**Automated Agriculture System that automates and controls the irrigation of crops based on soil moisture levels and weather conditions**

Agriculture is the main source of livelihood for millions of people around the world. Efficient irrigation practices can help to ensure the long-term viability of farming as a profession and support rural communities. In traditional irrigation methods, farmers often rely on manual observations and subjective judgment to determine when and how much to water their crops. This method can be time-consuming, labor-intensive, and may result in inconsistent irrigation practices. Furthermore, the increasing demand for food production and the increasing scarcity of water resources make it imperative to adopt more efficient irrigation techniques.

Automated Agriculture System is a solution aimed to improve the efficiency and productivity of agriculture by automating the irrigation process. This system utilizes data on soil moisture levels and weather conditions to determine the optimal amount of water required for each crop. This helps farmers to conserve water resources and avoid over-irrigation, which can lead to soil degradation and reduced crop yields. The Automated Agriculture System provides a solution to these problems by using sensors and weather monitoring technology to collect data on soil moisture levels and weather conditions. This information will be used to determine the optimal amount of water required for each crop and to automate the irrigation process. The system can also be programmed to take into account factors such as crop type, soil type, and local weather patterns to optimize irrigation schedules. By automating the irrigation process, the Automated Agriculture System helps farmers to improve their yields, conserve water resources, and reduce labor costs. There are some auto irrigation software that exist but they don't check weather conditions. However, our software will take the weather information and make decisions based on the information that shows how much water is needed. The target group of users for the "Automated Agriculture System that automates and controls the irrigation of crops based on soil moisture levels and weather conditions" are farmers and agricultural firms. This system is a step towards sustainable agriculture and helps to ensure the long-term viability of farming as a profession.

**Our study has utilized that the existing studies of irrigation process is too costly. Additionally, our study has focused on developing a scalable and purchasable cost solution for automated agriculture, making it accessible for small-scale farmers and agriculture firms. Furthermore, our study has emphasized on incorporating real-time data analysis and visualization to help farmers make informed decisions regarding irrigation. This makes your study a significant contribution to the field of automated agriculture systems for irrigation.**