POLITECNICO
MILANO 1863

Smart Tourist

Design and Implementation of Mobile Applications
Design Document

Fabio Codiglioni, Alessandro Nichelini

A.Y. 2019/2020

Contents

1 Introduction

This is the *design document* (DD) of the iOS application "**Smart Tourist**" developed by *Fabio Codiglioni* and *Alessandro Nichelini* in the context of "Design and Implementation of Mobile Application" course at Politecnico di Milano.
The document explains the most important design choice we made and the motivations behind them, with specific focus on the Redux like architecture adopted.

2 General Overview

Smart

3 Architectural design

4 Data design

5 User interface

6 Notifications

7 Services and libraries

7.1 Internal libraries

SmartTourist uses consistently internal libraries and services:

-

7.2 External services

SmartTourist relies almost only on *free data and services*. Here, it follows the description of the external services used.

- ***Wikipedia***: all displayed attractions are taken from Wikidata knowledge base. The given api is quite basic: attractions entries are retrieved with a SPARQL query embedded in a http API call. Details and places' pictures are retrieved with standard HTTP API calls from different endpoints.
- ***Google***: Places ratings are the only data retrieved from Google services. This was due to the lack of a reliable free alternative for places' rating. For the simplicity of the task, we decided not to rely on the Google SDK for iOS and to manually make request to the Google API.

7.3 External libraries

The app uses lots of third parties' libraries the can be roughly divided into three kind: architectural libraries, back-end libraries and front-end libraries.

Kind	Library	Description
Architectural	Katana	Katana is a modern Swift framework for writing iOS appli
	Tempura	Tempura is a holistic approach to iOS development, it bor
Back-end	DeepDiff	DeepDiff tells the difference between 2 collections and th
	Fuse	Fuse is a super lightweight library which provides a simpl
	Alamofire	Alamofire is an HTTP networking library written in Swift.
	SigmaSwiftStatistics	It is a collection of functions that perform statistical calcu
	SwiftyXMLParser	Simple XML Parser implemented in Swift
Front-end	PinLayout	Extremely Fast views layouting without auto layout. No m
	FlexLayout	Angular Flex Layout provides a sophisticated layout API u
	Cosmos	This is a UI control for iOS and tvOS written in Swift.
	ImageSlideshow	Customizable Swift image slideshow with circular scrollin
	MarqueeLabel	MarqueeLabel is a UILabel subclass adds a scrolling marq
	FontAwesome	Use Font Awesome in your Swift projects
	FlagKit	Beautiful flag icons for usage in apps and on the web.

8 Testing

9 Effort spent