

Centralized Canal Water Distribution using IOT Technology

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Abstract: As we know that now a days at canal water distribution there is a lot of corruption at water distribution points as they are managed manually and decentralized way. A key man with canal inspector is responsible for delivering water at local farmers as per their demand respectively. Though water is given to all demand specific farmers it is widely observed that if 90 percent was demand then only 70 percent is delivered, also after this demand it is also seen that farmers who have no rights for water falling they also are delivered with ample amount of canal water without centralized demand. This demand is unofficially filled by local canal inspector and key man. These government officers collect black money from those farmers to supply the water which they need. As the water is distributed with the help of gate and it is handle with the human being known as key man and easy manipulation of canal gate is possible so some farmer gives extra money to the key man to keep gate open for extra time, because they need more water for farming. That's why in this case corruption increases and water shortage arises. We are developing a computerize system which will give the proper distribution of water to the farmers and avoid this corruption. We are replacing the gate by Solenoid valve/ Hydraulic gates, which will work on the Faraday law of electromagnetism, and it is control by an computerize system. Each farmer need to register on our application by means of requirement form which is going to be online as well as offline for the farmers. As per the requirement specified by farmer the computerize system will open the valve for the time span which the farmer will request. When the time gets over the valve will close automatically and suppose due to some reason the gate was not open by computerize system, then it could be opened with the help of Android App. Due to which the gate can controlled by Web Application as well as Android App, we will notify the farmer before supplying the water to the farm with the means of message on his phone.

INTRODUCTION

As we know that now a days in a country like India, at canal water distribution there is a lot of corruption at water distribution points as they are managed manually and decentralized way. A key man with canal inspector is responsible for delivering water at local farmers as per their demand respectively. Though water is given to all demand specific farmers it is widely observed that if 100 percent was demand then only 70 percent is delivered, also after this demand it is also seen that farmers who have no rights for water falling they also are delivered with ample amount of canal water without centralized demand. This demand is unofficially fulfilled by local canal inspector and key man. These government officers collect black money from those farmers to supply the water which they need. As the water is distributed with the help of gate and it is handle with the human being known as key man and easy manipulation of canal gate is possible so some farmer gives extra money to the key man to keep gate open for extra time, because they need more water for farming. That's why in this case corruption increases and water shortage arises. We are developing a computerize system which will give the proper distribution of water to the farmers and avoid this corruption. We are replacing the gate by Solenoid valve/ Hydraulic gates, which will work on the Faraday law of electromagnetism, and it is control by an computerize system. Each farmers need to register on our application by means of requirement form which is going to be online as well as offline for the farmers. As per the requirement specified by farmer the computerize system will open the valve for the time span which the farmer will request. When the time gets over the valve will close automatically and incase the admin is not available in front of the computerized system then the Admin can operate it with the help of Android application. This is the reason we are integrating the gate can controlled by Web Application as well as Android App. We will constantly give an update to the farmer before supplying the water to the farm with the means of message on his phone.

OVERVIEW

As we know that now a days in a country like India, at canal water distribution there is a lot of corruption at water distribution points as they are managed manually and decentralized way. A key man with canal inspector is responsible for delivering water at local farmers as per their demand respectively. Though water is given to all demand specific farmers it is widely observed that if 100 percent was demand then only 70 percent is delivered, also after this demand it is also seen that farmers who have no rights for water falling they also are delivered with ample amount of canal water without centralized demand. This demand is unofficially filled by local canal inspector and key man. These government officers collect black money from those farmers to supply the water which they need. As the water is distributed with the help of gate and it is handle with the human being known as key man and easy manipulation of canal gate is possible so some farmer gives extra money to the key man to keep gate open for extra time, because they need more water for farming. That's why in this case corruption increases and water shortage arises.

PROBLEM DEFINATION

Computerized canal water distribution to avoid corruption by using mobile application and computer system. This system is basically used for building a digital form of water distribution technology in Canals and this is done with the help of different computer applications as well as mobile applications. All the system is been centralized so that it could avoid corruptions. This system is done for the welfare of the farmers so that they can also participate in the Digital India Program and make better use of the services which are been provided to them.

ADVANTAGE

1. During verification if some defects are missed then during validation process it can be caught as failures.
2. If during verification some specification is misunderstood and development had happened then during validation process while executing that functionality the difference between the actual result and expected result can be understood.
3. Validation is done during testing like feature testing, integration testing, system testing, load testing, compatibility testing, stress testing, etc.
4. Validation helps in building the right product as per the customer's requirement and helps in satisfying their needs.

CONCLUSION

This system is going to give a new way to the water distribution network through canals. Because of the use of automated system the manual work is been reduced through which we are sensors so it avoids wastage of water and management of canals is also very easy. Water is distributed as per the requirement of the farmers and the limitation given to them, so the water will also be saved and can be utilized by other people. Other than that it also has online payment option for the generated bill for the water they are going to use so no third person is required for the bill payment. It also has solar panels through which the electricity will also be saved. So these are the topics we are going to overcome in this system.

Project Scope

Agriculture: Agriculture is the cultivation and breeding of animals, plants and fungi for food, fiber, biofuel, medicinal plants and other products used to sustain and enhance human life. Agriculture was the key development in the rise of sedentary human civilization, whereby farming of domesticated species created food surpluses that nurtured the development of civilization. The study of agriculture is known as agricultural science. The history of agriculture dates back thousands of years.

Irrigation: Irrigation is the application of controlled amounts of water to plants at needed intervals. Irrigation helps grow agricultural crops, maintain landscapes, and revegetate disturbed soils in dry areas and during periods of inadequate rainfall. Irrigation also has other uses in crop production, including frost protection, suppressing weed growth in grain fields and preventing soil consolidation. In contrast, agriculture that relies only on direct rainfall is referred to as rain-fed or dry land farming.

Methodologies of Problem solving

The single problem can be solved by different solutions. This considers the performance parameters for each approach. Thus considers the efficiency issues.

- Problem Solving Methods are concerned with efficient realization of functionality. This is an important characteristics of Problem Solving Methods and should be deal with it explicitly.
- Problem Solving Methods achieve this efficiency by making assumptions about resources provided by their context (such as domain knowledge) and by assumptions about the precise definition of the task. It is important to make these assumptions explicit as it give the reason about Problem Solving Methods.
- The process of constructing Problem Solving Methods is assumption based. During this process assumptions are added that facilitate efficient operation of the desired functionality

Literature survey:

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