

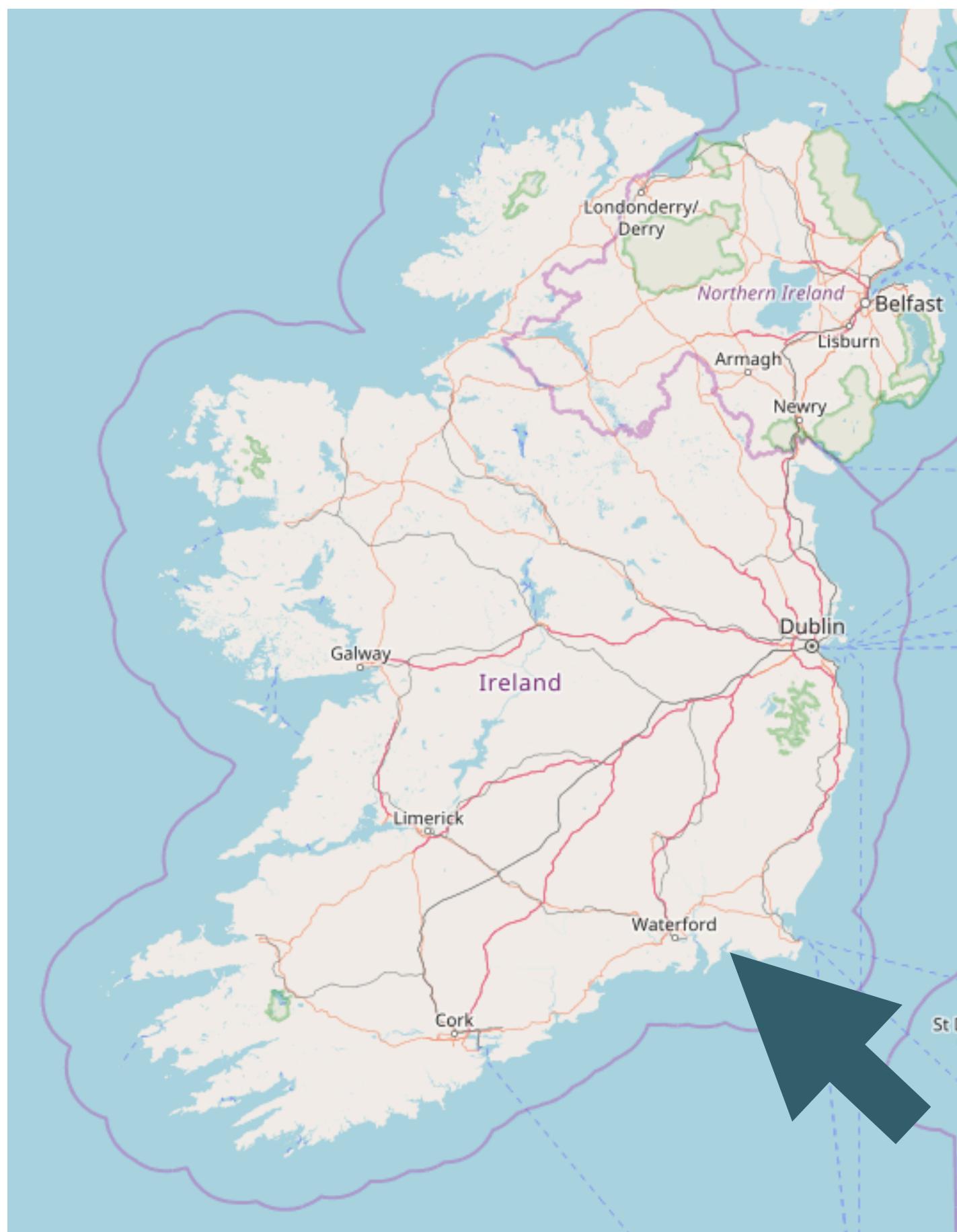
Android Programming with Kotlin



Waterford Institute *of* Technology
INSTITIÚID TEICNEOLAÍOCHTA PHORT LÁIRGE



Eamonn de Leastar
edeleastar@wit.ie



Waterford



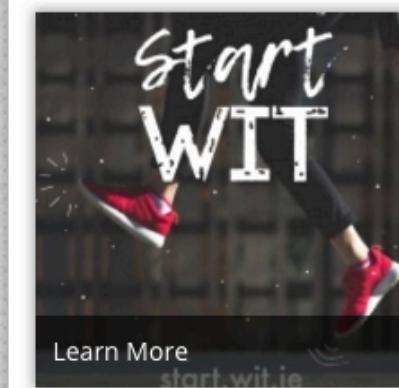
Waterford (from Old Norse *Veðrafjørðr*, meaning "ram (wether) fjord", Irish: *Port Láirge*) is a city in Ireland. It is in the South-East Region, Ireland and is part of the province of Munster. The city is situated at the head of Waterford Harbour. It is the oldest^{[2][3]} and the fifth most populous city in the Republic of Ireland. It is the eighth most populous city on the island of Ireland.



IMAGINE WIT - VISIT OUR CAO HUB

Advice and information to help you research your CAO options

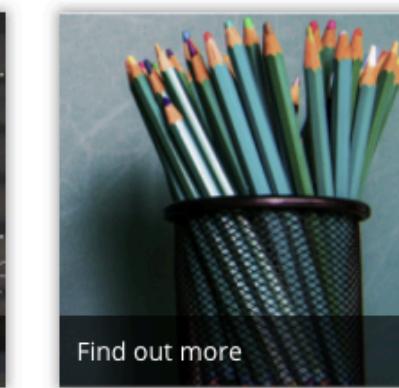
START WIT - REGISTRATION & ORIENTATION



Learn More

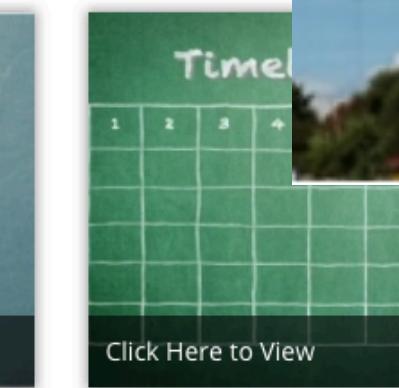
start.wit.ie

PART TIME COURSES



Find out more

ACADEMIC TIM
SEMESTER 1



Click Here to View

Waterford Institute of Technology (WIT) is a university-level institution in the South-East of Ireland with over 10,000 students and 1,000 staff.

WIT offers tuition and research programmes in various areas from Higher Certificate to Degree to PhD.

