Vision Statement for Ariel Observatory

Our Goal:

We want an automated observatory that does not need any human to operate it, this includes handling of potential damage control and prevention, and to schedule the plans in optimal capabilities.

Our Scope:

The observatory has equipment that needs to be handled by the main system, it includes:

Dome: The Dome provides protection for the equipment and has an opening that can open and close to allow the telescope to see through.

Telescope: The device that can see to the stars.

Mount: This is the heavy weights that help rotate and stable the telescope to aim towards the opening of the Dome.

Focuser – This is the mirror that helps the observer to see better the stars it can adjust the focus.

Camera – this takes the images of the stars and sends the data to the main server to save and process it.

Cover – This is the protection for the camera.

Weather Control – a group of sensers to understand the weather.

Cyber – The place where we manage all the data.

In the Cyber part we will need to split it to sub projects:

Planner:

An algorithm that will need to get all plans that will want to observe and will prioritize the tasks.

Schedular:

Will need to take the plans and add to it the data of the environment and decide when the action of observing will be done while protecting the machinery.

Robotics:

After deciding the task in use, we will need the machinery to do the operations to make sure that we can get the data.

The Need:

Ariel University is building an observatory to track exo-planets in hopes to find signs of life. This is a long time consuming tracking of the stars, so The process of doing this should be automated to reduce the amount of human interaction here.

Expectation:

To have minimal amount of human interaction with the equipment.

Have an off site connection to add tasks for the planner.

Easy and simple process from start to end.