



Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David

200
1822 - 2022

Report Contents

Man Geni Addysg Uwch yng Nghymru
Where Higher Education Began in Wales

www.uwtsd.ac.uk

You are to write a report of 1500 words, through which you should:

- Introduce and explain the overall problem to be solved.
- Conduct research into the tools and techniques that you will use to solve the challenges of the problem. **This section especially should be sourced.** You should have more detail on the section that you were the leader for, and an overview of the other sections.
- Illustrate a plan of how you intend to solve the problem (again, more detail on the section you led with an overview of the other sections). You should develop a plan with respect to the literature you have read. You need to include a plan of how you will allocate your time in completion of the project.
- Describe the design of your robot. You should consider both the hardware and software elements of the construction and development process.
- Outline how you will assess success of each stage of the problem. Include results, and an evaluation of the final overall outcome. Consider what you might have done differently.

1. Introduction

- **Explanation of the problem to be solved:** Introduce the concept of LEGO Spike Prime Robot V3 and the overall goal or challenge it aims to address.
- Provide **background information** on the importance or relevance of the project.
 - **Educational Significance:** Highlight the importance of robotics education in today's world.
 - Emphasize the role of robotics in **driving innovation and technological advancement**.
 - Interdisciplinary Learning: **integrate concepts from multiple academic disciplines**, including physics, mathematics, computer science, and engineering.

Explain how the LEGO Spike Prime Robot V3 project fosters collaboration and teamwork among students with diverse interests and backgrounds.

2. Literature Review:

- Source materials: Cite relevant academic papers, articles, books, or online resources that discuss robotics, programming, and construction techniques.

- Research into tools and techniques: Conduct a detailed investigation into the tools, techniques, and methodologies commonly used in robotics projects, particularly those relevant to LEGO Spike Prime Robot V3.

Detailed investigation includes:

- Hardware Components:
- Software and Programming Tools:
- Construction Techniques and Mechanics:

Include Pictures with labeling wherever necessary

3. Problem-solving Plan

- Detailed plan: Outline a step-by-step plan for solving the problem, focusing more on the section related to your leadership role (e.g., hardware design, software development).
- Time allocation: Devise a schedule or timeline for completing each stage of the project, considering the literature reviewed and the complexity of each task.

Include pseudocode and Pictures with labeling wherever necessary

4. Assessment of Success

- When assessing the success of the LEGO Spike Prime Robot V3 project, it's essential to follow a structured approach

Include pseudocode and Pictures with labeling wherever necessary

- **Stage-wise Assessment:**

1. Break down the project into smaller stages or milestones, like building the robot and programming it.
2. Define what success looks like for each stage: Is the robot built correctly? Does the programming make it move as intended?

- **Results and Evaluation:**

1. After completing each stage, look at what you've done and compare it to your goals.
2. Did you build the robot according to the instructions? Does it move the way you programmed it to?
3. If things didn't go as planned, figure out why and how you can improve.

Include pseudocode and Pictures with labeling wherever necessary

- **Reflection:**

1. Think about what you've learned from the project.
2. What challenges did you face? What worked well? What could you do better next time?

Include pseudocode and Pictures with labeling wherever necessary

- List of References:

- Source materials: Cite relevant academic papers, articles, books, or online resources that discuss robotics, programming, and construction techniques.

Include pseudocode and Pictures with labeling wherever necessary