NATIONAL INSTITUTE OF BUSINESS MANAGEMENT

HIGHER DIPLOMA IN SOFTWARE ENGINEERING

COURSEWORK ONE

# PROPOSAL

|  |  |  |
| --- | --- | --- |
| Students Details |  |  |
| Module Name: | RAD |
| Name of Lecturer: | Mr. Thilina Soysa |
| Department: | School of Computing |
| Submission Due on: | 2nd June 2024 | |
| Type of Coursework: | Group | |
| Title of the Coursework: | Home Monitoring System | |

*Students Details:*

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| --- | --- | --- |
|  | Student No. | Student Name |
| 01 | MAHNDSE231F-002 | S.R.W. Kumara |
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| Office use only : |
| *Date Stamp Required of the Department* |

## 01. INTRODUCTION

We, the student of Higher Diploma in Software Engineering National Institute of

Business Management, Matara declare that the work entitled “Home Monitoring

System” has been successfully completed under the guidance of Consultant/Lecture

Mr. Thilina Soysa School of Computing, National Institute of Business Management, Matara. This dissertation work is submitted in partial fulfilment of the requirements for the Robotics course work during the academic year 2024.

02. PROBLEM STATEMENT

Home safety and security are important thing for everyone. But there many houses hadn’t any system or like it for safety and security and many houses using animals for this subject. It’s not an answer for this they can’t turn off unnecessary lights, turn on AC, alert about fire, etc... Answer is using Home Monitoring Robot.

This robot can turn off unnecessary lights, detect flame or fire, detect poisoned air or gas leaks, control temperature, and detect motions for take actions.

So, using this system we can measure temperature, detect poisonous Gas leaks, detect fire and detect human motions and give notifications for the admin efficiently.

When we look at the actuations,

* Using DHT11 sensor we can measure temperature if temperature is high we can get instant notification about that.
* If this area that system placed have any fire or flam it can detect using Multi-spectrum infrared sensor and give instant notification to the home owner.
* when nobody is home and if any anonymous person passed this system it can detect it using PIR sensor and give instant notification to the house owner
* Have you worried about your gas leaks no more worries this system can indicate gas leaks of the area using MQ series (mq7) sensor and give instant notification?
* You never want to worry about your home light system. Using this robot it can manage your lights when that area get dark this robot can turn on lights and when it comes to morning this robot can turn off lights using LDR sensor

Sensors

DHT11 Temperature and Humidity sensor - Detect temperature

Multi-Spectrum infrared sensor - Detect flame

PIR sensor - For detect motions

MQ series (mq7) - Detect gases

LDR sensor - Detect lights

### 03. BUDGET

|  |  |  |  |
| --- | --- | --- | --- |
|  | Items | Quantity | Price per  Unit (Rs) |
| 01 | Temperature Sensor | 1 | 440 |
| 02 | Infrared sensor | 1 | 310 |
| 03 | PIR Sensor | 1 | 100 |
| 04 | MQ-7 Sensor | 1 | 985 |
| 05 | LDR Sensor | 1 | 20 |
| 06 | Arduino Board | 1 | 1575 |
| 07 | Jump wires set | 2 | 500 |
| 08 | Push Buttons | 5 | 50 |
| 09 | Bread Board | 1 | 500 |
|  | Estimate Cost |  | 4480 |

### 04. GANTT CHART

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | June | | | | July | | |  |
| Task | 1 | 2 | 3 | 4 | 1 | 2 | 3 |
| Make proposal |  |  |  |  |  |  |  |
| Proposal Submission |  |  |  |  |  |  |  |
| Make presentation |  |  |  |  |  |  |  |
| presentation addressing |  |  |  |  |  |  |  |
| Make video clip |  |  |  |  |  |  |  |
| Present video clip |  |  |  |  |  |  |  |
| Create final report |  |  |  |  |  |  |  |
| Present final report |  |  |  |  |  |  |  |
| Final Presentation and VIVA |  |  |  |  |  |  |  |