



ENGINEERING DESIGN NOTEBOOK

(TEAM 10)
ENED 1100

Project Start Date:
February 10, 2025

Designed by:
T'erra Eubanks
Shifon Adbor
Alex Liard

(Ened 1100 Project)

Team 10

Design Notebook

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Team Code of Cooperation

Date of last update __01/31/2025__

Team Information

Name	Email	Phone Number	Best way to contact
Terra Eubanks (Architectural Eng)	eubankta@mail.uc.edu	937-920-0196	Phone
Alex Laird (Environmental Eng.)	alaird520@gmail.com	440-855-1918	Phone
Shifan Abror (Computer Science)	rashidsb@mail.uc.edu	986-600-7369	Phone
Luqman Ahmed (Not Active)			
Ryan Utley (Not Active)			

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Team Goals

Related to in class work

1. **Best grade**
2. Turn in assignments on time (Time Management)
3. Communication w/ everyone on the time

Related to specific project

1. A Product that will improve the quality of life of a population in need
2. Keep everyone on the same page (Project Management) and stay up to date.
3. Improve team effectiveness skills
4. Brainstorm and collect ideas from everyones opinions

Expectation of Individual

1. Consistency
2. Responding in a timely manner
3. Cooperation
4. Communication
5. Respect of one another
6. Support
7. Work Ethic/ Discipline
8. Adapting

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How Team Will Be Run

1. Notebook of all updated information
2. Communication through cell phones
3. Google drive to share documents
4. Meet up Monday after 5 at Clifton court
5. The format of meetings is to have an agenda with our time and updated information of project
6. Put information in group chat if meeting is missed
7. We all will talk to the professor as a team to have a clear understanding if needed
8. Take a vote to agree up on a decisions

Consequences for Violation of Expectations

1. 3 Strikes
2. Bring to Professors attention

Psychological Safety

1. Everyone Contributing
2. Communication
3. Understanding everyones ideas/ strengths
4. Incorporate everyones skills into the project
5. Ask for Help
6. Confidence with in one another

Team Civility Statement

Our team is dedicated to creating an environment where each individual is valued and can succeed. We will foster the best possible environment for doing our work as team members, as students in this course, and as supporters of the educational process.

We will promote cooperation towards our common goals, coupled with communication and transparency, where everyone is part of the decision-making process. We will encourage everyone to speak and act thoughtfully, judiciously, and with respect for one another, regardless of their role, status, or social identity. We may not always agree, but we are called to respond with civility when we do not.

Our commitment to civility will lead to a positive culture where it is fun to come to class and work together as a team to learn. A culture where diversity and inclusion are celebrated, and fairness, respect, and high ethical standards are guaranteed.

We understand that any member violating our Team Civility Statement may result in that member having a reduction in their course grade.

Team Member 1: Terra Eubanks

Team Member 2: Shifan Abrar Rashid

Team Member 3: Alex Laird

Team Member 4: Ryan Utley (Not Active)

Team Member 5: Luqman Ahmed (Not Active)

Project CCCD: Reflection on Team Composition and Population Research

ENED1100, Spring 2025

DUE: Sunday, February 16th @ 11:59PM

Part 1 – Understanding Your Team

Research has shown that teams are most effective when they are comprised of members with a diverse set of skills and backgrounds. This diversity allows teams to develop more creative solutions that better address the needs of the customer as each person brings with them a unique perspective when viewing problems and potential solutions. Therefore, understanding the backgrounds, strengths, and weaknesses of the people on your team is critical to ultimately being successful as a team.

Instructions: *As a team, reflect on the following discussion topics and record the results of your discussions in the boxes below. Your responses should be at least one paragraph (3-4 sentences) in length.*

Task 1: *Have each member of the team share their background (where they're from, their cultural background, why they chose UC, why they chose engineering, etc.). What similarities and differences did you learn about each other? How might these similarities and differences help your team to be effective on your project?*

- 3 people from Ohio, 2 others are not.**
- Uc has a good engineering program**
- We all chose engineering as our career field to eventually get a job in engineering.**

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Task 2: Have each team member share about their prior experiences in developing solutions to complex problems. Does anyone have experience with solving engineering/technology problems? How can experiences solving non-technical problems contribute towards solving problems in this class?

