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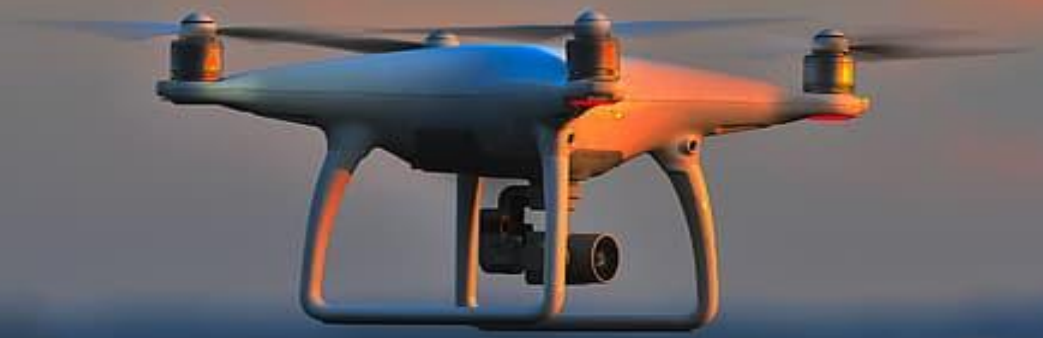


BY - 7 works

INTRODUCTION

- UNMANNED AERIAL VEHICLE, ALSO KNOWN AS DRONE IS AN AIRCRAFT WITHOUT PILOT.
- DRONE STANDS FOR DYNAMICALLY REMOTELY OPERATED NAVIGATION EQUIPMENT.
- ITS FLIGHT IS CONTROLLED AUTONOMOUSLY BY COMPUTERS OR UNDER THE REMOTE CONTROL OF A PILOT ON GROUND.

COMPONENTS

- DC BRUSHLESS MOTORS (1400KV)
- ELECTRONIC SPEED CONTROLLERS (30A)
- TRANSMITTER AND RECEIVER (2.4GHZ)
- PIXHAWK 2.4.8/KK2.1.5.
- INERTIAL MEASUREMENT UNIT (IMU)
- BATTERY(4500MAH)
- PROPELLERS(10X4.5)
- HIGH RESOLUTION CAMERA(480P)
- VIDEO TRANSMITTER AND RECEIVER
- RASPBERRY PI 4B.

PROBLEM STATEMENT

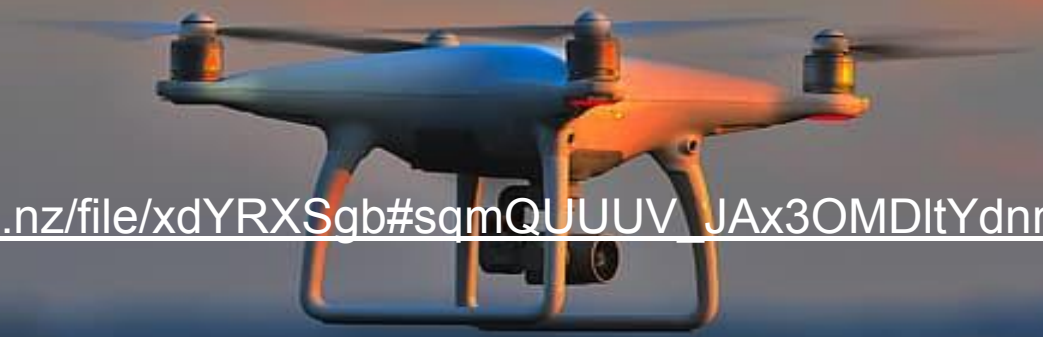
IN THE CURRENT SCENARIO ITS BECOMING VERY DIFFICULT FOR THE POLICE TO CATCH HOLD OF PEOPLE WITHOUT HELMETS BECAUSE MANY PRETEND TO WEAR HELMETS ONLY NEAR THE SIGNALS AND THEY AGAIN REMOVE IT ONCE THEY ARE AWAY FROM THE SIGNALS.

OUR PROBLEM STATEMENT IS TO CATCH HOLD OF SUCH PEOPLE WHO ARE VIOLATING THE RULES ON ROADS WHERE THEY DON'T EXPECT TO BE MONITORED.

SOLUTION

THE SOLUTION TO THIS PROBLEM IS THAT WE WILL FLY A DRONE IN SUCH A PLACE WHERE PEOPLE DON'T EXPECT TO BE MONITORED AND THEN OUR DRONE WILL DETECT THE MOTOR CYCLISTS WHO WERE VIOLATING THE RULES. AFTER DETECTING THOSE MOTORCYCLISTS THEIR MOTORCYCLE NUMBER PLATE WILL BE CAPTURED AND SENT TO THE NEAREST POLICE STATION. NOW THE TRAFFIC POLICE WILL TAKE THE ACTION AGAIN THE ACCUSED.

IDEA IN ANIMATION



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CURRENT IMPLEMENTATION

CURRENTLY WE HAVE BEEN WORKING ON IMAGE PROCESSING. WE HAVE BEEN ABLE TO USE THE DRONE FOR TRAFFIC SURVEILLANCE MANUALLY. IMAGE PROCESSING IS TAKING A LOT OF TIME TO LEARN FOR OURSELVES AND THEN TO TEACH THE SOFTWARE.

