensive periods of time or being able to run multiple users at once. The software can recommend computers that are better designed for the main purpose that the client may have. This is substantial improvement compared to the client purchasing a random computer that isn’t tailored towards the needs of the client.   
 ***What business needs does this software system cover?***This software can improve businesses financial decisions, and help solve financial debts the business may have. Additionally, the software can also increase work efficiency in the long run as the hardware used can provide the basic functions at a basic level, such as reduced crashing rates, swift loading speeds, and a sizable amount of data storage, and can be obtained at the lowest price possible. Lastly, the software can be used for educational purposes to educate the general public as users can learn what each specific hardware does, and how it can impact on the PCs performance.

**7. References**

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