Dell Bright Light API (ChomeOS)

Version: 0.2

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Revision History

Version	Description	Author	Email	Date
0.1	Initial Draft	Yu Dong	Yu_Dong@Dellteam.com	Oct 16th, 2014
0.2	Change API name to Dell Bright Light API	Yu Dong	Yu_Dong@Dellteam.com	Oct 30th, 2014

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Overview

Dell Bright Light API (Chrome OS) is a set of JavaScript APIs to control of LED device on Dell Chromebook. When those APIs, you can turn on/off the LED, change the color of the LED light.

Compatibility

Chome OS r39 or above

Quick Start

To use Dell Bright Light API, please follow instructions below:

1. Add dell.led.js in background section in your manifest.json, as shown in the example code below:

```
"app": {
  "background": {
    "scripts": ["dell.led.js", ... ...],
    "persistent": false
    ... ...
  }
```

2. Call Dell Bright Light API in form of dell.led.xxxxxx according in your javascript or html files.

API List

Constants

dell.led.colors

Description	Definition of the colors Dell Bright Light device can present.

Values	dell.led.colors.RED dell.led.colors.GREEN dell.led.colors.BLUE dell.led.colors.YELLOW dell.led.colors.CYAN dell.led.colors.MAGENTA dell.led.colors.WHITE dell.led.colors.BLACK

Functions

dell.led.turnOn

Description	Establish the connection to Dell Bright Light device. Dell Bright Light light is a HID device connected via USB bus. dell.led.turnOn tries to detect the device and establish the connection. It is the first API you need to call before starting to control the device. Detailed behavior as below: 1. Establish connection to HID. 2. Reset LED device to an initial state (turn off if it's already on). 3. Any error during connection is recorded in the log.
Prototype	dell.led.turnOn()
Parameters	N/A
Return	N/A

Sample	... ...
	if (!dell.led.isOn()) {
	dell.led.turnOn();
	}

dell.led.turnOff

Description	Turn Off the Dell Bright Light device. After turning off the device, you need to call dell.led.turnOn() to start control again.
Prototype	dell.led.turnOff()
Parameters	N/A
Return	N/A

Sample	... ...
	if (dell.led.isOn()) {
	dell.led.turnOff();
	}

dell.led.changeColor

Description	Light the Dell Bright Light Device with specified color. If the color is dell.led.colors.BLACK, it will behave the same as dell.led.turnOff, however, it's strongly recommended to use dell.led.turnOff instead of dell.led.changeColor(dell.led.colors.BLACK).
Prototype	dell.led.changeColor(dell.led.colors)
Parameters	{ dell.led.colors } color: colors of the LED light
Return	N/A

Sample	... ...
	if (dell.led.isOn()) {
	dell.led.changeColor(dell.led.colors.RED);
	}

dell.led.isOn

Description	Check current state of Dell Bright Light device.
Prototype	dell.led.isOn()
Parameters	N/A
Return	{ bool } true: device is on false: device is off

Sample	... ...
	if (dell.led.isOn()) {
	dell.led.changeColor(dell.led.colors.RED);
	}

System Behavior

Multi-process & Multi-thread

In general, there is no concurrent protection in Dell Bright Light API.

1. dell.led.xxxxx has to be run in the sample processes (application contexts) that calling dell.led.turnOn
2. There is no restriction on current call of Dell Bright Light API from different application contexts (processes), however, it's recommended not to use the API in two or more applications at the same time, to avoid any unexpected behavior caused by race condition.

Automatic & Manual state recover

Dell Bright Light API is designed to be compatible to Chrome OS system behavior gracefully.

1. System shutdown with Dell Bright Light turned on and application running:

   Dell Bright Light device would turn off. On next boot, the application would start automatically, however, it need to call dell.led.turnOn and dell.led.changeColor to light the device again.

2. User sign out with Dell Bright Light turned on and application running:

   Dell Bright Light device would turn off. On next boot, the application would start automatically, however, it need to call dell.led.turnOn and dell.led.changeColor to light the device again.

3. User close the cover to sleep Chrome OS:

   Dell Bright Light device would turn off. On next time user open the cover and system resume from sleep mode, the application would start automatically and LED would light automatically.

4. User uninstall the application with Dell Bright Light turned on and application running:

   Dell Bright Light device would turn off.

5. User close the application with Dell Bright Light on:

   Dell Bright Light device would turn off.

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