

Dam Water Release alert system

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Abstract : Every year there are many lives lost due to flooding, the major reason is people being unknown to the information that the dam water is going to be released. This app will help in saving lives by informing beforehand that dam water is being released. There is also a facility that if a user is not a part of the user base then too they will be notified if they are near a stream from where the dam water will flow. If the user gets in a situation where they cannot get out of it SOS is provided to aid them. These functionalities also help in catering to non-smartphone users.

IndexTerms – dam, e-governance, alert system, cloud

I. INTRODUCTION

A dam is used to create a reservoir as well as to generate hydropower through them. These can be used to prevent floods, to provide water for irrigation or other activities and to provide electricity to nearby cities. Dams are also used to create rivers on bare stretches of land which are completely dry. When a dam gets overfilled with water it is important to let the water flow downstream to prevent overflow of water. This is usually done manually on interval basis or automatically through measurement of water levels.

When the water gets released it is observed that there is no proper way to communicate with people to inform them about the same. This in turn causes people getting stuck in between the river or dry parts of land when the water gets released.

A nation wide centralized android application can be used to deliver notification about the release of water to all the people who use the application as well as people in the vicinity of the area. For this purpose we would require two separate Android applications: one for the officials and other for the users.

With millions of Indians dependent on rivers for their livelihood and daily chores, it is a minor miracle that only so many lives have been lost so far, say experts.

Despite warning signs and hooters being the simplest precautionary measures that can be taken, they are often ignored. Also, it is difficult for the hooter to be heard 10 km downstream of the river. It is not so difficult to install a local hooter in all villages 10 km downstream of the dam on the left and right bank of the river. Dam companies spend crores on their infrastructure. This would only be a small part of their expenditure that can save many lives.

There are thousands of dams in the country, dam safety and management is still not on the Government's and the dam companies' priority list. All dams and barrages do have a set of rules called the 'Reservoir Operation Rules' that decide how much water is to be released in what situation. But how to inform the public about it is still a grey area after so many years of hydropower production in the country. Citizens living in vicinity of dam river streams suggests tie-ups between the state Tourism Department and dam authorities to prevent such accidents at least in tourist areas. Precautions can be listed as part of the travel advisory but they aren't efficient enough to provide real time data

Setting up safety guidelines isn't rocket science. In many cases, they already exist. They just need to start being followed

During 2015, there were 29822 Un-Natural deaths reported in India due to Drowning. Out of these 29822 drowning deaths; the number of males, females and transgenders were 23163 (77.67%), 6654 (22.31%) and 5 (0.02%) respectively. The drowning deaths had a weightage of 8.9% out of the total number of Un-Natural deaths (336051) during 2015. The top 5 States/UTs in terms of number of drowning deaths during 2015 were: Madhya Pradesh, Maharashtra, Tamil Nadu, Karnataka and Gujarat.

II. TECHNOLOGY USED

A. Geo-Fencing:

Geofencing is used to map the stream of riverbed area. Using this technology we can come to know if a person is passing near the river. As soon as a person enters in the vicinity of riverbed, He will be notified of the dam water release, if it is scheduled.

B. SMS technology:

Technology of Geo fencing only reaches out to those having a smartphone. In rural India, farmers may not have such devices. Farmers in India prefer to use non-smartphone due to its low complexity so providing them notification of dam water release via sms technology would be a smarter choice.

C. Cordova

Developing independent applications for Android, IOS, Web, etc. is a mundane task. To solve this problem we have used cordova by which a web-app is created to be later supplied to Cordova compilers which convert those web-apps into the demanded mobile platform application, thereby saving precious development time.

D. Cloud

Cloud is currently a buzzword in IT industry . Cloud helps in providing sociability to our application

III. IMPLEMENTATION

A. Geofencing

SS Of river being mapped:

Here as we can see the river is marked such that the radius set makes the area set by these points overlap each other so no area is missed out

B. SMS Technology

The user has to type <dlf 03> and send to ##### so that application will inform the dam number 03 to send notification about the dam to the user .The user can also use it's code to unsubscribe from dam in case they want it.

C. Application

i. Admin End

Admin face completely focuses on how the people of dam are managed and can also view statistics of Dam water records.

The features of admin facing application is:

- 1)Instant SMS
- 2)Instant notification
- 3)Checking Dam Water level
- 4)Scheduling Water released
- 5)Viewing Dam water level history

ii. User End

User end Services are provided via Application and SMS.The following features have been made available for the users:

- 1)Getting messege about dam water release.
- 2)Viewing Dam level
- 3)Getting dam info he can use for tourism purposes
- 4)Get SOS help

IV. CONCLUSION

This paper presents an dam water management systems for agriculture fields to provide security to those living in vicinity of dam Technology have been installed

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