Weather

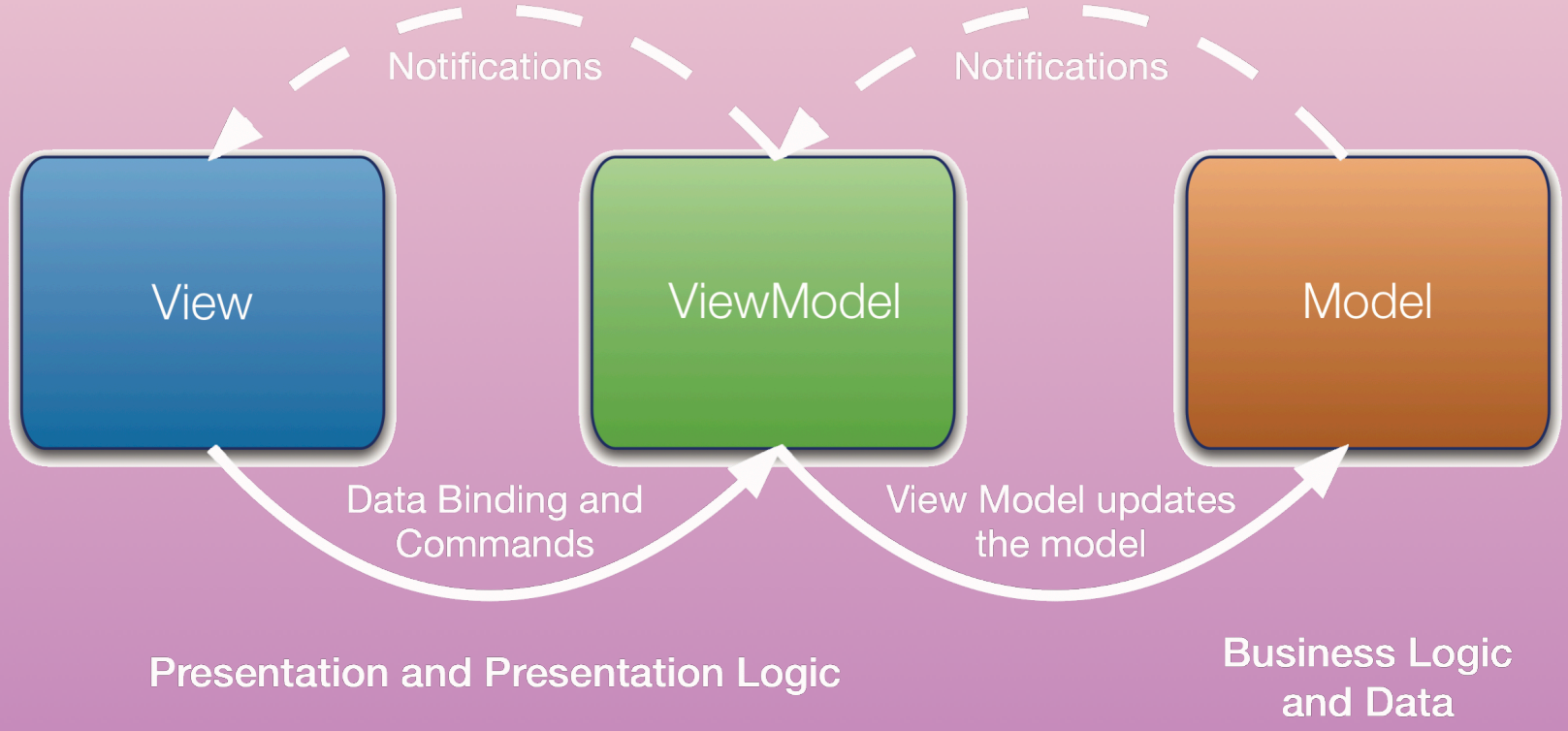
Test project for Veepee Tech
IOS development in swift / Xcode

Weather

A weather application for the city of Paris using OpenWeather API

Application simulation

What is MVVM-C pattern ?



The approach used :

1 - Creation of two modules : “CityList module” including a detail view “DetailDay” and “SelectCity module” using the Coordinator and the storyboard of each screen view.
2 - Implementation of a « UITabBar » with 2 items:
. weather
. selectCity
3 - Creation of the network with an “HTTPClient”, an “HTTPEngine” and a “Token”
4 - Creation of the model structure into WeatherItem.swift and adding of WeatherObject attributes into Core data.
5 - Writing of WeatherRepository.swift
6 - Injection of Core data in the context and the context in the appDelegate.
7 - Unit tests
8 - UI tests

How does the logic communicate with the view ?

