ELEKTRİK VE ELEKTRONİK MÜHENDİSLİĞİ BÖLÜMÜ BİTİRME PROJELERİ SERGİSİ

dirman ELEKTRONİK SANAYİ VE TİCARET LİMİTED ŞİRKETİ

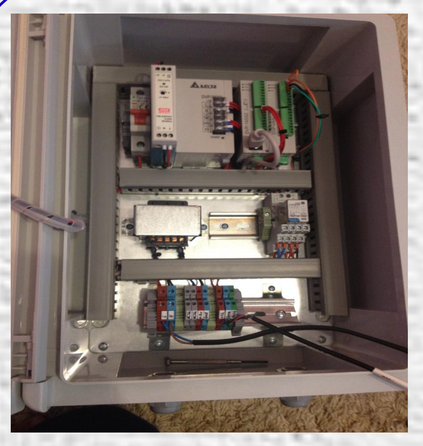
GREENHOUSE AUTOMATION

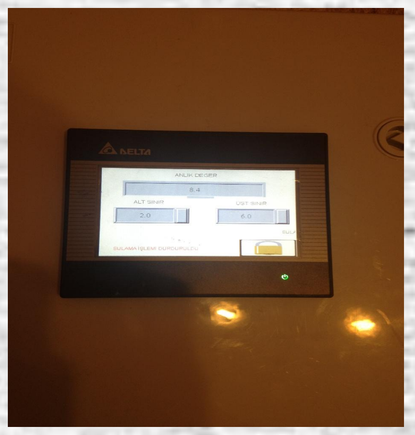
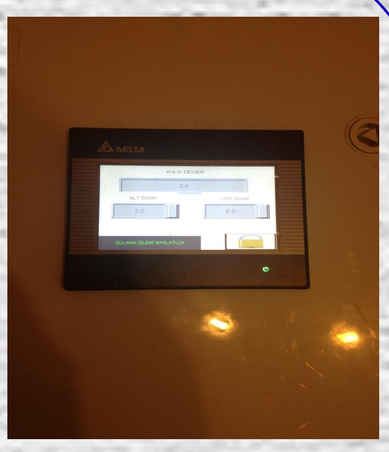
Mirsat YILMAZ
ADVISOR: Asst. Prof. Dr. Emrah BIYIK

INTRODUCTION

- In this study, under constant pressure, depending on the soil moisture level automation of greenhouse used for irrigation has been planned. Greenhouse soil moisture control, and remote control of the control program and the hardware, which made writing, thereby reducing the costs of automation systems is intended.
- The control program at the desired level by regulating soil moisture in the greenhouse in the database stores all the parameters. You can use any analogue sensor system that collects information. Automation system can be controlled via the internet. At the same time the system has internet information system on the web. Automatic irrigation system project, the automation of electronic systems and software control program, made greenhouse prototype has been tested and was found to be applicable.

