# Criterion i will need to first understand how

Economics, Budget

Criterion A: InvestigatingMy goal in this project is to research and learn the best way to create a PC, good for gaming, editing, and everyday use. While still being energy efficient and eco-friendly. It should be fully functional and I hope to be able to create and learn more about technology during this project. To do this, I will need to first understand how a computer works and how each component in a computer functions with the other to ensure that I am properly building the computer.

I can do this by researching the topic with a variety of reliable sources. This goal is achievable because I have background knowledge of computer hardware and technology in general. There are many reasons I chose this goal for my personal project. One of these reasons is that I have always loved to work with technology. I really came to realize my passion for technology as a child and learned more by taking coding classes. In coding class I learned so much about computers and applications in general. This created a personal interest for me in the inner workings of a computer.

I have always wanted to make PC of my own to understand what does on inside and I figured I would do it as my Personal Project. Since I have technology for so long, I was really excited to do something with it for a big project like this. Also, I want to make the PC as eco-friendly as possible. This goal, in my opinion, is not as easy as it sounds. It is highly challenging as it includes many difficult aspects that are required to master and successfully built the fully functional PC. Learning how to build a PC from scratch is a difficult task, not only because you have to understand and know the purpose of every part but because one minor mistake could cause damage to the PC. Using the proper tools will be mandatory as many parts will need

to be configured in a certain way . Lastly, since my PC is going to be more energy efficient and eco-friendly, I will have to install a less draining battery as well as water cooling rather than electrical fan to cool the interior.

I will have to work extremely hard in order to create a working PC, that will suffice my goal. The global context that I have based my entire personal project on is Inquiry into Scientific and Technical Innovation. This is because I am simply using pieces of technology and making something amazing out of it. The main focus of my project is to innovate my own way of creating a computer the essentially does the exact same things as a normal computer but does not drain any more energy nor leave a larger footprint than needed. I will be making small changes to the PC building process that will help my goals go a long way.

Small things like using a slightly more capable battery and using water cooling rather than electrical fans will save a lot of energy in the long run. By making simple yet drastic changes, I can innovate a new way to build PC. As I briefly mentioned earlier in this report, I had a lot experience with technology and computers prior to this project. Other than my coding classes, I did work with electronics a lot as a child. I used to take apart electronics and reassemble it. At first, I started with controllers for gaming consoles, more specifically PlayStation. I opened it up just to see which parts did which task.

I learned about the vibrating motors, multiple batteries, motherboard, and much more. From then on, I decided I wanted to learn about and see what is inside more sophisticated pieces of technology. So I disassembled my

console, and was amazed with the technology inside. Opening up that console has helped my learn and understand much more about the process of what it takes to build something like that. A computer has a lot of the same components and also functions of a console. By being curious, I was able to learn much more and has helped me extensively during this project.

Research: The research was used to help me go through making the product. A lot of research was required so I knew what I needed to do when it came to building the computer. If I knew what I was doing at the stage of building then I would do each step correctly and the product outcome would be good. I divided the research into four sections which were researching on how to build a computer, researching on the differences between a gaming computer and a normal desktop computer, researching on the components that a computer needs and their functions and finally researching and understanding overclocking. All those stages would help when it came to building my computer and they would help me for future needs.

The research about hardware was one of the most important parts because it would be where I learn to actually achieve my goals and learn to create the product I needed. Criterion B: Planning: Criteria: I created five different criteria for myself to measure my success and help me stay on task to achieve my goal. These criteria included: A website to display my progress over timeWeekly Journals, at least 10-15Replace or improve areas which lack in performance.

A final product of a computer that is fully functionalA tri-fold board to present my research, final product, and the process I also created a checklist of

things I have to complete in order to be able to complete my project on time. It was important for me to have these highly specific criteria and follow them to be able to measure my final product and make it at a high standard. My first criteria is important to achieve success because by requiring myself to have to create and write a website to display my progress over time, I have to stay on task and be able to pace myself. My journals also play a role in this since I have to reflect on what I have done over the weeks and I have to change my plan if I am falling behind. Replacing or improving areas of deficiency will help create a more well rounded and constructed final product .

Finally, a tri-fold board is necessary to display my project over the course of time. An action plan is always essential to any project to help develop ideas and keep a person on track. Action Plans keep people in check and make sure that they complete what they have to complete every week on time. There were a lot of important steps I needed to take at regularly spaced intervals and the action plan helped me stick to these steps. There were a few things I needed before starting to build my project. Firstly, I needed to have a solid understanding of components that a computer needs and their functions and also researching and understanding overclocking. I had to learn and do research on how to build a computer, researching on the differences between a gaming computer and a normal desktop computer as I am created a cross between the two.

I planned to have all of this done before returning to school in the new year. Criterion C: Taking ActionLooking back on my project and the process I took

to complete it, I can now reason that my project was quite successful. My goal in this project was to research and learn the best way to create a PC, good for gaming, editing, and everyday use. At the preliminary stages of my project, I thoroughly researched how to build a computer, researching on the differences between a gaming computer and a normal desktop computer, researching on the components that a computer needs and their functions and finally researching and understanding overclocking. I then documented my sources and wrote OPCVLs on each of them. After completing all the research and purchasing the parts, I was ready to build my computer. I initially began with the case. The case came for the most part pre assembled, I still needed to open a few things and remove all the packing.