Each screen view is constructed using a ViewController and a ViewModel.

- ViewControllers only exist to control the view, they are clear, simple, and don’t know data. ViewControllers subscribe to the reactive variables of ViewModels by the « bind() » function, called in the « viewDidLoad() ».

- ViewModels encapsulate the whole logic of each screen view that doesn't have to be in the ViewController, divided in two parts :

  - **Inputs**: The view subscribes to reactive variables then sends the first input which often is the « viewDidLoad() » : the main input connection for reactive variables.

  - **Outputs**: They are receptacles of events from the corresponding inputs.

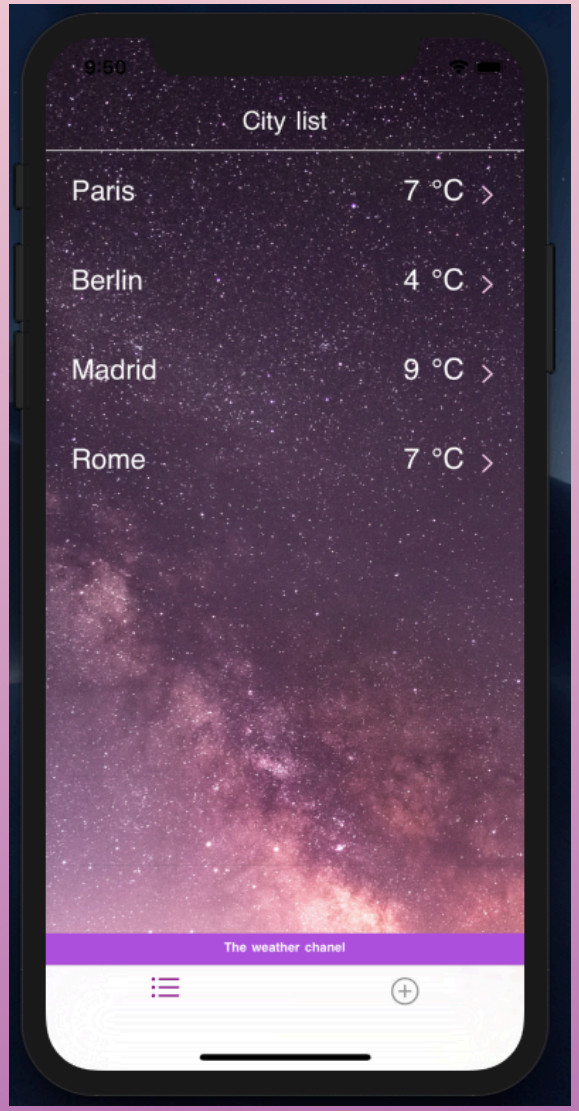
What does Reactive Native means ?

Responsive:
The view subscribes to closures, a closure is a variable whose type is a function.
So we create reactive variables in the « ViewModel » and on the « ViewController » side, we subscribe to these closures so to a state.

Native:
It means that the application is coding without an external library.
Different from MVVM RX for example.

Inputs / Outputs of each view

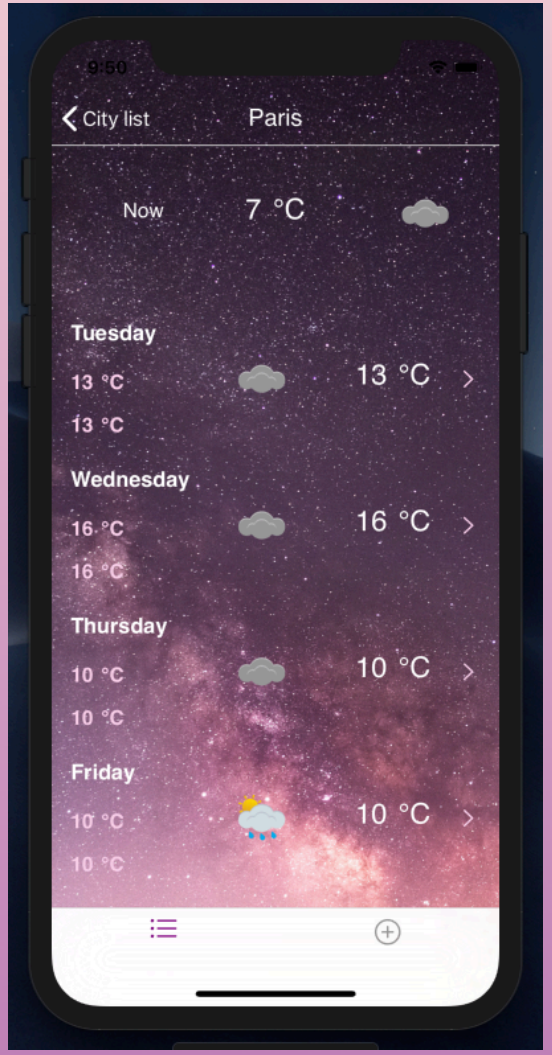
CityListView




```swift
// MARK: - Output

var visibleWeatherItems: (([WeatherItem]) -> Void)?

var isLoading: ((Bool) -> Void)?

var labelState: ((Bool) -> Void)?

var labelText: ((String) -> Void)?

var urlText: ((String) -> Void)?

var navBarTitle: ((String) -> Void)?

// MARK: - Input

func viewDidLoad() {

}

func didSelectCity(at index: Int) {

}

func didPressDeleteCity(at index: Int) {

}
```

