MoBot (Motion Controlled Robot)

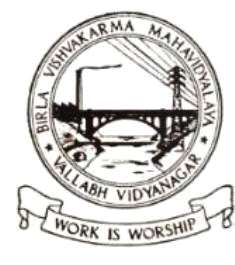
PROJECT-I

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B.E. (Information Technology)

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MoBot(Motion Controlled Robot)

Version 1.0

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**1. Introduction**

PURPOSE:

The purpose of the MoBot is for spying. User can get the live streaming of the situation without getting himself/herself physically involved.

SCOPE:

It can be used for military base for spying. It can be used for security of home. It can be used by anyone who is having knowledge of how to operate this robot. It is very useful where human can’t go physically at that time getting the live situation of particular place MoBot can be used.

OVERVIEW:

This system is motion controlled robot. We can move forward or backward the robot using hand movements. There is on camera through which we can get the live streaming of the particular situation.

**2. General Description**

Overall description**:**

* There is one ARDUINO board through which robot is controlled.
* There is one RF transmitter too for sending signals to the ARDUINO board for movements of the robot.
* User can get visual of particular place with spy camera.
* Livestreaming is displayed on screen of mobile or pc.

Feasibility study:

* Technical Feasibility
* This system is very user friendly because it doesn’t require wired connection.
* No need to give command from remote or phone application as it is motion controlled it will consume less time.
* Economical Feasibility
* This system is also economically feasible because it is having low circuit maintenance and low cost hardware parts.
* Operational Feasibility
* Robot system is having fiber/metal body so in any weather condition it is having ability to perform very well.
* Schedule Feasibility
* Our project will be completed before 12 months as we are having basic knowledge of circuit and code that is used for it.

**3. Functional requirements:**

**Description:**

* Robot Movements:
* Front
* Back
* Left
* Right
* ARDUINO connection:

Robot is connected with ARDUINO board for controlling it. Rather motor of the robot is connected with board.

* RF connection
* Camera connection
* Spying:

User can spy with the spy camera for investigation or other purpose.

* Live streaming:

User can get live streaming from the camera placed in robot. User can get visual either on phone application or pc.

**Technical issues:**

The project will require ARDUINO board(for controlling robot), OPEN C(coding for movements of robot), RF transmitter(for sending signal to ARDUINO board), spy camera(for spying and live streaming).

**Functions of various user of the system:**

There are **two** main users for this:

1. Administrator
2. User

Roles of Administrator:

1. Circuit management.

2. Communicate with users.

3. Take Feedback & Rating from users.

4. Solve queries.

Roles of User:

1. Getting knowledge of the system.

2. Using system for various personal purpose.

3. Ask queries

4. Feedback & Rating

**4. Interface requirements**

* 4.1 GUI

We are having GUI only in mobile application for login purpose of the users.

There will be one page for logging in which will give rights to user for switching circuit ON or OFF.

User will be able to sign up too for the new account which will get the user information and store it into the database.

* 4.1 Hardware Interface

Hardware Interface 1: The user should have sufficient knowledge of system to operate it.

Hardware Interface 2: The user should have screen or device to view the streaming.

Hardware Interface 3: Either PC or Mobile Phones.

* 4.3 Software Interface

Software Interface 1: RF signals should be transmitted to ARDUINO board very neatly.

Software Interface 2: The feedback system is connected to the management system.

**5. Performance requirements**

* The system should work efficiently.
* The system should not be affected by the outside interference.
* The system must meet the need of the users.

**6. Design constraints**

* The system is to be designed within 12 months.
* Language must be English.
* The product is to be made compatible to any situation so that the users don’t find it difficult to access it from elsewhere.

**7. Non- functional attributes**

* Reliability:

Application should be highly reliable and it should function all the module in correct order.

* Maintainability:

The system should be maintainable in such a manner that if any new requirement occurs then it should be easily incorporated in an individual module. If there is any unexpected damage to the system then we should be able to recover it fast and easily.

* Portability:

The system should be portable to any place incorporating any hardware interface.

**8. Preliminary schedule:**

This system is to be completed within 12 months.