**RIFD related**

**GUEAIEB, W., MIAH, M.. A Modular Cost-Effective Mobile Robot Navigation System Using RFID Technology. Journal of Communications, North America, 4, mar. 2009. Available at: <http://www.ojs.academypublisher.com/index.php/jcm/article/view/0402089095>. Date accessed: 09 Oct. 2014.**

RFID commonly depends on complex image processing algorithms, expernsive hardware, and/or a priori knowledge of the environment

The fundamental idea behind dead-reckoning navigation systems is the integration of incremental motion over time

(J. Borenstein, H. R. Everett, L. Feng, and D. Wehe, “Mobile robot positioning: Sensors and techniques,” Journal of Robotic Systems, vol. 14, no. 4, pp. 231–249, April 1997. )

navigation method a small precision errors and sensor drifts inevitably lead to increasing cumulative errors in the robot’s position and orientation, unless an independent reference is used periodically to correct the error

(L. R. Ojeda, G. D. Cruz, and J. Borenstein, “Currentbased slippage detection and odometry correction for mobile robots and planetary rovers,” IEEE Transactions on Robotics, vol. 22, no. 2, pp. 366–378, April 2006. )

Hallmann et al. developed a mobile robot B14 to navigate in a partially known environment.

(I. Hallmann and B. Siemiatkowska, “Artificial landmark navigation system,” in International Symposium on Intelligent Robotic Systems, July 2001.)

Some navigation systems in man-made environments, such as hallways, were developed in [15], [16], where RFID tags are used as artificial landmarks for a mobile robot that is equipped with an on-board laptop computer, an RFID tag sensor and a vision system.

The RFID reader is mounted on the robot itself while the tags are pasted at particular locations on walls.

The current manuscript describes a novel navigation technique that uses a customized two-antenna RFID reader mounted on the robot and a number of tags attached in the robot’s workspace.

A novel RFID-based robot navigation system is proposed in this paper. The robot is first presented with a

**HyungSoo Lim; ByoungSuk Choi; Jangmyung Lee, "An Efficient Localization Algorithm for Mobile Robots based on RFID System," SICE-ICASE, 2006. International Joint Conference , vol., no., pp.5945,5950, 18-21 Oct. 2006**

presents an efficient localization scheme for an indoor mobile robot using an RFID system.

RFID tags on the floor to localize the mobile robot.

Each RFID tag stores its own absolute position which is used to calculate the position, orientation and velocity of the mobile robot.

a scheme to reduce the estimation error is newly introduced

**Desouza, G.N.; Kak, A.C., "Vision for mobile robot navigation: a survey," Pattern Analysis and Machine Intelligence, IEEE Transactions on , vol.24, no.2, pp.237,267, Feb 2002**

INDOOR NAVIGATION with Map-Based Approaches

INDOOR NAVIGATION with Map-Building

INDOOR NAVIGATION with Mapless Navigation