



IT WORKSHOP-3

WEB GIS BASED IoT SOLUTIONS FOR PLANT MONITORING

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Abstract

- Plant monitoring is one of the most important tasks in any agriculture based environment.
- Our prototype will check some environment parameters like temperature, humidity, soil moisture, etc that have effects on plants.
- All this information will be sent by the sensors and actuators to microcontroller and the data will then be displayed on the website and LED display.



Internet of Things (IoT)

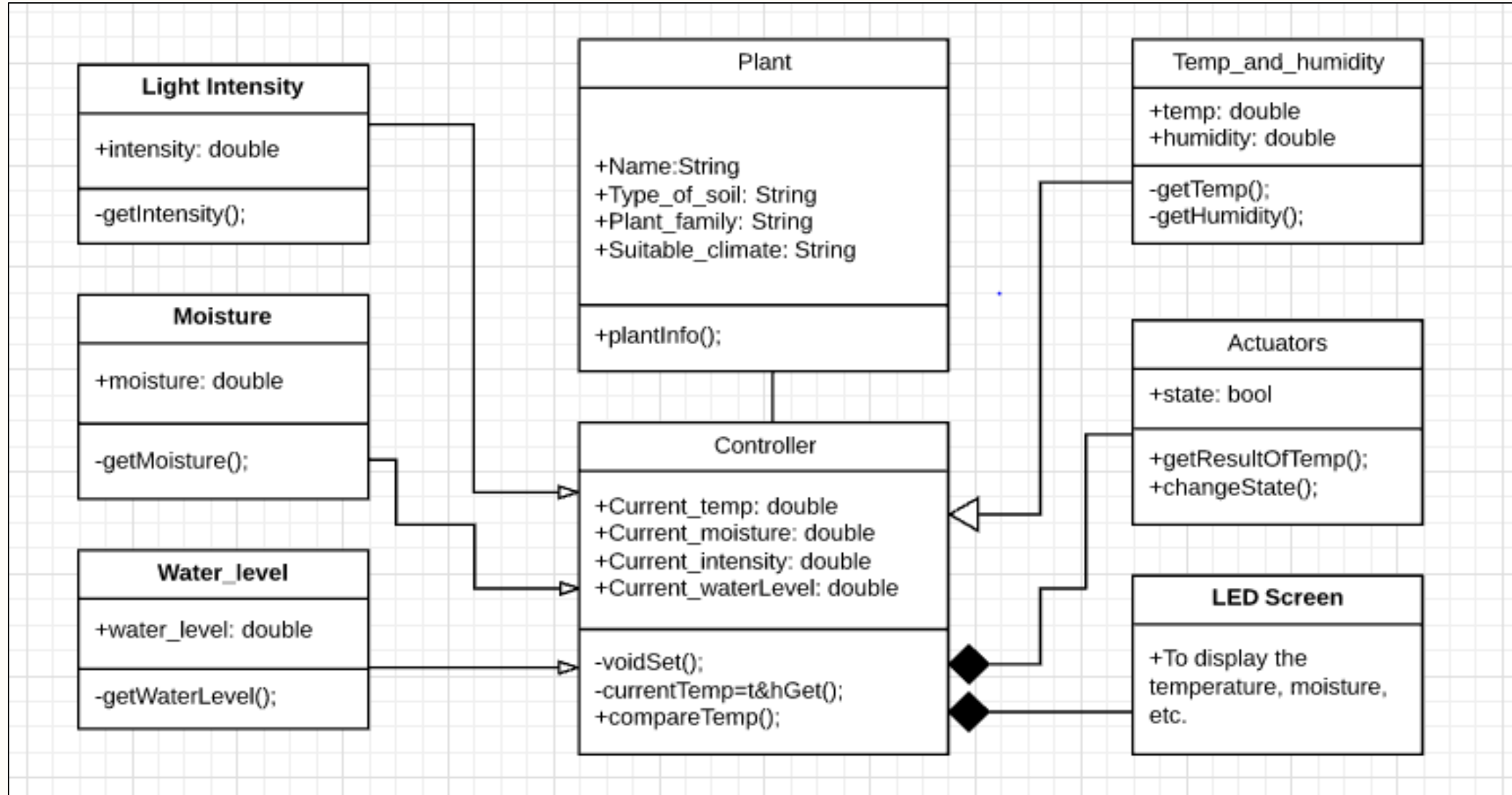
- International Telecommunication Union defines IoT as “A global infrastructure for the Information Society, enabling advanced services by interconnecting (physical and virtual) things based on, existing and evolving, interoperable information and communication technologies.”
- IoT is also defined as “The network of physical objects – devices, vehicles, buildings and other items – embedded with electronics, software, sensors, and network connectivity that enables these objects to collect and exchange data. The IoT allows objects to be sensed and controlled remotely across existing network infrastructure.”