The screenshot shows the WIT website for the Bachelor of Science (Honours) BSC (HONS) in the Internet of Things. The page features a teal background with a circuit board pattern. The title 'INTERNET OF THINGS' is prominently displayed in large white letters. Below it, the course name 'BACHELOR OF SCIENCE (HONOURS) BSC (HONS) IN THE INTERNET OF THINGS' is shown. A navigation bar at the top includes 'Home', 'Courses', 'School', 'Science', and 'Department of Computing, Maths & Physics'. On the left, a sidebar lists 'BY SCHOOL' categories: Business, Lifelong Learning & Education, Engineering, Health Sciences, Humanities, and Science and Computing. The main content area displays course details: Code WD197, Delivery Full Time, 2016 CAO range 275 - 430, Level 8, Campus Cork Road, Duration 4 years, Credits 240 ECTS. It also features a purple 'APPLY' button and social media links for Facebook and Twitter. Below this, tabs for 'DESCRIPTION', 'OUTLINE', 'ENTRY', 'OPPORTUNITIES', 'PROJECTS', and 'STORIES' are visible. A video player shows a 'Last Word Interview' with Matt Cooper, Eamonn de Leistar, and Barry Morris, discussing the Today FM Last Word Internet of Things Discussion. A list of other videos follows, including 'Limericks Live 95fm: The Internet of Things' by Shane McAllister, Eamonn de Leistar, and Anthony Quigney. A section titled 'Be part of the Internet of Things (IOT)' provides information about the course's focus on programming and hardware.

The screenshot shows the website for the Higher Diploma in Computer Science 2018. The header includes the URL 'https://wit-hdip-comp-sci-2018.github.io'. The main title 'Higher Diploma in Computer Science 2018' is centered above the 'Department of Computing & Mathematics, WIT' logo. A blue horizontal menu bar with three dots on the left contains the word 'Guides'. To the right, there are three cards: 'Programme Introduction' (purple icon, three vertical bars), 'Schedules & Handbooks' (blue icon, compass rose), and 'Learning to Learn Online' (teal icon, graduation cap). Below these cards, a section for 'Semester 1' is shown with four boxes: 'Programming Fundamentals' (purple icon), 'Web Development' (blue icon), 'ICT Skills' (teal icon), and 'June Onsite' (light blue icon). A decorative graphic of three overlapping circles is at the bottom right.

<https://wit-hdip-comp-sci-2018.github.io>



ABOUT » PROJECTS RESEARCH » INDUSTRY » P

Home » About » People » Eamonn de Leastar

Eamonn de Leastar , Board Member



Eamonn de Leastar
Board Member
Ph: +353 (0)51 302 965
Email: edeleastar@tssg.org

Personal Summary

Eamonn de Leastar is a co-founder and Chief Technical Officer of the Telecommunications Software Systems Group (TSSG).

After graduation in 1982, he taught computer science at Dundalk Institute of Technology, where he was responsible for a range of new curricula within this sector. He then moved into industry, gaining significant experience in senior programmer, analyst, quality assurance and project leadership roles. This included periods at Wordstar International, developing some of the first work processors on the then newly established PC standard and at Contel Business Systems



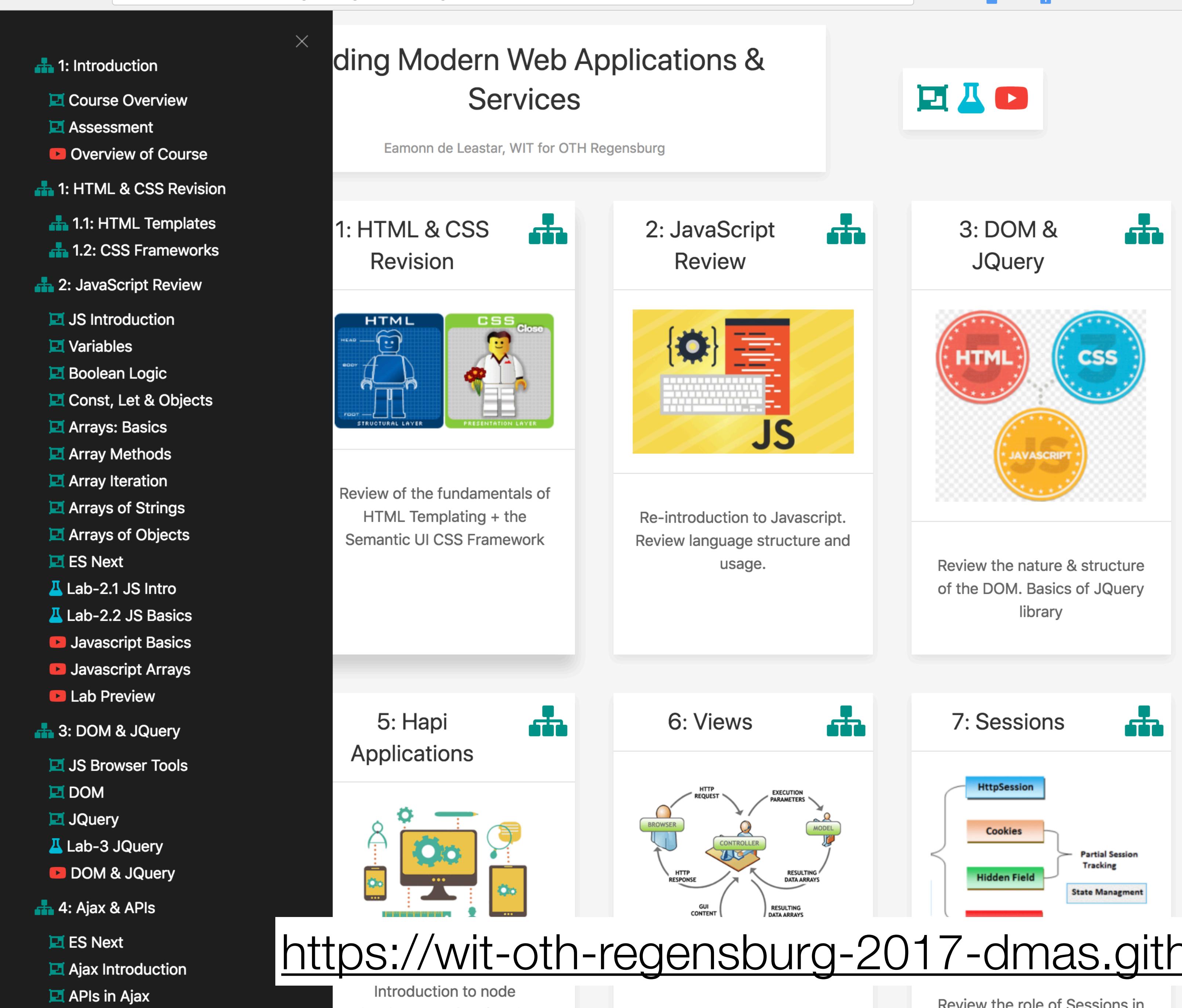
2017

Building Modern Applications & Services with Node.js

Course Mission: *Transfer a set of foundation skills to enable you to design, build, secure, test and deploy a modern web application + API.*



