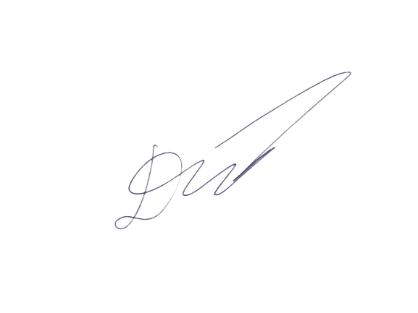
**ASSIGNMENT 1 FRONT SHEET**



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| --- | --- | --- | --- |
| **Qualification** | **BTEC Level 5 HND Diploma in Computing** | | |
| **Unit number and title** | Unit 06: Managing a Successful Computing Project | | |
| **Submission date** | 9/10/2022 | **Date Received 1st submission** |  |
| **Re-submission Date** |  | **Date Received 2nd submission** |  |
| **Student Name** | Mai The Duc | **Student ID** | GCH200681 |
| **Class** | GCH0907 | **Assessor name** | Nguyen The Lam Tung |
| **Student declaration**  I certify that the assignment submission is entirely my own work and I fully understand the consequences of plagiarism. I understand that making a false declaration is a form of malpractice. | | | |
|  |  | **Student’s signature** |  |

**Grading grid**

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| --- | --- | --- | --- | --- | --- | --- |
| P1 | P2 | P3 | P4 | M1 | M2 | D1 |
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| **❒ Summative Feedback: ❒ Resubmission Feedback:** | | |
| **Grade:** | **Assessor Signature:** | **Date:** |
| **IV Signature:** | | |

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# Introduction

In the early twenty-first century, we saw the sweeping changes brought on by the digital transformation. Digital devices play a significant role in human life; they make managing our work and personal affairs easier and more productive. But as everything has shown, the digital transformation has its own set of environmental issues. Increased CO2, greater overall electricity consumption, the removal of trees for additional dams, etc. are some examples of negative outcomes. Additionally, technology is constantly evolving, so as the digital revolution advances, we will leave behind a significant amount of outdated technology. Therefore, if we are unable to recycle them, it will also be a problem for the environment.

As a part of the research and development team, we will create solar electricity using solar batteries in this mini-project to lessen environmental damage. By using this renewable energy, we can avoid destroying forests and natural habitats to build more dams.

# II. Project Initialization

This project started with baby steps. Our solar-powered batteries will be installed on the university's campus roof. Additionally, if this project is a success, we can expand it into other university communities.

Our objectives are to:

- Supply the campus with green electricity.

- Prevent using hydroelectricity to preserve the environment.

- Save money over time for the campus.

# III. Project Management Plan

## Scope

We initially only intended for the scope of this project to include Greenwich University; however, we may later think about expanding it. As long as they are on campus, everyone who belongs to Greenwich, including visitors, can use the energy from renewable source.

## Time

This project will took 2 months to plan, 3 months to develop, and 1 last month to testing.

## Communication

Our teams use group chat to have discussions. We use apps like Discord, Messager, and Zalo, among others. If there is time, we will congregate and meet in person.

We communicate with one another very frequently on the platforms mentioned above.

## Risks

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Category | Risk | Probability | Priority | Suggestion/Action |
| Technology | Technology obsolescence | Low | Medium | We need to upgrade the system. |
| Quality | Product reliability issues | Low | Low | The product will perform well and reliable. Or else we will fix it. |
| Quality | Product have low durability | Medium | Medium | We will need to maintain the product carefully and casually. |
| Schedule | Task overdue | Medium | Low | Is ok of us to be little late because we always have spare time. |
| Resource | Low skill member | High | High | Almost all member still new for this kind of project. But give us time, we will give all our effort to this project. |
| Resource | Not enough resource | Medium | High | The project won’t be able to lunch if we lack of equipment and tools. |
| Budget | Task budget overrun | High | High | We will need to ask for donation from other interested source. |
| Budget | Wrong budget estimate of a task | Low | High | Low chance, we could have a problem when accounting for task budget. Therefor, the planning step is very important. |

## Resources

To power the entire building, we will require at least 12 to 15 solar batteries. Dashboard is also necessary for system management. My entire team, which consists of 6 people, had to work together to complete this project.

## Cost estimation

We applied the three-point estimating method to calculate the total cost for the whole project.

According to Dashore (2021), we use three estimates to define an approximate range for a project cost:

* Most likely (M) as know as best guest (BG): The cost of the activity, based on a reasonable estimate of the required work's effort and any anticipated costs.
* Optimistic (O): Based on an analysis of the activity's best-case scenario, the activity's cost was determined.
* Pessimistic (P): Based on an analysis of the worst-case scenario for the activity, the cost was calculated.

So to be fair, I use Beta Distribution formula to calculate the cost of project:

