SOLAR BASED FLOOD MONITORING SYSTEM USING ARDUINO AND WIFI NETWORK WITH FACE BOOK AND TWITTER NOTIFICATION

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Abstract—Flood is one in all the foremost devastating natural disaster within the developing country. Today wireless sensing element networks(WSN) square measure nearly used everywhere i.e., both residential areas and undeveloped places on the subject of the stream. Therefore embedded systems plays important role to cut back risks thanks to a rise water level swollen affected areas. The present system warning alert regarding the flood is send through (SMS) and sirens, therefore have a delay to send AN early flood warning. Thus it's a challenge for the govt. to implement such reasonably advanced technology (i.e flood observation system exploitation open hardware and software) as a warning and alert system to expeditiously monitor the crucial flood prone areas in real time basis. This project additional proposes AN innovative cheap framework for observation system designed to produce early warning for natural disaster via a automatic voice decision and social network like facebook and twitter notifications.

Keywords— Embedded system, Arduino yun, solar battery, rechargeable battery, unhearable sensing element, wireless local area network net property.

1. INTRODUCTION

An embedded system is one that do a specific task than a multiple task. Such systems will be wont to offer the answer for each downside in developing counties. therefore the Embedded systems plays AN important role for several crucial regular activities. The individuals settled in several places and areas of high risk zone likewise as low risk zone in developing country, without having real time warning mechanism and awareness. The availability of technologies for developing villages close to and somewhat bit off from the stream, with no access to electricity, is spreading solely slowly. The peoples square measure largely affected thanks to this frequent stream flooding, significant precipitation and lack of warning system is that the downside. The known downside is shown in figure one.

The main aim of the projected framework is to reduce the injury to the individuals in rural and native community living there within the last few years. The wireless sensors and Embedded system is employed to extend the social-welfare of citizens i.e., people, the most supply of financial gain is that the food crop plantation and land[1], within the developing country, more population square measure farming based mostly economy[2]. Thus it’s a challenge for the govt. to implement the advanced technology to safe the individuals in high and low risk zone before the flood happens. The project is comprised of cheap Arduino embedded computers and cheap wireless sensing element network devices to sight the flood unendingly and send the warning alert through automatic voice decision and notification in face book and twitter. The main aim of the project is to avoid wasting the human life and cut back the flooding injury. Thus the individuals can get out of their place and homes before the flood happens so move to a secure place. The government can economize by exploitation a budget devices like Arduino board. during this project the low level and high level water is detected just in case of floods close to the stream through sensing element, then send the information to Arduino that has the management program. The Arduino is AN main element that facilities the most practicality of the system, the knowledge is expedited by each wireless local area network protocol and wireless networks.

2. LITERATURE SURVEY:

There square measure several analysis paper associated with the first flood warning system. Flood connected comes are printed over the last years. this can be not alert to any specially shows a framework to assist a developing country like rural and native community to style and implement a flood early warning mechanisms, using cheap tools with regionally on the market hardwares and materials. The system that sends AN early warning through (SMS) to individuals before flood occurs[4]. Another system send the first warning message through Sirens this will be used solely partial, limited mobile network coverage in these areas[5]. Last survey the author pass the first warning alert through the online and mobile apps that needs all residential to be connected the net. In village there’s no net property to receive the first warning of flood and awareness regarding flood occur therein space. so as to beat the matter this project is totally innovative and cheap framework to watch the water level once the flood occur within the rural and native community. The flood is monitored by sensing element and pass the first warning to the individuals through the
automated voice need low risk zone individuals and thru
social network like face book and twitter notification for top
risk zone individuals. conjointly it's too dearly-won for the
govt. to encourage this type of project ideas.

3. EXISTING SYSTEM:
The major challenge in developing country is that the
global climate change wherever the individuals square
measure plagued by flood throughout the significant
precipitation within the season. Unremarkably the disaster
might occur in a [very] very short fundamental quantity and
it cannot simply stop, however we will cut back the matter
happen and time delay by on the market a budget
technology. The flood is unendingly poignant the financial
aid and economic development and causation alert message
before the disaster occur isn't a simple manner. There square
measure several description regarding the flood is given by
author. Within the existing methodology the flood warning
alert is send through the short message(SMS) before the
flood happens. however the first warning message isn't
receive to any or all individuals, there is several lack of
network downside once the flood happens. In village aspect
the individuals ought to have a restricted mobile network
coverage, and there's electricity downside. there's Another
existing methodology that send an warning alert of flood
through the sirens deployed within the villages. During this
condition, some of the ICT tools square measure there to
position, therefore the individuals will be knowing through
siren for giving the alert.

