Introspection into HomeKit

Introspection into HomeKit

The Kit-pattern:

- Functionality
- Database
- Application

HealthKit, AddressBook etc.

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The Kit-pattern:

- Container
- Unit

AddressBook: book and person

Homekit: room and device

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The Kit-pattern (developer's perspective):

- manager (singleton instance)
- class-tree mirrors devices (abstract -> real)
- Database reflects instances of real objects with instances of classes

as always: Maybe point to discussions

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The Kit-pattern (missing components):

- There is no default application.
- Every single device needs to be acquired.
- Devices are not abstract.

Missing abstraction -> SIRI-commands

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and so on:

- Certification is mandatory for devices.
- WiFi-devices are not generally supported (?).
- Secure Bluetooth-LE causes serious lags.
- Apple developer program is required, even for simulations.

Some kind of conclusion: Developing with HomeKit requires a collaboration with manufacturers of certified devices.

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Bridges

Bridging enables uncertified devices as HomeKit-devices.

- HomeBridge

  Open source application, based on nodeJS

  `https://github.com/nfarina/homebridge`

- Broadcom-WICED

  Wireless Internet Connectivity for Embedded Devices.

  `https://www.broadcom.com/application/internet_of_things.php`

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Simulator

The HomeKit Accessory Simulator is an app that provides virtual home accessories that can be used to test the communication of an HomeKit-application to an accessory or a collection of accessories.

The app is not included in Xcode, it is a separate download.

Once running, the app distributes its simulated devices to real iOS-devices.

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Demo

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Some links:

Devices:

`https://support.apple.com/en-us/HT204903`

Example code:

`https://developer.apple.com/library/ios/samplecode/HomeKitCatalog/`

No presentation of code examples at all.

The example from Apple is sufficient.

Instead some slides out of a previous talk demonstrate an alternate use case as example with Particle cores and iOS instead of HM.

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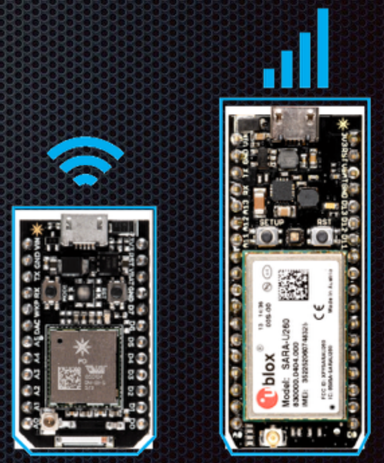
Alternate approach

As example: Particle (formerly Spark) core

HomeKit: Works with HomeBridge
+
More available interfaces
More available protocols (e.g. MQTT)
+
Different clouds (local & global)
Web, IFTTT etc.



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Core is not a home-device.
Some programming and making skills are required.

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Cloud access:

```
curl https://api.spark.io/v1/devices/
0123456789abcdef01234567/brew \
-d access_token=9876987698769876987698769876987698769876
```

Typical statement with device-ID and access-token.

