

AUTOMATIC CAR WASHING SYSTEM USING MICROCONTROLLER

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ABSTRACT - This paper presents the proposal and development of a programmed sensor-based carwash system. The system provides quick, convenient, and efficient washing services. The main steps involving in the car wash system consists of car peripheral planning, adjustment of nozzles based on car peripherals, and smearing various washing practices. In the initial step, object planning is achieved using a suitable sensor system. Subsequently, data acquired from sensors is processed and the relevant information regarding the car periphery is stored. Lastly, the status of the nozzles is adjusted (at a suitable position/angles) based on the car peripheral planning. Once the nozzles are adjusted to appropriate angles, the washing process is initiated that includes foam spray, water spray, and drying. In this paper, the simulation model of the proposed followed by the development of a small-scale hardware prototype. With the information merged in the design, the developed system is capable to clean off considerably the exterior dimensions of objects for efficient washing method.

Key Words: car wash, car peripheral planning, atmega16, ultra-sonic sensors.

1. INTRODUCTION

Automatic Car-Washing is controlled using the electro-mechanical system as shown. A proto-type model is executed in our project. Automatic washing was started way long before in the 1930s. Overtime, many apprising's were done on it in the previous method car was to be lifted to wash downside. We are using angular jet spraying using nozzles at a suitable position which helps cleaning downside more easily the full mechanism includes the rolling of the car and moving it on a conveyor belt in a forward direction in steps. At transitional steps, the car cleaning is done with water in real form and soap water is allowed to fall on the car under wash. Care is taken for not allowing the water to fall on the fabrication, also suspended front rollable brushes are installed to clean the upper side neatly at the end the car is again allowed to move forward for drying. Belt Returns for loading a new car.

2. MICROCONTROLLER

Atmega16 is a controller that can power most of the machines very straightforwardly. The atmega16 is just

doing precisely what the human software engineer instructed them to do. atmega16 can without much of a stretch run numerous machines. At the point when running a microcontroller program, a visual operation can be seen on the screen. A microcontroller system can be tried, approved, and remedied sparing an exceptionally important time. With wired hand-off sort boards, any project change requires time for the rewiring of boards and gadgets. The programs are written can be confirmed and tartan before closing putting in place and it can be modified at any time without alarming any physical changes. ATmega16 is an 8-bit high presentation microcontroller it belongs to Atmel's Mega AVR family. It's a 40-pin microcontroller based on enhanced Reduced Instruction Set Computing architecture with many powerful commands. It has a programmable flash memory of 16KB, static RAM of 1 KB, EEPROM of 512 Bytes. The resolution cycle of flash memory and EEPROM is 10,000 and 100,000, correspondingly. Most of the commands execute in one machine cycle. It can work on an extreme frequency of 16MHz.

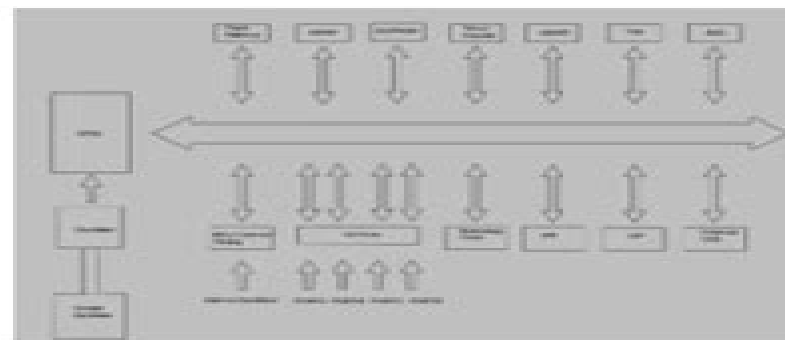


Figure -1: Atmega16 Architecture

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**Miguel Botto-Tobar, Joffre León-
Acurio, Angela Díaz Cadena, Práxedes
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Automatic Car Washing System Using Microcontroller:

