SMART AGRICULTURE

Nowadays, various areas in the world have faced waterlogging and salinity problems. Such waterlogging or flooding is harmful in cities where toxic drain water gets mixed. In farmlands, such flooding may be undesirable as some crops are destroyed in excess soil water.

Envi-city have control unit to store water, divided into two sections, flood water and rain water management to be utilised for agricultural automation purpose through drainage system.

Envi city have 4 types of drainage system

1. **SURFACE DRAINAGE SYSTEM (**open drains, humps and hollows, levees, and grassed waterways.)
2. **SUBSURFACE DRAINAGE SYSTEM (DIG** ditches to install the pipes of subsurface drains)
3. **SLOPE DRAINAGE SYSTEM (**installed pipe is anchored to an incline in mountains)
4. **DOWNSPOUTS AND GUTTER SYSTEMS (**Downspouts and gutter systems against over-saturation from stormwater.)

Rain water will be collected from the rooftop through rain water harvesting collecting to the drainage system storing into a water unit.

Our design overview has two, and PC or mobile app to control system. Every section is integrated with different sensors and devices as we will see and they are interconnected to one central server via wireless communication modules. The server sends and receives information from user end using internet connectivity.

The robot has various sensors and devices like a camera to keep an eye, ultrasonic sensor, an alarm to alert, a sharp slider to keep away distraction to affect it like birds or any animal that will obstruct the automation. It is an application or mobile based robot that is controlled with computer too, used to autonomously search with in its region of area using the GPS coordinates.

The sensing room controls the water pump that is collected from the rain water harvesting or by the flood management system depending on the real time field data, which automatically turns on/off after it reaches the soil moisture level in automatic mode. Remotely it can also be controlled as mentioned, through computer or a mobile in manual mode, with continuous monitoring of soil moisture. The sensing room has its ability to provide theft detection technology with the ultrasonic sensor, nothing less than a security mode to turn on and off with respect to any obstruction. There are sensors like the humidity and temperature sensor which senses the value, after it crosses the threshold, the cooling fan and room heater will act accordingly.

WIFI CALLING

Several countries have observed a reduction in bird diversity coinciding with the proliferation of Cellular Mobile Base stations (GSM 900 or 1800). One of the most prominent example of this impact comes from the UK where a huge decline in several species of urban birds was observed, including the sparrows. The sparrow population in the country declined from 24 million to 14 million birds in the period of 30 years. An abrupt decline with 75% descent occurred between 1994 and 2002 that coincided with the rollout of mobile technology in the country. So our team is trying to lay down the vision of a future city where there will be no use of any cell phone towers. Instead, a well-planned WAN (Wide Area Network) will be established such that every house in every street will receive

internet connection through optical cables laid underground. This service will be similar to gas pipelines and water lines. Routers will be placed at regular intervals to allow wireless transfer of data. It can simplify the physical association of a device to the media. Network data transmission is independent of the connected hardware, making it accessible for a device to transmit or receive data to or from another faster or slower device. And it is easy for the maintenance. By filtering traffic in trusted network areas the LAN network is being secured. Specialized authentication policies are used to scrutinize network traffic.

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