From the employment of ICT tools it'll facilitate and improve
the likelihood of exploitation the on the market low cost
tools during this place by humans, particularly for the people
that live close to and much off from the stream. The warning
alert through siren wants the arduino board for passing the
knowledge to the native and rural community.

The arduino Uno may be a microcontroller board supported
the Atmega328p. The arduino board enable North American
country to plug varied devices as well as sensors inside the
framework. therefore the water level will be detected by
sensing flood once the water comes out of the stream. The
sensors square measure measure connected to arduino that
communicates through the zigbee protocol within the
existing system. The arduino board is that the vital that plug
the decies like net property, sensor, battery, server laptop,
MicroSD card, sirens, data and graph screen show these
square measure hold within the robust pillar. once detection
the water level by the sensing element zigbee protocol
receives the information immediately and improve the
transmission level to pass with created info and send an
warning alert regarding the disaster i.e.., flood to individuals
within the native and rural community via siren. Finally the
present framework square measure designed with an
automatic alert warning sound are going to be sent through
siren only the water level surpasses the traditional flow to
dangerous level of water flow on the stream.

4. PROPOSED SYSTEM:
In the developing country, downside occur within the
existing system specified delay is reduced and power
demand is best within the projected system. Here the flood
observation system is employed to present AN awake to the
individuals. the first warning alert is send through the
automated voice need village aspect individuals and social
network like fb, twitter notification for town aspect
individuals. During this innovative framework, we have a
tendency to propose AN embedded system that may embrace
open hardware element and code. The framework unendingly
sight the presence of floods And send an early warning alert.
The arduino board is AN improbably straightforward laptop
and it's rock bottom, inexpensive. During this project
essentially engineered upon Arduino Yno that may be a
microcontroller based mostly within the Atmega32u4.
The Arduino board is extremely versatile and it's open supply hardware and code for developers.

The higher than Arduino board has analog and digital ports that may enable North American country to plug with varied devices like water level detector(ultrasonic sensor), USB power plug, solar battery, a rechargeable battery, server laptop, MicroSD card for storing the information. The robust pillar is employed to carry the solar battery, arduino and different tiny elements of sensors networks. The little network close to the stream, water level detection sensing the amount of flood as shortly as comes out of the traditional stream. All elements can act with a zero delay communication. The sensors square measure connected to Arduino that communicates via the wireless local area network protocol. These protocol inside the embedded system can facilitate for capturing knowledge the information immediately and increase transmission of receiving data by sensors. There's cryptography for sensing the water level close to the stream from the cryptography the bottom level and exaggerated level of water is detected by arduino code. The detected information is captured exploitation the wireless local area network protocol And send an warning awake to the individuals settled in high risk and low risk zones. additionally, it's the most supply is that the power provide for all devices, therefore the solar battery is employed and therefore the power comes from the solar battery is hold on within the guilty battery. There square measure some sytem security whereas operative on this website.

1. Safety
2. Reliability
3. Flexibility
4. Security

Finally, processed information concerning the amount of water close to the stream is detected And send an early warning awake to the important physical atmosphere.

5. RESULT:

The output will be showed in face book and twitter by making net app i.e.,(TEMBOO) from this page the arduino code is there to run the cryptography of facebook and twitter. Therefore the output will be showed in face book and twitter notification.

6. FACE BOOK NOTIFICATION:
The NEXMO is the one to indicate the output in transportable as a automatic voice decision. Whereas attending the decision, flood warning data is given to the one who square measure attending the decision.

8. CONCLUSION:

In this project, the projected innovative framework that completely covers the Arduino-based technology And wi-fi protocol to sight flood and send an awake to the local and rural community. The most goal of this project is to develop and encourage the govt. to implement the Arduino technology and to cut back the flooding injury like homes etc., and save the human life within the physical atmosphere. Here saving the individuals may be a major challenge in developing country. We have a tendency to cannot fully eliminate the frequent prevalence of natural disaster, (we can square measure able to) cut back the quantity of losses of properties and lives are reduced by today’s technology.

REFERENCES:


Polytechnic University of the Philippines, Sta. Mesa, Manila.


