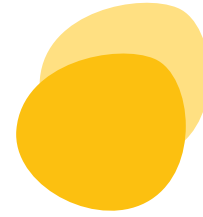




Using Drones to Address Deforestation

EGS 2053 • March 2021



PROBLEM

- Illegal logging, unsustainable agricultural practices, and natural disasters are some of the many reasons why deforestation in Madagascar has increased at such a rapid rate.
- The team was responsible for creating a design concepts that showcases how to use a drone to address deforestation issues related to Madagascar.

This demand for resources has put a strain on the natural environment
-Christina Nunez, “Deforestation and Its Effect on the Planet”

90%

of Madagascar's
original forest has
been lost

70%

of of the native
population is dependent
on resources derived
from agriculture and
other vegetation

2%

of Madagascar's
remaining forests are
destroyed each year

Ethical Considerations:

1

Privacy

The aerial photos the drone takes could compromise people's right to privacy.

2

Flyaways

Will be important to monitor as they have the potential to create small forest fires if the drone's electrical parts become exposed

3

Transparency

Full transparency will need to be communicated with the engineering team and the surrounding communities.

4

Automation

If any part of the drone technology were to become automated, it'll be important to consider the ethical implications.



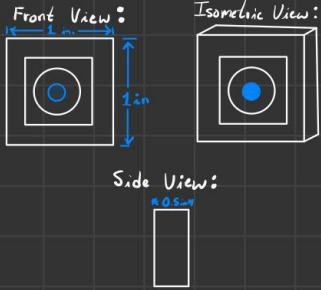
SOLUTION

In order to best address the issue of deforestation in Madagascar, the team decided that a camera placed on the drone, will be the most effective solution to monitor areas where vegetation is sparse.

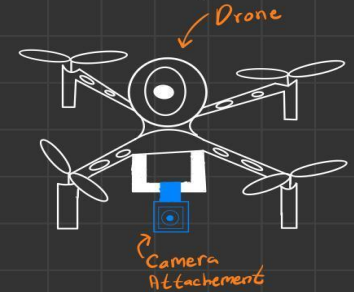


DRONE PROTOTYPE

Camera Prototype



Drone Prototype



- The prototype includes the original drone with a camera attached to the bottom of the drone.
- The camera will be no more than 1 inch by 1 inch by 1 inch with a max weight of 10 grams.

- The drone will fly to the target location and take photos of areas impacted by deforestation.
- The drone will then return to its specified site where the images and videos will be looked at by professionals.

Thank You

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