-Yes (everyone)

- It will help us break down certain situations or analyze different problems from a non-technical standpoint

Task 3: Have each team member share about their chosen discipline within engineering/technology. How can the diversity of disciplines on your team help your team to be successful on your project?

(2) Computer science

(1) Industrial Engineering

(1) Mechanical Engineering

(1) Architectural Engineering

- Having everyone in a different field will help us all analyze and understand the project from a different point of view.

Part 2 – Understanding Your Customer

While it is important to work effectively as a team, if you do not understand your customer (i.e., the people who will be using your solution), you will ultimately be unsuccessful in developing a solution that meets their needs. Understanding your customer involves empathizing with them in order to better understand the issues and challenges they face. Some of the ways that you can better understand your customer are to:

1) Engage in interviews or focus group discussions with customers to understand the issues they face and what they might need in a solution.

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- 2) *Observe customers in a real-world setting experiencing the issues they have identified.*
- 3) *Watch documentaries or news broadcasts about people who are from the same background as your intended customer or who are experiencing a similar issue.*
- 4) *Read news articles or other publications about people who are from the same background as your intended customer or who are experiencing a similar issue.*
- 5) *Gather general information from various reputable sources (national or international databases, government websites, websites for international agencies, etc.) about your intended customers.*

Instructions: *Once you have selected your target population, conduct research into this population and, as a team, reflect on the following discussion topics, recording the results of your discussions in the boxes below. Your responses may either be in paragraph or list form, but should contain sufficient detail to understand the content of your team's discussions.*

Task 1: *After conducting some preliminary research, describe the population you intend to target for your project and why you have chosen to them.*

Savoonga, Alaska because they are a low income population and high in utilities bills. They also rely on diesel generators for electricity.

Task 2: *Conduct research into the population you have selected, engaging in some of the activities described above. Record what activities you engaged in and any sources you found. Synthesize and summarize the results of your team's research into your target population. In what ways is the population you have researched similar to and different from the members of your team?*

The population in Savoonga, Alaska make less income then what we pay in the U.S. today.

Task 3: Based on your research, identify at least 3 needs of your target population and why they are important to address. Discuss the needs as a team and identify the one need on which your team will focus. Document the needs you identified, their importance, the need your team has selected, and why your team has selected it below. You should also include a short description of the process your team used to select this need from those set of those identified.

1: Electricity

2: Cost Saving

3: Jobs

We have chose electricity because it is more expensive and there are a numerous amount of power outages.

Task 4: As a team, identify the stakeholders for this project. A stakeholder is anyone who will be impacted by the development, manufacturing, selling, maintenance, and using of the solution you design. List the stakeholders you have identified below along with an explanation as to why your team believes they are a stakeholder. You should be able to identify at least 5 groups of stakeholders for your project.

1: Pilots

2: Population

3: Engineers

4: Laborers

5: Diesel Companies

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Task 5: *As a team, discuss the implications for being successful and unsuccessful in developing an effective solution to the need you have identified. How will things change for all of the stakeholders if you are successful? What would happen if you are unsuccessful? Summarize the results of your discussion below.*

If successful, the prices will go down, the amount of blackouts will reduce.

If unsuccessful, there will be an increase in the cost of utilities and there would be a waste of money and time.

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Gantt Chart Links

 **Gantt Chart_ Savoonga_as_of_2-14-2025**

 **Gantt Chart_ Savoonga_as_of_2-27-2025.xlsx**

Meeting Agenda / Minutes

Project/team: Ened 1100 / Team 10

Date/time: Jan 30, 2025 (5:00pm-6:30pm)

Note taker: Terra

Present: Terra E. Alex L, Shifon, Ryan, Luqman

Agenda:

Discuss the population we are targeting.

