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PLANT MONITORING AND SMART GARDENING SYSTEM USING IOT

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SYNOPSIS

This project automates plant monitoring and smart gardening using IoT in the Raspberry Pi platform. The main purpose of automation is to provide comfort to the people by reducing the manual work and to improve the overall performance of any system without the user interaction. The important parameters for the quality and productivity of plant growth are soil and air temperature, humidity, sunlight, soil moisture and pH. Information to the user about the plant health and growth may be provided by continuously monitoring and recording these garden parameters. It provides a better understanding of how each parameter affects the growth of plants. All the sensors (Temperature, moisture, humidity, LDR, pH) used in this project interface with the Raspberry Pi controller. And this information about the garden can be directly monitored and controlled by the owner of the garden through his or her smart phone using IoT. A camera is provided in this system to monitor the garden through smart device. This smart gardening system will provide convenience and comfort to the user by sensing and controlling the parameters of the garden without their physical presence. Any android supported device can be used to install the smart gardening application. The software's used are PHP, CSS, HTML, Apache 2, Python, and SQL. The CSS and PHP software's are used to develop and design a web page. Apache 2 is used as a web server in Linux system. The Python environment provides the space for coding in Raspberry Pi. SQL is used in programming and designed for managing data held in a relational database management system. All data are stored in the database and can be retrieved at any time. This will help the user to understand the relation between the plant growth and the mentioned garden parameters.