LITERATURE SURVEY

1. **TITLE** **:** IOT Based real time river water quality monitoring system

   AUTHOR DETAILS **:** Mohammad salah uddin chowdury, Talha bin emran, Subhasish, Abhjit pathak, Karal andersson, Mohd.manjur alam, Nurul absar, Mohammad shahadat hossain

   YEAR **:** 2019

   HARDWARE: Control surface, pH sensor, Turbidity sensor, Temperature sensor, LCD display, WI-FI module

   SOFTWRE **:** IOT Platform, Neural network model in big data analytics

   CONTENTS **:** The process a sensor based water quality monitoring system. If the acquired value is above the threshold value automated warming SMS alert will be sent to the agent. Real time monitoring of water quality by using IOT integrated help people to become conscious against using contaminated water as well as to stop polluting the water.

2. TITLE **:** Smart water quality monitoring system with cost effective using IOT

AUTHOR DETAILS **:** Sathish pasika , Sai teja gandha

YEAR **:** 2020

HARDWARE: Tarrget boards, Arduino mega, Node MCU, pH sensor, Turbidity sensor, Ultrasonic sensor, DHT-11 sensor

SOFTWARE: Thingspeak app application

CONTENTS: Water quality monitoring is a cost effective and efficient water system designed to monitor drinking water quality which makes use of IOT Technology. The Microcontroller Unit (MCU) interfaced with these sensors and further processing is performed at personal computer. The obtained data is sent to the cloud by using IOT based Thingspeak application to monitor the quality of the water.

3. TITLE **:** Smart water quality monitoring system for Real time applications

AUTHOR DETAILS **:** Tha.Sugapriya, S.Rakshya, K.Ramyadevi, M.Ramya, P.G.Rashmi

YEAR **:** 2018

HARDWARE: Temperature sensor, pH sensor, Electric conductivity sensor, Turbidity sensor, Arduino board.

CONTENTS: The monitoring of the water standard is a complex process as it has several laboratory testing methods and time consuming. To overcome this difficulty, a real time monitoring of water goodness by using IOT has been proposed. The level of pollutions in the water bodies is governed and the sudden warnings are sending to the public through messages and alarm.

4. TITLE: Smart tank water monitoring system using IOT server at home

AUTHOR DETAILS: Imran.B , Shakir ahmed sha.KS, Pavethra.M, Siva sankari.K, Kavitha

YEAR: 2018

HARDWARE: pH sensor , gas sensor, water level sensor, PIC controller, IOT module, relay, power unit

SOFTWARE: php, Java script and Mysql, android application

CONTENTS: In this project the design of IOT based water quality monitoring system that monitor the quality of water in real time. Project also incorporated with an android application to monitor and control of quality of the water via IOT.

5. TITLE : Efficient cloud based real time water quality monitoring system using IOT

AUTHOR DETAILS : M.Usha rani, A.Sathish kumar, DR.R.Alageswaran

YEAR : 2018

HARDWARE: Water level sensor, Conductivity sensor, pH sensor

SOFTWARE : GSM module, mobile applications

CONTENTS : Our project proposes a low cost system for real timed water quality monitoring in IOT. The collected data are processed and stored in a cloud. If the water quality is not within limits the system sent an alert message through notification. We can easily know the water parameter data using mobile\webapps.

6. TITLE **:** Real time monitoring of water quality

AUTHOR DETAILS : Mohanabarathy.R, Sindhu parvathi.M, Priyanka.K, Theresa princy.D

YEAR **:** 2019

HARDWARE: Water quality monitoring RC (Remote Controlled) boat, pH sensor,

Turbidity sensor, Conductivity and Temperature sensor.

SOFTWARE: hingspeak platform

CONTENTS **:** Water quality determines "the goodness" of water for particular purpose of development of effective means for continuous monitoring of water quality represents an unmet of need of significant importance actually for monitoring water quality. This system can be used to monitor other water quality parameters.

