# Prosthetic Robotic Arm with Patient Monitoring System for Children


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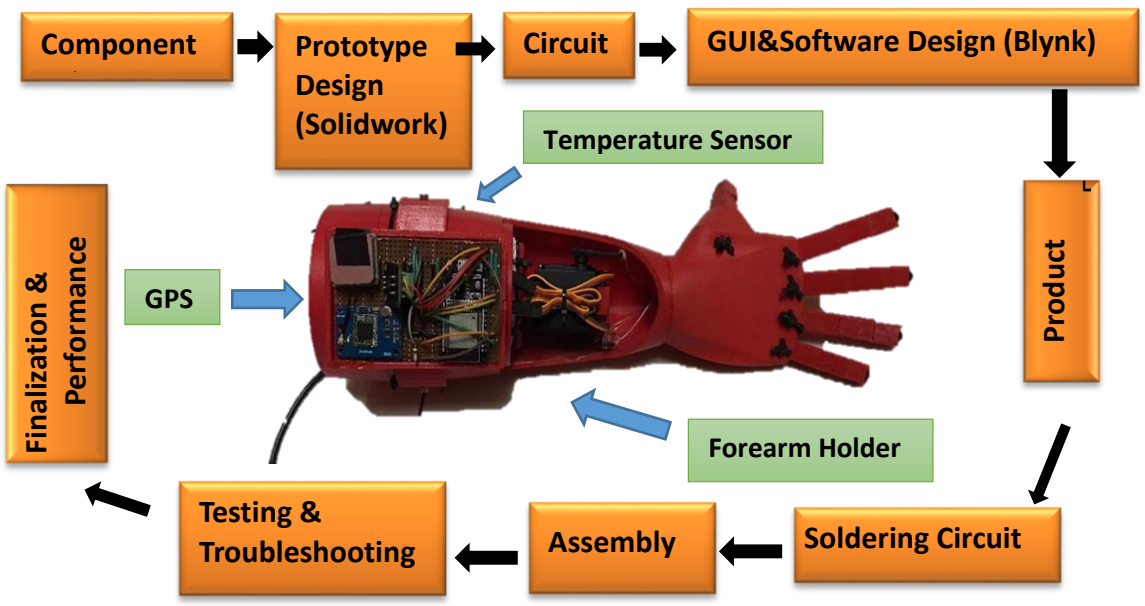
## Product Background

- Prosthetic robotic arm are becoming crucial needs for children with forearm amputation or disabilities but the cost are expensive.
- Children with forearm amputation face various obstacles related to regular activities such as holding and grasping the objects or tools
- Monitoring system especially for disabled people has been an essential features in order to improve Quality of Life (QOL)

## Objective

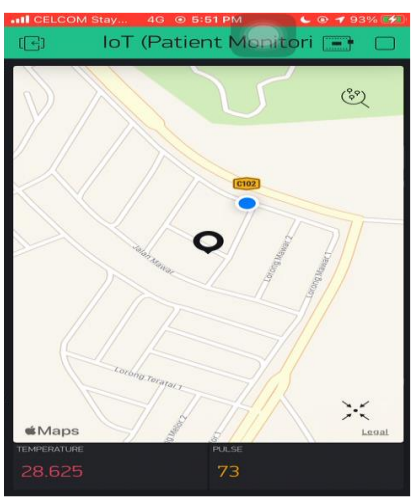
- To develop a low cost and practical Prosthetic Robotic Arm
- To analyze grasping ability for holding and grasping regular objects.
- To implement patient monitoring system based on Internet of Things (IoT)

## Product Characteristics




| Prosthetic Robotic Arm Grasping Success Rate | | |
|---|---|---|
| **Type of Object** | **Weight (kg)** | **Success** |
| Pencil Case | 0.15 | ✓ |
| 300 ml Tin | 0.30 | ✓ |
| 330 ml Fanta Bottle | 0.30 | ✓ |
| 500 ml Bottle | 0.45 | ✓ |
| 500 ml Bottle | 0.50 | ✓ |
| Drinking Bottle | 0.65 | ✓ |
| Tupperware Bottle | 0.85 | ✓ |
| 1.5 Litre Bottle | 1.00 | ✓ |

## Benefits/Applicability




## Marketability & Commercialisation

- Low cost Prosthetic Robotic Arm with the concept of Plug & Play
- Equipped with Patient Monitoring System to monitor user's location and health status.
- Simple IoT based apps that can be used to check user's status in real time

### WHO'S OUR MARKET?

- Personal users
- Social innovators/NGOs
- Childcare Institutions


## Cost Analysis

| NO | ITEM | PRICE |
|---|---|---|
| 1 | Electrical | RM382.81 |
| 2 | Material | RM69.80 |
| | Total | RM452.61 |

## Publications


1. Holding, Grasping and Sensing of Prosthetic Robot Arm Like a Real Human Hand, a Journey Beyond Limits: An Extensive Review



1. DEVIN BABU - MSC – Sarjana Sains (FTKEE)
2. Muhammad Hafizuddin Bin Abd Latiff Bachelor of Technology Engineering Electrical (FTKEE)
3. Muhammad Lutfir Rahman Bin Ahmad Safuan Bachelor of Technology Engineering Electrical (FTKEE)

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