Muhammad Bilal Jamil
FA12-BCE-007

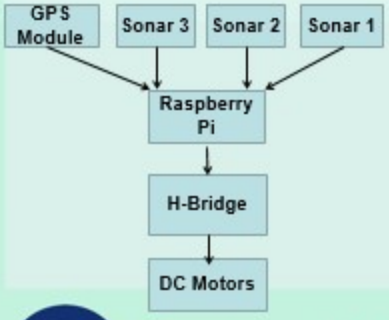
Mina Khan
FA12-BCE-051

Supervisor : Dr. Riaz Hussain, Assistant Professor, Department of Electrical Engineering, Islamabad

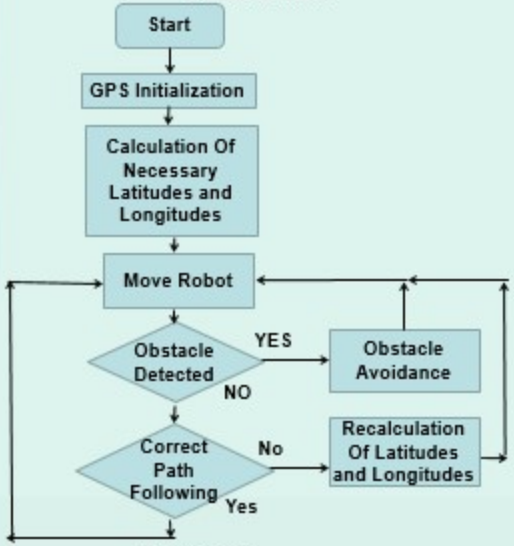
Abstract

The main idea is to build an intelligent autonomous robot using Raspberry Pi whose utility will be demonstrated in a receptionist/guide at the premises of COMSATS Institute of Information Technology(CIIT) or at any other organization for example as a hotel receptionist. This robot is programmed to receive and guide the guest arriving at the institution to a predefined destination by overcoming all obstacles in its way .The approach of building a robot receptionist/guide can help attract more people to CIIT, giving the institution more recognition by introducing interactive robots into the environment.

Block Diagram



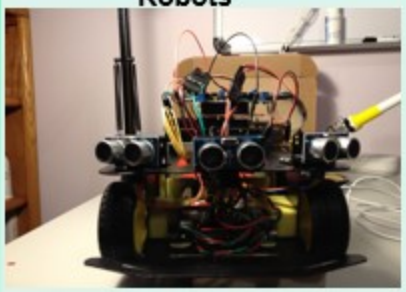
Flow Chart



Features

- Autonomous Robot
- UDP Communication
- Obstacle Detection
- Socket Programming
- Locomotion via GPS

Final Prototype of Robots



Conclusion

As we are living in 21st century, Science has advanced everything at an alarming rate. So in order to include Information Technology and built our project at an advanced level, we chose this project as it pushes us out of our comfort zone to make a robot that can be one of the state art robots made at CIIT.

With the help of Raspberry Pi, the huge vision was implemented without exceeding the budget. However , with the necessary funding provided, this robot can be advanced further in the future by giving it a complete shape of a Humanoid which can talk, smile and greet people when they come in contact with it. Adding more joints and sensors to make the robot climb stairs can be a further advancement to the project. In Pakistan, there is still room for more work to be done on robotics so this is a small step towards copping up with the highly advanced world of technology

Department of Electrical Engineering
COMSATS Institute of Information Technology, Islamabad