VISVESVARAYA TECHNOLOGICAL UNIVERSITY

Belagavi – 590 010

PROJECT REPORT

ON

"A SMART HELMET FOR COAL MINERS"

Submitted in partial fulfillment of the requirements for the award of degree

BACHELOR OF ENGINEERING
IN
ELECTRONICS & COMMUNICATION ENGINEERING

Submitted By

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CERTIFICATE

Certified that the project work entitled **"A SMART HELMET FOR COAL MINERS"** *is a bona fide work carried out by*

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in partial fulfillment for the award of BACHELOR OF ENGINEERING in **ELECTRONICS & COMMUNICATION ENGINEERING** of the **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI** during the year 2015–2016. 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

In recent years, research is going on ZigBee based wireless sensor networks due to their remote environment monitoring capabilities. Such a network can easily collect sensor data and transmit them by radio.

A cost effective ZigBee based wireless mine supervising system is presented. Here we design a smart new helmet, which enable the helmet as a mobile node of ZigBee wireless sensor networks, gathering parameters from underground timely and quickly.

The helmet which is mobile sensor node will collect the temperature, humidity and Carbon monoxide level of nearby environment and will alert the central management unit in case of abnormal condition.

In this project, voice transmission system is designed to reduce potential safety problems in coal production, one of telecommunication value-added services. So with environmental monitoring, the miners can communicate with control centers or with other miners through wireless speech communication.