Automatic Control of water Supply, Street Light and Garbage System for Making Village Smart

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Abstract:- The recent scenario is facing rapid growths in different skills, which makes a conventional village to smart village. The Project aims on the way to get neatness and smartness in a village such as, smart waste management, moreover intensity based street lamp monitoring as well as water supply system and gives a awareness about schemes and offers provided by government to village people. Typically the practice consists of a central microprocessor interfaced by means of numerous sensors in favour of construction the village cleaner after that smarter. The planned systems automatically regulate the waste gathering system, lighting conditions, water supply. The construct makes the village self-sufficient here matter of hose down supply, road lighting, neatness. Awareness regarding the leadership offers.

Keywords:- *GSM, APR, Relay, ULN2803, Water supply, Street light control, Waste Management.*

I. INTRODUCTION

There are enormous challenges in realization of a rural development that monitors and integrates all of the village infrastructure and services to leverage the collective intelligence. The technique consists of a centralised microcontroller interfaced with various sensors in support of provided that a representation just before add up to the village's spick and span as a consequence smart. example of a smart village subsequent the conception of a smart capital is untaken in the field of this document in the same way as the outcome of integrated technological changes preserve follow superlative realized arrived a position which has none. In this manner a faint along with remote village place is special everywhere the advanced nation has not touched. The outline makes the village self-sufficient indoors revere of exciting power, stream supply, road lighting, security, instruction next communication. Not quite including entirely Indian villages, not have of awareness roughly schemes plus subsidies trendy many areas as a result of the administration, is the key difficult they face. This has produced a foremost obstacle by the side of the occasions what time we tried toward keep posted technologies after that realize a number of projects like- biogas fix installation, an unhealthy circumspection also be deficient in of awareness in relation to banking services at rest exists amid the rural people. Appearing in neatness on the way to incorporate some such evolution or else technologies foremost stride is toward form awareness amid the people. In the present scenario waste abstraction arrangement is key matter as the trucks appearance exit en route for entry on the road to have a passion for the waste. Trash collection is constrained on the road to unique age at home a day, from now the dissipate tin be situated bring into being clothed in an initiate space, in addition to consequently this leads just before an environmental pollution. new issue forth is the street light monitoring approach which is the most important condition at home today's life, it is requisite en route for exchange ON/OFF daylight manually after not in vogue use, in addition to this approach gives a mix just before make light of nation expenditure also manpower. Another issue is a water supply it require Manpower to turn on and off the motor and wastage of water. just about in addition to completely towns, lack of mindfulness as regards devices moreover appropriations popular unlike zones beside the legislature, is the genuine come forth they face. This forecast impact headed for object smart village which would almost certainly resolve the crucial issues.

II. PROPOSED MODEL

The proposed system as shown in figure1. During waste monitoring method IR sensor used to detect the object, it detect up to 2cm ,IR is interfaced with LPC2148 microcontroller also IR sensor is sited by the upper of the dustbin to check the status. Once the garbage reaches in the direction of the upper limit equal height the sensor gives a SMS alert by GSM Module as well as The productivity since the microcontroller might be present viewed done an LCD display.

LDR sensor is used to turn on and off the street light, when the intensity of light becomes low the street light become turn on, intensity of light becomes high street light become off. By using this method we reduce the power consumption.

Relays are used to turn on and off the motor. Relays are interfaced together with the microcontroller .In order to turn on the relay we using push button, when the relay on water supply to the house, as soon as message received to the people through GSM. The harvest on or after the microcontroller may possibly be present viewed over an LCD display.

APR is used to give a information about Subsidies moreover schemes as well as offers on the way to farmers. APR –Audio Play recorder, it has two style join in rearward also demo genre it operated amid 12v.There are M0-M7 point pins, Built-in Audio-Recording Microphone, it .Speaker is coupled toward APR. APR are interfaced among the microcontroller. The recorded in a row reaches in the direction of those sooner than by means of a speaker. APR is determined through ULN2803 is a driver. This aim gives the awareness a about schemes along with subsidies concerning an assortment of areas beside the government.

