TRIBHUVAN UNIVERSITY

INSTITUTE OF ENGINEERING

KATHMANDU ENGINEERING COLLEGE

DEPARTMENT OF ELECTRONICS & COMMUNICATION

MAJOR PROJECT REPORT

ON

'KRISHI SATHI'

SUBMITTED BY:

ASHISH JAISWAL (71012)

KISHOR GYAWALI (71024)

MANISH ADHIKARI (71028)

AUGUST, 2018

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KRISHI SATHI

PROJECT REPORT SUBMITTED TO

THE DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR

THE BACHELOR OF ENGINEERING

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CERTIFICATE

The undersigned certify that they have read and recommended to the Department of Electronics and Communication Engineering, a final year project work entitled **"KRISHI SATHI"** submitted by **Ashish Jaiswal (71012), Kishor Gyawali (71024) & Manish Adhikari (71028)** in partial fulfillment of the requirements for the degree of Bachelor of Engineering.

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ABSTRACT

This proposal is about the implementation of the Internet of Things (IOT) for the development of agriculture in Nepal. The project is titled as 'Krishi Sathi' & it will be using a low level hardware device that will measure different variables of the surroundings like temperature, humidity, soil moisture, pH of the soil, UV radiation, etc. The measured values will then be transferred to a SQL database server which will later be pulled back to a Django web application for further processing. There will be an option to connect the device to an android phone application with the help of a Bluetooth module. The android application will also act as an interface between the database and the web application, in case Wi-Fi is not available. The final output is expected to be a frontend website page that would suggest the best yielding crop & farming techniques to increase their production.

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LIST OF ABBREVIATIONS

LWIP: Lightweight Internet Protocol

M2M: Machine to Machine

IDE: Integrated Development Environment

IOT: Internet of Things

API: Application Program Interface

PWM: Pulse Width Modulation

LED: Light Emitting Diode

BNC: British Naval Connector

TCP: Transmission Control Protocol

UART: Universal Asynchronous Receiver-Transmitter

TTL: Transistor Transistor Logic

IEEE: Institute of Electrical & Electronics Engineers

SQL: Structured Query Language