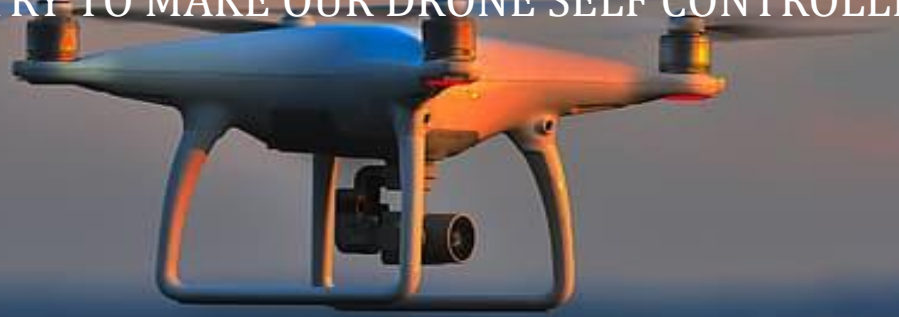
AS OF NOW WE ARE ONLY ABLE TO GET THE WORK DONE MANUALLY.

AT THE MAX WE ARE ABLE TO DETECT PEOPLE BUT DETECTION OF RIDERS WITH HELMETS AND WITHOUT HELMETS WILL TAKE TIME.

FURTHER IMPLEMENTATION

WE WOULD FURTHER TRY TO TEACH THE SOFTWARE TO DETECT TRIPLE RIDERS

WE WOULD THEN TRY TO MAKE OUR DRONE SELF CONTROLLED



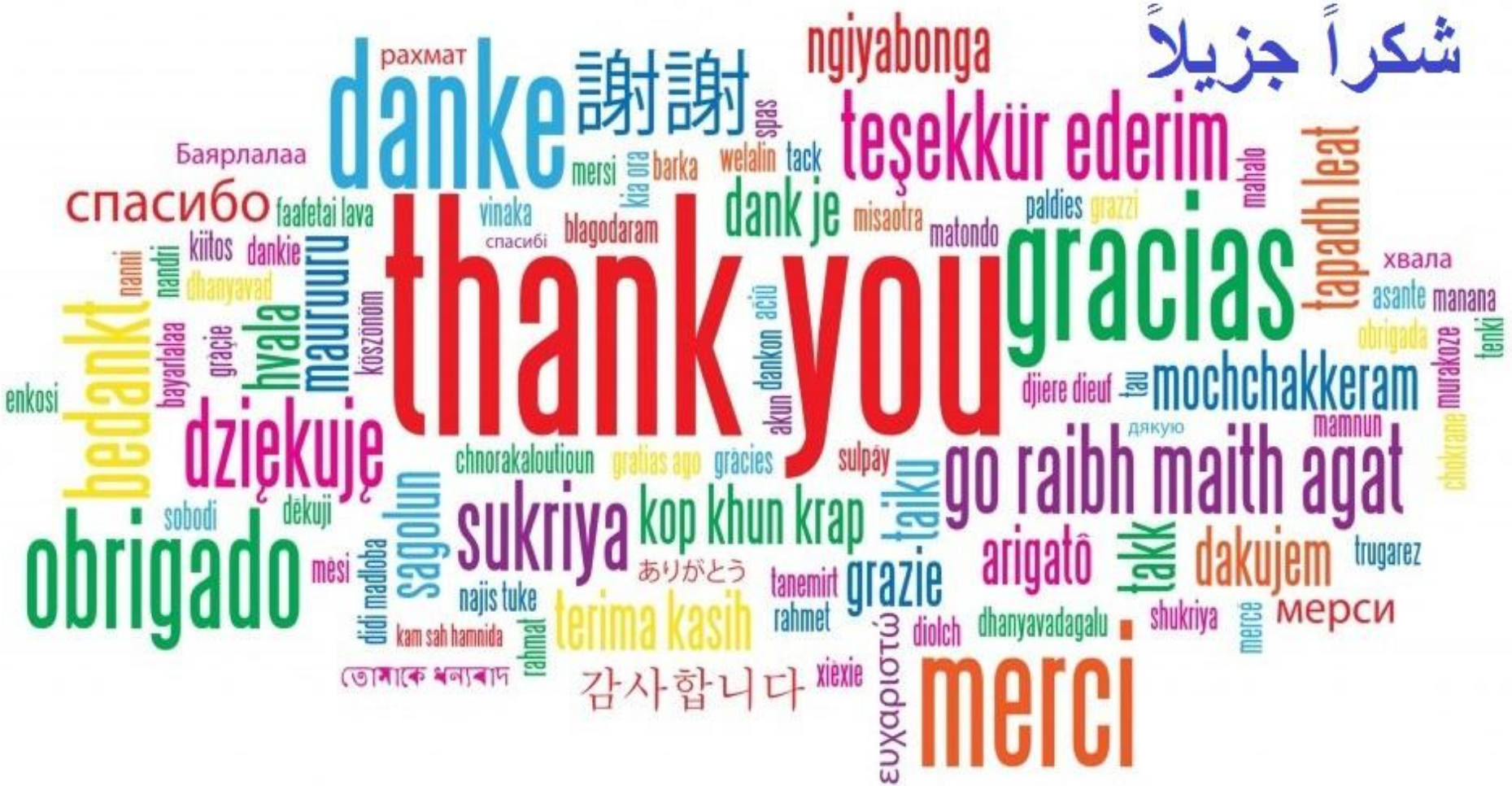
PROBLEMS FACED

IT WAS DIFFICULT FOR US TO ARRANGE FOR THE BUDGET

IT WAS DIFFICULT TO FLY THE DRONE AS THE COMPONENTS WERE NOT IN SYNC

THE MAKING OF APPLICATION WAS VERY PROBLEMATIC AS THE CONNECTION OF RASPBERRY PI SOFTWARE WITH OPENCV AND YOLOV5 WAS COMPLICATED

DUE TO THIS THE APPLICATION IS STILL IN PROGRESS.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