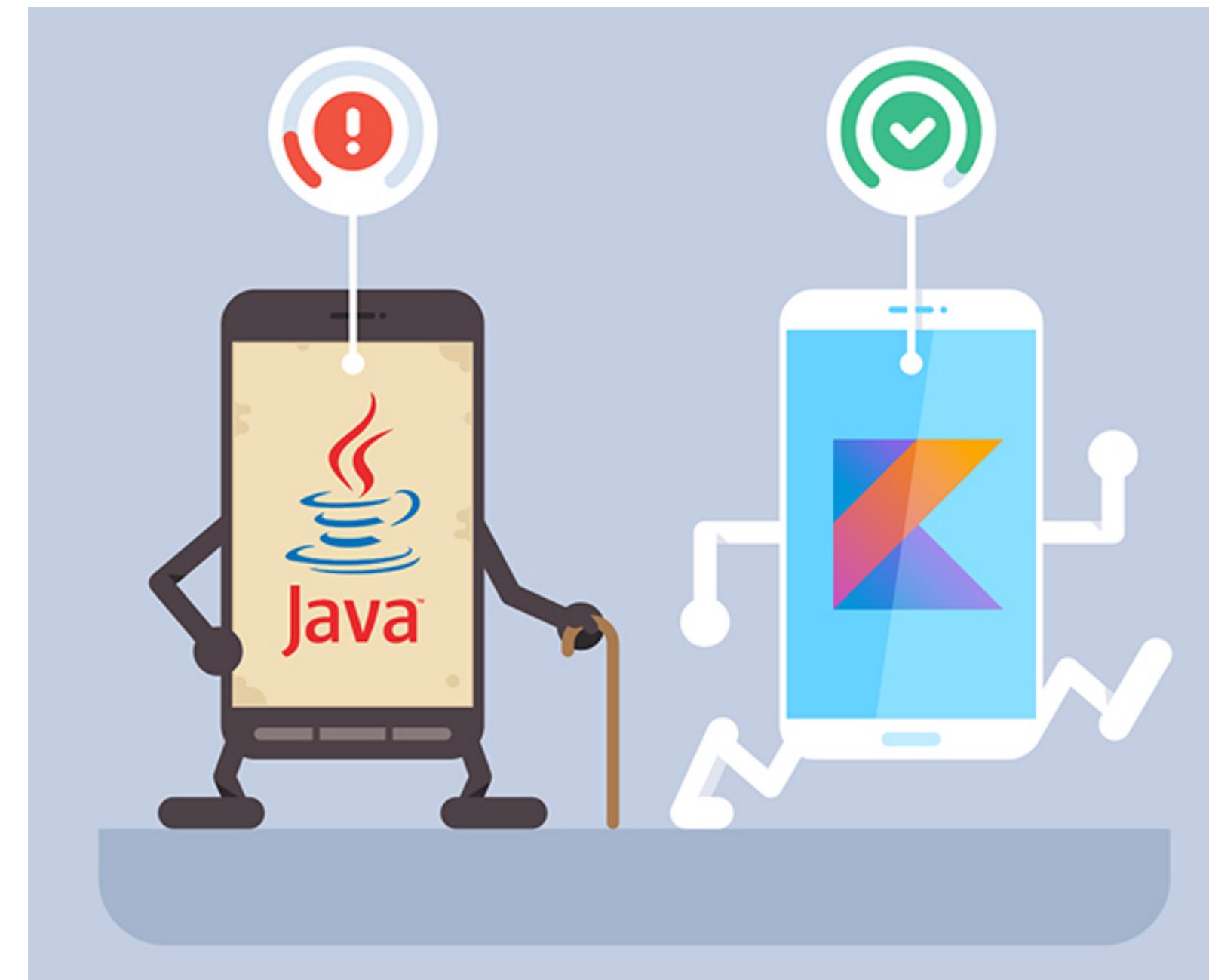
<https://wit-oth-regensburg-2017-dmas.github.io>



2018

Android Programming with Kotlin

Course Mission: *Accelerate into Android App development leveraging the power & expressiveness of Kotlin*



<https://wit-oth-regensburg-android-kotlin-2018.github.io>

Introducing Kotlin

- Talk Title
- Programming Language Convergence
- Kotlin: Background
- Kotlin: Characteristics
- J2K Cheatsheet: Variables
- J2K Cheatsheet: Control Structures

Android Foundations

- Kotlin: Data classes & Lambdas
- Kotlin: Types
- Android: Foundation
- Android: Application Object
- Lab-01

Adapters & Models

- Recycler View + Adapters
- Memory Store
- Kotlin Variables & Functions
- Lab-02

Listeners & Parcelable

- Adapter + Listener
- Parcelable
- Kotlin Control Flow
- Lab-03

Images & Architecture

- Lab 03 Exercise Solutions
 - Images
 - Architecture
 - Lab-04
- ## GoogleMap Activity
- Map Setup
 - Map Models

Avoid Programming with Kotlin

Eamonn de Leastar, WIT for OTH Regensburg



Android Foundations



Kotlin Data classes + Lambdas.
Android Project Structure.
Layouts & Resources. Activities
and Application classes

Adapters & Models



Recycler view and adapters.
Role of Models in an Android
Application. Kotlin Functions.

Listeners & Parcelable

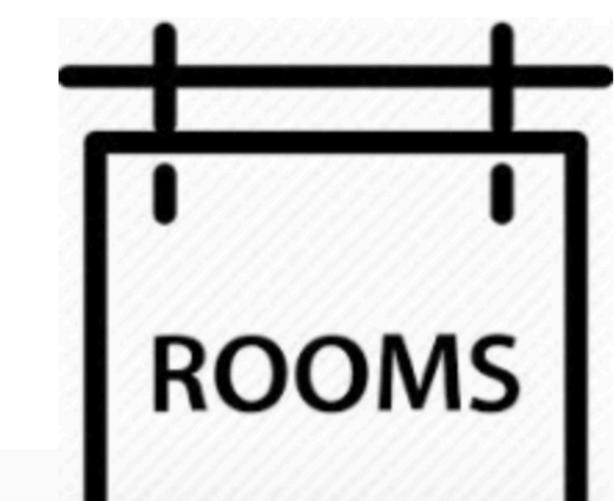


The role of adapters &
listeners. The Parcelable type
in Kotlin. The cards widgit.
Kotlin control flow

