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(57) Abstract :

The present invention is a robotic system comprises of a robotic device and a method, using VLSI architectures on a FPGA board equipped with ultrasonic sensors for the autonomous navigation of robotic device in a semi structured indoor environment like canteen. The navigation of robot is continuously between source and destination and vice versa continuously based on the priority of directions set, for which a customized algorithm is used according to the VLSI architectures designed. The present invention uses shuffle module in place of digital compass for directions by assigning the new directions to the registers in the shuffle network of shuffle module, whenever the robotic system changes the direction corresponding to the type of obstacle encountered.

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