|  |
| --- |
| **AUTOMATIC WATER DISPENSER USING ARDUINO**    **Project report**    **Submitted in partial fulfilment of the requirements for**  **Automatic Water Dispenser Using Arduino**    **B Tech**  **Presidency University**    **Carried out at**  **Presidency University**  **Bengaluru**    **By**  **MANJUNATH ACHARI (20191CSE0316)**    Logo  Description automatically generated |
| **1 |** P a g e |

|  |
| --- |
| **Department of Computer Science & Engineering Bengaluru**      **Certificate**    This is to certify that the project entitled “**Automatic Water Dispenser Using**  **Arduino” has**  been successfully completed by MR. MANJUNATH of sixth semester B Tech at **Presidency University, BANGALORE** as the Internet Of Things project in partial fulfilment for the award of B tech Degree course conducted by the Presidency University. The Project Report presented here is the bonafide work of the student.    **Guide: Head of the Department**  Prof. Manasa mam Thivakaran sir |
| **2 |** P a g e |

|  |
| --- |
| **Acknowledgement**    While performing our project, we had to take the help and guidelines of some respected persons who deserve our greatest gratitude. The completion of this project gave us immense pleasure.  We are highly indebted to Manasa mam, for her guidance, constant supervision and for their support in completing our project.  We would like to express our gratitude to our parents for their kind co-operation and encouragement. |
| **3 |** P a g e |

|  |
| --- |
| **ABSTRACT**    **In this paper a low cost and user friendly water dispenser automation system is presented using Arduino Nano, Sensor, motor, relay. A system which allows the use Nowadays, most of conventional home automation systems are designed for special purposes while proposed system is a general purpose home automation system. Which can easily be implement in existing home.**  **This paper also describes the hardware and software architecture of system, future work and scope. The proposed prototype of home automation system is implemented and tested on hardware and it gave the exact and expected results.** |
| **4 |** P a g e |

|  |
| --- |
| **COMPONENTS USED**     1. Arduino Uno 2. BreadBoard 3. Relay 4. Ultrasonic Sesnsor 5. Jumper wires 6. Water Pump 7. Water bottle to store water 8. USB Cable |
| **6 |** P a g e |

|  |
| --- |
| **FEATURE OF COMPONENTS USED**    **1. Arduino Board**  Arduino is a prototype platform (open-source) based on an easy-to-use hardware and software. It consists of a circuit board, which can be programed (referred to as a microcontroller) and a ready-made software called Arduino IDE (Integrated Development Environment), which is used to write and upload the computer code to the physical board.  Arduino provides a standard form factor that breaks the functions of  the micro-controller into a more accessible package.    **Arduino Pin Out Diagram**    A picture containing text, electronics, circuit  Description automatically generated |
| **7 |** P a g e |

|  |
| --- |
| 3**.Relay**  A relay is an electrically operated switch. It consists of a set of input terminals for a single or multiple control signals, and a set of operating contact terminals. The switch may have any number of contacts in multiple contact forms, such as make contacts, break contacts, or combinations thereof.  Relays are used where it is necessary to control a circuit by an independent low-power signal, or where several circuits must be controlled by one signal. Relays were first used in long-distance telegraph circuits as signal repeaters: they refresh the signal coming in from one circuit by transmitting it on another circuit. Relays were used extensively in telephone exchanges and early computers to perform logical operations. |
| **9 |** P a g e |

|  |
| --- |
| 4**.Ultrasonic Sensor**  An ultrasonic sensor is an electronic device that measures the distance of a target object by emitting ultrasonic sound waves, and converts the reflected sound into an electrical signal.  A picture containing electronics, projector  Description automatically generated  5**.Jumper Wires**  A jump **wire** (also known as **jumper wire**, or **jumper**) is an electrical **wire**, or group of them in a cable, with a connector or pin at each end (or sometimes without them – simply "tinned"), which is normally **used** to interconnect the components of a breadboard or other prototype or test circuit, internally or with other        Male to Male Jumper Female to Female Jumper Male to Female Jumper  Wires Wires Wires |
| **10 |** P a g e |

|  |
| --- |
| 6**.Water Pump**  Water Pump is so a common type of pumps that they can be found at home, in fields, on farms and other places. They are exclusively used for displacing water. Water pumps run on different sources of power. There are solar water pump, electric water pump, and engine water pump.Basically used to supply the water.      7**.Water Bottle**  A water bottle is a container that is used to hold water, liquids or other beverages for consumption. The use of a water bottle allows an individual to drink and transport a beverage from one place to another. A water bottle is usually made of plastic, glass, or metal. |
| **11 |** P a g e |

|  |
| --- |
| 8**.USB Cable**  The term USB stands for "Universal Serial Bus". USB cable assemblies are some of the most popular cable types available, used mostly to connect computers to peripheral devices such as cameras, camcorders, printers, scanners, and more. |
| **12 |** P a g e |

|  |
| --- |
| **PINOUT DIAGRAMS**  Diagram, schematic  Description automatically generated |
| **13 |** P a g e |

|  |
| --- |
| **Manual Connection of the Project:**    A close-up of some wires  Description automatically generated with low confidence |
| **14 |** P a g e |

CODE

#define trigger 2

#define echo 3 #define Relay 6 float time=0,distance=0; void setup()

{

Serial.begin(9600); pinMode(trigger,OUTPUT); pinMode(echo,INPUT); pinMode(Relay,OUTPUT); delay(2000);

}

void loop()

{

measure\_distance(); if(distance<5)

{

digitalWrite(Relay,LOW);

}

else

{

digitalWrite(Relay,HIGH);

}

delay(500);

}

void measure\_distance()

{

digitalWrite(trigger,LOW); delayMicroseconds(2); digitalWrite(trigger,HIGH); delayMicroseconds(10); digitalWrite(trigger,LOW); delayMicroseconds(2); time=pulseIn(echo,HIGH)

distance=time\*200/20000;

}

README

1. First give the power supply to the Arduino board
2. The relay and motor is connected
3. Waits for the sensor
4. As soon we place the glass the sensor get sense of the glass
5. DC motor gets start
6. Water is pumped and fills the glass
7. As soon the glass is moved away from the sensor the DC motor stops water flow.

CONCLUSION

Through this project we came across various components which gave us more insight about the subject “Internet Of Things”. Our project was about automatic water dispenser using Arduino

This objective of our project is to provide the improvement on existing water condition by which human being get the good quality of water and with this there will be no wastage of water.This is the main objective of our project.