

Low Cost Robot Navigation using RFID tags

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ABSTRACT

Robot navigation is a field with many different techniques being applied to the problem. Most of these techniques keep a record of a map on the robot or use GPS to guide the robot. This approach uses RFID tags as signposts with no additional information about the environment stored on the robot. The RFID tags use an x by y grid with each card knowing its location and the location of the four cards next to it in a cross shape. This allows a robot to travel from one tag to another tag by using the in-between tags to guide it. Though the direction dead reckoning was slightly inaccurate, the robot was able to get from one tag to another tag successfully by using the tags in-between to guide it.



Figure 1. The RFID board with an RFID tag

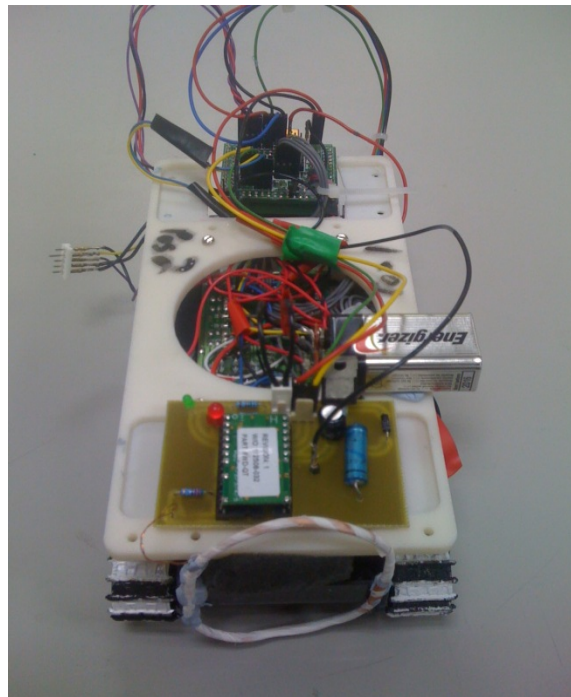


Figure 2. The final robot

M Ince, Low Cost Robotic Navigation using RFID tags, *Proc. 11th School Conf. for Annual Research Projects*, V F Ruiz (Ed), pp. 191–194, University of Reading, 29 May 2012.