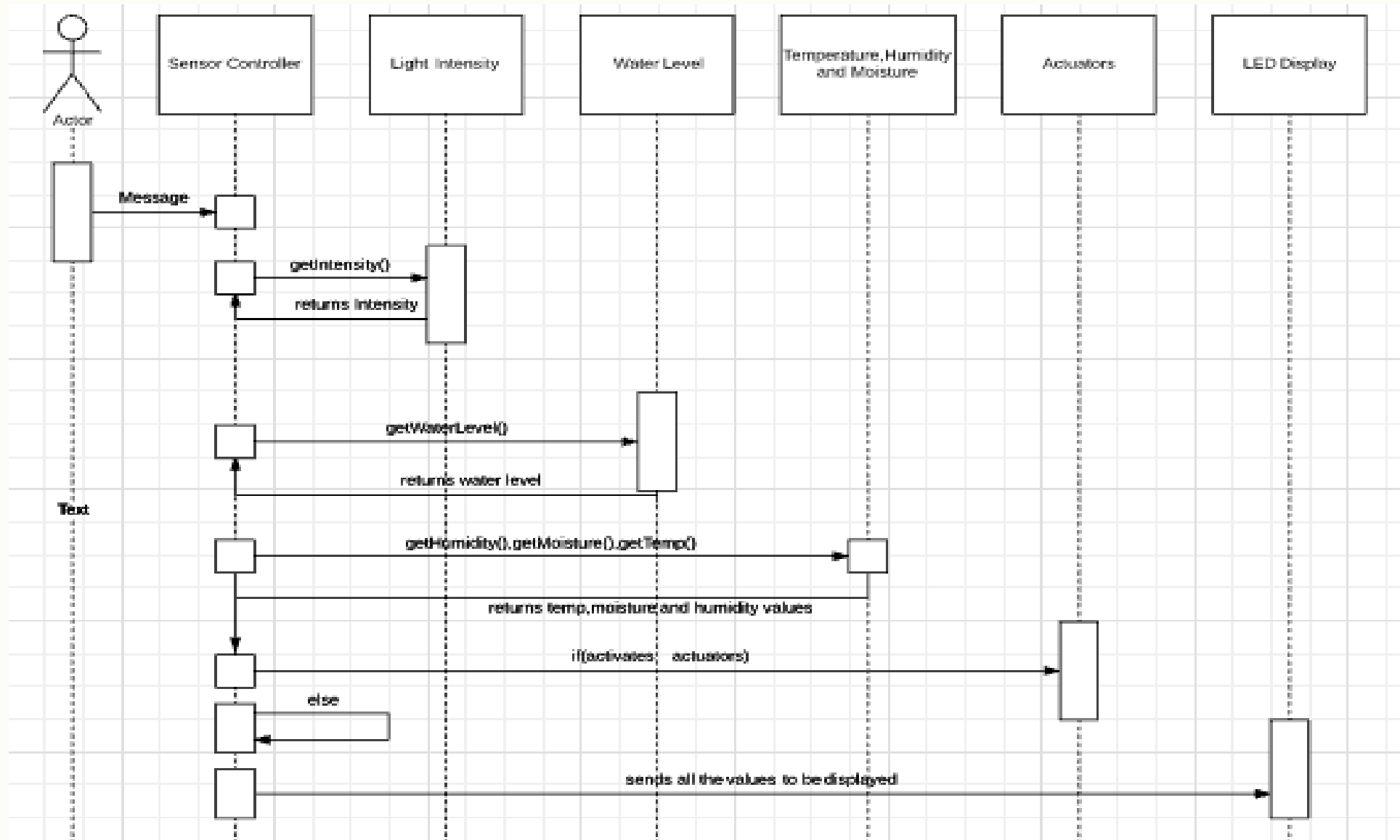
Components required

- Temperature and humidity: DHT11 sensor
- Soil moisture: YL-38+YL-69 sensor
- Light intensity: TEMT6000 sensor
- Water level sensor
- Rain gauge
- LED display
- LED lights
- Filling Valve (water actuator)