Researching

Go over Due dates

Review Gantt Chart**Tasks behind schedule**

Task	Why behind	Plan to get up to date
1	Research the Alaska Population	
2	Research how to reduce electricity for Alaska.	
3	Finish Team Code of Cooperation Assignment	

☐ Tasks added to chartForeseeable issues that will prevent success ☐ No ☐ Yes**Decisions made:**

Target is the Alaskan Population

Reduce their Energy Cost

Important information shared:

The cost of diesel fuel in Alaska

How much Electricity we Take from Canada

Ideas we want to remember:

Alaska's Climate

How they receive their electricity now and how much they pay for electricity

Team member	Hours on project since last meeting (hrs)	Total hours on project (hrs)
<u>Terra</u>		<u>1.5</u>
<u>Shifon</u>		<u>1.5</u>
<u>Alex</u>		<u>1.5</u>
<u>Ryan</u>		<u>1.5</u>
<u>Lugman</u>		<u>1.5</u>

Meeting Agenda / Minutes

Project/team: Ened 1100 / Team 10

Date/time: February 10, 2025 5:00pm-6:30pm

Note taker: Shifon R.

Present: Terra E. Alex L, Shifon,

Agenda:

Discuss Population and how we will help them reduce their Electricity cost.

How Will We approach the Project?

Researching

Review Gantt Chart**Tasks behind schedule**

Task	Why behind	Plan to get up to date
1	Start Script for Video	
2	Power Point for Video	
3	Brochure	

☐ Tasks added to chartForeseeable issues that will prevent success ☐ No ☐ Yes**Decisions made:**

Our Target Population is Savoonga, Alaska

Use a Tidal Turbine

Important information shared:

Research on Turbines that are used in Alaska

Ideas we want to remember:

Reduce Alaska's Electricity

Due dates for Project Assignments

Team member	Hours on project since last meeting (hrs)	Total hours on project (hrs)
<u>Terra</u>	<u>1.5</u>	<u>1.5</u>
<u>Shifon</u>	<u>1.5</u>	<u>1.5</u>
<u>Alex</u>	<u>1.5</u>	<u>1.5</u>
<u>Ryan</u>	<u>1.5</u>	<u>0</u>
<u>Luguman</u>		<u>0</u>

Meeting Agenda / Minutes

Project/team: Ened 1100 / Team 10

Date/time: February 17, 2025 5:00pm-6:30pm

Note taker: Alex L.

Present: Terra E. Alex L, Shifon,

Agenda:

Finish Brainstorming/Ideate Assignment

Discuss Upcoming Due dates and Assign Task

Gather Information for Design NoteBook

Review Gantt Chart**Tasks behind schedule**

Task	Why behind	Plan to get up to date
1	Finish Design Notebook Due March 2	
2	Finish Brainstorming Assignment	
3	Prepare for Video Assignment	

☐ Tasks added to chartForeseeable issues that will prevent success ☐ No ☐ Yes**Decisions made:**

Tidal Turbine Is best used to reduce Alaska's Electricity Bill

Important information shared:Due dates have changed for the video assignment and brochure to week 9 (March 9th)**Ideas we want to remember:**

Gather all information needed for design notebook

How they receive their electricity now and how much they pay for electricity

Team member	Hours on project since last meeting (hrs)	Total hours on project (hrs)
-------------	---	------------------------------

<u>Terra</u>	<u>1.5</u>	<u>1.5</u>
<u>Shifon</u>	<u>1.5</u>	<u>1.5</u>
<u>Alex</u>	<u>1.5</u>	<u>1.5</u>
<u>Ryan</u>	<u>0</u>	<u>0</u>
<u>Luquman</u>	<u>0</u>	<u>0</u>

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Project Proposal

Who:

Savoonaga, Alaska

Problem:

Electricity Bill is costly for a low income population

Proposed Solutions:

- *Find a new resource to help reduce their electricity cost and reduce the use of diesel fuel.*
- *Come up with a design for a turbine*

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Resource Data

[Savoonga, AK - Profile data - Census Reporter](#)— population. 766

[Electric Rates & Providers in Nome Census Area, AK](#)

[Savoonga, Alaska - Wikipedia](#)

[La Rance: learning from the world's oldest tidal project - Power Technology](#)

[Yearly & Monthly weather - Savoonga, AK](#)

ENED 1100 Project: Structured Ideation & Brainstorming

(To be included in your Design Notebook)

Due: Sunday, March 2nd by 11:59 p.m.

APPROVED TO USE GENERATIVE AI: For this assignment, you must use ChatGPT in Task 3 part 2. You will be asked to submit your chat(s) as part of this assignment.

OBJECTIVE: To work with your team members to brainstorm ideas for the design of your team's project and interact with generative AI as a brainstorming assistant.

During previous classes, your team outlined stakeholder needs and translated them into criteria, considered constraints limiting your design, and identified the functionality your product must have to succeed. Thus, your team has a list of items the product needs to do, but now comes the time to determine how it will accomplish these needs. You may have some initial ideas, but this worksheet will provide structured approaches for which you can systematically generate ideas for each function. This assignment will involve leveraging structured brainstorming methods and interacting with ChatGPT to assist you in developing concepts for your product. The work in this document will ultimately be put in your Design Notebook for submission at the end of Phase 1.

Task 1: Implementing a Model of Brainstorming

In class, we've discussed the idea of brainstorming, which is a basic group-based technique for ideating. A brainstorming session is based on two principles: deferring judgment and reaching for quantity – in other words, coming up with as many ideas as possible no matter how silly they might be. However, these sessions can be undermined by various procedural and social factors. For example, evaluation apprehension might occur, which is when someone with an idea is afraid to share because they believe the group may react negatively. Production blocking might also occur, where one group member dominates the conversation. Thus, there are other techniques to reduce the

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likelihood of these types of inefficiencies occurring. You are asked here to explore one of the models to explore how your design might accomplish a subset of its functions. Read through the different methods first and decide which one you'd like to use.

Hybrid Brainstorming: Unlike traditional brainstorming, this method begins with each team member generating a list of ideas without communication among team members. Once everyone submits their ideas, the team meets to synthesize them and rank-order each one to develop a shorter list of promising ideas. The key here is to avoid linking ideas to specific individuals. You could do this physically by typing out the ideas, cutting them into strips, placing them into a container, and mixing them up. Writing ideas out on notecards would also work. You could also do this using a Microsoft Form ([Instructions are linked here if you choose to use Forms](#)).

6-3-5 Brainwriting: This method was developed by Bernd Rohrbach in 1968 to provide teams with a method to develop over 100 ideas in 30 minutes. The best implementation of this is done by gathering your team around a table. Each team member begins with a blank sheet of paper. The session is broken down into rounds. Each round consists of writing down 3 ideas within 5 minutes – which represents the “3” and “5” in “6-3-5.” After 5 minutes, pass the paper to the teammate on your left. The next round begins, and you must come up with 3 ideas building on the previous 3 ideas on the sheet. During this process, there is no verbal communication. This process continues until each member of the team has completed each sheet. Classically, the “6” in “6-3-5” represented the number of people in the group, but this doesn't limit the technique to teams of that size. In your teams, you should aim for 6 rounds. After the session is complete, the team then discusses the results and rank-orders the various ideas to develop a list of possible solutions to pursue.

Wrong Theory Protocol: This relatively new technique was created by Vanessa Svihla and Luke Kachelmeier in 2020 to place empathy at the center of the design process and force engineers and designers to focus on the needs of diverse stakeholders. To develop the most empathetic design, this method inverts the objective of traditional

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brainstorming. Instead of generating “good” ideas that meet the criteria, the goal is to develop ideas that harm and humiliate the user(s) and stakeholders – in other words, the worst design possible. So, in this brainstorming session, you would consider how the design could violate the criteria to the extent that it would threaten the stakeholders in any number of ways, such as safety, health, and finances. The session lasts 60 minutes, where the first half is focused on developing the worst design possible. The second half involves breaking down the different designs and extracting ideas to best address the criteria. Often this process uncovers new criteria and constraints.