Inputs / Outputs of each view

WeekView




```swift
// MARK: - Outputs

var navBarTitle: ((String) -> Void)?

var nowText: ((String) -> Void)?

var visibleItems: (([WeatherItem]) -> Void)?

var tempText: ((String) -> Void)?

var iconText: ((String) -> Void)?

var isLoading: ((Bool) -> Void)?

// MARK: - Inputs

func viewDidLoad() {

}

func didSelectWeatherDay(at index: Int) {

}
```

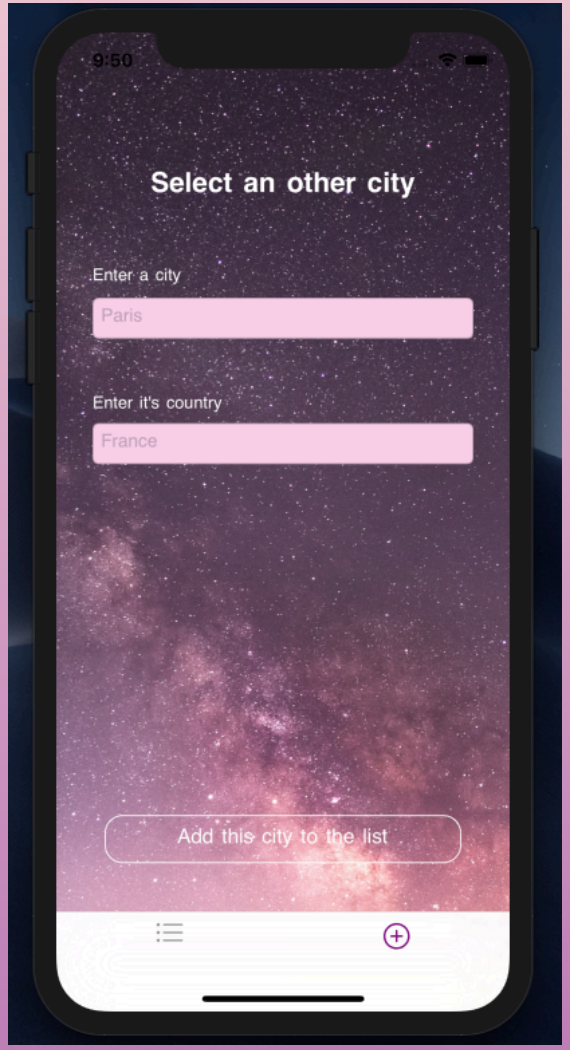
Inputs / Outputs of each view

DetailDayView


```
// MARK: - Outputs

var navBarTitle: ((String) -> Void)?

var visibleItems: (([WeatherItem]) -> Void)?

var tempText: ((String) -> Void)?

var descriptionText: ((String) -> Void)?

// MARK: - Inputs

func viewDidLoad() {

}
```

Inputs / Outputs of each view

SelectCityView




```
// MARK: - Outputs

var titleText: ((String) -> Void)?

var cityText: ((String) -> Void)?

var cityPlaceHolder: ((String) -> Void)?

var countryText: ((String) -> Void)?

var countryPlaceHolder: ((String) -> Void)?

var addButtonText: ((String) -> Void)?

// MARK: - Inputs

func viewDidLoad() {

}

func addbuttonNormalState() {

}

func didPressAddCity(nameCity: String, country: String) {

}
```

The OpenWeather API

The url used of the OpenWeather API is receiveing data of 5 days weather every 3 hours.

