

## Abstract

Nowadays, drones are considered to be the future of technology and transportation. The research about drones is increasing due to its market demand. Many improvements are being done in order to increase its performance. Our team, Phantoms, is also committed with this development. Phantom's improvements will strive for efficiency, durability and security to the drone which is what the customer is looking for. Although drones are being used in fields like agriculture, photography or transport, the DJI Phantom 3 Standard Drone is more focused on recreative use. The drone is formed by four propellers (with their corresponding motors), a battery, a camera (with its supporting structure) and a curved body which is formed by two parts and put all the pieces together. Apart from that, the team has added some parts such as solar panel, lens protector, propeller's protector and floaters. The overall management of the project has been successful. Productivity went well, considering how the members worked as a single unit; organization and communication being the reasons for success. It began with the design process, as each member chose parts and measured, which then led to sketching, before creating the parts on CATIA. There were 15 parts in total and divided evenly among the members. There were deadlines set for the parts, and goals were accomplished within the timeframes. For our product, the Iron Drone, came to a total cost of \$180 with all the improvements added to the original drone only increase the price by \$71. We kept the original drone material, hard plastic and steel, almost identical to keep the low price and the durability. Our alterations all fit in very well into the simple drone. If we had a larger budget, instead of plastic, the material would be carbon fiber to improve durability and in case of impact, the drone will absorb shock better. However, the team consider that it was an overall success.