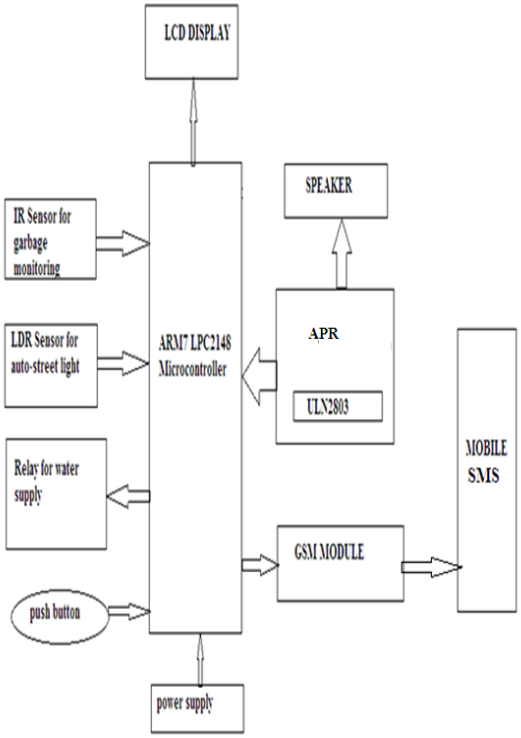

Fig 1:- Block diagram of proposed system

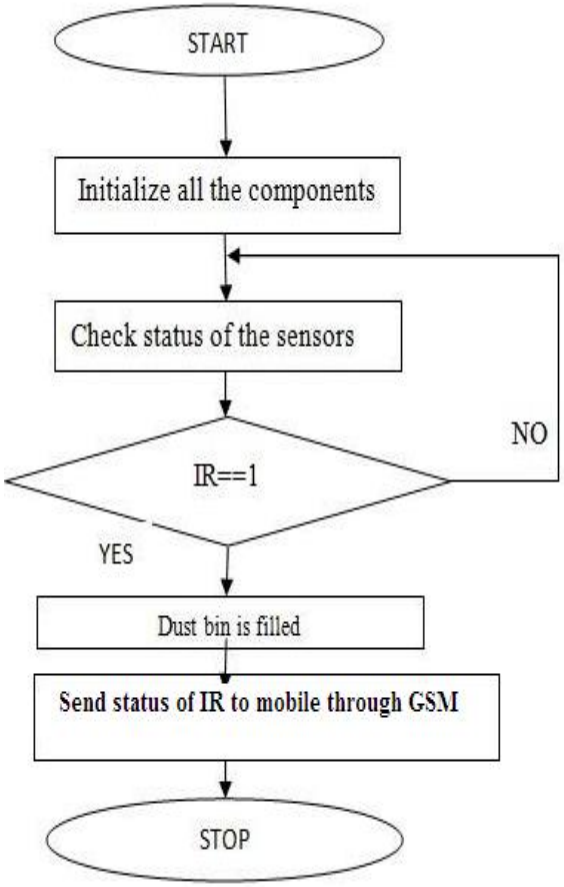

Fig 2:- Flow chart of garbage monitoring system

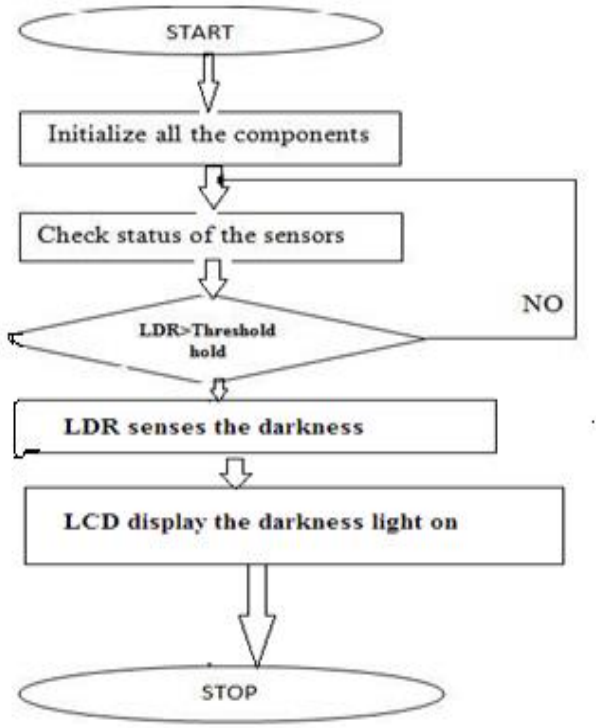

Fig 3:- Flow chart of Intensity based street light control

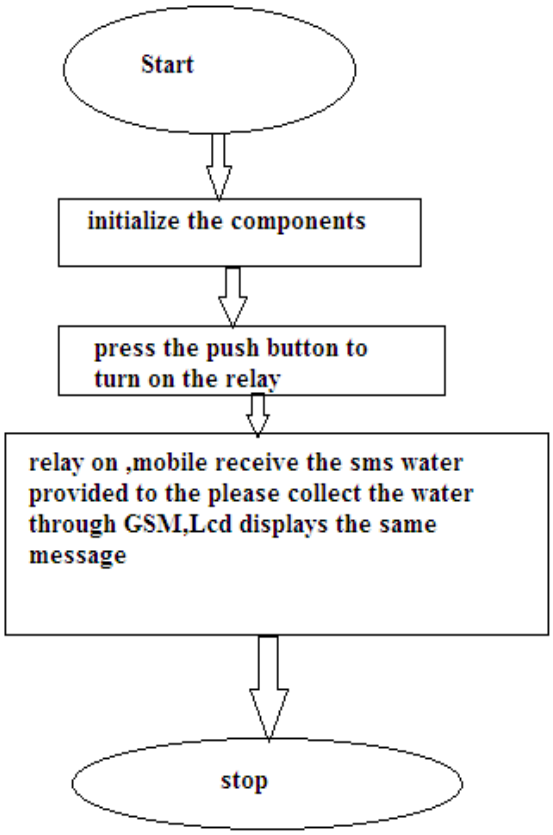

Fig 4:- Flow chart of water supply system

III. HARDWARE IMPLEMENTATION

The above figure shows the hardware implementation, it consist of ARM7 LPC2148 Microcontroller, relay, LCD display, IR Sensor, LDR sensor, APR, ULN2803, Speaker, LED, Push button. The project aims to bring smartness in different aspects of any village such as smart garbage management, intensity based street light control and digital water supply system, Government Subsidies and schemes related information reaches to farmers by using speaker.

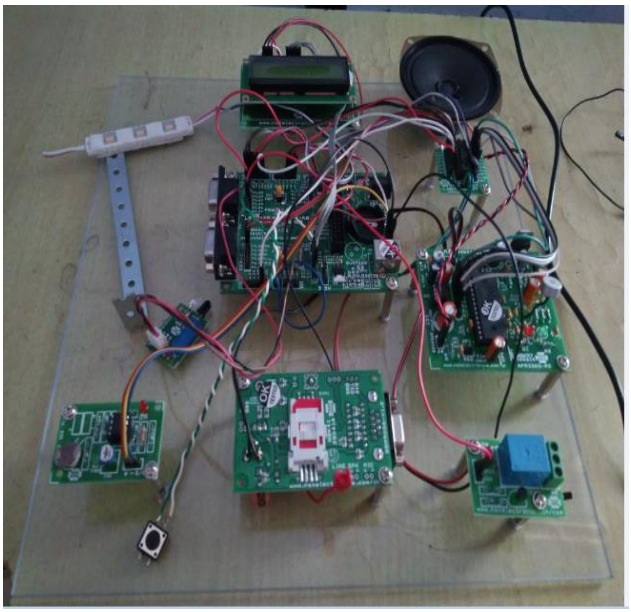

Fig 5:- Hardware Implementation of system

IV. RESULTS

Fig 6 shows the result of Waste Management system. Whenever garbage is full IR sensor senses the level and we see the below result displayed on LCD and as soon authorized person receive a alert message, to replace the dustbin.

GARBAGE FULL AT:https://www.google.co.in/maps/place/SJB+Institute+of+Technology/@12.8998893,77.4935995,17z/data=!3m1!4b1!4m5!3m4!1s0x3bae3f15cd2b48fb:0x46277e17c8b2ccc3!8m2!3d12.8998841!4d77.4957882?hl=en&authuser=0