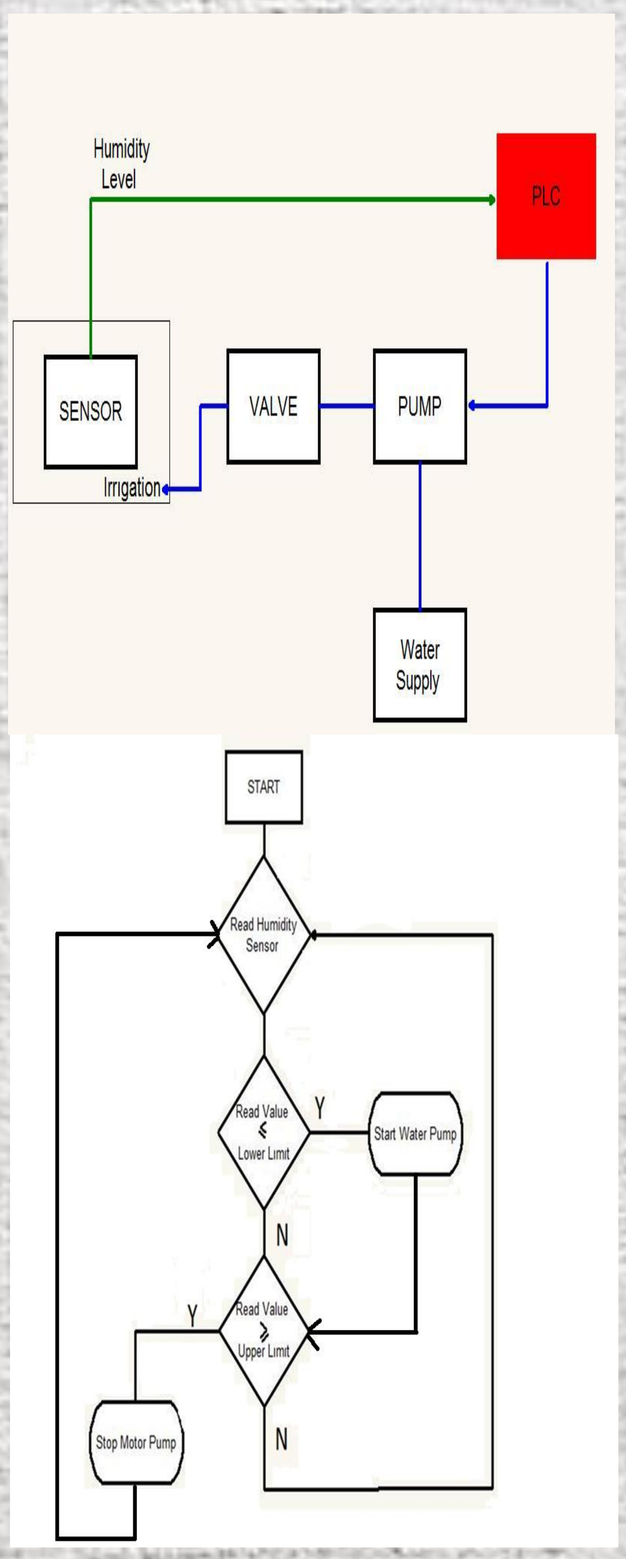
PROTOTYPE



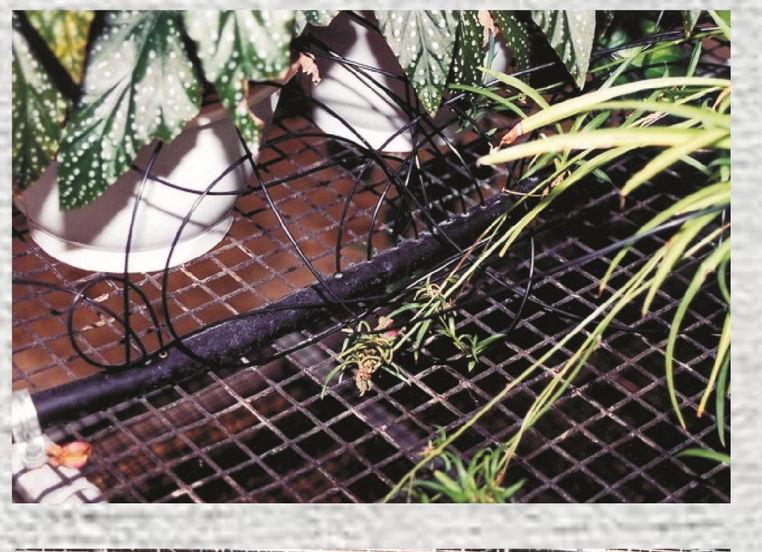






THEORY



USER EQUIPMENT


RESULTS

- As in each automation systems, greenhouse automation, long working time and occurs as a result. Greenhouse automation is needed for the realization of electronic systems. Developed in greenhouse automation very low cost, desired properties may be added.We realized and we were working on the construction of electronic systems; was carried out by the electronic circuit components easily. Reliable functioning of the system is directly linked to the operation of the electronic system. The choice of sensors is important at this point.

Advantages and disadvantages

1. Accommodates both overhead (misting, booms, etc.) and root zone (drip, watering is good but still comes with foliar-based disadvantages from overhead watering (discussed above).
2. Greatly reduce or eliminate labor and the potential for human error.
3. Water and fertilizer use can be minimized as these systems can more readily accommodate recycling of water.
4. Saves time as similar plants can be grouped together and watered in single or multiple zones.
5. Sensors can monitor how much water and fertilizer your plants are getting.

Disadvantages: Requires higher initial capital investment for the distribution system and controls.

We thank to DİRMAN LTD.ŞTİ. for their support and guidance for this project.