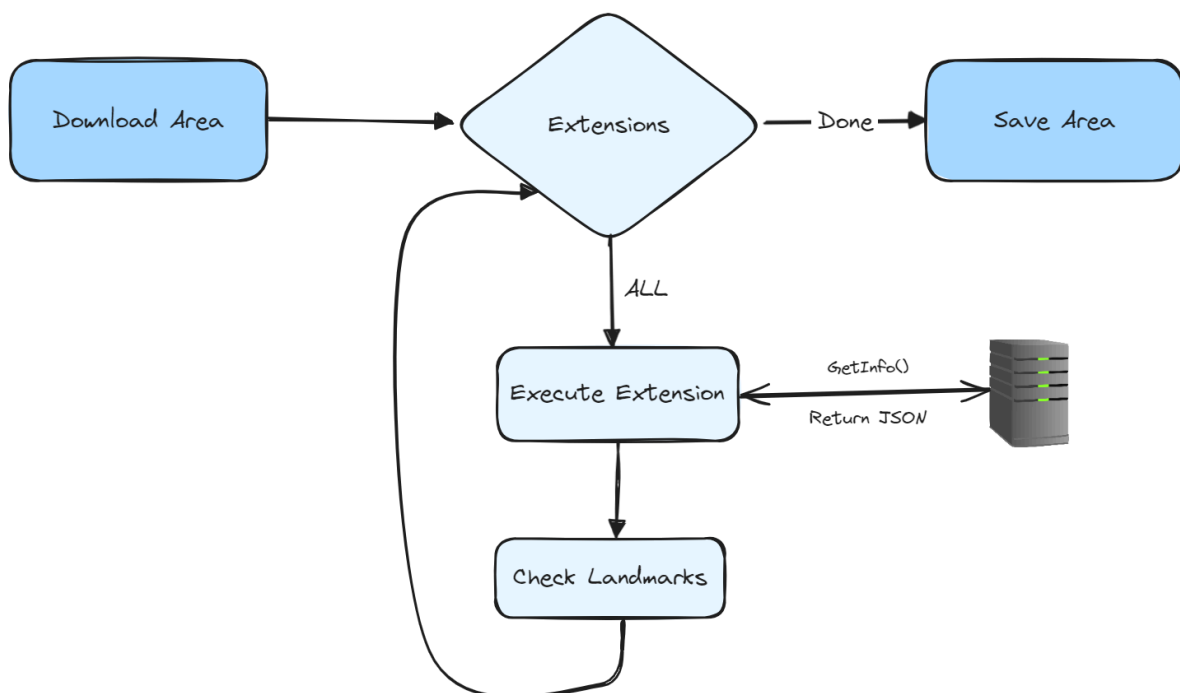# OSTA - Technical Documentation

Introduction

OSTA (open-source travel application), is a free to use travel app that allows users to explore cities. We wrote this technical documentation because we want to make our app easy to use and make the process of contributing simple.

