







College & Team Info

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Project Description

- The conceptual design prepared by Team Vastuviters is Growver (Grow-Vertical).
- It is designed using light weight material such as Aluminum for the frame of the product and the container in which the soil will be accommodated will consist of stainless steel material.
- The frame will be supported with plastic 360 wheels which makes the product easy to move around.
- The dissipated plant stems can be arranged on the hooks present on the peripheral/boundary of the container.







Objective

- Growver helps the modern plantation methods to be more flexible and convenient.
- For plantation, the design contains an inbuilt IoT based water distribution system for individual container.
- The water distribution can be controlled with help of an android application.
- Solar Trackers are installed for dynamic orientation of the containers.





Goal

- The Growver can be easily converted in Vertical to Horizontal and vice-versa orientations easily as per the user's space.
- It helps the domestic plantation for people having less space at their place. Variegated Plants can be grown in less space.
- It can also be used at nursery where multiple plantations are required at a small land or insufficient space.
- It will have an IoT based water distribution system which can also be controlled using an Android Application.
- Solar Trackers can also be installed at Nurseries, so that each plants can get sufficient sunlight.





Design Process

- First the base frame was created. That is the Height Adjustable wheeled -stand of the Growver.
- The 3 Containers were then created positioned at 3 distinct equidistant levels of Growver Frame.
- Then continuous (Revolute) joints were allotted to the containers and frame.
- And sliding joint to the height adjustable frame.





Relevant Doc, Images, Videos, Rendering



Container

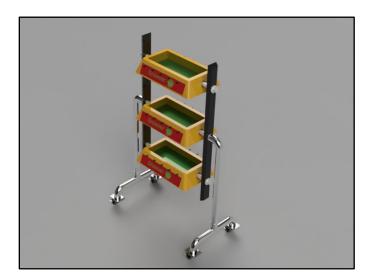
The Container is the pot where the plants will be grown. It has hooks on the peripheries for multiple purposes, like hanging the dissipated plant stems or to hang any accessories, etc. It will also have water distribution system which a loT based controlled, **Android** using an Application .

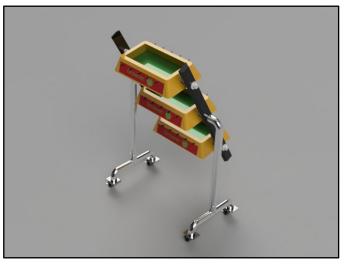


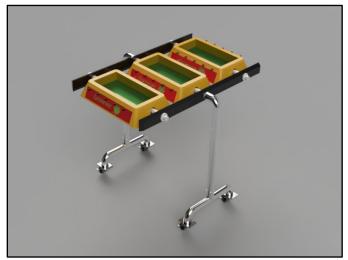




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Turn Table Mechanism

In this mechanism, the middle container stays at a fixed position. The upper and lower containers can be transformed from vertical to horizontal orientation.

Its adjustable height and orientation enables great sort of flexibility and utility irrespective of the available space.







Relevant Doc, Images, Videos, Rendering











AUTODESK.