# REFORESTATION USING AUTONOMOUS SEED DISPENSING QUADCOPTER

CPG-150
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## INTRODUCTION

Deforestation has become the primary reason for Global Warming and needs to be addressed with utmost importance.

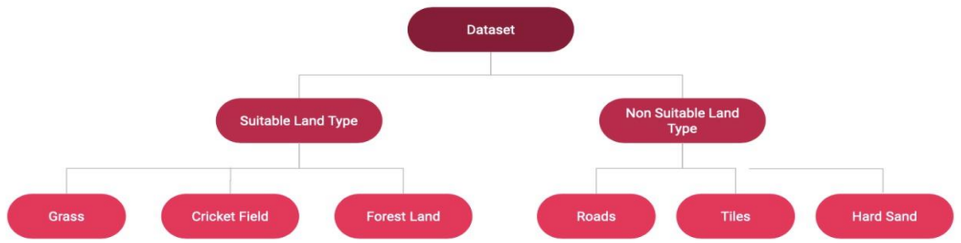
With approximately 15 billion trees being cut down every year, we need an efficient reforestation mechanism.

Thus, we intend to develop a Quadcopter for the purpose of Reforestation at a high efficiency and pace.

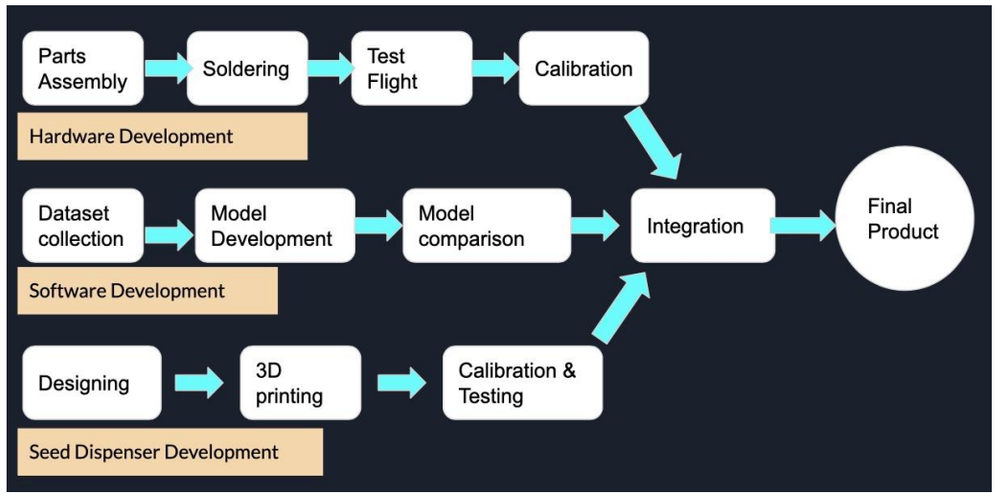
## OBJECTIVES

- Develop a flight ready Quadcopter.
- Develop a land detection algorithm.
- Develop an efficient seed sowing mechanism.
- Integrate the designs to build a Reforestation device.

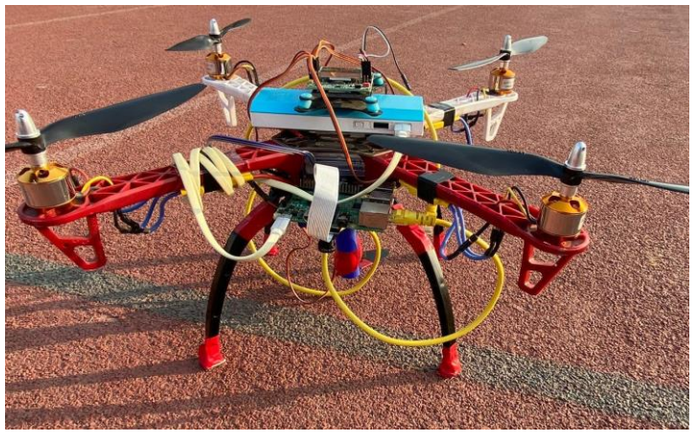
## METHODOLOGY




### DATASET




### WORKFLOW DIAGRAM



### FINAL PROTOTYPE

## NOVELTY

- State of the Art accuracy on the land detection algorithm on our custom dataset.
- Real Time execution for deep learning algorithm resulting in seed sowing.
- No manual intervention required.
- Minimal Cost Equipment.

## CONCLUSION

The Developed device is capable of autonomous seed sowing by detecting the suitable land type with the help of state-of-art Deep Learning Architecture with 98 % accuracy.
The proposed framework outperforms human by sowing seeds at more than 6 times the speed and is also able to go to hard to reach places by man.

## FUTURE SCOPE

- Autonomous Flight Planning.
- To increase the weight bearing capacity.
- Add an object detection algorithm.
- Improve Processing speed using a better flight controller.