## *Line follower*

## Line follower robot is a robo car that can follow a path. The path can be visible like a black line on the white surface (or vice-verse). It is an integrated design from the knowledge of Mechanical, Electrical and Computer engineering.

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## the early 1800’s mechanical puppets were first built in Europe, just for entertainment value. And these were called robots since their parts were driven by linkage and cams and controlled by rotating drum selectors. In 1801 Joseph Maria Jacquard made the next great change and invented the automatic draw loom. The draw looms would punch cards and was used to control the lifting of thread in fabric factories. This was the first to be able to store a program and control a machine. After that there were many small changes in robotics. The first industrial robots were Unimates developed by George Devol and Joe Engelberger in the late 50’s and early 60’s. The first patent was by Devol but Engelberger formed Unimation which was the first market robots. So Engelberger has been called the “father of robotics”. For a while the economic viability of these robots proved disastrous and thing slowed down for robotics. But the industry recovered and by the mid-80’s robotics was back on track. George DevolJr, in 1954 developed the multi jointed artificial arms which lead to the modern robots. But mechanical engineer Victor Scheinman developed the truly flexible arm known as the Programmable Universal Manipulation Arm (PUMA) . In 1950 Isaac Asimov came up with laws for robots and these were:

## A robot may not injure a human being, or through inaction allow a human being to come to harm.

## ii. A robot must obey the orders given it by human beings, except where such orders would conflict with the first law.

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## iii. A robot must protect its own existence as long as such protection does not conflict with the first or second law Mobile Robotics moved into its own in 1983 when Odetics introduced this six-legged vehicle which was capable of climbing over objects. This robot could lift over 5.6 times its own weight parked and 2.3 times it weight moving.

## In 2000 Sony unveils humanoid robots, the Sony Dream Robots (SDR) at Robodex. SDR is able to recognize 10 different faces, expresses emotion through speech and body language, and can walk on flat as well as irregular surfaces. In 2005 the Korean Institute of Science and Technology (KIST), creates HUBO, and claims it is the smartest robot in the world. This robot is linked to a computer via a high-speed wireless connection; the computer does all of the thinking for the robot.

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## Line follower Line follower is a machine that can follow a path. The path can be visible like a black line on a white surface (or vice-versa) or it can be invisible like a magnetic field.

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## Fig: Line follower robot Application area Line followers can be used to deliver mail within an office building and deliver medications in a hospital. The technology has been suggested for running buses and other mass transit systems, and may end up as part of autonomous cars navigating the freeway. The line follower can be used in guidance system for industrial robots moving on shop floor. An example might be in a warehouse where the robots follow 'tracks' to and from the shelves they stock and retrieve from. A line follower robot can be used in military as spy kids or in many other applications.

## 2 DESIGN AND FABRICATION Block Diagram Once the main configuration is chosen, the first thing to do seems to be to make a functional block diagram. Although it might grow or change later, I always like to have “the big picture” available. As Microsoft Visio is design software that it decides to make a Block Diagram in Visio. Just looking at this drawing really gets brings up a host of ideas and questions. Hardware, logic, motor control and many other thoughts come rushing in. I need to slow down and compartmentalized.

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