The Six Thinking Hats: This technique was created by Edward de Bono in 1985, which was detailed in his book Six Thinking Hats. Brainstorming requires what is called lateral thinking, which involves a pattern of thinking that focuses on unconventional and diverse ideas. However, different individuals may default to a certain way of thinking, especially in group settings. Someone may always be a pessimist, always pointing out flaws in a possible solution; alternatively, another person may be overly focused on the data and unwilling to consider risky ideas that have not been tested. The premise of the six thinking hats is to force the team to unite around a common mode of thinking to fully explore possible solutions. Each hat is given a different kind of thinking process and a color to distinguish them, but the color does not necessarily imply any meaning.

<i>Hat Type</i>	<i>Description of Hat's Thinking Process</i>
<i>Blue: The manager</i>	<i>Set up the problem and ask for summaries, results, and conclusions. This hat is concerned about the process.</i>
<i>White: The data guru</i>	<i>Scope out the problem. What data do you have? What facts about the problem do you know? What do you need to find out?</i>
<i>Green: The creative</i>	<i>Generate as many ideas as possible. Don't worry about their feasibility.</i>
<i>Yellow: The optimist</i>	<i>Find all of the positives in the presented ideas. Only consider benefits.</i>

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<i>Red: The one in their feelings</i>	<i>Share any initial reactions or feelings you have about the possible ideas. You don't need to justify these feelings.</i>
<i>Black: The pessimist</i>	<i>Focus on all the weaknesses, dangers, or risks in the ideas. Support these with appropriate reasoning.</i>

To use the six thinking hats, you meet as a group and “wear” each hat for approximately 2 minutes. Start with Blue, continue with White, and continue down the table until you reach Black. Red is typically worn for only 30 seconds. One round will take you 8.5 minutes. Repeat the loop at least three times. You could adjust the timing with each hat so the process moves slower.

*Your work for this assignment begins **HERE**:*

1. Pick one method of brainstorming (i.e., Hybrid, 6-3-5 Brainwriting, Wrong Theory Protocol, or Six Thinking Hats). Mark an X in the box next to the one you chose.

X	Hybrid Brainstorming
	6-3-5 Brainwriting
	Wrong Theory Protocol
	Six Thinking Hats

2. Implement the model of brainstorming with your team to generate ideas for your design to accomplish one of its major functions. You must provide evidence of your

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brainstorming. You may consider recording any group discussion using Teams and including the transcription here ([Instructions to do this with Teams are linked here](#)). Describe how you implemented the brainstorming method, including what tools you used, whether it was virtual or in-person, and how long you brainstormed for.

The team brainstormed for 15min to come up with a list of ideas and then proposed ideas to one another.

Then we discussed which idea was best from each brainstorming

Made a list of each persons best idea and combined all into 1 idea for the project.

3. *Copy all individual brainstorming notes and team brainstorming below.*

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4. Organize your ideas for methods to accomplish the major function of your design using a morphological chart. Then, develop 1 concept per team member and provide a short description to outline its uniqueness compared to other concepts

Concept	Concept Name	Description
1	<i>Reduce Electricity Cost</i>	<i>Use a renewable resource such as a wind or tidal turbine</i>
2	<i>Reduce Consumption of Diesel</i>	<i>Reduce the transportation of Diesel</i>
3	<i>Under water Turbines</i>	<i>Tidal Turbines on sea floor, Use of Tidal waves</i>
4	<i>Cheapest Materials for design model</i>	<i>Materials needed for Model and how can they be cost effective</i>