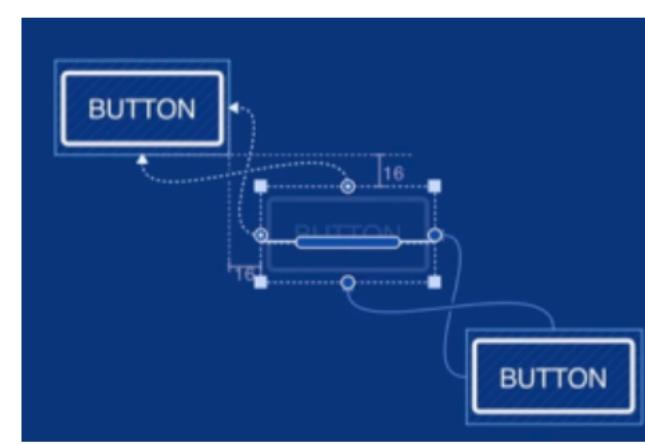
GoogleMap Activity



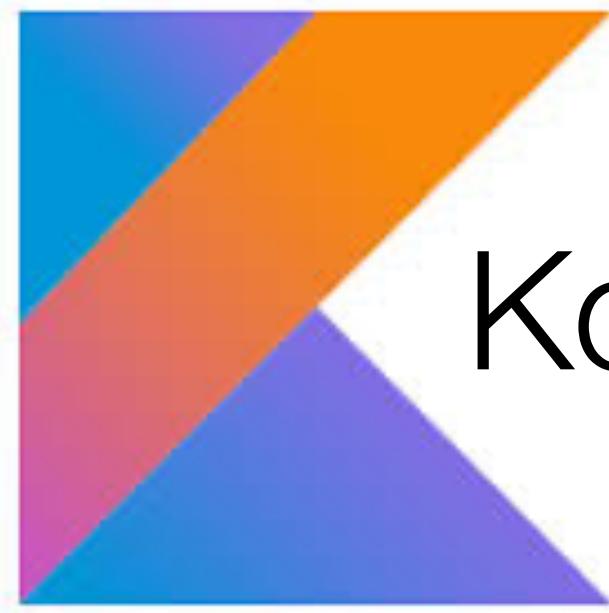
Database Rooms



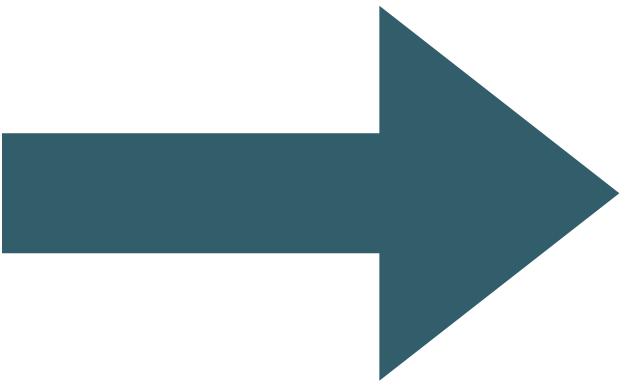
Map & Landscape



“Building Android applications is both exciting and challenging. The diversity of the applications one can build is fascinating, however their complexity can be overwhelming. Kotlin, a new language fully supported by google, dramatically enhances the power and simplicity of the programmers task.”



Kotlin is:



Modern

Secure

Typesafe

Expressive

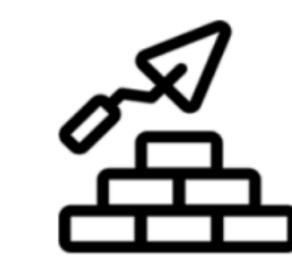
Concise

Introducing Kotlin

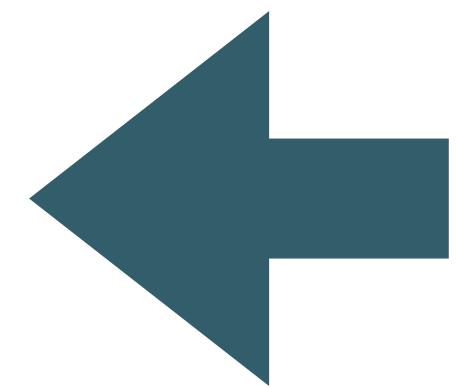


Place Kotlin in the context of modern programming Languages. Explore the characteristics of the language and its fundamental constructs.

Android Foundations

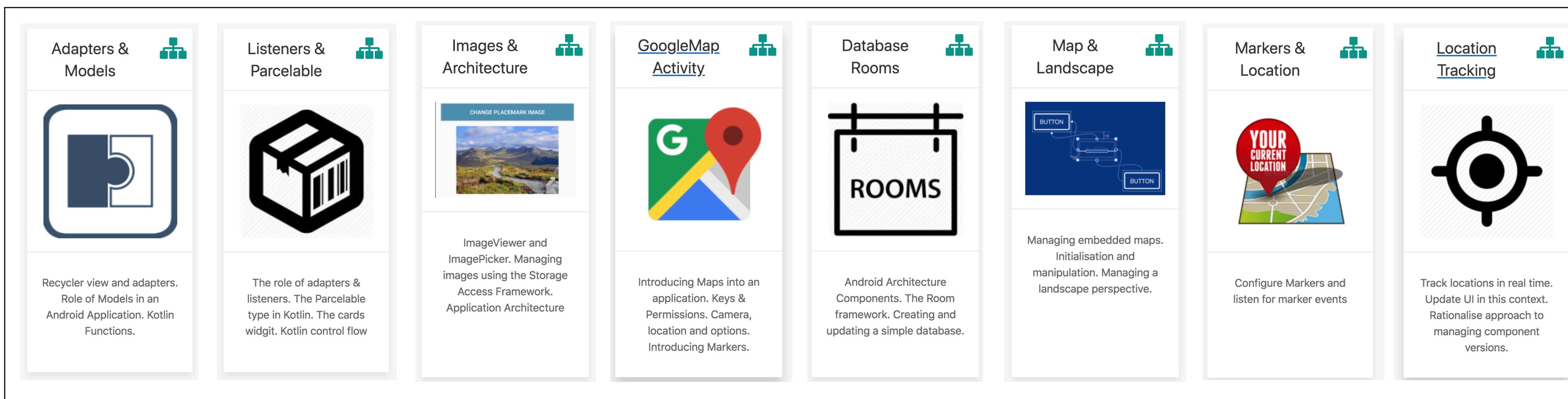


Kotlin Data classes + Lambdas. Android Project Structure. Layouts & Resources. Activities and Application classes



