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FINAL REPORT OF DIPLOMA PROJECT

AUTOMATED WHEELBARROW

NOVEMBER 2012


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ACKNOWLEDGEMENT

Thanks to the almighty god; Allah for give our life and hope to finish this project without any major problems.

It is with a great sense of pleasure that we acknowledge to help and guidance our have received from a numerous people during the course of our study at Universiti Teknologi Mara (UiTM). Supervisor Madam Siti Sara Binti Rais because provided our group with energy, enthusiasm and insight to work on this interesting Diploma Final Year Project .we very much thankful to them for all their support in conducting and writing up our work.

Moreover, we want to express our heartfelt and sincere for their priceless guidance and support during our Diploma Final Year Project. Not forgetting our fellow friends who gave a lot of ideas, contributing in our development of Automatic Car Jack. Without them, we have been nowhere near completing our project .

Lastly but not least, special thanks go to ours beloved parents who supported we to reach we goals and sacrificed much in their life for our well-being. We indebted to their painstaking attitude, which always kept our on the right track

ABSTRACT

Actuator is a technology which mainly being used in medical and automotive field. It is a technology which related with the usage of stepper motor. Of which the stepper motor are used to move the coil of the actuator in upward and downward motion. Actuator also a very affordable and feasible application to be applied in many field to its practicability and efficiency in term of application and power consuming. It can be operated using a 12V DC power supply which makes it practical enough to be applied on any appliances that requires low power supply.

Actuators also are controlled using a limit switch. This type of switch are practical to be used to operate the actuator of which user can stop the actuator at desired stroke. The limit switch allows operating and stopping the actuator desirably. This is practical in term of user's preference to move the actuator upward or downward at desired stroke to allow better performance of application installed with it.

An actuator comes in various types such as track actuator, linear actuator, electric actuator and mini actuator. An actuator also comes in various design and specifications of applications for example a track actuator are suitable for application in medical field and lightweight industry. It can lift a load of up to 100kg+ and stretch of up to 1 meter in length.

A sound generator is a basic circuitry. It consists of an amplifier, transistor, resistor, buzzer and a power supply. The preferred frequency to be generated by the buzzer in this project is 1.3 kHz (a frequency in the range of 1 to 2 kHz are deemed enough to be heard by user). This sound generated circuit is operated on 9V power supply.

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