

# Semi-Autonomous Plant Grower

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## Introduction:

Our project is a semi-autonomous plant growing system. At the beginning of the semester, we identified the problem that there is little to no space in urban areas to grow and garden plants. We also wanted to create a **controlled environment** to test different fertilizers, pesticides, and moisture levels.

## Current Design:

The plant growing system currently utilizes an **Arduino** circuit board with two relays. One to control the **lighting** system, and one to control the **water** pump. An infrared remote sends a signal to a receiver on the Arduino, which turns the relays on or off. Alternatively, a computer on the same network uses a website to send commands through a **Raspberry Pi** to the Arduino, which then controls the relays.

## Future Improvements:

In the future, we would like to create an **app** to control the water pump and lighting system from any location. This will provide the consumer with ease of access in order to care for their plants, regardless of where they are. We also plan on giving the user the ability to set a **timer** for the pump and lights, depending on the kind of plant they are growing. Eventually, this system could accommodate **larger plants**, plants that require certain humidity levels, and certain ventilation needs.