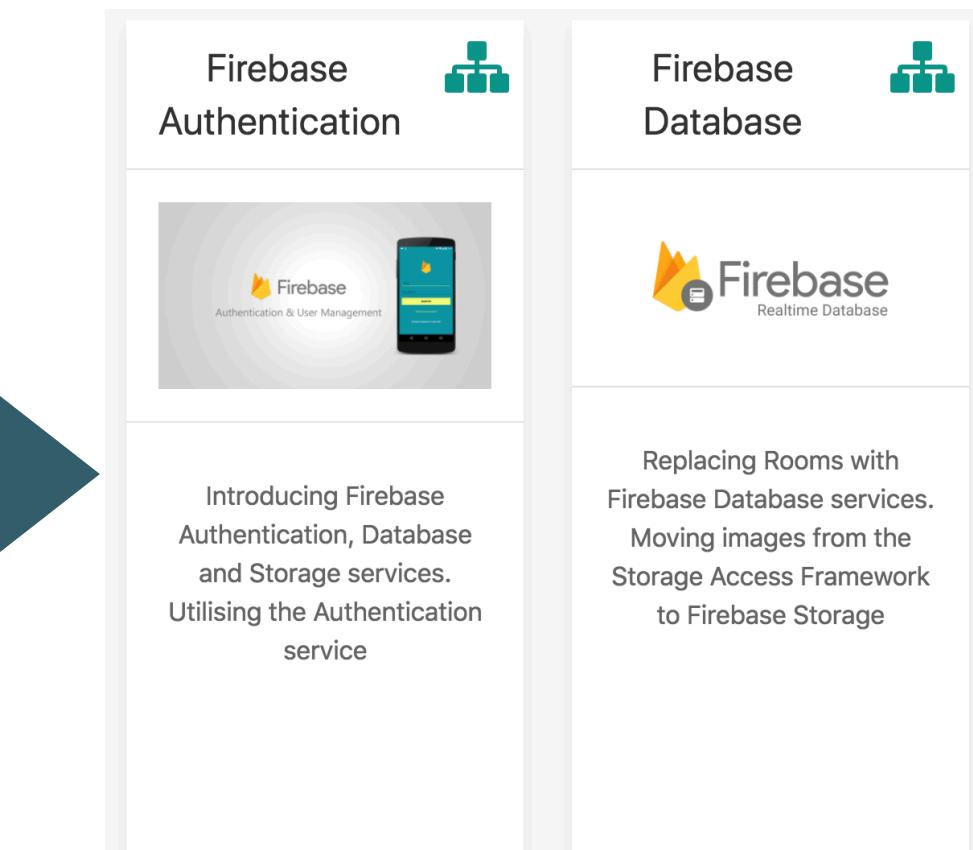
online
pre-
course

Course Structure



onsite
programme

online
post-
course



Introducing Kotlin



Place Kotlin in the context of modern programming languages. Explore the characteristics of the language and its fundamental constructs.

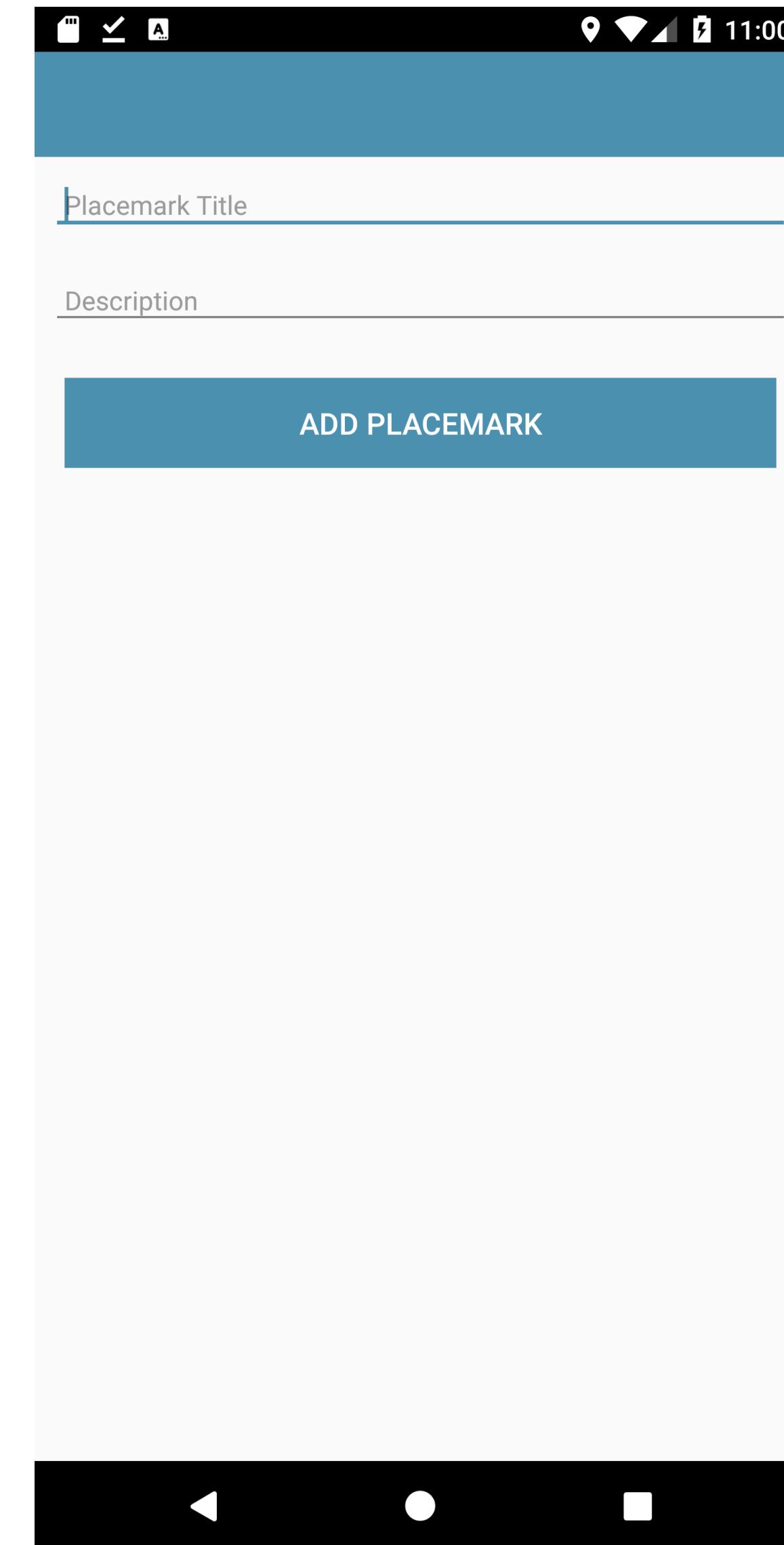
Assumptions:
Intermediate level Java or closely related language skills

