TMN 4033

Project (20%)

This is a Project for TMN4033. This Project is by a group of 2-3.

**IMPORTANT: Learn about Arduino, Before you proceed with the project.**

You are required to create a project using either the given Arduino, basic Arduino or Nano 33 IoT, or both, or any other Arduino of your own.

**Instruction**

**Step1: Proposal and Description (30%) –Learn by example**

Objective: Step 1 is for you to submit the title and design of your project – you can come with your own idea, or the example from the Internet

1. Find a title.
2. Write a description to this title.
3. For example from Internet : Understand the hardware connection and coding of this project and how it works. Explain in sentence.
4. Also Put it in flowchart.

**Step2: Add/Edit your own part (50%)**

Objective: Step 2 is to measure your understanding on the hardware and coding by implementing your own through edit or add new function.

**Add/Edit your own part**-

1. Add at least ONE (1) extra function to this project. OR Edit this project.
2. You also can do both, add and edit.
3. Explain on the hardware and coding for this part.

**Step3: Add IoT (20%)**

1. Use Arduino Nano 33 IoT and connect to IoT Cloud.

These are the rubrics for the instruction above.

**Rubrics:**

**Step 1- Proposal and description (30%)**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Excellent** | **Medium** | **Poor** |
| **Description**  **(5m)** | Introduce clearly on the system chosen. | Introduce but not clear on some parts on the system  -can be accepted | Very simple introduction or not clear |
| **Explanation of existing Project**  **(10m)** | Clear and thorough explanation | Clear but not thorough explanation | Very simple explanation |
| **Flowchart**  **(5m)** | Clear flowchart with detail explanation | Acceptable flowchart with explanation but not clear on some part | Not well-explained |

**Step2: Add/Edit your own part (50%)**

**Add/Edit your own part**-

1. Add at least ONE (1) extra function to this project. OR Edit this project.
2. You also can do both, add and edit.
3. Explain on the hardware and coding for this part.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Excellent** | **Medium** | **Poor** |
| **Add/Edit function**  **(15m)** | The function add/edit is enough to show complexity of understanding | Acceptable | Very simple |
| **Explanation on hardware**  **(10m)** | Show and explain clearly the transfer of data with a good diagram | Show and explain moderately the transfer of data with a simple diagram | Very simple explanation without diagram |
| **Explanation on coding**  **(10m)** | Explain clearly the additional coding and its function | Moderately explain | No explanation |
| **The project is working**  **(15m)** | The project is working prefectly in tinkercad with additional function | The project is not working well | The project is not working at all |

**Step3: Using IoT (20%)**

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Marking Criteria/Rubrics

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Excellent** | **Medium** | **Poor** |
| **Procedure**  **(15m)** | Step by step process and coding are clearly mentioned and explained  (you can find in the Internet) | The explanation is good but some part are not clear | Very simple and not clear |
| **The components**  **(15m)** | All components are clearly shown and explained | Missing 1 or 2 components used but not explained or not in the diagram | Components shown but not explained, or only simple explanation without any diagram of the components |