FIRMWARE REQUIREMENTS SPECIFICATIONS

Overview

Lucky Charge is a smartphone/tablet charging service.

Our device is a portable power bank to charge smart phone's batteries, than can be offered to restaurants, bars, cafeterias, trade shows, shopping malls, and more.

Once used, the power banks are plugged into a charging dock to be re-charged and get ready for a new use. Throughout this specification, we reference our app/service, which is a mobile app that runs on iOS and Android.

The power bank would directly plug into the phone (Android or IOS) and communicate with our app/service through the cord.

TECHNICAL DETAILS

- Power banks are designed with customized charging system, so they can get charged only when placed into Lucky Charge Docking Stations (to discourage device's theft).
- A 4 led lights indicator to provide feedback to administrator and users (flashing when charging phones, level of charge when re-charging on Docking Station, etc.).
- The app and the power banks need to communicate data directly over a cord (or 2 cords) from the smartphone to/from the power banks.
- The power bank will need to be set to only charge for a set amount of minutes if the app/service is not installed or if the user do not select "charge my battery", a function located in the app.
- If the app is not installed, a companion pop up will display when the power bank is plugged into the smartphone, advising the user that the charging time is limited (I.E. 2 min) unless the app is installed on the device.
- If the app is installed, it will auto load when the power bank is plugged into the smartphone to allow the user to select "charge my battery", and start using the charging services and accessing the app contents.
- Once the function "charge my battery" is selected, the power bank will start charging the smartphone with no limitations until the cord is disconnected.
- Each power bank need to be equipped with 3 integrated cables (Mini-usb, USB type C and lightning connectors)
- Each power bank will have 4500Mah capacity and the docking station will charge at 5V/10.0A speed (TBD subject to performance/price ratio).

DATA

Data Field Values	Direction	Purpose
Charge Control On/Off	App --> Power Bank	Allows the app to turn the charge control ON or OFF 1- If the charge control is ON and the app/service is not installed and running, the power bank will stop charging after a set minutes elapse (I.E. 2 min). 2- If the charge control is OFF and the app/service is not installed and running, the power bank will charge an unlimited number of minutes.
Charge Time Numeric (0 to 255)	App --> Power Bank	Allows the app/service to set how many minutes the power bank is to charge (when the app/service is not installed) until it stops.
Charge Activation On/Off	App --> Power Bank	Allows app/service to turn charging on and off
Battery Level Numeric (0 to 100)	Power Bank --> App	Provides the app/service with the power bank battery level.
Power Bank ID Serial Number	Power Bank --> App	Provides the app/service with the unique identifier of the power bank.
Notification Message Companion screen pop up	Power Bank --> App	Communicates users the need of downloading the app in order to access unlimited charging service and app contents.

USE CASE WITHOUT INSTALLED APP

1- Operator at Restaurant/bar/trade show takes a power bank from the charging station and hands it to the end user/client.
2- End user/client plugs the power bank into his smartphone.
3- The power bank start charging until the set amount of minutes elapse (I.E. 2 min) and at that point the power bank will stop charging.
4- In the meantime, a companion pop up message displays on the phone advising that the charging time is limited if the user/client does not have the app installed on his phone. The notification message provides a button to open the App Store or Play Store in order to download the app.
5- The end user/client presses the button to open the app store and downloads the app
6- The app opens and request the end user/client to create an account using telephone number, facebook profile or google profile.
7- Once logged in, the user/client can access the app and select the function “charge my battery”. Once the function is selected, the app sends the power bank the required data to advise it to keep charging with no limitation until the power bank is disconnected.
8- The end user/client leaves and the Restaurant/bar employee put the power bank back on the charging dock.

USE CASE WITH INSTALLED APP

1- Operator at Restaurant/bar/trade show takes a power bank from the charging station and hands it to the end user/client.
2- End user/client plugs the power bank into his smartphone.
3- The power bank detects the app installed, opens the app, and request the user to select the function “charge my battery”. Once the function is selected, the app sends the power bank the required data to advise it to keep charging with no limitation until the power bank is disconnected.
4- The end user/client leaves and the Restaurant/bar and the operator put the power bank back on the charging dock.