I at that point took a gander at the motherboard. This was the place a large portion of the parts would be connected to. I mounted it onto the case with screws and after that began to connect the case’s wires to the motherboard. The case came with a variety of port’s, including HDMI and USB 3.

0. With the motherboard and case together, I was prepared to put alternate parts in. I began with the processor. The processor is a chip, a 2×2 inch square and not even a centimeter in thickness. One side had huge amounts of gold pins where the information was exchanged, and the opposite side was shrouded in cooling glue, a glue that immovably interfaces the processor to the heatsink.

Once that was connected to, the processor was mounted to the motherboard. I at that point put in the RAM that was pulled from my old PC. It’s to a great degree simple to introduce. The stick of RAM is pushed into an

opening and after that there’s two clasps as an afterthought that snap and hold the slam into the attachment. I at that point introduced the graphics card and installed it. I connected the power supply along with all the wiring and the water cooling, and I was finally finished. I did run into some problems with BIOS while booting it on at first but fixed it soon after. The computer was working amazingly an I am exceptionally satisfied with how my PC turned out.

The global context was critical while creating my PC and it guided me towards my final product. Since my global context was Scientific and Technological Innovation, I centered my undertaking towards affecting the future through logical and mechanical advances. I investigated my global context and effectively created a energy proficient PC. My global context guaranteed me that the appearance of my PC was not vital while assessing my product. My global context truly helped me to remain on track with my undertaking and helped me focus on my objective. One of the main skills used was thinking skills.

Relatively consistently, an issue and I depended on my reasoning abilities to traverse it and advance into my task. For instance, in the start of my project I needed to make sense of how overclocking worked on a computer because I could get it to work. I later figured out how to do this and was quickly solved. Like this circumstance, I experienced numerous blunders all through my task, yet constantly found an solution. A crucial segment of my venture was skills of collaboration and effort. In the mentor meetings with Mr.

Majask, I focused on what he said and noted down his accommodating tips. I tried to settle what was essential and enhance my work with his recommendations. Teaming up with my father was similarly as critical.

My brother sat down with me a few times amid my task and invested some time dealing with my computer with me. He helped me repair any issue that stopped by demonstrating to me what wasn’t right and how to revise it. Criterion D: ReflectingMy goal in this project was to research and learn the best way to create a PC, good for gaming, editing, and everyday use. At the preliminary stages of my project, I thoroughly researched how to build a computer, researching on the differences between a gaming computer and a normal desktop computer, researching on the components that a computer needs and their functions and finally researching and understanding overclocking. I then documented my sources and wrote OPCVLs on each of them.

Looking back on my project and the process I took to complete it, I can now reason that my project was quite successful. I have created a few design criterion to assess the success of my project. A couple of these include the ability to turn on and function in simple tasks, the ability to keep a steady frame rate throughout usage in moderate gaming, no sign of lag or glitch, and the temperature of the PC staying steady or at a normal amount.

I have tested all of these and the computer passed with flying colors. I have also set a number of standards I would like this PC to reach in terms of benchmark scores and clock speeds. The PC is overclocked and is at 4. 1 Ghz, and this should stay constant even when the computer is undertaking

multiple tasks at once. The PC also scored exceptionally well for refresh rate which is also another way I asses it.

I learned numerous things en route of this venture. I initially learned not to set my objectives to be excessively out of reach. At to begin with, I thought this would have been something that would be to a very simple to make, however after further research, I understood that my objective was excessively aggressive and it was a considerable measure harder than I anticipated. I at that point changed my objective from making an personal computer that was purely for gaming and maxed out specifications rather than a cross between a normal and a gaming PC. I ran over this acknowledgment when I took a look amount of sheer materials needed to create a beast of a PC like one I was hoping. Online sources and videos are another venture administration that was acquainted with me through my research. I found out that it was definitely out of my budget, high risk of failure due to the amount of power needed, and couldn’t be made without a few cutbacks in the energy section. My first task explanation huge drawback, in that it only provided electrical fans, no space for water cooling that was too huge for and assets I had.

In this manner, I chose to bring down the extension and stick to a cross between the two PC’s, so I could finish my venture with the time and assets that I had accessible. I developed and grew as a student and academic thinker, while undertaking this project. I was very open-minded and took many risks.

In many instances I had to think beyond the booklet or instruction manual and find a much more developed way of going about fixing the problem and I had to take some chances as well. When I completed building the PC I thought I was set, but when I pressed the button to turn it on it didn’t work. The problem was in the boot, the BIOS, instead of doing the traditional solution, which is to reset it with an operating system CD, but I took a risk and rebooted it directly through the start up. Making inquiries was significant in light of the fact that I was stalled due to mistakes. Regardless, I did not ask of whether I didn’t have a real issue and knew I simply needed to gather more information. Because of the IB learner profile, I have upgraded many key aptitudes and have adapted as well as learned more about myself as a student. I can incorporate these abilities into my life and utilize, in certainty what I have picked up to achieve anything.