Smart Sensors Measurement and Instrumentation Shreesha Chokkadi, Rajib Bandyopadhyay, 2023-03-11 This book comprises the proceedings of the select peer reviewed papers presented during the 18th Control Instrumentation System Conference CISCON 2021 This book highlights the latest trends in instrumentation sensors and systems industrial automation and control image and signal processing robotics renewable energy power systems and power drives The research works covered in the book are of high quality and contributed by experts in academia and industry to provide meaningful direction for prolific growth The book also features a few chapters contributed by the leading policymakers technologists farmers and doctors who help outline the roadmap from the need for technology to policy making to effect and implement technological advancements for the nation building process The book will serve as a valuable reference resource for academics and researchers across the globe

Advances in Emerging Trends and Technologies Miguel Botto-Tobar, Joffre León-Acurio, Angela Díaz Cadena, Práxedes Montiel Díaz, 2019-10-18 This book constitutes the proceedings of the 1st International Conference on Advances in Emerging Trends and Technologies ICAETT 2019 held in Quito Ecuador on 29-31 May 2019 jointly organized by Universidad Tecnológica Israel Universidad Técnica del Norte and Instituto Tecnológico Superior Rumiahui and supported by SNOTRA ICAETT 2019 brought together top researchers and practitioners working in different domains of computer science to share their expertise and to discuss future developments and potential collaborations Presenting high quality peer reviewed papers the book discusses the following topics Technology Trends Electronics Intelligent Systems Machine Vision Communication Security e Learning e Business e Government and e Participation

Microcontroller Technology, the 68HC11 Peter Spasov, 2002 This updated edition continues to provide readers with the background needed to understand and use microcontrollers specifically the popular Motorola 68HC11 The 68HC11 is relatively easy to work with and has most of the features essential for a complete control system The book starts at an introductory level by explaining the applications and origins of microcontrollers Next a programmer's view of the device is developed Finally the hardware is described and the reader learns how to connect it to the outside world for control applications Many changes have been made to this edition To acknowledge the prominence of C programming the topic is introduced earlier and the text uses C program examples throughout A CD ROM containing source code a special demo version of the THRSim11 simulator a IC11 demo C compiler a cross assembler fuzzy logic tools and assorted electronic design tools is included Because it provides a practical way to explore programming and interfacing concepts readers will find the simulator extremely useful Chapter openers now list learning objectives to help the reader pick out the important points in each chapter Numerous helpful appendices have been added to reinforce key topics This book is an excellent guide and reference and it will prove indispensable to students of control automation and interested amateurs as well as to experienced users of microcontrollers An Instructor's Manual ISBN 0 13 033248 8 is available free of charge to instructors

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web go to the tab for virtual labs at genetic science learning center you will be doing the dna extraction and the gel electrophoresis complete this worksheet as you walk through the steps of the labs dna extraction 1 list three reasons for

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sample practice plan 1 5 hours flag pull 2 1 10 all same with a blocker flag pull 2 2 10 all same with blocker and another defender the wr will give the football to the db after the drill the db will hand the football to the qb in the db s new line 6 points are awarded for each td the coach keeps score

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sample football drills and plays we appreciate all of our coaches in the league some are seasoned and some are new we have added a coach s corner nfl flag play 60 practice plan with sample plays blue cheetah empty red arrow empty shotgun green delay slot out n up slot right green post but is owned by and subject to the nfl

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the flag football practice plan outlined above is used for the first practice after a game during all other practices i replace the film screening and weight training with a solid rotation of position drills and special teams

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breaking in the direction of sidelines after a catch and catching the ball at the highest possible point is important in flag football drills and plans flag football drills should also include strengthening the defense in situations like a hand off and

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in the first half of the book we have drills for passing catching footwork basic blocking and tackling or flag pulling positional skills and drills for both offense and defense we ll divide these drills into three categories basic football skills passing catching kicking and footwork

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be organized have a plan ready before football practice that includes warm up drills and a scrimmage have structure to your

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effective practicing have a plan showing up to practice with a plan or script for how things should be run is a way to take pressure off of you and your coaching staff and will provide your players with constant instruction and interaction the following different drills will address areas of the game of flag football o o x x

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