VISVESVARAYA TECHNOLOGICAL UNIVERSITY
BELGAUM-590014

Shrishyla Educational Trust ®, Bheemasamudra-577520

G.M.INSTITUTE OF TECHNOLOGY
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A PROJECT REPORT ON

"ARM7 TDMI PROCESSOR BASED INDUSTRIAL MACHINE STATUS INDICATOR CUM CONTROLLER"

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PROJECT GUIDE
Smt.NETRAVATI.U.M
M.Tech, MISTE
Assit.Prof

HEAD OF THE DEPARTMENT
Prof. D. BASAVALINGAPPA
M.Tech, MISTE, FIE

PROJECT ASSOCIATES

DILIP KUMAR S B	**4GM08EC026**
MANJUNATH D S	**4GM08EC042**
KIRAN K C	**4GM08EC038**
AMRUTH A DESAI	**4GM08EC010**

Abstract

To avoid unexpected equipment failures and obtain higher accuracy in diagnostic and prognostic for the health condition of a industrial machine, efficient and comprehensive data collecting, monitoring, and control play an important role to improve the system more reliable and effective.

A wireless data collection for health monitoring system of industrial machine based on wireless sensor network (ZigBee™/IEEE802.15.4 Standard) is proposed and developed in this project. The unique characteristics of ZigBee networks such as low power, low-cost, and high flexibility make them ideal for this application. As the focus of this project, the hardware design and implementation of a multiple nodes Zigbee based wireless sensor network are discussed.

The communication protocol and software design for both wireless sensor network node and base station based on the ARM7 TDMI system on chip are presented in detail. This system uses ARM7 Processor portability with Real Time operating system (RTOS) it makes the system more real time and handling various processes based on multi tasking and reliable scheduling mechanisms.

Experimental results of the proposed wireless sensor network for its applicability to investigate different operating conditions such as electrical faults and mechanical faults are indicated and controlled.