5. Use a decision matrix to compare the concepts against one another based on the criteria you've identified.

<i>Function</i>	<i>Option 1</i>	<i>Option 2</i>	<i>Option 3</i>	<i>Option 4</i>
<i>Turbine Type</i>	<i>Tidal Turbine</i>	<i>Tidal Barrage</i>	<i>Tidal Fence</i>	<i>Venturi Effect</i>
<i>Blade Material</i>	<i>Carbon Fiber</i>	<i>Fiberglass</i>	<i>Stainless Steel</i>	<i>Titanium</i>
<i>Blade Shape</i>	<i>Straight</i>	<i>Curved</i>	<i>Helical</i>	<i>Hydrofoil</i>
<i>Generator Type</i>	<i>Permanent Magnet</i>	<i>Induction Generator</i>	<i>Direct Drive</i>	<i>Superconducting</i>
<i>Foundation Type</i>	<i>Gravity-Base</i>	<i>Monopiled</i>	<i>Floating</i>	<i>Tensioned Mooring</i>
<i>Installation Depth</i>	<i>< 20m (Shallow)</i>	<i>20-50m (Medium)</i>	<i>50-100m (Deep)</i>	<i>>100m (Ultra Deep)</i>
<i>Corrosion Protection</i>	<i>Stainless Steel Coating</i>	<i>Anti-Fouling Paint</i>	<i>Cathodic Protection</i>	<i>Zinc Coating</i>
<i>Power Transmission</i>	<i>Subsea Cable</i>	<i>Wireless Power Transfer</i>	<i>Hydraulic Drive</i>	<i>Surface-Based System</i>
<i>Maintenance System</i>	<i>Removable Nacelle</i>	<i>Remote Monitoring</i>	<i>Self-Cleaning</i>	<i>Autonomous Underwater Vehicle (AUV)</i>
<i>Environmental Impact Mitigation</i>	<i>Slow Rotation Blades</i>	<i>Fish-Friendly Design</i>	<i>Noise Reduction</i>	<i>Marine Growth Protection</i>

Task 2: Leveraging Generative Artificial Intelligence (AI) to Brainstorm

Across industries, the proposed use cases of Generative AI, such as large language models (often abbreviated as LLMs) implemented in ChatGPT, have been numerous: supplementing code development, personalized tutoring, more authentic video game non-player characters, text summarization, and customer support – to name a few. However, as companies have sloppily rushed to integrate these technologies into their products, it has become apparent that not all applications are appropriate. For example, an eating disorder helpline laid off a significant portion of its staff in favor of a chatbot called “Tessa,” powered by the technology behind ChatGPT. Shortly after, within a month, they shut down the chatbot after users complained that Tessa would frequently provide incorrect and harmful advice. Generative AI has the potential to produce factually incorrect information but present it convincingly. Thus, these tools can present issues in your workflow if you don’t have the knowledge to evaluate if the output is correct. However, what if accuracy doesn’t matter? What if we’re looking for several ideas and don’t care if they’re realistic or feasible? We just need a starting point. This sounds like the premise of brainstorming!

Let’s explore how tools like ChatGPT might be used to supplement your brainstorming processes. Go to the following website, <https://openai.com/blog/chatgpt>, and click on “Try ChatGPT.” You will be asked to log in. If no one on your team has an account, create one using your UC or personal email. After logging in, you will be greeted with a screen with a box at the bottom with the text “Send a message.” This is where you will enter your prompt. Once you give ChatGPT (or similar tools) a prompt, it will start a new “chat” or conversation with its response. You can prompt again based on its response or go in a different direction.

