IOT BASED SMART VILLAGE AS A MODEL FOR SWATCH BHARAT WITH WEB APP USING RASPBERRY PI

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Introduction:

The system consists of a centralized raspberry pi interfaced with many sensors for making the villages cleaner smarter. The project aims to bring smartness in five different aspects of any village such as Digital Display of the Government Subsidies and offers to farmers, smart garbage management, E-learning for the students in schools; intensity based street light monitoring and digital water supply system.

The IOT concept, hence, aims at making the Internet even more immersive and pervasive. Furthermore, by enabling easy access and interaction with a wide variety of devices such as, for instance, home appliances, surveillance cameras, monitoring sensors, actuators, displays, vehicles, and so on, the IOT will foster the development of a number of applications that make use of the potentially enormous amount and variety of data generated by such objects to provide new services to citizens, companies, and public administrations.

Objectives:

village by taking smart decisions using smart technologies and services. This project report deals with study and development of village as a smart village. We define smart village as bundle of services of which are delivered to its residence and businesses in an effective and efficient manner. " Smart Village" is that modern energy access acts as a catalyst for development in education , health, security, productive enterprise, environment that in turns support further improvement in energy access. In this report we focuses on improved resource use efficiency, local self-governance, access to assure basic amenities and responsible individual and community behavior to build happy society. We making smart.

Methodology:

The project aims to bring smartness in five different aspects of any city Digital Display of the Government Subsidies and offers to farmers, smart garbage management, E-learning for the students in schools, intensity based street light monitoring and digital water supply system.

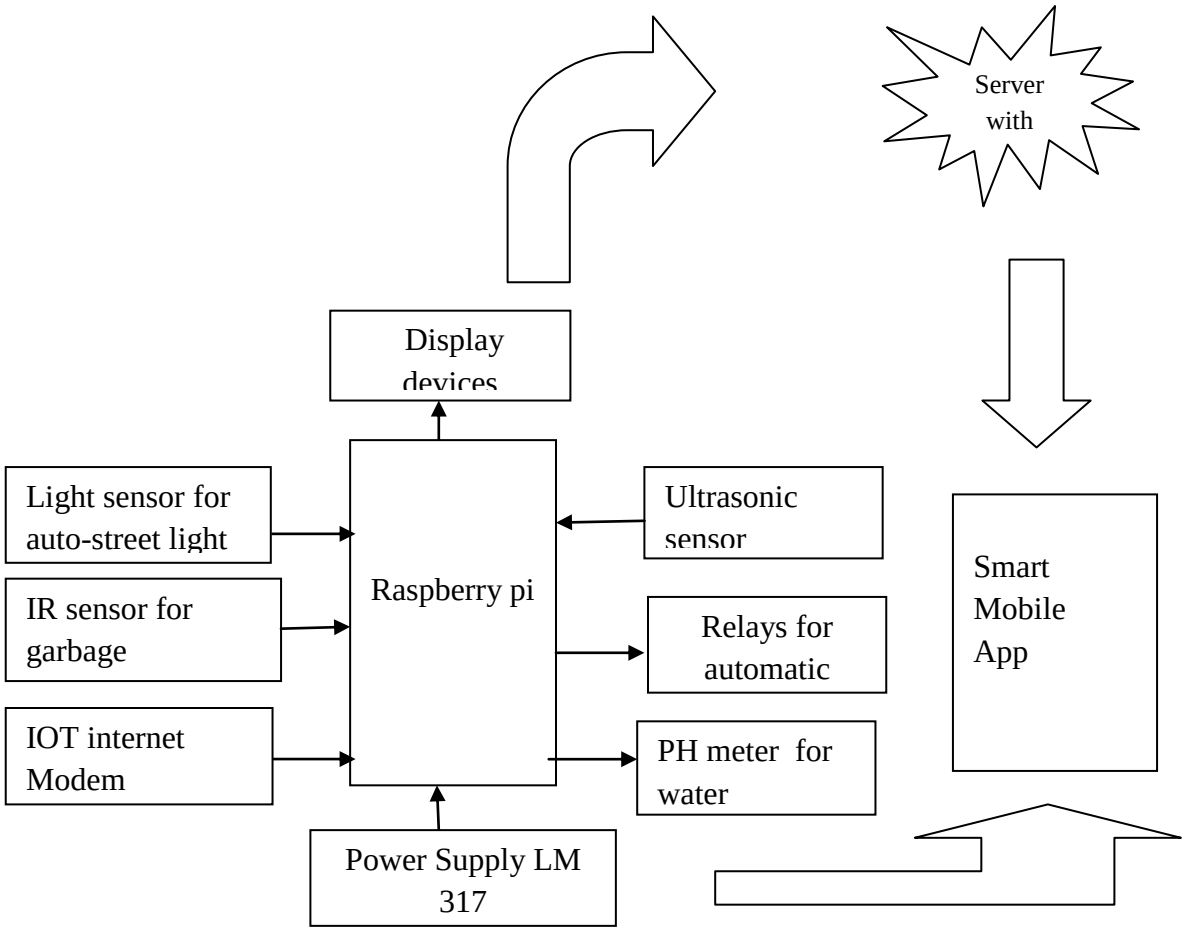

Fig : Block diagram of proposed system

A set of IR sensors are interfaced with the processor which are in turn mounted on the dust bins so as to monitor the garbage level. Whenever the level reaches to the maximum then information will be passed to the concerned authorities for quick actions.. LDR light sensors are interfaced with the processor so as to detect the intensity of light falling and accordingly the street lights will be controlled. Relays are interfaced with the processor for turning on and turning off the water valves according to convenience by mobile phone. Since the whole village is connected with internet modem and digital display all the government offers and schemes for the formers will be displayed on the display system using a wireless app used by the government. Advanced E-learning for the school children is introduced using the same technology where the rural students also can get the quality education under Edu-sat IOT based Learning.

Result and Conclusions:

- When we run the program in the terminal we will get one ip adress .we copy that ip adress and paste in google it will open web application
- Then we need to log in
  Log in id : smart
  Password: village

- Through this web app we can monitor Garbage level ,Water level in the tank, Digital water supply E-learning, We also Display GOVT schemes and subsides given to the village people.

We addressed the problems facing by the village people. To overcome those problems we designed and implemented one system .and we created one web app through web app we can monitor tank level of water .whether the tank is full ,empty, half and we can able to off the motor ,we can check the Ph value of the water, garbage level for continuous monitoring these we can keep village clean and make smarter. and we will display government subsidies in the displayed device fixed in center of the villages can help to aware about the subsides and schemes given to the village people. Educational (e-learning and other modern techniques increases the level of thinking and personal development) , living standard and overall status of village increases. Because of that village become self-dependent and contributes towards the development of nation.

Scope of future work:

As the internet is spreading faster in every small part of the world, internet of things can make the things digitized, the scope from the project is that by providing knowledge of internet and its uses for rural people we can make village smart by providing these features like smart garbage management, digital water supply, and intensity controlled street light, etc

In our project we are using raspberry pi which is a small computer, it can provide many functions to the project as it will be upgraded in the future .and which is low cost and powerful devices. Displaying the agriculture related things helps to uneducated people to get know about facilities given by the government to them. E-learning improves and provide standard education to village student and it will bring them from imaginary to real environment.