E = (4M + O + P) / 6

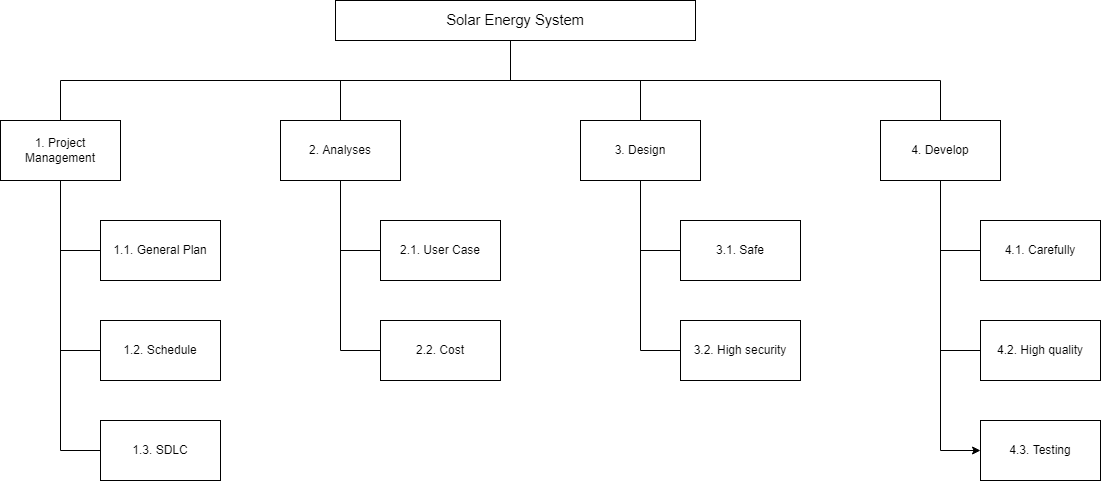
* E = (4 x 120000 + 103000 + 150200) / 6 = 122200$

So 122200$ is our final cost plan and we operate the project around it.

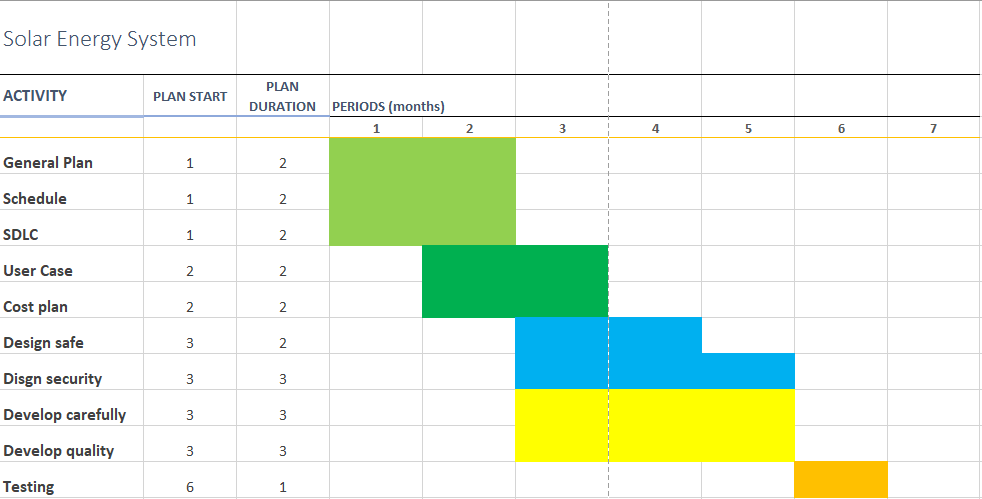
|  |  |
| --- | --- |
| Name | Cost |
| Man-Month (x6) | 1200 x 6 x 6 (months) = 43200$ |
| Solar batteries (x12) | 5000 x 12 = 60000$ |
| Electricity cable | 10000$ |
| Dashboard and other control stuff | 3000$ |
| Other tools | 6000$ |
| **Total** | 122200$ |

# III. Planning

## WBS



## Gantt Chart



# IV. Research

## Primary Research

1. List of interview question
2. On the scale of 1-5, how much do you care about digital transformation.
3. Do you think digital transformation have negative impact on environment.
4. Do you like our project on solar system energy.
5. On the scale of 1-5, how exciting do you want to use solar electric power.
6. Do you think our project will make any change to environment?
7. Summary

On the first question:

|  |  |
| --- | --- |
|  | Votes |
| Option 1 | 1 |
| Option 2 | 3 |
| Option 3 | 1 |
| Option 4 | 3 |
| Option 5 | 2 |

On the second question:

We are astonished that 8 out of 10 people surveyed respond negatively to the question. That means, most people do not really see the damage of digital transformation on nature environment.

On the third question:

We are happy to tell that, 90% really like our idea and the other 10% are very interested.

On the fourth question:

|  |  |
| --- | --- |
|  | Votes |
| Option 4 | 8 |
| Option 5 | 2 |

On the last question:

Well, in this fifth question, we receive a lot of different answer. But all of them kind of curious about the solar system, and the rest is exciting about it.

1. List of survey questions
2. On the scale of 1-5, how much do you care about digital transformation negative impact on envirolment.
3. Do you think solar energy system will solve anything?
4. Do you agree about our method.
5. On the scale of 1-5, do you like to change all of the electricity source in your life to reusable source.
6. Do you think our project will make any change to environment?
7. Summary

On the first question:

|  |  |
| --- | --- |
|  | Votes |
| Option 1 | 2 |
| Option 2 | 1 |
| Option 3 | 6 |
| Option 4 | 1 |
| Option 5 | 1 |

On the second question:

All of the answer are positive.

On the third question:

Almost everyone thinks our method are great but small amount think they prefer electric from wind energy.

On the fourth question:

|  |  |
| --- | --- |
|  | Votes |
| Option 1 | 4 |
| Option 5 | 6 |

On the last question:

Like the interview, the answer are likely similar.

1. Evaluate

Through interview and survey, we have a bigger look about digital transformation impact on environment. Some people still lack of awareness about this problem. We have a chance to introduce about our project to help them know more about it. It been really an experience when we operate this section.

## Secondary research

Beside of bad things happened to environment, digital transformation do have huge impact on economy. All the information are written in Digital Transformation of the Economy: Challenges, Trends and New Opportunities

Back to the negative impact on environment of digital transformation, the book Digital Transformation and Global Society have mentioned it. It also explain about budget expenditures for environmental protection.

Both book are different but my best thought about digital transformation are:

Transformation is a need for the era of digital.

Environment may be damage a lot so we must also protect our planet.

We need to teach children about this problem and together find the new future to healthy humankind.

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