Accelerate into the fundamentals of Kotlin we need

Placemark

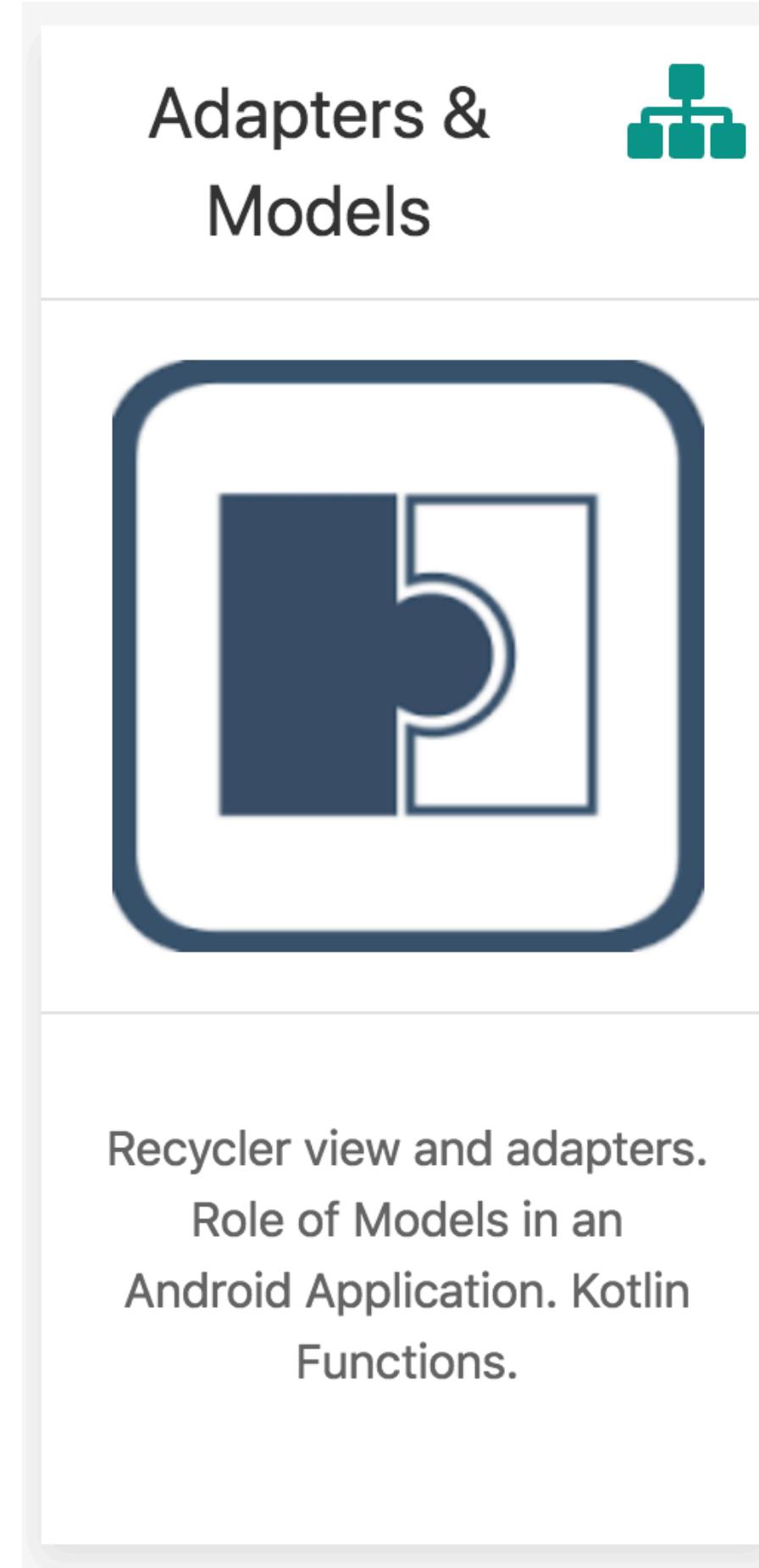


Single Activity Android Application

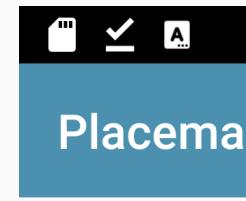


Accepts:

- Placemark Name
- Placemark Description



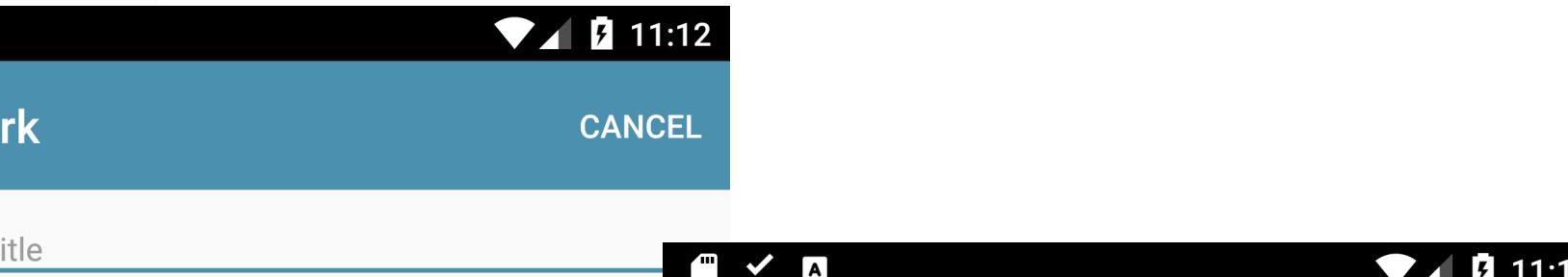
Add placemark
List all added placemark



Placemark Title

Description

ADD PLACEMARK

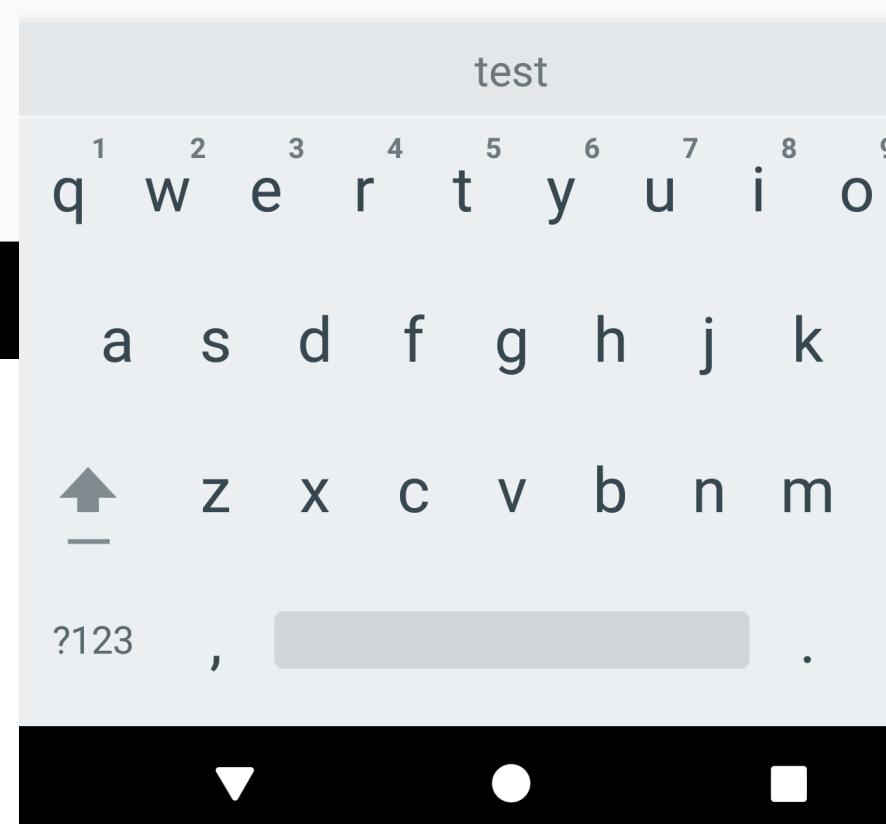


Here

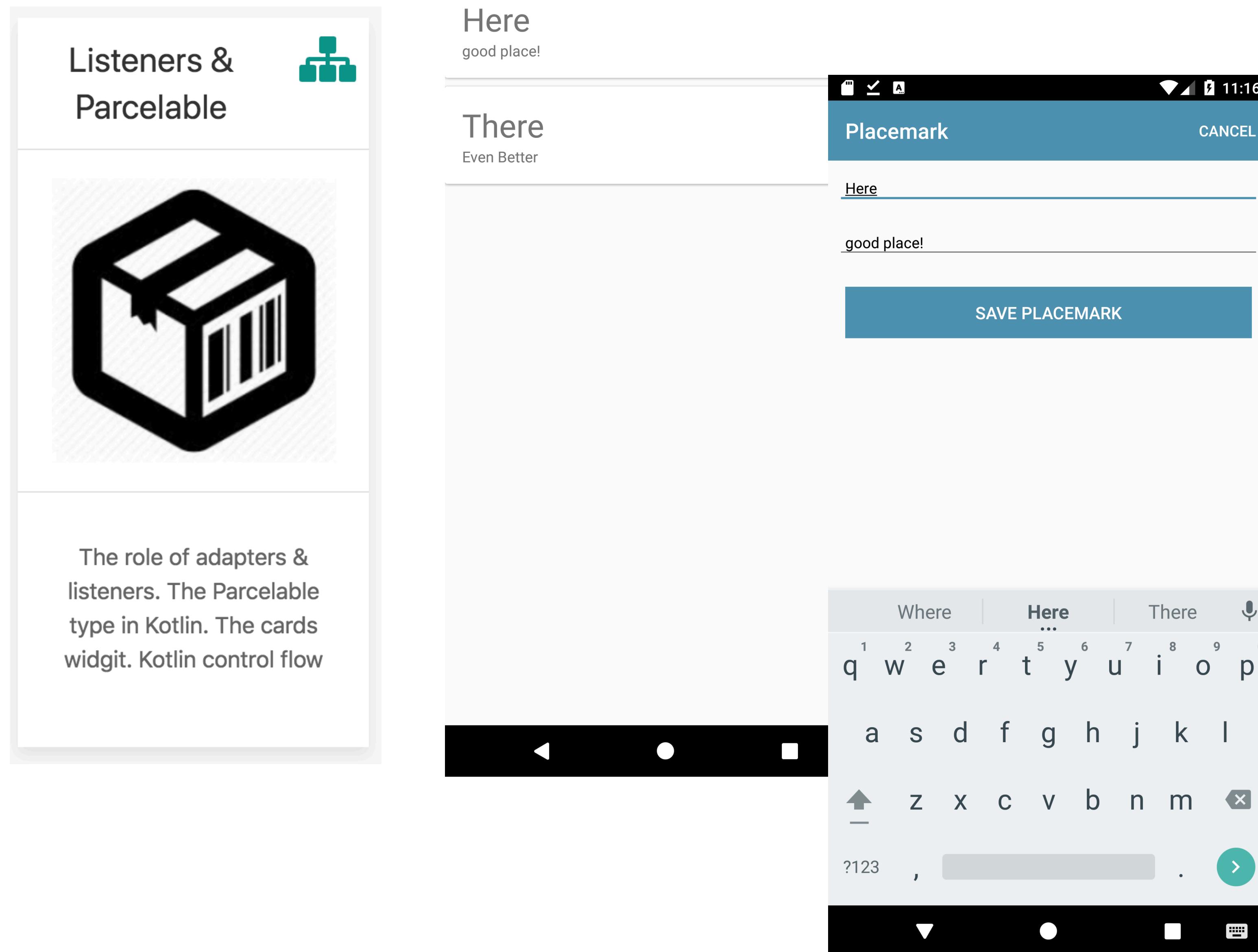
great place!

There

also good!