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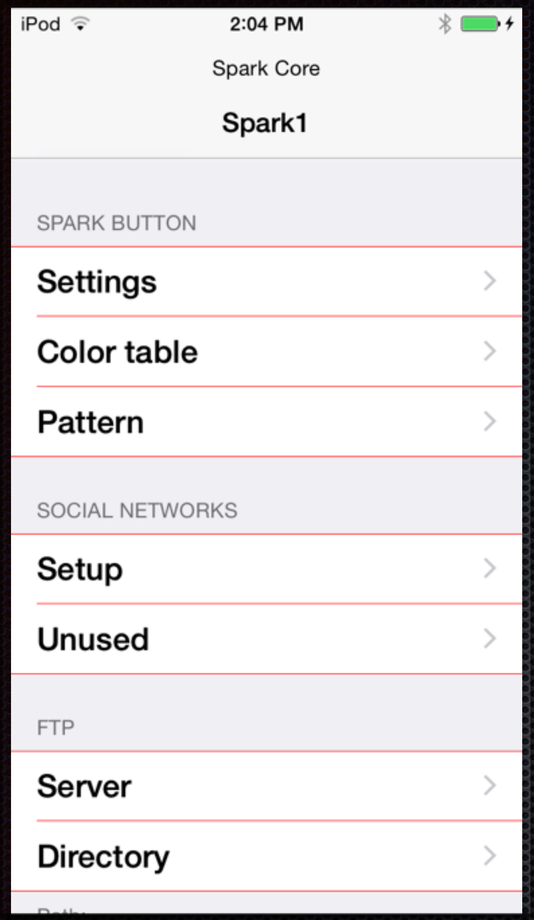
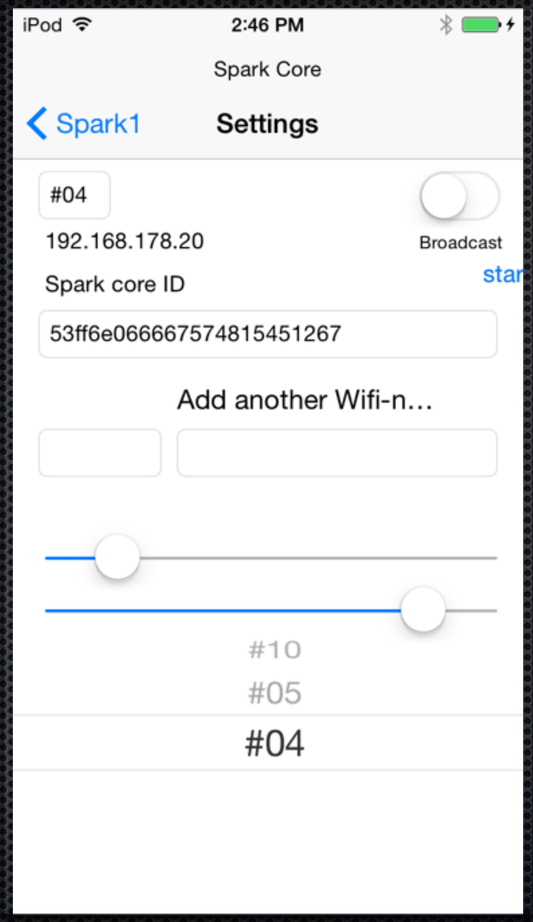
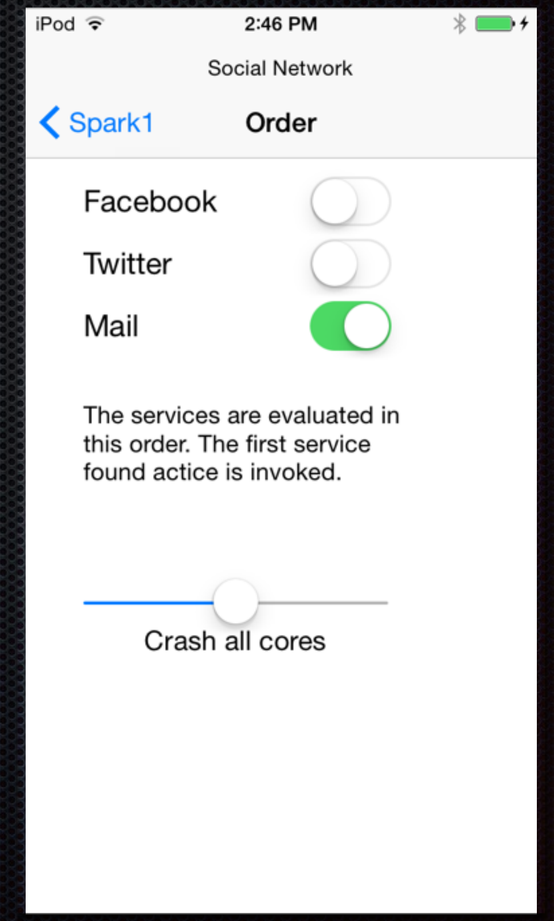
General



Main Screen



Spark Cores



Prefs for Social

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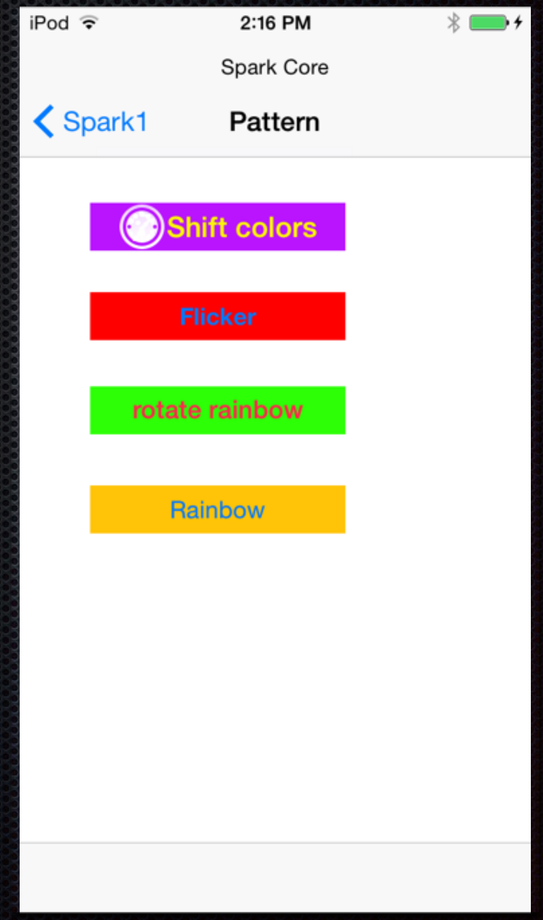
Colors

