

SIT217 - Robotics Project

Task 4.1D Requirement Analysis and Research

In this task, you will be required to analyse your project's requirement and research different type of hardware that could (or perhaps could not) be acquired to help you implement your robotics project.

Please note that this is a Distinction task. You should expect that the higher the level of the task is, the higher the complexity and amount of research and time you have to put in it. As such, the instructions on credit, distinction and high distinction tasks will be significantly less than pass task. The task sheet will provide the abstract requirements of the task and its submission criteria, rather than step by step instructions.

Hardware/Software Required

Microsoft Word

Pre-requisites: You must do the following before this task

- 1) Tasks 2.1. You must have a good idea what your robotics project is going to be.

Task Objective

Objective of this task is to analyse your project's requirement in detail, then compare the many available types of Arduino microcontrollers and System on Chip (SoC). Perform a research on which SoC is more suitable and which are not suitable to your project. If your project requires specific sensors/capabilities (e.g. Bluetooth, distance sensor, battery pack, etc.). Given that in this unit, our focus will be on Arduino platform, we will be more focused on comparing Arduinos. If you think an alternative platform is more suitable for your project, please check with your unit team.

Please note that this task is designed to help you decide on your robotics platform and to ensure you are using a more suitable hardware before you start building the project.

Task Submission Details

Prepare a document that includes the following:

- A brief one paragraph overview of your project
- A table comparing different Arduino platforms/SoCs
- Pros and Cons of each Arduino with regards to how suitable they are to your project, for example, power consumption, CPU capability, form factor, cost, ease of use, voltage, etc.

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- If your project requires a specific capability (e.g. Bluetooth), list available and suitable sensors/devices and generate a similar table for those.

Remember, anytime you submit a task to OnTrack, it is a good practice to check the status of any existing tasks, and the future tasks you are expected to complete. If you have got feedback on previous tasks, you may need to fix and resubmit some of your work. You want to check out why, so that you can learn from this and make it faster and easier to accomplish later work to the required standard.