Abstract:-

Materials Used:-

1. Stereolabs ZED Camera
2. Jetson Nano
3. Waveshare 7 inch Touchscreen Display
4. 2 Micro Servo motors
5. Keyes KY-008 Laser Module
6. 3 axis Drone Gimbal

The ZED Camera is a Stereo Camera, which uses both the lenses on it to generate a depth image and a point cloud, without using IR radiation.

The ZED Camera has a Python API, which means we can use python to access the features of the ZED Camera using the ‘pyzed’ library.

The ZED Camera requires a powerful GPU for generating the point cloud and generating the depth image.

The Jetson Nano processor is an economical processor which has a 128 core Maxwell GPU and meets the requirements for running the ZED Camera’s SDK.

The ZED Camera connects to the Jetson Nano using USB 3.0 port.

The touchscreen display is connected to the Jetson Nano via HDMI and USB, using HDMI-HDMI cable and USB – Micro B USB respectively.

When the user touches the screen, the screen communicates with the controller underneath using I2C.

The data is then sent to the Jetson Nano, where the processing takes place and the result is shown on the display via HDMI.

The Jetson Nano has 20 GPIO pins on the j41 header, which is used for controlling the Servo Motors and the Laser Module.

So, after making the connections of the touchscreen display, ZED Camera, servo motors and the laser module to the Jetson Nano, the python code is executed.