BMS
INSTITUTE OF TECHNOLOGY AND MANAGEMENT

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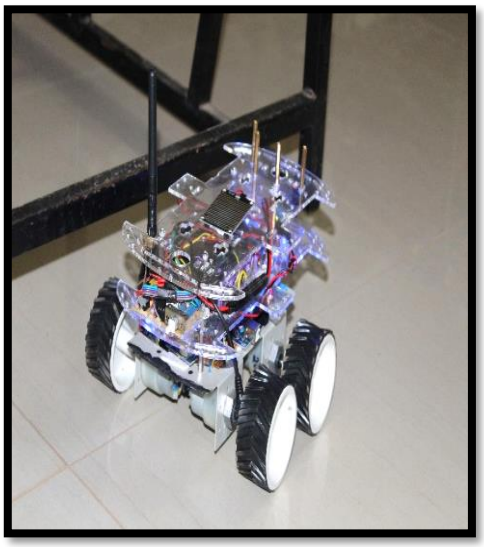
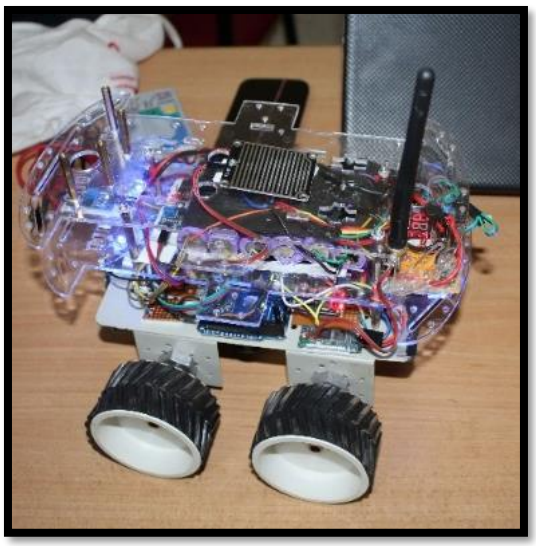
DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS

Innovative Projects

1. **Multifunction Smart Bot -** Multifunction Smart-Bot is an advanced robot that is generally designed for military and surveillance purpose, the robot is armed with various sensors such as light, gas, temperature and humidity, fire detection, water drop detection ultra-sonic all these sensors produce various results. Camera is also embedded into the robot for better visualization, the robot is controlled using smartphone for which a Bluetooth module(HC05) is interlinked an android based mobile application is developed for controlling the various movements of the smart robot the readings of all the sensors are displayed dynamically in the smartphone. The multifunction smart-bot is powered by lithium ion batteries to give good back up microcontroller used in this project is Arduino mega to achieve the overall working mechanism of this project.

Team Members: Mr. Vishaar G N, Prof. Drakshaveni G

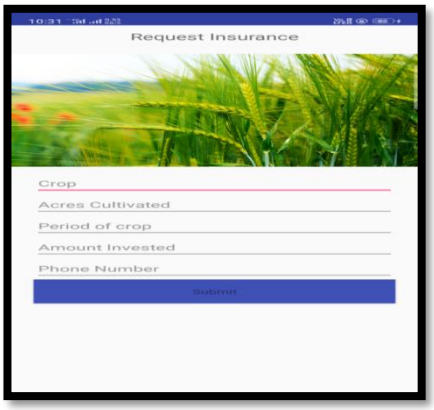


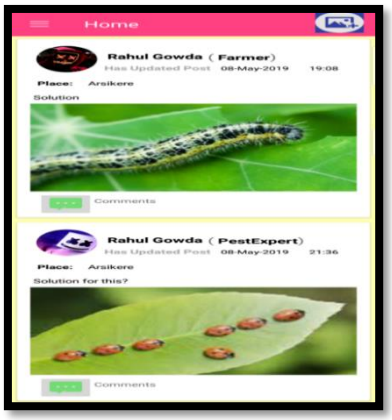


2. **Raitha Bandhu Android App:** In India agriculture is the main occupation of Indians and Indian economy. The 75% of the Indian economy depends on agriculture. Even though this is the case India stands 32nd country in growing profitable agricultural products. Many farmers are living in below poverty line in India. To improve the agriculture and living standards of our farmers we have prepared our project “RAITHA BANDHU ANDROID APP”. In our project we are having 3 modules like farmer, forum and insurance. In this project there will be 3 actors i.e. farmers, agricultural experts and bank/insurance respectively. All the three actors must register in our app with mobile number confirming with OTP. Based on soil testing and infected plants uploaded by the farmers, the suggestion

