Aeroponic Control Theory

Input:	Output:	Output Pin:
Timer (min)	Light	TBD
Timer (sec)	Spray valve	TBD
Timer (min)	Camera	TBD
Temperature	Fan	TBD
Temperature	Chart	TBD

All outputs will be switched with 0.3 volts per the Raspberry Pi controller output voltage.

Light:
The light output will have three setting; ON, OFF, and Auto.

The Auto setting is controlled by a timer in minutes. Control needs to dictate how many minutes the light is to be ON and how many minutes the light is to be OFF. For example: ON 45 minutes, OFF 15 minutes. This cycle continues till the light has been switched out of Auto.

Spray Valve:
The valve output will have three setting; ON (Open), OFF (Closed), and Auto.

The Auto setting is controlled by a timer in seconds. Control needs to dictate how many seconds the valve is to be ON and how many seconds the valve is to be OFF. For example: ON 5 seconds, OFF 55 seconds. This cycle continues till the valve has been switched out of Auto.

Camera:
The camera is to take a photo based on a preset timer in minutes and store it to a USB.

For example, control input to take a picture every 15 minutes and save the photo to an USB.

Fan:
The fan output will have three setting; ON, OFF, and Auto.

The Auto setting is controlled by a temperature sensor placed inside the tent. Control needs to dictate a minimum temperature that the fan is to turn on and a minimum temperature that the fan is to turn off. For example; the temperature in the tent reaches 90 degrees Fahrenheit, the fan turns on and continues to be on till the temperature drops to minimum temperature setting of 85 degrees Fahrenheit. This cycle continues till the fan has been switched out of Auto.

Chart:

The chart will chart the temperature at a predetermined interval in minutes. This can be simply time stamping the sample and placing it in a spreadsheet which is then downloaded onto a usb. For example, sample the temperature every 15 minutes.

This is necessary to now the environment temperature if a crop was to fail.