**Seventh Sense Technology Robot using**

**Raspberry Pi - ARM11**

The purpose of this project is to construct an image processing robot using ARM11 processor that responds to the captured images. This project presents the latest technology called the seventh sense technology. It's a portable interface that augments the physical world around us with the digital information. It's just born concept which allows user to connect with the real world seamlessly.

Seventh Sense technology is a technology with which a system could be trained to recognize and percept real world objects and react as desired. Seventh Sense technology bridges the gap between the physical world and the digital world, bringing intangible, digital information out into the tangible world, and allowing us to interact with this information via image processing.

In this project we are making use of standalone ARM11 processor for image processing. A USB camera is used with ARM11 processor to enable the project with machine vision. This project is designed to control the robot movement (FORWARD, BACKWARD, LEFT, RIGHT and STOP) using machine vision. User needs to show the images drawn/printed on a paper and show it the camera. Based on the predefined logic the robot responds.

**The objectives of the project are:**

1. Usage of image capturing technology.
2. Move the robot as per the images show to the camera.
3. Motors interfacing.

The major building blocks of this project are:

1. ARM 11 based Processor (Raspberry Pi)
2. L293D Driver for motor control
3. USB camera connected to Raspberry Pi
4. Power supply for motors and Raspberry Pi Board.
5. Robot mechanical Platform.

**Block Diagram:**

