CGNB422
Project: Research & Presentation

A: The topic/area

ICT is used widely in the **energy** sector, and to ease pollution (such as reduction of carbon footprint). Propose an **ICT solution** to address an identified problem in any one of these domains chosen:

- The Oil and Gas industry.
- The Electricity industry.
- The use of ICT in renewable energy sector.
- Prevention or reduction of environmental pollution (e.g. the transportation sector, pollutants detection).

Steps/Procedures:

1) Choose a domain (from **ONE** of the four domains listed).

2) Identify a problem within this selected domain.

3) "Investigate"/Find out what is still lacking with the current solutions - maybe the solutions given is not efficient (enough); or the current solutions do not fully solve the identified problem; or how the current solutions can be further improved.

4) Once number 3 has been identified – this creates the **GAP** in which your proposed system needs to address.

5) Students are then required to make a **10 minutes video presentation**.

6) Upload the recorded video in **YouTube**. Then, submit the YouTube link.

7) Prepare and submit a report (PDF format).

8) Both report and YouTube link must be submitted **LATEST by 5ᵗʰ June 2020**.
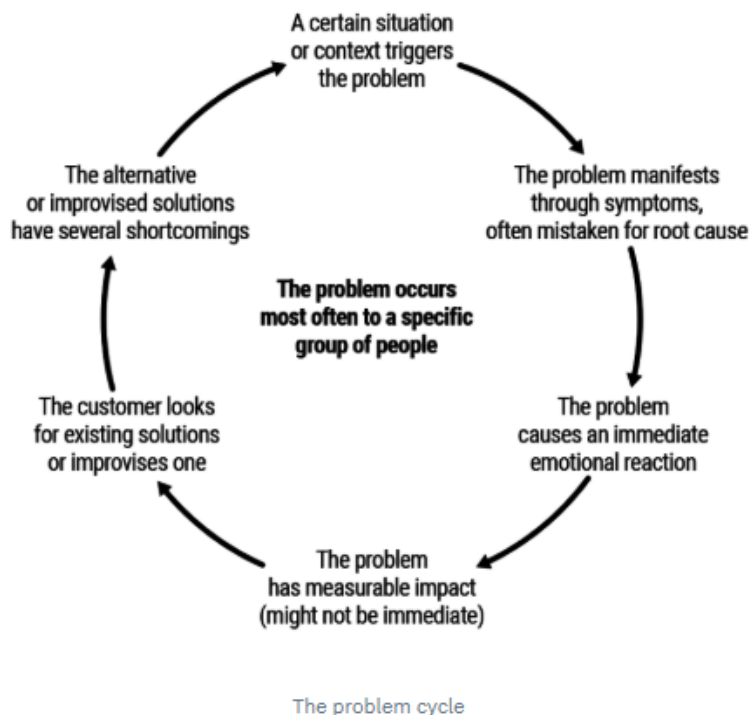
Tips:

- Students need to ensure audience understand **what** the proposed solution is. Students may be able to do this by showing the solution's interface or a diagram showing how the proposed solution works.
- Students need to show the "**severity**" of the problem being addressed.
- Students needs to **identify** two or three solutions currently available (which also address the same identified problem).
- Students need to show the **uniqueness** of the proposed solution – one way of doing this is by addressing the **gaps** found in the current solutions.
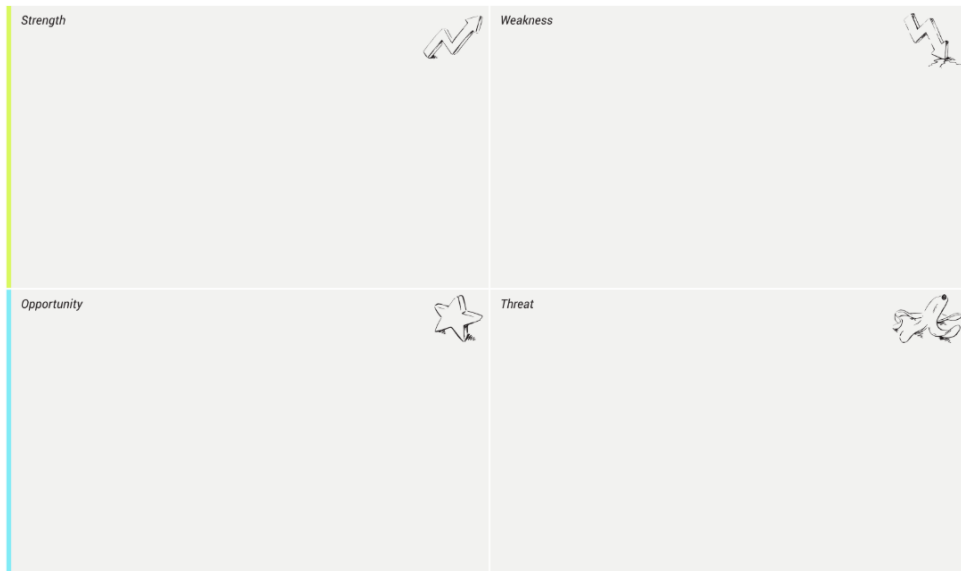
B: Examples of tools you may use for this project:

1) The Problem Statement Canvas:

CONTEXT When does the problem occur?	PROBLEM What is the root cause of the problem?	ALTERNATIVES What do customers do now to fix the problem?
CUSTOMERS Who has the problem most often?	EMOTIONAL IMPACT How does the customer feel? QUANTIFIABLE IMPACT What is the measurable impact (include units)?	ALTERNATIVE SHORTCOMINGS What are the disadvantages of the alternatives?

A certain situation or context triggers the problem

The problem manifests through symptoms, often mistaken for root cause

The problem causes an immediate emotional reaction

The problem has measurable impact (might not be immediate)

The customer looks for existing solutions or improvises one

The alternative or improvised solutions have several shortcomings

The problem occurs most often to a specific group of people

The problem cycle

Source: https://www.metabeta.com/articles/process/problem-statement-canvas/

2) The SWOT analysis (examples):

| Strength | Weakness |
| Opportunity | Threat |

Strengths

What are we *really* good at?

What do we do better than our competitors?

What do our customers like about our business?

What valuable assets does our company have?

Weaknesses

What are we not so good at?

What do our competitors do better than us?

What do our customers complain about?

What factors are holding our business back?

SWOT

Opportunities

What regulatory changes could help us?

Is the market for our products growing?

What opportunities have we not pursued yet?

What new opportunities are ahead of us?

Threats

Who are our current competitors?

Is the need for our products declining?

Is our cost of goods increasing?

Is the cost of acquiring customers increasing?

3) Other tools you can use to assist you in the development of your contents are:
   i. PEST Canvas
   ii. PESTLE Canvas
   iii. Value Proposition Design (VPD) Canvas

C: How are you going to be evaluated – the grading rubrics:

PART A - Report Write-up and Presentation Contents					
Evaluation Criteria	10-9 marks	8-6 marks	5-3 marks	2-0 marks	10-0 marks
Rubrics					Rating
1. The **identified** problem	Very well discussed, with sound justifications and examples	Good effort in presenting/writing up the identification of problem is evident	Acceptable discussion	Limited effort in presenting/writing up the problems identified	
2. The **significance** of the identified problem	Very well discussed with sound justifications to show the severity of the identified problem	Good effort in presenting the identified problem's severity	Acceptable discussion of the problem's severity	Limited effort in presenting the severity of the identified problem	
3. Discussion on similar solutions for the identified problems. "Competitors"/ current solutions analysis	Very well discussed with sound justifications	Good effort and justifications are evident in discussing the identified currently available solutions to the identified problem	Acceptable discussion	Limited effort in presenting the findings	
4. The unresolved problems, or the inefficiency of the current solutions (identified in #3), i.e. the GAP has been identified	The gap has been clearly identified, and the gap is **VERY SIGNIFICANT**	Good effort to present the identified gap	Acceptable discussion of the identified gap	Limited effort in presenting the identified gap	
5. **The proposed solution** – an ICT based system to solve the identified problem.	Very well discussed, the solution proposed is feasible and addressed the problem and the identified GAP	Good effort and justifications of the proposed solution	Acceptable discussion	The proposed solution is unclear, or not feasible	
6. The proposed solution's **overall** ratings	Very well discussed, the proposed solution is well thought of	Good effort to present proposed solution	Acceptable discussion of the proposed solution	Limited effort in presenting the proposed solution	

PART B – (Online) Presentation skills (20%)	
1. Clear and convincing identified problem and the proposed solution: Background, Challenge, Resolution	10%
2. Supporting materials and/or props used effectively	5%
3. Lively and enthusiastic speaking	5%
Total marks for the Presentation:	_____

PART A →(Total marks/60) x **80%** = _____

PART B →Presentation skills **(20%)** = _____

TOTAL (PART A + PART B = **100%**) = _____

D: Report format:

1. Cover/Title/Group Members (Name/Student ID/Section)
2. Introduction
3. Problem statement(s)
4. Current solutions – are/is there any current solution(s) available? If so what are the drawbacks of current solutions.
5. Write-up on your proposed solution:
   a. Interface design, or diagrammatic representation of your proposed system
   b. Descriptions
   c. Advantages of your proposed system. Why is it a better solution?
6. Conclusion.