DECLARATION

We hereby declare that the entire work embodied in this report has been carried out by us at M.S.Ramaiah Institute of Technology under the guidance of **Mrs. Lakshmi. S,** Associate Professor, ECE, MSRIT.

This report has not been submitted for consideration of any scholarship or award elsewhere.

Gulam Hussain (1MS1OEC055)

Place: Bangalore

Muhammad Shamim (1MS10EC058)

Date:

Mukesh. K. S (1MS10EC059)

Pawan. J. S (1MS10EC074)

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Signature of the Guide
Mrs. Lakshmi. S
Associate Professor, Dept. of E&C
MSRIT.

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Signature of the Principal
Dr.S.Y. Kulkarni
HOD, Dept. of E&C,
MSRIT.

ABSTRACT

The UMPV (Unmanned Mobile Patrol Vehicle) uses its unique remote image processing technique and body heat sensor to detect humans illegally intruding into the restricted areas of research and defense organizations or even in detecting terrorists intruding into the Indian border.

The robot will be equipped with armed weapons for warning or attacking these intruders.

The UMPV basically incorporates four mechanisms:

1. Image signal processing and other information sent to home unit.
    - Face detection or skin color detection to keep a track on the intruder and follow him until he refuses to step back .

2. Sensor unit to provide human detection and power up the robot.
    - Sensor unit consumes the least power and this can be kept continuously on for human detection during robot's sleep mode.

3. PC controlled wireless motion of the car.
    - Wireless manual control of the car will help in keeping the intruder in sight of the UMPV.

4. Means of transferring the information and request for further action between robot and home unit [Digital modulation techniques].

- All the wireless communication between the UMPV at the place of security and the home unit away from the area or inside the security room of the organization will be through simple and reliable digital modulation techniques (ASK is used in our prototype)