VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

A PROJECT REPORT ON

"EARLY DETECTION OF FOREST FIRE USING WIRELESS SENSOR NETWORKS"

Submitted in partial fulfillment for the award of Degree of

BACHELOR OF ENGINEERING

IN

COMPUTER SCIENCE &ENGINEERING

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CERTIFICATE

This is to certify that the project entitled **"EARLY DETECTION OF FOREST FIRE USING WIRELESS SENSOR NETWORKS"** has been successfully completed by

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the bonafide students of **DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING, ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY** of the **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI** during the year 2019–2020. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the Bachelor of Engineering Degree.

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ABSTRACT

A wildland Fire is an Uncontrolled fire that mainly occurs in forest areas and the main causes of these fires include human factors , that can be either intentional or accidental . It causes heavy damage and loss to resources and lives of the forest. In view of controlling the fire, there exist many traditional forest fire detection techniques such as watch towers , optical smoke detectors, lighting detectors, infrared, spotter planes . To fight against these disasters it is necessary to adopt a Comprehensive, multifaceted approach that enables a continuous situational awareness and instant responsiveness. Herein , we propose a master-slave communication architecture system using low cost sensors and Open source and Programmable microcontrollers , and microcontrollers with Wi-fi functionality to upload data to the cloud . The communication between these devices is achieved Using Bluetooth communication technology and to upload to the internet .Cellular connectivity is achieved using GSM technology.,i.e. cloud platform like thingspeak Wi-fi is used . Smoke detection is done using the MQ-series Gas sensors and temperature detection is done using DHT temperature sensor , all of which have a small footprint and low-cost . With this project we Propose a Communication system that aims to connect to all the Popular broadcast communication technologies like cellular, Internet and short range communication for master and slave devices . Final alert message sent to the Forest Department. Increasing accuracy of the fire detecting system as well as reducing the time consumption and prevention of false alarms has to be given importance in order to have a more efficient fire detection system.