



GadgEon
Engineering Smartness



KPAK - GoPro Flash Accessory

K-Pak is BLE enabled device which can be used to add LED flash to Go Pro cameras and can be controlled using an iOS App and a remote control device.

Challenge

- Integrated solenoid and mechanical means, depresses the shutter release button on the GoPro camera
- Timing between flash and trigger to solenoid

Outcome

- Development of complete device firmware
- Integration of Mechanical and electronics
- Native Android and iOS application to control the GoPro flash
- Device to be launched in USA

BLE Controlled Flash System for GoPro Camera

CLIENT

- US based Product design Company.

BUSINESS NEED

- An IOS Application that interfaces and controls the device through BLE.
- This device is a waterproof case, which has a built-in remote controlled flash.

TECHNOLOGY

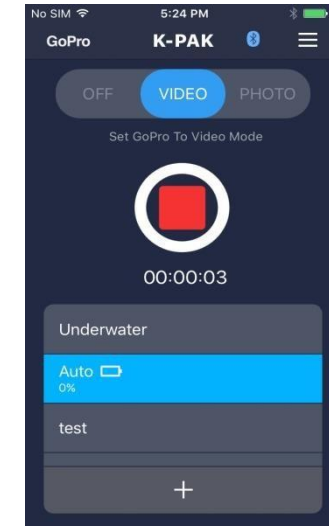
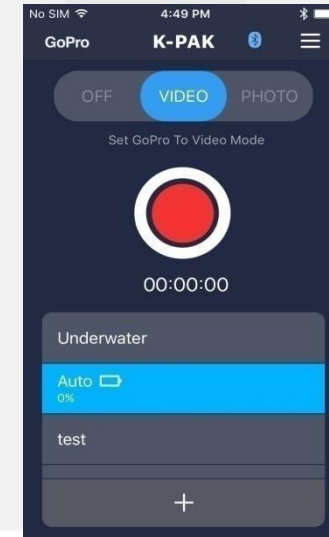
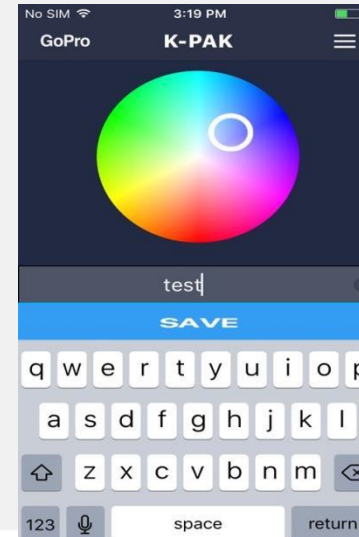
- IOS Application , BLE , Cocoa Touch.

GADGEON'S ROLE

- iOS application for
 - Remote flash control for the device using IOS application.
 - Photo and video capture control for the device using IOS application.
 - Saving of flash configurations with lighting specification for future use for Video and Photo modes of the camera.
 - Auto connection with the devices in the proximity.
 - Find me feature for finding the device using the IOS application

CUSTOMER BENEFITS:

- Very fast and real time communication with the device..
- Live indication of modes and battery life of the device.
- Find Me feature with the help of BLE.



What did Gadgeon do?	Platforms/ Technologies used
1) Architecture for complete system including BLE based ruggedized water proof camera flash system and IOS Mobile App to control the device.	Requirements Gathering & Analysis, Uses cases, Architecture development, identification of functional components.
2) Hardware design, prototyping, boardbring up for BLE based system.	orcad for schematics and allegro16.6 for layout
3) Embedded firmware BLE based system and its integration and testing on reference platform and on Target platform	Nordic nrf51 BLE Stack and SDK , Keil IDE. The device has the following hardware peripherals a. TI's DUAL LED Flash driver - LM3643. b. LADEX 1919203 Solenoid c .Linear Technology's LTC2942 - Fuel Gauge .
4) Mobile App design and development for controlling and managing the ruggedized water proof camera flash system	Followed the recommended design patterns from Apple. Custom Video modes , Photo modes and Strobe Options.





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