All LED colors

single Color



Pattern

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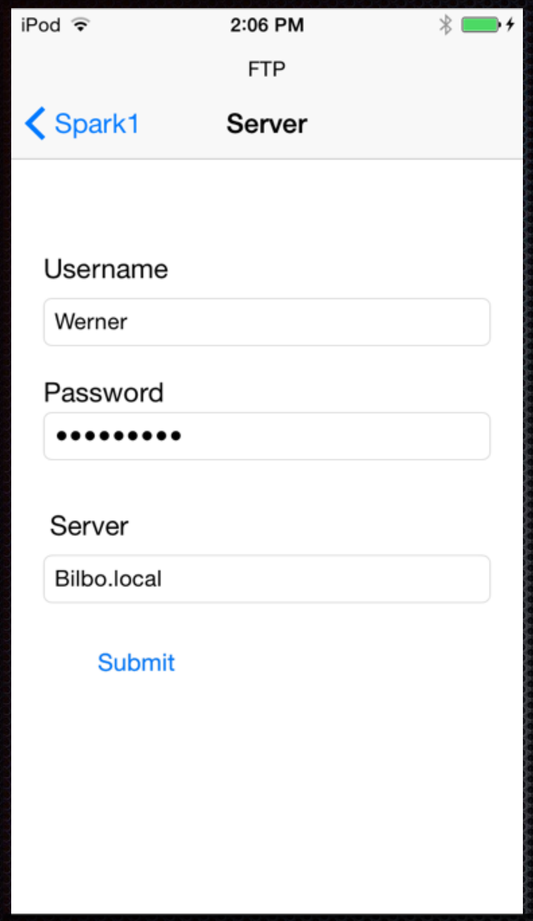
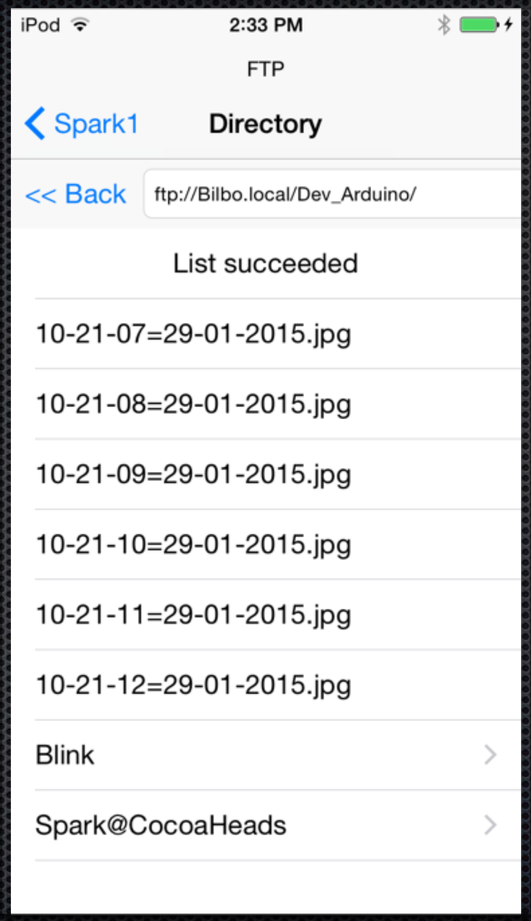
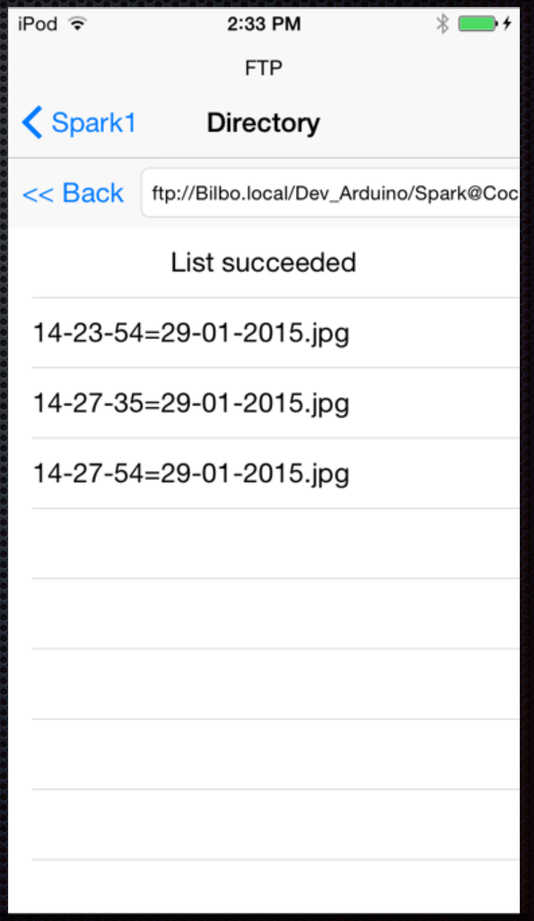
FTP upload