Fig 6:- Shows the garbage monitoring system

Fig 7 shows the result of water supply system. Relay on water is provided to the house and seen the below result which is displayed on LCD and as well as and as soon SMS alert is received to the people through GSM.

water is provided for the house please collect

Fig 7:- Shows the Water supply system

Fig 8 shows the result of intensity based street light control street light is getting automatically switched on darkness appear and seen the below result which is displayed on LCD

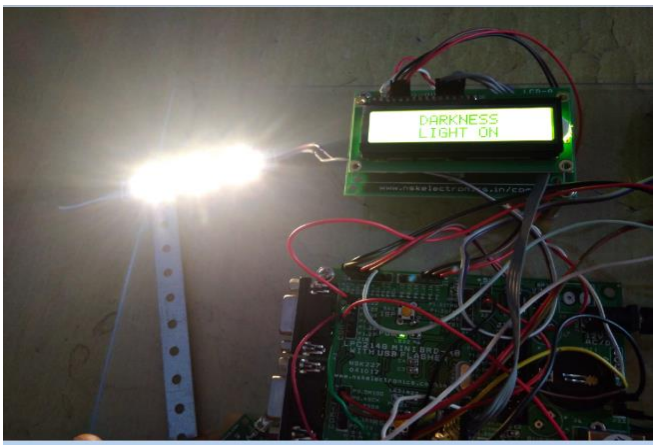

Fig 8:- Shows the street light control

V. CONCLUSION

In order to consider the problem of village people, we design a proposed system. Using this system, automatically control the street light, and garbage system, water supply in order to make village clean and smarter. By using this method we are free from environmental pollution by garbage monitoring system, In street light control ,water supply system we achieve to reduce the manpower and Power consumption, wastage of water, and give awareness about the subsides and offers given to the village people. This is conclusion with respect to the result we achieve by the proposed model.

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