Class Diagram

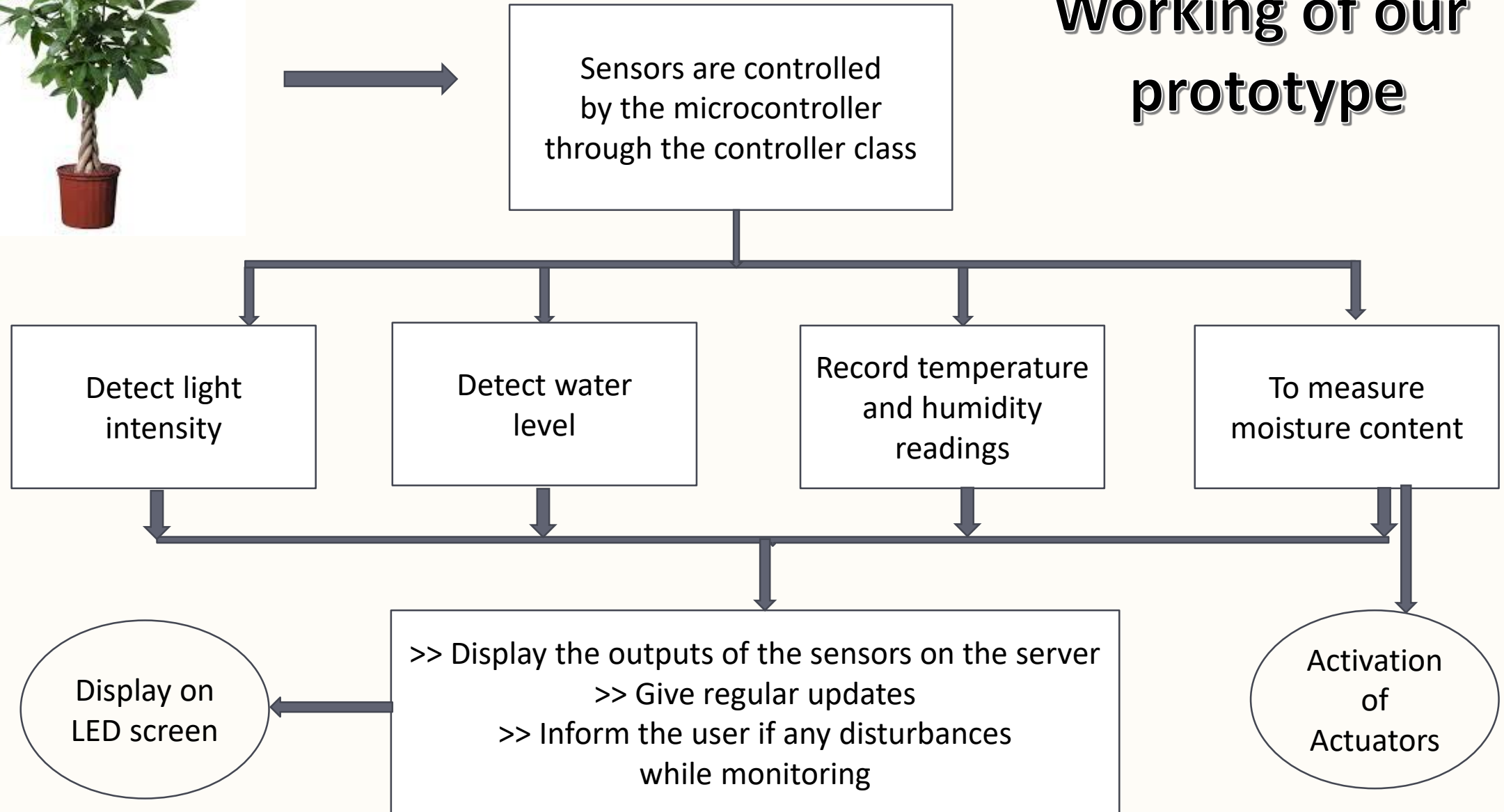


Sequence Diagram





Working of our prototype





Conclusion

- The sensors and microcontroller are successfully interfaced with the cloud.
- The data is stored successfully and can be accessed remotely. All observations and experimental set up proves that this is a complete solution to monitor the health of a plant.
- User can have access to the data and can know if there are any deviations with respect to temperature, humidity, soil moisture and light intensity.
- **Implementing this system will allow users like farmers to monitor and improve the yield of crops and overall production that will result in the development of the villages in our country.**