Mobile Application

Our mobile app works with IndexedDb for offline storage and is made with React using the Ionic framework. The app provides a modern UI that lets you download specific landmarks and store them offline so that you can plan a trip. All of that is possible thanks to our extension system.
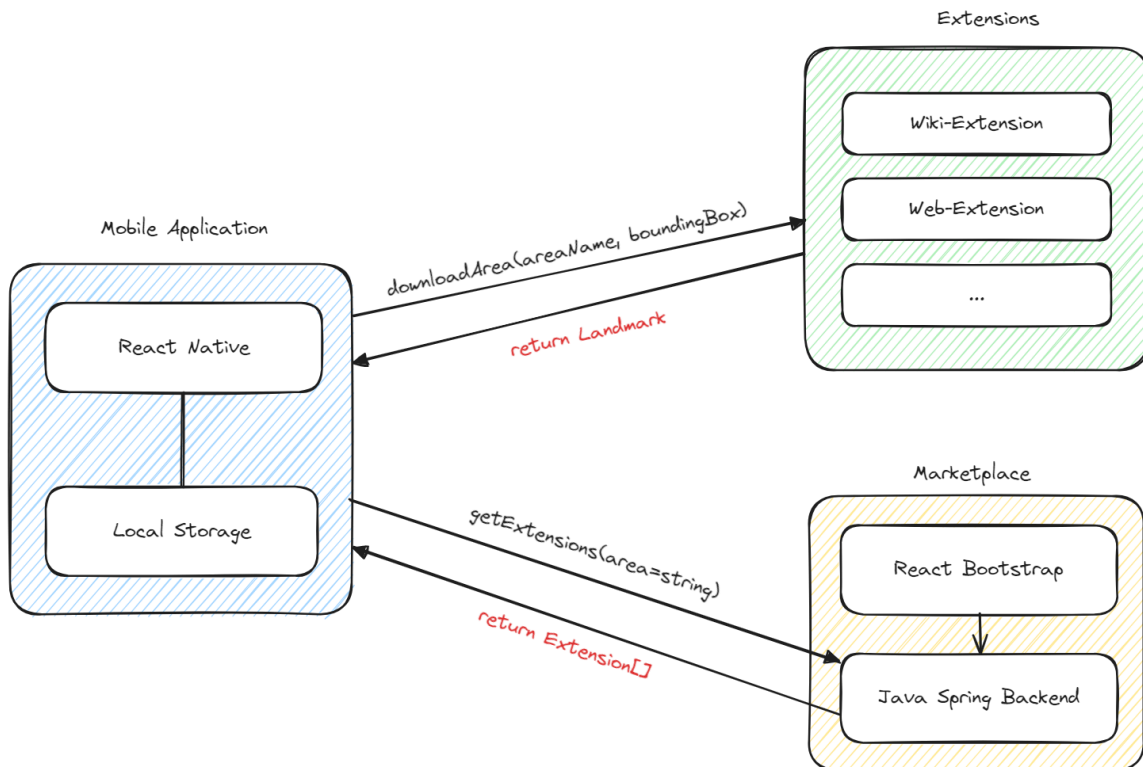
Downloading landmarks from extensions

1. When downloading an area you will have access to the following parameters: areaName: string, boundingBox: BoundingBox and boundingCircle: BoundingCircle
2. The LandmarkService will execute every extension based on the type provided
3. Check Landmarks: dubbel check if the landmarks are in the area and type is correct
4. Save the area

Marketplace

For the marketplace we have a frontend which is mainly a promotional page for our project but it also shows the extensions that can be downloaded from the app with more details. Our Marketplace is made with React Bootstrap frontend and a Java Spring backend for the storing of our extensions. The app communicates with the backend to get all available extensions.

Extensions

The extensions project is where the list of all verified extensions is put. The marketplace API will base its backend on this repository. Pull requests are meant to add or remove extensions from the marketplace.

An extension is the man in the middle that will talk to a data source and convert it to the format required for all landmarks.

Parameters

- areaName: string (given by the user)
- boundingbox: BoundingBox
- boundingCircle: BoundingCircle

Boundingbox
- topLeft: Location
- bottomRight: Location

BoundingCircle
- center: Location
- radius: number

Location
- lat: number
- lng: number

Return format

SourceLandmark
- lat: number
- lng: number
- name: string
- description: string
- types: string[]

Wikipedia-extension

This extension interacts with the Wikipedia API to retrieve information about geographical landmarks based on latitude and longitude coordinates. It defines functions for querying geosearch results and extracting descriptions for landmarks. The main part of the script initializes the Wikipedia API endpoint, processes geosearch data, and populates a list of landmarks with their descriptions. The script also queries its variables to determine the language and if an API key has been provided.

Glossary

Landmark	GeoLocation where at least one piece of SourceInformation was found.
SourceInformation	Name, Description, Type and Source of a point of interest
Source	Location where the data for a landmark was found
Extension	Translator that get landmarks from a server and gives them back in the right format based on the selected area
Marketplace	Promotional website that also shows verified extensions
Markterplace API	API where marketplace and app can find a list of verified extensions