7. TITLE **:** Water quality monitoring system based on IOT

AUTHOR DETAILS **:** Vaishnavi.V, Daigavane and DR.M.A.Gaikwad

YEAR **:** 2017

HARDWARE: pH sensor, Turbidity sensor, Temperature sensor, Flow sensor, arduino Uno, wifi module

SOFTWARE: BLYNK App

CONTENTS: In order to ensure the safe supply of the drinking water quality needs to be monitor in real time. The system for real time monitoring of the water quality in IOT. The collected data and analysis results will be available results will be available to the end user through the wifi.

8. TITLE **:** Design and development of water quality monitoring system in IOT

AUTHOR DETAILS **:** M.Joseph vishal kumar, Krishna samalla

YEAR **:** 2019

HARDWARE: Raspberry pi,pH sensor, Temperature sensor, water level sensor.

SOFTWARE: HTML/JS Code

CONTENTS: Due to the impact of polluted water globally tremendous changes are taking place towards development of a reconfigurable smart sensor interface device for water quality monitoring system in an IOT environment. We can receive the emergency alerts to mobile phone from cloud server through internet.

9. TITLE **:** IOT Based water quality monitoring system using RC Boat

AUTHOR DETAILS **:** Gayatri gunjal, renu guraddi, Sonal more

YEAR **:** 2022

HARDWARE: pH sensor, Turbidity sensor, conductivity sensor, Temperature sensor, ATmega328

SOFTWARE: Thingspeak webpage using the wifi module

CONTENTS: The system can monitor water automatically. So the water quality testing is likely to be more economical and fast since we can monitor any time through IOT webpage.

10. TITLE : Design and implementation of monitoring of water quality in agriculture using IOT

AUTHOR : Dadam vasudeva, P.Hemalatha

YEAR : 2019

HARDWARE: Arduino, LCD, Dht11 sensor, Temperature sensor, Turbidity sensor, pH sensor, GPRS, Synopsis

SOFTWARE: Emedded C language, keil

APPLICATIONS:

- Water and air qualities
- Drinking water distributing systems
- Lake,River,Sea water monitoring

ADVANTAGES:

- Water quality checking
- Low cost
- Low control utilization
- Easy to get on

CONTENTS: Smart solutions for water quality monitoring are gaining importance with development in communication technology. All these values of the sensors are sent to the server by using GPRS.

11. TITLE **:** Real time water quality monitoring system

AUTHOR DETAILS **:** Jyotirmaya ijaradar, Subharish chatterjee

YEAR **:** 2018

HARDWARE: Raspberry pi, ADS1015 Analog to Digital converter, pH sensor, Turbidity sensor, Temperature sensor (DS18B20)

SOFTWARE: Thingspeak platform

CONTENTS: In this paper, a real time water quality monitoring system prototype developed for water quality monitoring in residential home is presented. The system can monitor water quality automatically triggers alarms immediately to prevent and health hazards.

12. TITLE **:** Real time water quality monitoring system

AUTHOR DETAILS **:** Yashwanth gowda K.N, Vaishali.c, sumalatha S.T and spoorth G.B

YEAR **:** 2020

HARDWARE: pH sensor, Temperature and Turbidity sensors, Arduino board.

SOFTWARE: Arduino IDE

CONTENTS: This paper to build a sensor based water quality monitoring system. The system has wide application and it is usable and affordable by all categories of users.

13. TITLE **:** Smart water quality and monitoring of motor in bore well by IOT

AUTHOR **:** Nandhini murugaiyan, Elakkiya sakthivel, Madhumitha lavakumar, Audithan Stephen

YEAR **:** 2020

HARDWARE: pH sensor, Current sensor, ULTRA SONIC senor, Teemperature sensor, Voltage regulator, ESP-8266 wifi module, VDC motor

SOFTWARE: Thingspeak application

CONTENTS: Water quality is affected by z both the natural and human activities micro controller chip is used to collect the data from the sensors and a wifi chip are utilized to send the collected information of a bore well to the cloud. The information is sent to the mobile application of the person in that locality.

