INDOOR POSITIONING SYSTEM USING MARKER TAG

By

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STATEMENT BY THE AUTHOR

I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgement is made in the thesis.

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ABSTRACT

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Indoor navigation has been a challenge for a system to move from a location to another location. A good navigation requires a good positioning as the system moves along the way. This thesis presents about an indoor positioning system that uses vision system to detect an artificial marker called ArUco. By using ROS as the main control platform, a node has been created to control the positioning based on the message sent by reading the marker. The system is integrated with a moving camera system that will always update the position data as it finds marker on its movement, even when the object is not moving. By combining the system with odometry, the robot position is always updated and corrected when it finds a marker on its way. The result proves the system is usable and gives a good accuracy that is still in tolerable range for indoor navigation.

Keywords: Indoor Positioning System, Visual System, ArUco, ROS

DEDICATION

I dedicate this works to God

My Family

And for the future of the country I loved: Indonesia

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