Factory Robot

Relevant Document: [Assessment instructions:](https://docs.google.com/document/d/12LkVeD2TPRANIFtz3dD5eZBBK8W1y4KdxHOrtkVG990/edit?usp=sharing/)

# Client Needs

Summarise your client needs here

*List all the requirements*

# Relevant Implications

Identify and describe at least three relevant implications. First describe what it means and then explain why you think they are relevant to your robot outcome. References are compulsory.

***Definition of describe:***

*means to give an account of something, to say what it looks like or what it does, to give*

*details about these things. The features or characteristics of something are part of a*

*description, and a definition often includes a description. A description answers the*

*questions "what is it like?" and "what does it do? See word cloud on wall*

# Specifications

List all the specifications clearly. What it looks like and how it functions. Be specific with numbers etc. It must be measurable

For example:

* The robot will follow a line that is 5mm thick because…
* The robot must be able to carry weights ranging from …..

There should be at least 10-15

# Initial Design

1. Draw block diagrams, flow charts etc of what you think you will need.
2. Use calculations, simulation programs or breadboard mockups to test various components/subsystems. This may be done in each key stage.
3. Describe/justify the interfaces and functions of components and systems used
4. Explaining the expected behaviour and function of the electronics outcome

Subsystems

Components

Functionality

#

# Process

Identify at least four key stages:

|  | **Key stage Name** | **Description** | **Due date** |
| --- | --- | --- | --- |
| 1 | Movement | The purpose of this key stage is to demonstrate the robot moving forward, backward, left and right. | 17 May 2022 |
| 2 |  |  |  |
| 3 |  |  |  |
| 4 |  |  |  |
|  | Submission | Submit all documents and robot | **4pm, Monday, 4 July 2022** |
|  |  |  |  |

# Key stage 1: Movement

*Introduction to explain what you want to achieve. It is very important that you explain what you want to achieve in this key stage. How do you know you have met it? We will be working through the first key stage as a group.*

## Task list

| **Task** | **Description** | **Due date** |
| --- | --- | --- |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

## Design

Add detailed design, block diagrams, sketches for this key stage. What are issues you must be aware of? Are there any components and subsystems you have not discussed in initial planning? If you have multiple ways of doing stuff. Explain it. Ask for feedback and choose an option. Why? Remember this key stage is only about movement.

## Construction

*Add images and explanation of how you constructed this key stage. As you go through building your robot, are there any issues to overcome? Document it.*

## Program and Test

* Build the robot system in an iterative manner - design, build, trial and test, and evaluate as you go through the process. You may have done some programming before finishing the movement build. For example testing that your motors work
* Make notes and gather other evidence as you go through the task. Add all the evidence below

*Add notes/pictures/snippets here*

## Key stage 1 Task Reflection

Task List from [initial planning](#ka8cy5xi2fwi). Never change the original date but explain in column 3 how you went with it

| **Task** | **Original Due Date** | **Reflections/Issues/Timing etc** |
| --- | --- | --- |
| *Replace with Task 1* |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

## Key stage 1 Overall Reflection

*How is your progress? How do you feel about it? How are you doing? General issues? Positives? Negatives?*

*Are there any changes that you have to make knowing what you know now? Both technical and due dates. Or changes in how you are planning to complete the project*

#

# Key stage 2: xxxx

*Introduction to explain what you want to achieve. It is very important that you explain what you want to achieve in this key stage. How do you know you have met it?*

## Task list

| **Task** | **Description** | **Due date** |
| --- | --- | --- |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

## Design

Add detailed design, block diagrams, sketches for this key stage. What are issues you must be aware of? Are there any components and subsystems you have not discussed in initial planning? If you have multiple ways of doing stuff. Explain it. Ask for feedback and choose an option. Why? Remember this key stage is only about movement.

## Construction

*Add images and explanation of how you constructed this key stage. As you go through building your robot, are there any issues to overcome? Document it.*

## Program and Test

* Build the robot system in an iterative manner - design, build, trial and test, and evaluate as you go through the process. You may have done some programming before finishing the movement build. For example testing that your motors work
* Make notes and gather other evidence as you go through the task. Add all the evidence below

*Add notes/pictures/snippets here*

## Key stage 2 Reflection

### Task List from initial planning

| **Task** | **Original Due Date** | **Reflections/Issues/Timing etc** |
| --- | --- | --- |
| *Replace with Task 1* |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

## Key stage 2 Overall Reflection

*How is your progress? How do you feel about it? How are you doing? General issues? Positives? Negatives?*

*Are there any changes that you have to make knowing what you know now?*

# Key stage 3:xxxx

*Introduction to explain what you want to achieve. It is very important that you explain what you want to achieve in this key stage. How do you know you have met it?*

## Task list

| **Task** | **Description** | **Due date** |
| --- | --- | --- |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

## Design

Add detailed design, block diagrams, sketches for this key stage. What are issues you must be aware of? Are there any components and subsystems you have not discussed in initial planning? If you have multiple ways of doing stuff. Explain it. Ask for feedback and choose an option. Why? Remember this key stage is only about movement.

## Construction

*Add images and explanation of how you constructed this key stage. As you go through building your robot, are there any issues to overcome? Document it.*

## Program and Test

* Build the robot system in an iterative manner - design, build, trial and test, and evaluate as you go through the process. You may have done some programming before finishing the movement build. For example testing that your motors work
* Make notes and gather other evidence as you go through the task. Add all the evidence below

*Add notes/pictures/snippets here*

## Key stage 3 Reflection

### Task List from initial planning

| **Task** | **Original Due Date** | **Reflections/Issues/Timing etc** |
| --- | --- | --- |
| *Replace with Task 1* |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

## Key stage 3 Overall Reflection

*How is your progress? How do you feel about it? How are you doing? General issues? Positives? Negatives?*

*Are there any changes that you have to make knowing what you know now?*

# Key stage 4

*Introduction to explain what you want to achieve. It is very important that you explain what you want to achieve in this key stage. How do you know you have met it?*

## Task list

| **Task** | **Description** | **Due date** |
| --- | --- | --- |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

## Design

Add detailed design, block diagrams, sketches for this key stage. What are issues you must be aware of? Are there any components and subsystems you have not discussed in initial planning? If you have multiple ways of doing stuff. Explain it. Ask for feedback and choose an option. Why? Remember this key stage is only about movement.

## Construction

*Add images and explanation of how you constructed this key stage. As you go through building your robot, are there any issues to overcome? Document it.*

## Program and Test

* Build the robot system in an iterative manner - design, build, trial and test, and evaluate as you go through the process. You may have done some programming before finishing the movement build. For example testing that your motors work
* Make notes and gather other evidence as you go through the task. Add all the evidence below

*Add notes/pictures/snippets here*

## Key stage 4 Reflection

### Task List from initial planning

| **Task** | **Original Due Date** | **Reflections/Issues/Timing etc** |
| --- | --- | --- |
| *Replace with Task 1* |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

## Key stage 4 Overall Reflection

*How is your progress? How do you feel about it? How are you doing? General issues? Positives? Negatives?*

*Are there any changes that you have to make knowing what you know now?*

# Final Key Stage

*Introduction to explain what you want to achieve. It is very important that you explain what you want to achieve in this key stage. How do you know you have met it? What do you need to do to ensure you have submitted everything for the assessment.*

## Task list

| **Task** | **Description** | **Due date** | **Tick when complete** |
| --- | --- | --- | --- |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
| Submission | Documentation and Robot | 4pm, Monday 4 July 2022 |  |