14. TITLE **:** Internet of things enabled real time water quality monitoring system

AUTHOR DETAILS **:** S.Geetha, S.Gowthami

YEAR **:** 2017

HARDWARE: Turbidity sensor, Conductivity sensor, Water level sensor, pH sensor

SOFTWARE: ENERGIA IDE, Cloud-Ubidots

CONTENTS: Smart solutions for water quality monitoring are gaining importance with advancement in communication technology. The field of smart water quality monitoring .The system also provides an alert to a remote user.

15. TITLE **:** IOT Based real time water monitoring system for smart city

AUTHOR **:** shweta karad, Maryam merchant, Ashvini kardile, Vijeyata mishra

YEAR **:** 2018

HARDWARE: Water quality sensor, water flow sensor, Water level sensor, Turbidity sensor, Raspberry pi 0W, Water control value, microcontroller

SOFTWARE: Node-RED graphical programming language

CONTENTS: IOT based model for water level and quality monitoring. The proposed system is created with the use of different sensors, Raspberry pi 0W as controller and cloud for storing the data from Raspberry pi and sending the command to Raspberry pi for measuring water quality and water level.

16. TITLE **:** Smart water monitoring system using IOT

AUTHOR **:** Gowthamy.J, Chinta rohith reddy, Pijush meher, Saransh shrivastava, Guddu kumar

YEAR **:** 2018

HARDWARE: Arduino Uno, Wifi module, Flow sensor, pH sensor, Turbidity sensor, Ultrasonic sensor

SOFTWARE: Cloud server via wifi module ESP8266

CONTENTS: The real time monitoring of the water quality and quantity of water in IOT. The data is sends to cloud sever via wifi module ESP8266. This application will be the best challenges in real time monitoring & control system and use to slove all the water related problems.

17. TITLE **:** IOT based real time water quality system

AUTHOR **:** Nihil.R, Riya rajan, Rangit Varghese

YEAR **:** 2019

HARDWARE: pH sensor, Conductivity sensor, Turbidity sensor, Temperature sensor,

Oxidation Reduction Potential (ORP) sensor, Salinity sensor

SOFTWARE: Thingspeak, MATLAB

CONTENTS: The water quality measuring system that we have implemented checks the quality of water in real time through the various sensors to measure the quality water. This syatem that measure parameters pertaining to the water and send them to the monitoring center.It can monitor water quality automatically.

18. TITLE **:** Smart water quality monitoring system using IOT Technology

AUTHOR **:** Vennam madhavireddy, B.koteswarrrao

YEAR **:** 2018

HARDWARE: pH sensor, CO2 sensor, Water level sensor, Temperature sensor, wifi module ESP8266, WQM framework

SOFTWARE: The real time for a new method in the “internet of things” based water quality. By using wifi module the interfacing is done between transducers and the sensor network on a single chip solution wirelessly

19. TITLE **:** IOT based industrial water quality monitoring system

AUTHOR **:** A.Divya, G.Vidhya Krishnan

YEAR **:** 2019

HARDWARE: Temperature sensor, pH sensor, Turbidity sensor, wifi module ESP8266,

PIC 16F877A controller

CONTENTS: The real time monitoring of the water quality in IOT. The sensors are used to measuring physical and chemical parameters of the water. The sensed data will be automatically sent to the web server.

20. TITLE **:** Water quality monitoring system using IOT

AUTHOR **:** Ashwini Dhoni, Chidananda murthy

YEAR **:** 2018

HARDWARE: pH sensor, Turbidity sensor, Temperature sensor, microcontroller power supply, GPRS module

SOFTWARE: HyperTerminal

CONTENT: There is a need for contious monitoring of water quality system in real time. Hence monitoring water quality at each stage can avoid servere issues relatd to industrial water pollution.