The model structure « WeatherItem » has been created to show the time, temperature, icon image and plus, the temperature min/max, pressure, humidity, feelsLike and sky description.

What is Core Data ?

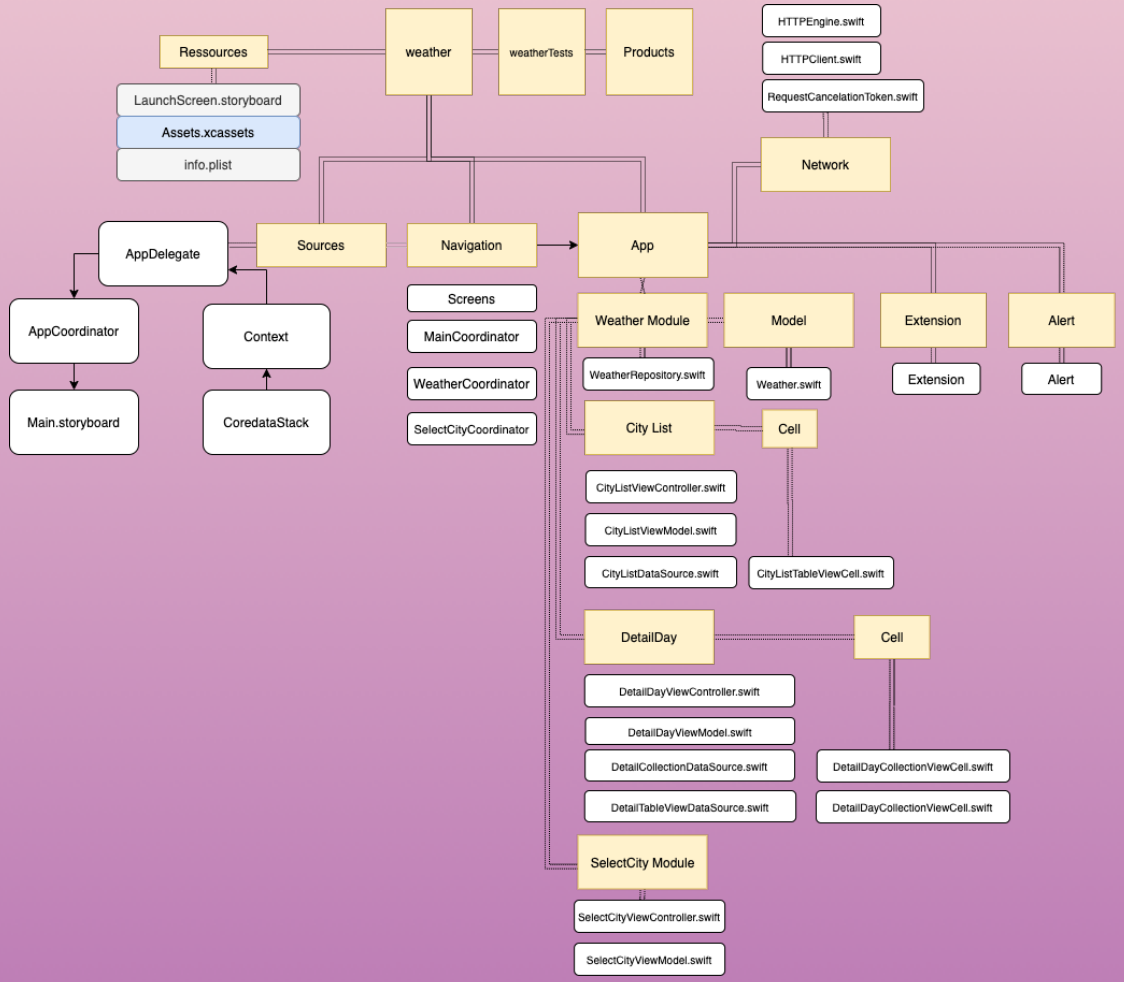
Core Data is a local database, provided with an object oriented API.

In this application, we just needed to create entity's name object in the « weather.xcdatamodeld » file and add its attributes.

A single entity comprising 10 attributes with « String » type has been created to save current weather data inside the phone.

WeatherObject includes: nameCity, descriptionWeather, feelsLikeWeather, humidityWeather, iconWeather, pressureWeather, tempMaxWeather, tempMinWeather, tempWeather, timeWeather.

The architecture diagramme and layer's description



Thanks for your attention