to fertilize the soil, which agricultural crop to grow and how pest control treatment can be given, details will be given back or uploaded by the agricultural experts. The farmers can also avail insurance for his growing crops by giving details of the crop to insurance companies in insurance module. The insurance companies/banks nearby farmers land will sanction loan based on requirement and approval by the government.

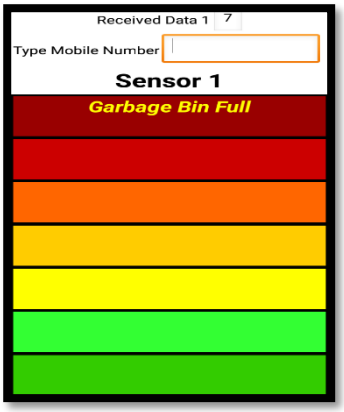
Team Members: Mr. Rahul, Prof. Dwarakanath G V





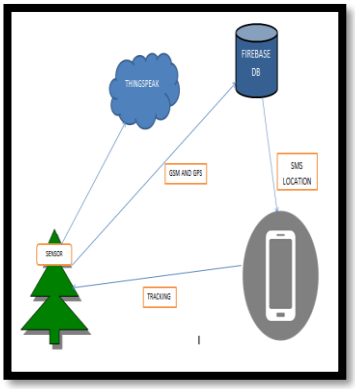
3. Smart Bin Waste Management using IoT and Cloud: Smart bin is an innovative public benefitting dust bin designed for efficient and reliable waste management for clean society. Society faces the issue of disposal of 0.1 million ton of waste that it produces daily. Everyday garbage is produced from industries, work places and houses and are being released into public places or river water which pollutes the environment. Instant raise in the population had led to rise in the garbage growth to proportionally. Thus to lower this problem a proper implementation of system is required. In our product we have equipped the garbage bin with Ultrasonic sensor and pic18 general purpose microprocessor. The garbage bins are inter connected through internet and cloud facility so that they can update themselves. When this waste reaches the exhaust levels that bin has to send an alert message to the garbage collecting person to come and collect the filled dust bin.

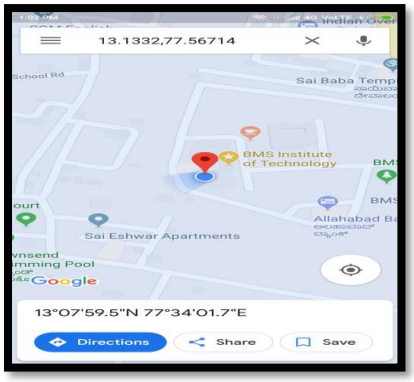
Team Members: Mr. Medha Rajan B N, Prof. Drakshaveni G



4. Smart Drip Irrigation using Moisture Sensor: In Karnataka, we know that sandalwood and some precious trees are well known for their fragrance and most importantly their medicinal values so their commercial value is high comparatively from other trees. Often from a past few years increase in robbery or smuggling of these precious trees is more as there was no proper solution for protecting these precious trees, instead of its scarcity. In this paper we are building a protection tool that works with the help of Wii-Fi. It is prototype that has been structured which takes care of the problems faced by land owners of their precious trees as sandalwood, teak etc. which is against illegal axing. In the case of robberies or illegal cut down of the trees this prototype uses Wi-Fi characteristics to reach the owner. When robberies or unauthorized person try to cut down the sandalwood trees otherwise tries to destroy the system. The protection system sends an alert message to the owner or the authorized person by sending an alert message to their mobile phone, the authorized person can track the place with help of GPS so that they can take required actions. The purpose of this project is to save valuable trees which have high demand in market like sandalwood, teak.

