



iOS Application Development for Drones

Introduction

A drone is a light flying robot with on-board sensors for imaging. It is more formally acknowledged as Unmanned Aerial Vehicle (UAV). Fundamentally, drones can be flown autonomously or be remotely controlled through software. Mistral has the expertise in designing low power, light weight electronics for drones and develop smartphone/tablet application to control/manage the drone.

This case study showcases Mistral's capability in designing and developing iOS application to control the photo/video capturing, editing, transferring and sharing features of the drone. The iOS application is designed to perform as close as possible to the in-built iOS camera application, to provide the user with a unified user experience (UX).



This case study showcases Mistral's capability in designing and developing iOS application for drone control from a tablet or phone.



The Customer

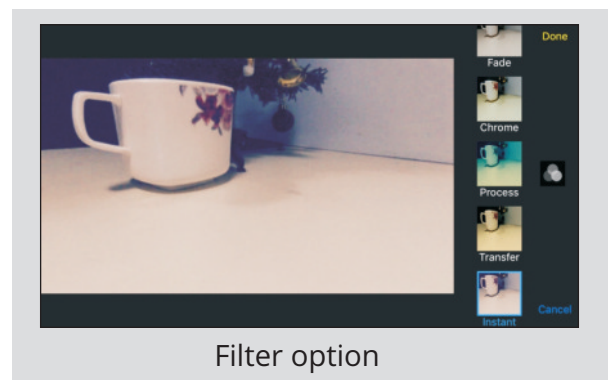
The customer is one of the market leaders in robotics and has been making tethered drones for government and industrial applications. These drones were designed to operate in all types of wind and weather.

The Requirement

The customer was developing a new drone, which is designed to be controlled entirely by smart phone or tablet.

The customer approached Mistral to develop an iOS application with following features:

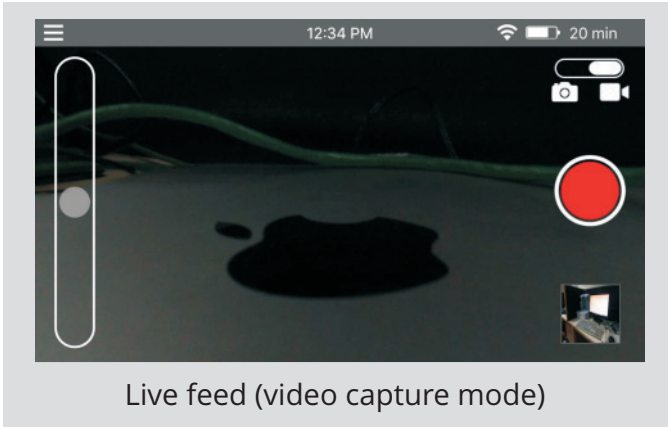
- ▶ Photo/Video capturing
- ▶ Photo editing
- ▶ Video trimming
- ▶ Transfer Photo/Video captured on the drone to phone
- ▶ Sharing the captured Photo/Video on social network



Solution Provided

Mistral developed an iOS application for their drone for camera capture, download the captured media to the phone. Mistral helped the customer to identify the right technology that enabled the rapid development of the iOS application.

Following aspects were part of the development process:



Live feed (video capture mode)

The solution provided by Mistral included:

- ▶ Apple's general purpose compiled programming language "Swift" which is more robust than Objective-C was used to develop the User interface & Objective-C wrappers were developed to integrate with the drone SDK.
- ▶ Mistral team helped the customer to finalize the requirements using the use-case specification document.

- ▶ Wireframes were designed to freeze the look and feel of the application.
- ▶ Agile methodology was used to manage the project.
- ▶ Incremental release was made to enable the customer to get early release and testing.
- ▶ Independent verification and validation team was engaged in testing every release.

Key Achievements

- ▶ Planned the Sprint releases along with the customer to understand the priority and made the quick releases.
- ▶ Enabled the customer to get a head-start in testing and fine tuning their drone hardware.
- ▶ Completed the project ahead of plan with 2% defect slippage.

Customer Benefits

- ▶ Customer was part of the sprint planning, which gave good idea of the project progress and enabled the integration in a phased manner.
- ▶ The iOS application enabled the customer to fine tune and improve the response of media capture and download features of the drone.



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