

VISVESVARAYA TECHNOLOGICAL UNIVERSITY BELAGAVI-590014



Justification Report

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DAYANANDA SAGAR ACADEMY OF TECHNOLOGY
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JUSTIFICATION REPORT

DESIGNING SMART HOME AND CROP MONITORING (IoT) USING CISCO PACKET TRACER

Summary:

The technology has been growing from day to day in human life. The necessity for the development of technology is to lead human life comfortably. With the inventions of lots of automation technologies featuring IOT and AI, home automation and smart farming has become a reality. One can implement several of their tasks with just a single command of verbal instructions. These technologies can be used to build fully functional home automation and smart farming.

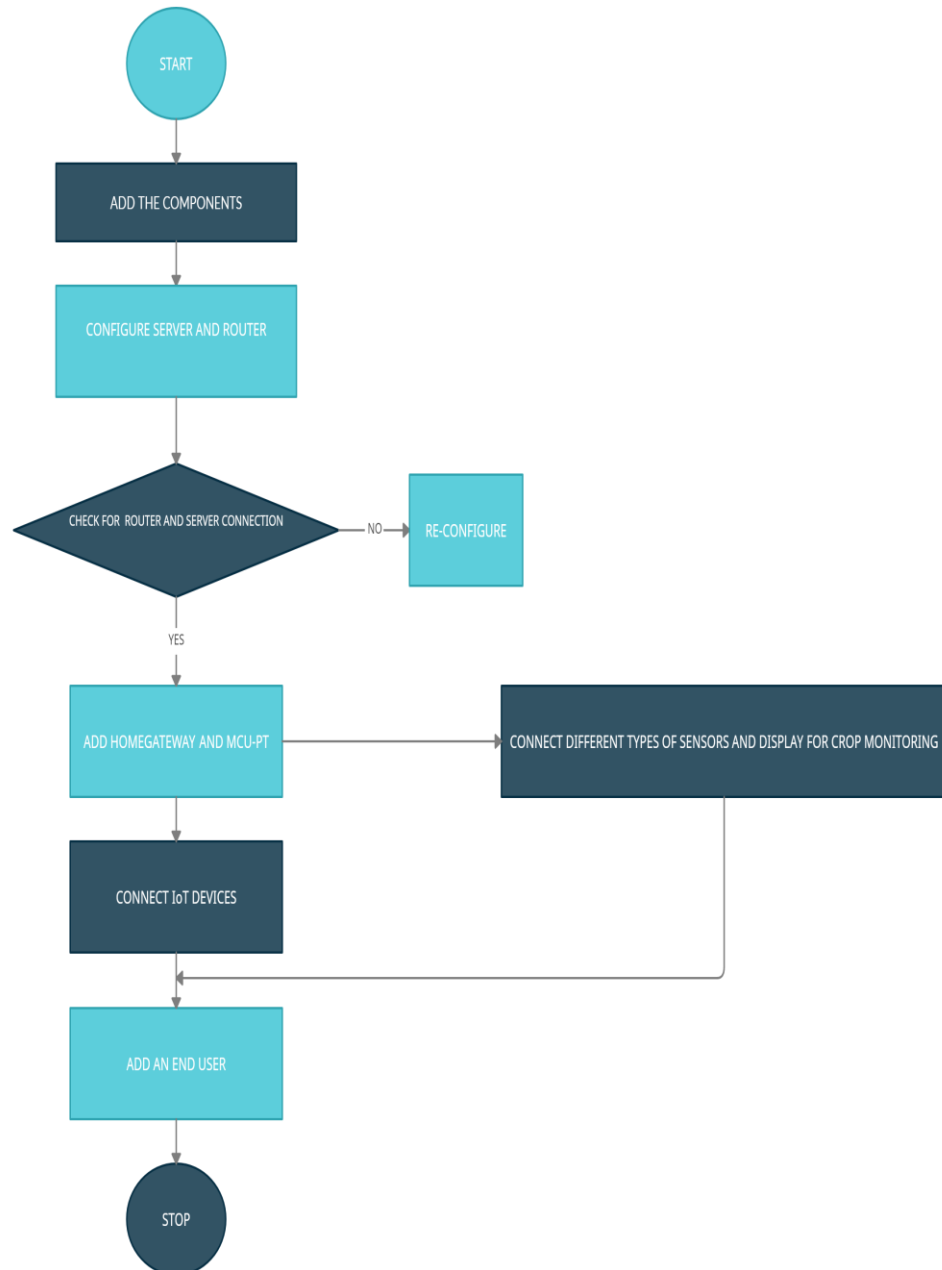
Smart home development and farming is achieved by simulation via testing system, network setup and wireless home gateway computer network equipment required by a smart home network cisco packet tracer using Internet Thing (IoT)/IoE command. The software chosen for the simulations is Cisco Packet Tracer, the tool's main strength is to offer a variety of network components that represent a real network, and then interconnect and configure devices to create a network.

Main contribution and strengths:

- Home automation technology is growing drastically and its demand is increasing in a wide range of sectors which results in: - Increase in enhanced performance, it enhances human comfort, it improves energy efficiency of the room.
- It is used to assist in growing of agricultural crops, maintenance of landscapes, and revegetation of disturbed soils in dry areas and during periods of inadequate rainfall.
- By using cisco packet tracers in home automation and crop monitoring it benefits in a realistic simulation and visualization of IOT device Permits users to design, build, configure smart home, smart city by providing different smart object used for them. Provide board to control smart object Provide detector for sensor for crop monitoring.

Flow charts:

Yes



Main weakness:

- The biggest problems, con or disadvantage of a smart home system is the cost. There are quite a number of companies that provide the smart home system, but all of them are quite expensive. This is something that only a few can afford. You would be able to have a good savings and income to install this system. It will be costly in the beginning but will be cost savings in future.

- The basic requirement for the smart home system is the internet. Without a good and strong internet connection, you will not be able to take control of this. If there is no internet connection for some reason, there is no other way through which you can access and control your system. so, it is very important to pick a good quality internet service provider.
- We cannot estimate weather conditions as pollution is increasing gradually etc.
- Even though the farmers embrace IoT technology, due to weak communication infrastructure they would not be able to take advantage of this technology. Farms are situated in rural areas and away from internet access. A farmer needs to have secure access to crop data from any place at any time, so link problems will make an advanced monitoring system in vain.

Future scope:

- Scope of this project is to allow user to build, design and configure smart city and smart home by providing a different intelligent object that uses them, and to provide realistic visualization and simulation of IOT devices. This technology made it possible to control our home appliances with the help of mobile applications or voice assistants. People in India are easily able to quickly adopting this Technology and can set or schedule their appliances accordingly. This will be a revolution in the future to change simple homes into smart homes to make consumers most comfortable and add convenience to their life.
- Precision farming is a new farming technique tailored to the specific conditions of every field, which uses automatic control, sensor integration, and information processing and network communications capabilities. To facilitate a suitable growth environment for the plant in a more energy sufficient and cost-saving way, farmers could utilize the system for factory automation management and remote monitoring.

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WEEKLY REPORT

WEEK NO: 1

DATE:10/5/2021

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