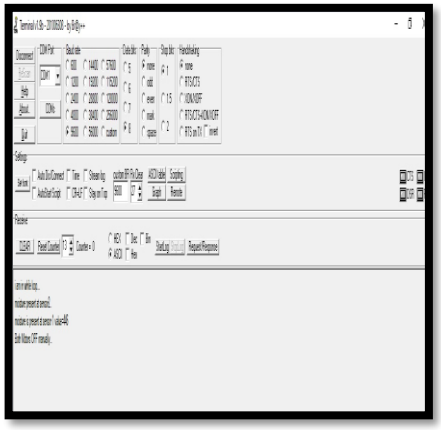
Team Members: Mr. Mahesh Kadam, Prof. Dwarakanath G V

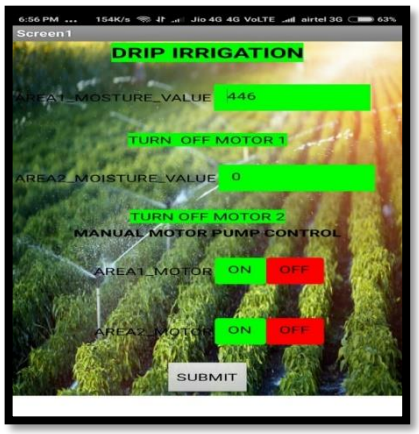


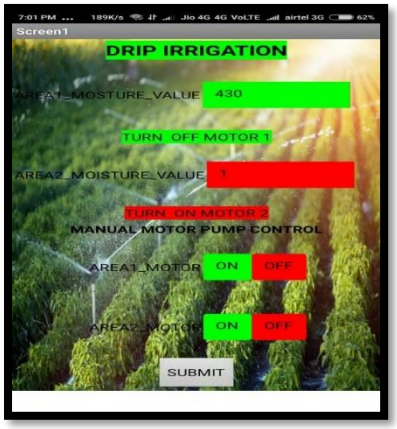


5. Smart Drip Irrigation using Cloud Technology and Mobile App: India is the agriculture based country. Our people completely depend on the agricultural harvesting. Agriculture is a source of livelihood of majority Indians and has great impact on the economy of the country. In dry areas or in case of inadequate rainfall, irrigation becomes difficult. So, it needs to be automated for proper yield and handled remotely for farmer safety. Increasing energy costs and decreasing water supplies point out the need for better water management. Irrigation management is a complex decision making process to determine when and how much water to apply to a growing crop to meet specific management objectives. If the farmer is far from the agricultural land he will not be able to notice the current conditions. So, efficient water management plays an important role in the irrigated agricultural cropping systems. In this project we have developed a smart drip irrigation system which is based on Controller. Various sensors are placed in grapevine. Sensors sense water level regularly and give the information to farmer through cellular phone. Farmer controls the motor using cellular phone without going to field. If the water level reaches above the threshold value, automatically it will send notification to farmer cellphone thus enabling him to switch on/off.

Team Members: Mr. Chandan Kumar, Mr. Jaffer Sharief, Prof. Dwarakanath G V







6. Automated Lighting System using Raspberry Pi: Energy is major input sector for economic development of any country. Development of a Smart Energy Conservation System will help various organizations to play an effective role in saving electrical energy. The major area which consumes maximum amount of electricity is observed to be the educational institutions. They are used nearly 70% of the time by students and faculties. A simple action of switching OFF the electric consumables when not in use will save lot of energy. In order to conserve energy, automated lighting system using Raspberry Pi that monitors the electrical lighting and the running of the fans is proposed. The experimental results show that we can reduce our bill to the extent of 50% if the electrical appliances are switched OFF promptly when not in use. The proposed method has shown promising results.

Team Members: Mr. Ankit Maslekar, Ms. Mamatha K, Prof. Aparna K, Prof. Shivakumara T