Final Year Project

*Manual to automatic washing machine*design for Home appliances

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Manual to automatic washing machinedesign for Home appliances

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In

Electrical Engineering

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First of all, we are grateful to ALMIGHTY ALLAH, who gave us the strength to achieve our goals. Without HIS divine help, we could do nothing. Secondly, we would like to pay deep regard to our parents who, with their selfless and extreme love, were always there to give us the required motivation, courage and confidence to complete our tasks. We would like to salute them because of their patience in managing with our busy routines and tight schedules. We are also extremely thankful to Mr. FarhanIqbal, our project advisor, who gave us the desired knowledge and right direction to move forward. He was really cooperative through our complete voyage and provided us with each and every facility whenever and whatever was required for our project. He remained with us from the start till the end and though he used to be busy with his own work, he, when we needed help, was there for us. We would also like to thank all relevant teachers including Mr. AsifHussain, Mr. BasitShahab, Mr. Ali Murtaza, who were there to guide us in technical matters.

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ABSTRACT

Microprocessors and sensor technology together achieved a fully automatic washing machine based on fuzzy control. System used an integrated mixed-signal system-level PIC16F877A microcontroller. The system would detect water level, main board is available for user input via keypad, draining and automatic re-filling of water to rinse clothes. So as to achieve automatically complete the whole washing process. Experiments show that the system is stable, easy to operate, cost-effective advanced features, so that it has a certain value.

DEDICATION

First of all we are very thankful to ALLAH ALMIGHTY who has given us enough courage to complete. Then it is dedicated to our kind teacher**Sir FarhanIqbal**&**Our Parents**who enlightened our minds with Knowledge, tried to include the spirit of hard work and dedicational us so that we could have a bright future in terms of being good human and turn out to be competentEngineers with powers to take challenging engineering problems.

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Introduction

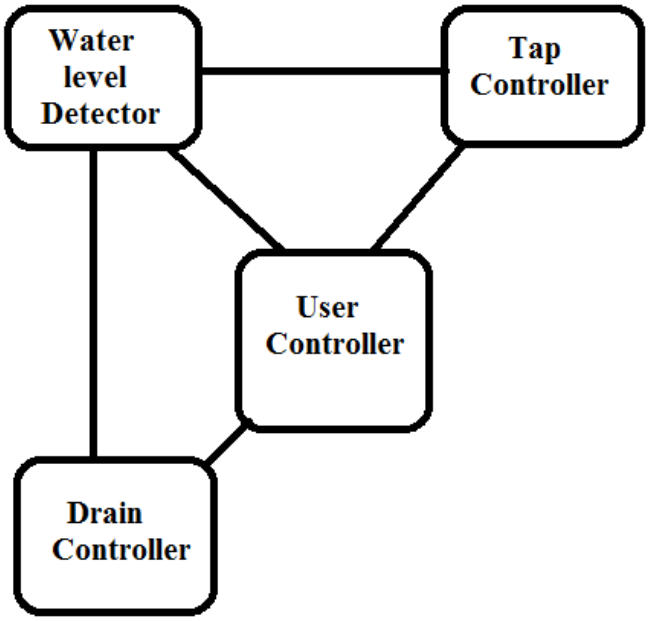
Project Background:

Washing is an electronic device which is used for the washing purposes of clothes. There are two kinds of washing machines manual and automatic.
The problems faced in the manual washing was that we have to put water manually in it, we have to rinse the clothes by hand and we have to drain unwanted muddy water by placing down the pipe of washing machine on the ground. But in automatic washing machine has overcome all these problems.

Objective and Applications:

Our main purpose is to convert manual washing machine into an automatic washing machine. As it is modern era, technology has created a revolution in old methods for the ease of mankind. Similarly, automatic washing machines have taken over manual washing machines. But those washing machines are very expensive. The economy class cannot afford that automatic washing machine. After completion of our project the economy class will be able to convert their manual into automatic washing machine in very reasonable and cheap price.

Block Diagram:



History:

A **washing machine** (**laundry machine**, **washing machine**, **clothes washer**, or **washer**) is a machine to wash laundry, such as clothing and sheets. The term is mostly applied only to machines that use water as opposed to dry cleaning (which uses alternative cleaning fluids, and is performed by specialist businesses) or ultrasonic cleaners. Washing entails immersing, dipping, rubbing, or scrubbing in water usually accompanied by detergent, or bleach. The simplest machines may simply agitate clothes in water while switched on; automatic machines may fill, empty, wash, spin, and heat in a cycle. Most washing machines remove substantial amounts of water from the laundry at the end of a wash cycle, but do not completely dry it.

The process by hand

Laundering by hand involves soaking, beating, scrubbing, and rinsing dirty textiles. Before indoor plumbing, the housewife also had to carry all the water used for washing, boiling, and rinsing the laundry; according to an 1886 calculation, women fetched water eight to ten times every day from a pump, well, or spring[1] Water for the laundry would be hand carried, heated on a fire for washing, then poured into the tub. That made the warm soapy water precious; it would be reused, first to wash the least soiled clothing, then to wash progressively dirtier laundry. Removal of soap and water from the clothing after washing was originally a separate process. First soap would be rinsed out with clear water. After rinsing, the soaking wet clothing would be formed into a roll and twisted by hand to extract water. The entire process often occupied an entire day of hard work, plus drying and ironing.

Washing by machine

Clothes washer technology developed as a way to reduce the manual labor spent, providing an open basin or sealed container with paddles or fingers to automatically agitate the clothing. The earliest machines were hand-operated and constructed from wood, while later machines made of metal permitted a fire to burn below the washtub, keeping the water warm throughout the day's washing.

The earliest special-purpose washing device was the scrub board, invented in 1797.

By the mid-1850s, steam-driven commercial laundry machinery was on sale in the UK and US.Technological advances in machinery for commercial and institutional washers proceeded faster than domestic washer design for several decades, especially in the UK. In the US there was more emphasis on developing machines for washing at home, though machines for commercial laundry services were widely used in the late 19th and early 20th centuries. The rotary washing machine was patented by Hamilton Smith in 1858. As electricity was not commonly available until at least 1930, some early washing machines were operated by a low-speed single-cylinder hit and miss gasoline engine.