

TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
KATHMANDU ENGINEERING COLLEGE
DEPARTMENT OF ELECTRONICS &
COMMUNICATION



MAJOR PROJECT REPORT
ON
‘KRISHI SATHI’

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AUGUST, 2018

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KRISHI SATHI
PROJECT REPORT SUBMITTED TO
THE DEPARTMENT OF ELECTRONICS AND COMMUNICATION
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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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This project is an integral part of engineering course. This project is on development phase and has been done for the fulfillment of the final year project of Electronics & Communication Engineering, IOE. The proposed project is to be completed under the supervision of faculty members as assigned by the related department of the college.

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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