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Automatic Drainage Cleaning Robot

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Abstract: In this design the proposal concept is to replace the manual work in drainage cleaning by automated system. Now a day's even through automation plays a vital role in all industrial applications in the proper disposal of drainage waste from industries and commercials are still a challenging task. Drainage pipes are using for the disposal and unfortunately sometimes there may be loss of human life while cleaning the blockages in the drainage pipes. To overcome this problem and to save the human life we implement design "automatic drainage cleaning system". We designed our project to use this in efficient way to control the disposal of wastages and with regular filtration of wastages substance are treated separately and monitor the disposal of frequent manner.
Index Terms: Arduino, DC Motor, Bluetooth Module, LM298, GSM Module

I.   INTRODUCTION

Water is a basic necessity of humans and all living beings. There is a plenty of water on earth but that is not suitable for human use. Clean water is more important if it is used for some pupose. The impurities present in water can prove hazardous and can cause diseases. As long as the drainage system is considered the function of the main drainage system is to collect, transport, and dispose of the water through an outfall or outlet. Impurities in drainage water can be any like empty bottles, polythene bags, papers etc. These impurities present in drainage water can cause blockage of the drainage system. To avoid such situation these impurities are needed to be taken out time to time for the smooth working of the drainage system. The drainage system can be cleaned time to time manually or such a system can be designed that will automatically throw out these impurities and will keep the water clean. This project is designed with the objective of keeping clean the drainage system and helps the smooth working of the system This project automatically cleans the water in the drainage system each time any impurity appears, and this forma an efficient and easy way of cleaning the drainage system and preventing its blockage. It also reduces labour and improves the quality of water that is cleaned.

II.   PROPOSED SYSTEM
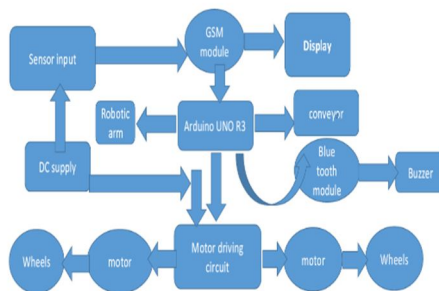
A. System Overview

Fig.1 Block Diagram

The block diagram is shown gives pictorial representation of our automatic drainage cleaning robot .To clarifies and describes the idea of robotics chasiss this block diagramis more suitable to show the componet placed to fulfil outside desired task. The main part of our robot is heart it is microcontroller it read data from corresponding sensor and take action suddentily acconding to the corresponding reading. The main structure of our cleaning robot is power source and dc motor . the power source gives from dc supply to the input pin of microcontrller as per the input receivedfrom the sensor. and hence the arm by which cleaning operation

will be done successfully. and hence the arm by which cleaning operation will be done successfully. Robotic arm is remove the sedimentation waste and to normalize the flow.
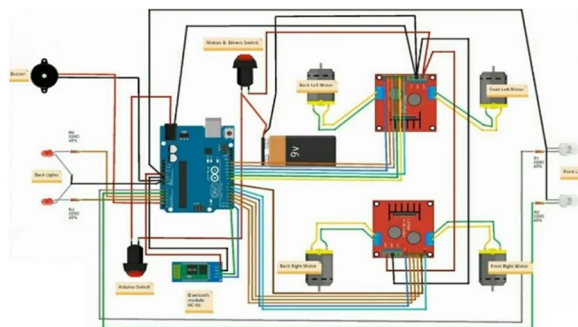

Fig 2 : Movement control of Robot

III. RESULTS

It is our complete working model of atomatic drainage cleaning robot.it consist of mainly 3 operations such as movement of robot with all directions ie, forward ,backward and four sides. Then, the working of robotic arm which moves like our human arm with the help of servo motor ,then the converoy which collects all the wait particle that flots above water.

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This is the movement of our robotic arm that pick the wait particle and collect on tha basket ,on the be half of that the conveyor is on the running stage.

IV. CONCLUSIONS

Modern services are becoming polarized. With the emergence of more and more automatic terminal services, modern services are also gradually becoming unmanned. Thus this semi-automated drainage cleaning system helps in cleaning the drainage automatically and helps in decreasing the spread of diseases due to direct human intervention into the sewage. Since the system operation mainly depends on high level programming, it can be extended as per requirements. This system is time saving, portable, affordable, consumes less power and can be made easily available so that can use this system whenever and wherever.

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