“UNMANNED AERIAL VEHICLE FOR MONITORING ANIMALS IN THE WILD” (ENVIRONMENTAL PROTECTION)

Authors: Nazarova Maria, Kutuzova Sofia, Maskina Alisa

Supervisor:
Shatskikh Spartak Alekseevich

Relevance: At the moment, many reserves (namely animals and plants that are most often endemic or listed in the Red Book) suffer daily at the hands of poachers. Since our UAV will be equipped with a video camera, it will allow us to film animals in remote areas, which will reduce the risk of poaching (since when filming animals, the UAV will also record the area around them, which will allow us to detect hunters). Our project will allow us to establish and facilitate the protection system of such important objects and will contribute to saving nature.

Objective: Create a model (drawing) of a UAV most suitable for observing animals in the wild.

Tasks:

1. Find and select the most suitable UAV for achieving the set goal in stores.
2. Study the characteristics of the selected UAV.
3. Replace some parts and add additional ones.
4. Calculate the cost of the UAV and its final characteristics.
5. Determine the strengths and weaknesses of the resulting device.
6. Provide a design drawing.

We analyzed the spare parts available for purchase for creating a UAV, and found, in our opinion, the most suitable option, with the best price-quality ratio.

14007 rub.
Wing weight 490 g. (without electronics)
Wing material: EPP
span: 1100 mm
length: 490 mm
Speed ~ 80 km/h

Additional details:

SIYI A8 mini video camera
The most important characteristics of the camera, based on which the choice was made:
Video output port: Ethernet, HDMI
Operating temperature: : -10 ~ 50 ℃
Weight ~ 95 g.

Strengths:
Our UAV is cheaper than many and has a good price-quality ratio. It allows you to film animals in pretty good quality.

Weaknesses:
Really short flight time, which can be increased with a larger budget by selecting better parts (e.g. engines).

UAV drawing