ITSP 2014 - ABSTRACT

Project Title : Autonomous Navigation through Image Processing (A.N.T.I.P)

Implementation Steps

1) Firstly, learning about image processing programs, software requirement and trying them out on pc/laptop processors. Learning about on-board computing. (1st & 2nd week)

2) Designing a ground based vehicle/bot according to maneuvering requirements like identifying suitable motors and wheel size. (2nd week)

3) Designing the circuit board alongwith suitable camera and processor in accordance with on-board computing requirements. (3rd week)

4) Actual construction of the vehicle upto a level of first test drive. (starting from mid 3rd week)

5) Carrying out first test drive of the vehicle and figuring out glitches and possible improvements. (within 10 days of start of construction)

6) Final design implementation and construction to achieve all targets. (by 5th week till the end of 6th week)

Components Required

webcam

suitable dc motors (4)

suitable battery

electrical circuit components

sensors

image processor

computing chip/board

other hardware required for bot construction

Total estimated cost - Rs6000 to Rs8000

Learning Expectations

Knowledge of electronic systems, coding, operations of image processing softwares, basics of autonomously navigating vehicles, electronic and coding requirements of image processing