FTP Server





FTP Directories

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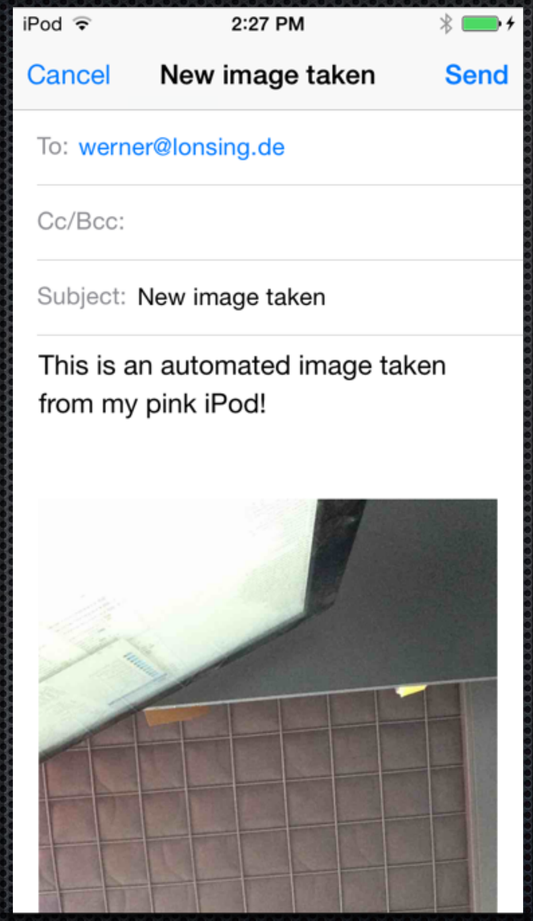
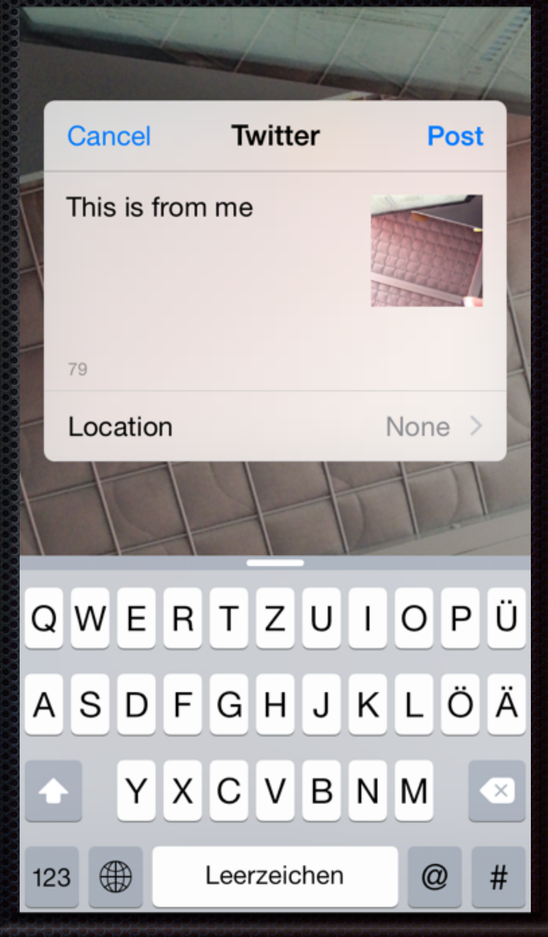
Social

Facebook



MailComposer



Twitter

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Points of discussion

- Home vs. real estate

  user vs. location

- Security

  world-wide vs. local

- Database

  changes, triggers, different apps and different users

- Application

  Third party apps are available on the app-store.

  The new demo-example code from Apple works.

  eventual in iOS 9

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Thank you!