Algorithm Planning Sheet

Project Name: Wind Scouting System

Aim

Ask:

Our goal is to prototype a technology that can identify the best locations for the wind turbines to be fixed to generate more electricity from the wind.

Dump

Imagine:

To make a complex connection that will help reduce carbon emissions into the atmosphere.

Algorithm Planning Sheet

Pseudocode

Plan your algorithm:

First get all materials:

- 3 anemometer cups (preferably lightweight and aerodynamic)
- A lightweight and sturdy stick (wooden or metal rod or cardboard)
- Glue or adhesive
- DC motor as a generator
- Wires

1. Prepare the Stick
   - Cut the stick to the desired length ensuring it allows free rotation of the cups.
   - Ensure the stick is lightweight yet sturdy.
2. Attach the Cups
   - Evenly space out the cups along the length of the stick.
   - Securely attach each cup to the stick using glue or adhesive.
   - Ensure the cups are firmly attached and will not come loose during rotation.
3. Test the Assembly
   - Rotate the cups manually to ensure they spin freely without any obstruction.
   - Make any necessary adjustments to ensure smooth rotation.

Part 2: Connecting the Anemometer to Raspberry Pi Pico W

1. Breadboard Setup
   - Place the Raspberry Pi Pico on the breadboard.
2. Connect the Motor to the Pico
   - Connect the positive terminal of the DC motor to GP26 (ADC0) on the Pico.
   - Connect the ground terminal of the DC motor to one of the GND pins on the Pico.

Write MicroPython Code

Use Thonny IDE to upload the code to the Raspberry Pi Pico.

Go to MIT App Inventor and start a new project.

- Add a List Picker for Bluetooth device selection.
- Add a Label to display the wind speed.
- Add a BluetoothClient component for Bluetooth communication.
- Add a Clock component and set its TimerInterval to 1000 ms.

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Algorithm Planning Sheet

Pseudocode

Trigger	Action
Example: when button A pressed	Show heart image

Algorithm Planning Sheet

Create

Project Links:

Create your projects and paste your project links in this section.

1.	
2.	
3.	
4.	
5.	

Testing

Test:

Was your plan successful?

Yes . ☐ **No.** ☐ **Why?**

Double-click to type your answer here

Improve:

What can you do to make your project better?

Double-click to type your answer here

Reflection

Reflect:

What did you learn from the activity? What worked? What did not work?

Double-click to type your answer here