- 1. In this task, you will engage with ChatGPT to generate ideas for your robot to accomplish three major functions. Develop a list of at least 5 prompts you would use to engage in conversation with ChatGPT. Consider the following kinds of things you might want it to do by asking it questions and giving it instructions to generate, compare, and summarize different things.*

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<i>Prompt</i>	<i>Prompt to ChatGPT</i>
1	<i>Define the requirements needed for tidal Turbine?</i>
2	<i>What other turbines can be used to generate electricity in Savonnga, Alaska?</i>
3	<i>How much electricity can a tidal wave generate?</i>
4	<i>How much electricity does savoonga Alaska need?</i>
5	<i>What kind of materials can withstand tidal waves at the bottom of the sea floor?</i>
6	
7	
8	

2. Start a chat with ChatGPT to engage in a brainstorming session. Engage in this chat for at least 30 minutes. Although we will not provide a specific minimum number of prompts, your conversation should contain the 5 prompts (or some variation) from the previous step and follow-up prompts. When you are finished, look in the top right-hand corner of your screen to find the symbol pictured on the left. Then click on the “Create Link” button (pictured on the right).

3. Synthesize the ideas you generated collaboratively with ChatGPT and the ideas from the brainstorming in Task 1. Then, integrate those ideas into the morphological chart. Develop 1 concept per team member and provide a short description to outline its uniqueness compared to other concepts.

Concept	Tidal Turbine	Tidal Barrage	Tidal Fence Weighting Factor (%)
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<i>Power Efficiency</i>	9 (High)	7 (Moderate)	8 (Good)	30%
<i>Structural Durability</i>	8 (Good)	7 (Moderate)	9 (High)	15%
<i>Maintenance Ease</i>	6 (Moderate)	8 (Good)	7 (Good)	15%
<i>Environmental Impact</i>	7 (Good)	8 (Better)	9 (Best)	10%
<i>Cost Efficiency</i>	7 (Good)	9 (Best)	6 (Moderate)	15%
<i>Installation Complexity</i>	6 (Difficult)	8 (Easier)	7 (Moderate)	15%
<i>Weighted Score</i>	7.6	7.8	7.7	100%

4. Use a decision matrix to compare the concepts against one another based on the criteria you've identified.

5. ChatGPT isn't just about generating text, it can also generate images using another model called DALL-E 3 (a reference to the famous Salvador Dalí). Try to get ChatGPT to create an image for you. Assuming you are not using a paid version, you only get two images per day (at the time of writing). Take at least one of your concepts and develop a prompt to have ChatGPT generate an image of what your concept looks like.

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<i>Prompt</i>	<i>Prompt to ChatGPT</i>
1	<i>Design a tidal turbine for Savoonga, Alaska</i>
2	<i>Design a tidal turbine that can withstand tidal waves and</i>



Task 3: Reflecting on the Ideate Phase

Now that you have engaged in “traditional” brainstorming and used a new tool to accomplish similar goals, you will reflect on your processes using the following prompts.

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You will respond to them as a team. You should aim for at least one full paragraph for each prompt; please be descriptive.

1. *What benefits did you find in performing structured brainstorming versus unstructured brainstorming in the past? What drawbacks or challenges did you face?*

It was hard to think of different ideas and not consider what the causes and effects of the model are. Such as how it can either harm or help the environment, the amount of electricity needed, and cost efficiency.

2. *Describe your process for engaging with ChatGPT. Summarize the prompts you used and the way in which you followed up on its responses.*

Once one question one asked it helped us ask or think of other questions that we didn't think of when we individually were brainstorming.

3. *What benefits did you find in performing brainstorming with ChatGPT? What drawbacks or challenges did you face?*

Chatgpt helps identify information that we all as a team did not justify or think of when we were brainstorming.

Challenges we faced were asking questions and not getting a direct answer or the answer we needed so we had to reword or find a different way to ask Chatgpt.

4. *If you could create your own version of ChatGPT to act like another team member, how would you envision training it to provide you with better outputs?*

(Ened 1100 Project)

Team 10

Design Notebook

Starting of by generating questions about how the generate works and gradually dissecting project ideas/designs.

5. *Describe how you integrated the ChatGPT ideas with your team's original ideas. What concepts did you generate based on that integration of ideas?*

We took one anothers ideas and broke them up into parts to come up with one final idea for the project.