

## BORANG INVENTORI PROJEK PELAJAR

| PERKARA                       | MAKLUMAT<br>INFORMATION   |
|-------------------------------|---|
| Program                       | DET   |
| Program                       |   |
| Jabatan                       | KEJURUTERAAN ELEKTRIK   |
| Department                    |   |
| Semester/ Tahun               | LIMA  |
| Semester/ Year                |   |
| Tajuk Projek                  | HAND GESTURE CONTROLLED TOYS CAR USING ARDUINO  |
| Project Title                 |   |
| Jenis Projek                  | INOVASI   |
| Type of Project               |   |
| Kategori Kluster              | TEKNOLOGI DAN KEJURUTERAAN  |
| Penyelidikan                  |   |
| Category/<br>research Cluster |   |
| Ahli Kumpulan                 | 1. MUHAMMAD FIRDAUS BIN MOHAMMAD FAUZI  |
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|                               | 4.  |
|                               | 7.  |
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|                               | 5.  |
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| Penyelia Bersama              |   |
| Co-Supervisor                 |   |
|                               |   |
| Abstrak                       | Hand Gesture is a project that designed to reduce the energy of an individual and     |
| Abstract                      | worker to make his work without producing more energy. Wireless controlled            |
|                               | robots are very useful in many applications like remote surveillance, military etc.   |
|                               | In this project we are applying the stuff that we want to control is the toys car. It |
|                               | is made to solve the problem that most people get who used remote to control the      |
|                               | toys car. The design project consists of dc gear motor, Arduino circuit,              |
|                               | accelerometer sensor and their basic function. All movement of this hand gesture      |
|                               | toys car will be controlled by Arduino. The results shows that the Hand Gesture       |
|                               | controlled Toys Car can work well and can manage to controlled toys car without       |
|                               | any excess energy.  |

| Keyword<br><i>Keyword</i><br>(max 5 word) | Wireless Toys Car, Five Hand Gesture, Controlling the Toys Car using Hand,<br>No Remote Control  |
|---|--|
| Objektif Projek<br>Project Objectives     | <ul> <li>1. To develop a hand gesture controlled toys car using Arduino, accelerometer and Bluetooth Module HC-05</li> <li>2. To use five different hand signals to control the motion of the toys car instead of using the remote control with button or joystick.</li> <li>3. To implement the robot for controlling a toy control car.</li> </ul>                             |
| Skop Projek<br>Project scope              | <ol> <li>This project is focusing on wireless communication, where the data from the arduino will transmit and receive by using the blutooth sensor.</li> <li>The main controller of this robot is Arduino Lilypad for data transmit and Arduino Nano for data receiver.</li> <li>The project is divided into two parts which are transmitter part and receiver part.</li> </ol> |

| IP No   |  |
|---|--|
| Dapatan<br>Finding<br>(500 words max)   | <ul> <li>1.</li> <li>https://www.researchgate.net/publication/275337350_A_Hand-Gesture-Based_C ontrol_Interface_for_a_Car-Robot</li> <li>2.https://www.researchgate.net/publication/304624684_Gesture_Controlled_Rob ot_using_Arduino_and_Android</li> <li>3.https://www.researchgate.net/publication/317686435_Gesture-based_Robot_Co ntrol_Design_Challenges_and_Evaluation_with_Humans</li> <li>4.https://www.sciencedirect.com/science/article/pii/S187770581202646X</li> <li>5. https://ieeexplore.ieee.org/document/5460699</li> <li>6.https://www.researchgate.net/publication/3975362_Using_Gesture_and_Speech_Control_for_Commanding_a_Robot_Assistant</li> <li>7.Gaurav Gautam, Abhijeet Ashish, Anil Kumar, Avdesh, "Wirelessly Hand Glove Operated Robot", International Journal of AdvancedResearch in Electronics and Communication Engineering (IJARECE), Volume-3, Issue-11,PP1546-1547, November 2014.</li> </ul> |
| Cadangan untuk<br>kerja-kerja akan<br>datang<br>Suggestion for<br>future work<br>(500words) | To implement on other receiver such as baby stroller or vacuum, Can handle a certain amount of weight, To improve in terms of speed, Comfortable, To minimize the size of transmitter and receiver circuit.  |
| Gambar berkaitan<br>projek<br><i>Picture related to</i><br><i>project</i> (700kb)           |  |

| Rating/Level | JABATAN |
|--------------|---------|
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Borang ini perlu diisi oleh pelajar dan dihantar kepada penyelia/ penyelaras projek dalam bentuk hardcopy dan softcopy (borang LAMPIRAN J) dan gambar hasil projek dalam format jpeg/bitmap) bersama laporan akhir dan hasil projek.