Penerapan Sistem Beacon dalam Kontrol Kecepatan *Line Follower Robot*

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Abstract

In general, line follower robots only have basic abilities such as moving along the path that has been created. Therefore, it provides another feature where the line follower robot will reduce its speed or even stop when near the beacon. A BLE (Bluetooth Low Energy Beacon) module is used which is used as a beacon in regulating the speed of the line follower robot. In the control, RSSI is used as a distance comparison for beacons from one another. RSSI is a unit of measure of signal strength that is always emitted by each beacon within a certain distance. Later the largest RSSI will be used as a reference for the speed of the line follower robot, that is, if the distance is close, the robot stops, at medium distance the robot will slow down, and long distance has no effect at all. In terms of speed control assisted by fuzzy logic algorithms in order to determine the speed according to the rules that have been made. Then in controlling the line follower robot, the PID controller (Proportional, Integral & Derivative) is used, which is a function that is used to increase the movement of the robot to be able to detect lines and keep the robot on track.

Keywords: *line follower robot, beacon,* PID *controller,* BLE Beacon, *RSSI,Fuzzy Logic, Bluetooth Low Energy*.