# Development of a Joystick-based Control for a Differential Drive Robot

**By**

**Rehan Anwar**

**01-133112-072**

**Supervised**

**By**

**Sir. Meraj Hassan**

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Bahria University, Islamabad.

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## Dedication

I dedicate this project to my family. Without their support, this would not have been possible. They gave me the confidence, the strength to work single handedly on this project. I wish and pray from Allah Almighty that the work reported in this project is able to convince my fellows, teachers and examiners to have positive Remarks.

With Best Regards,
*Rehan Anwar*

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## Abstract

The joystick based control mechanism provides a dynamic control for a differential drive robot. Project's novelty lies in the achievement of a full 360-degree of freedom in movement. This robot is featured to be used with an inexpensive joystick while also permitting for a secondary or keyboard mode of control to be implemented. With the new innovations in technology, machines and robots have to be made autonomous. The use of complex industrial manipulators requires highly skilled people. Hence to cut down the cost of manpower, such systems can be employed in the industry where machinery is interfaced with the computers. The robots at car assembly line, palletizing, product inspection, and testing shall execute the commands by a gentle press of a keyboard button. The project is a prototype for easy operation of such heavy industrial automation systems.

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