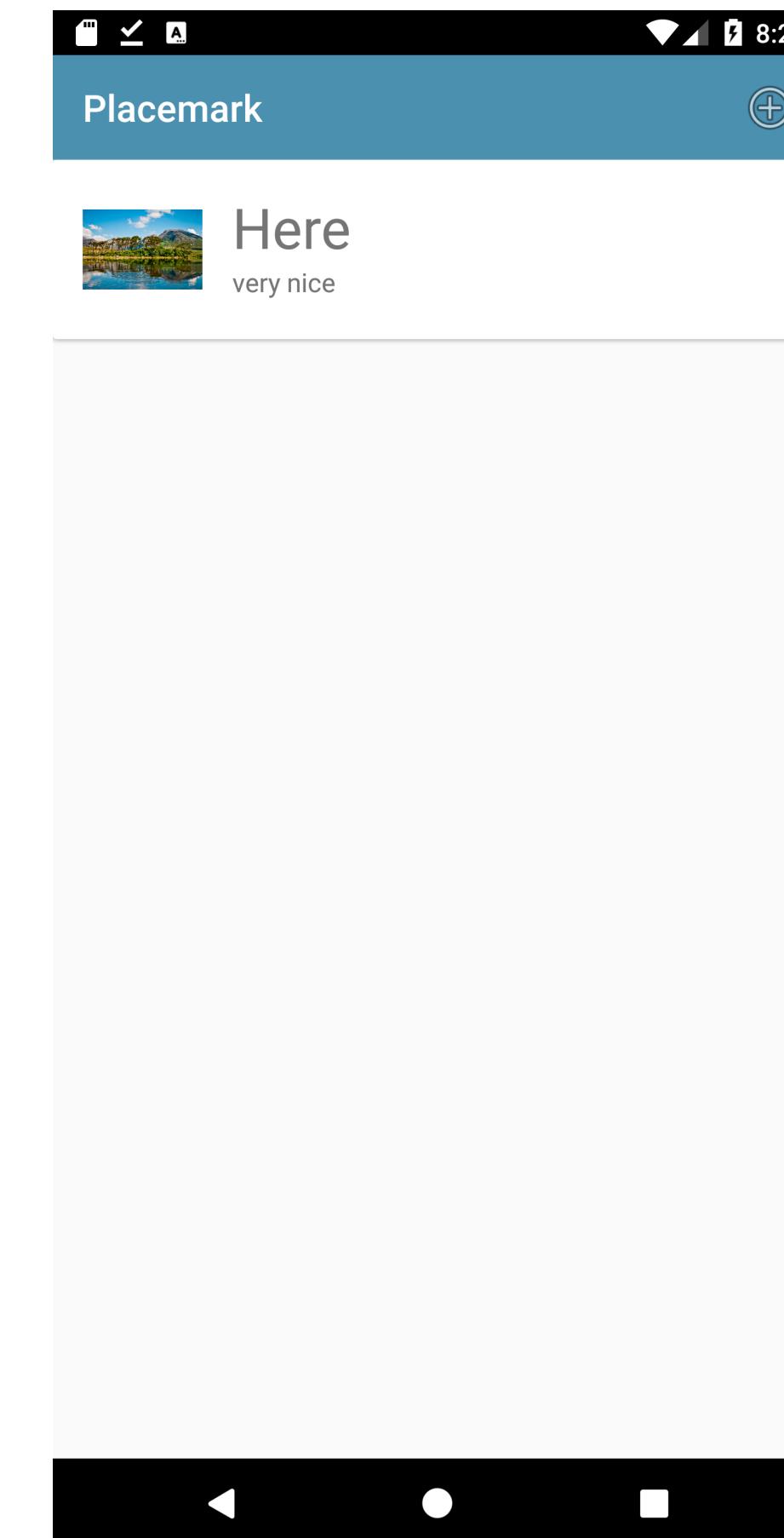
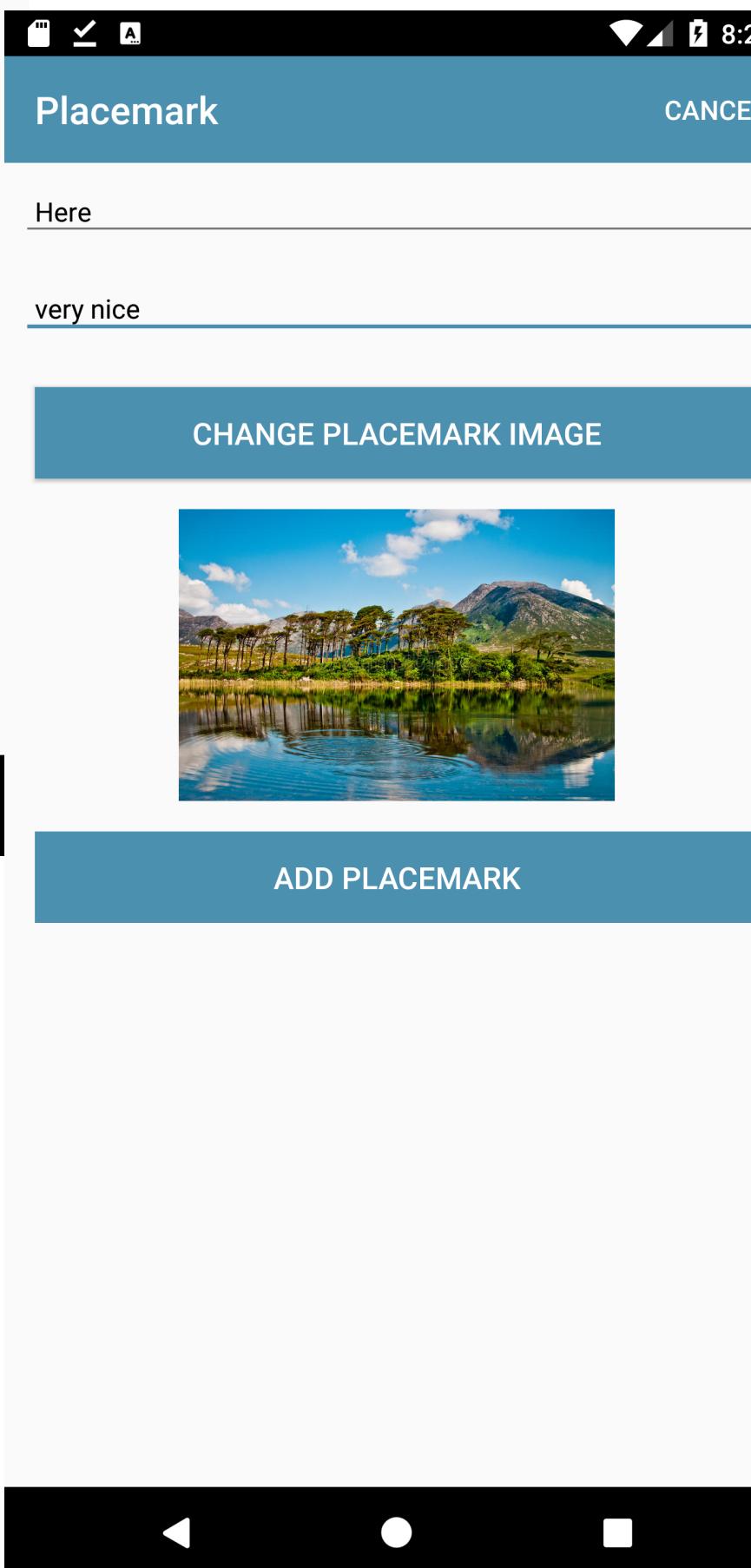
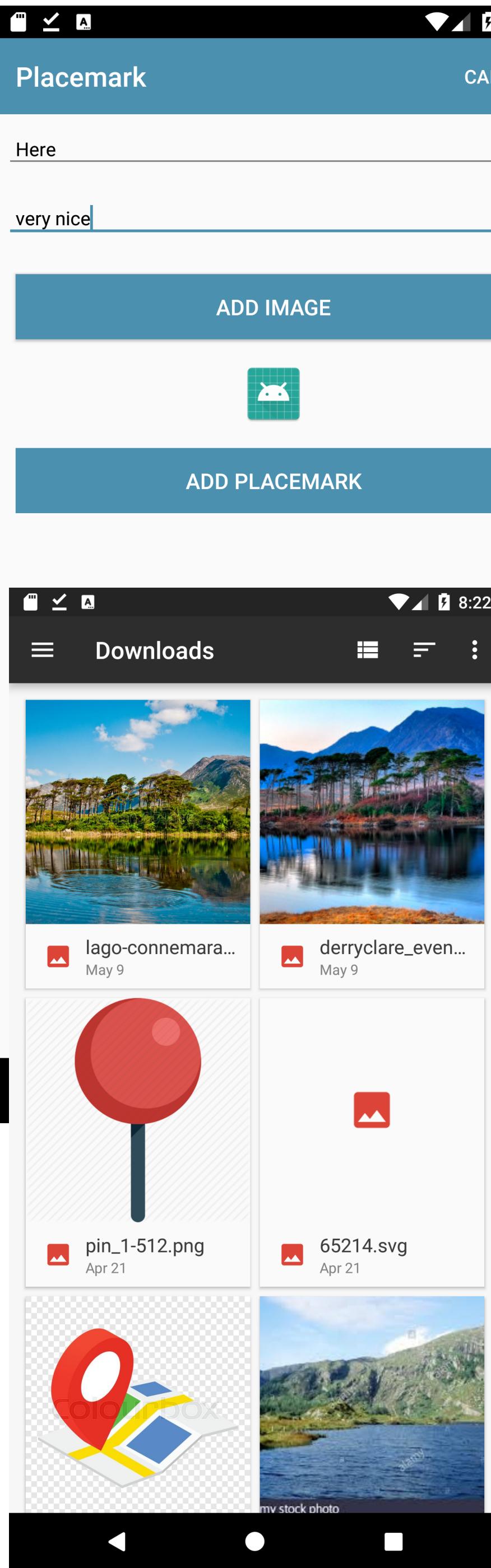
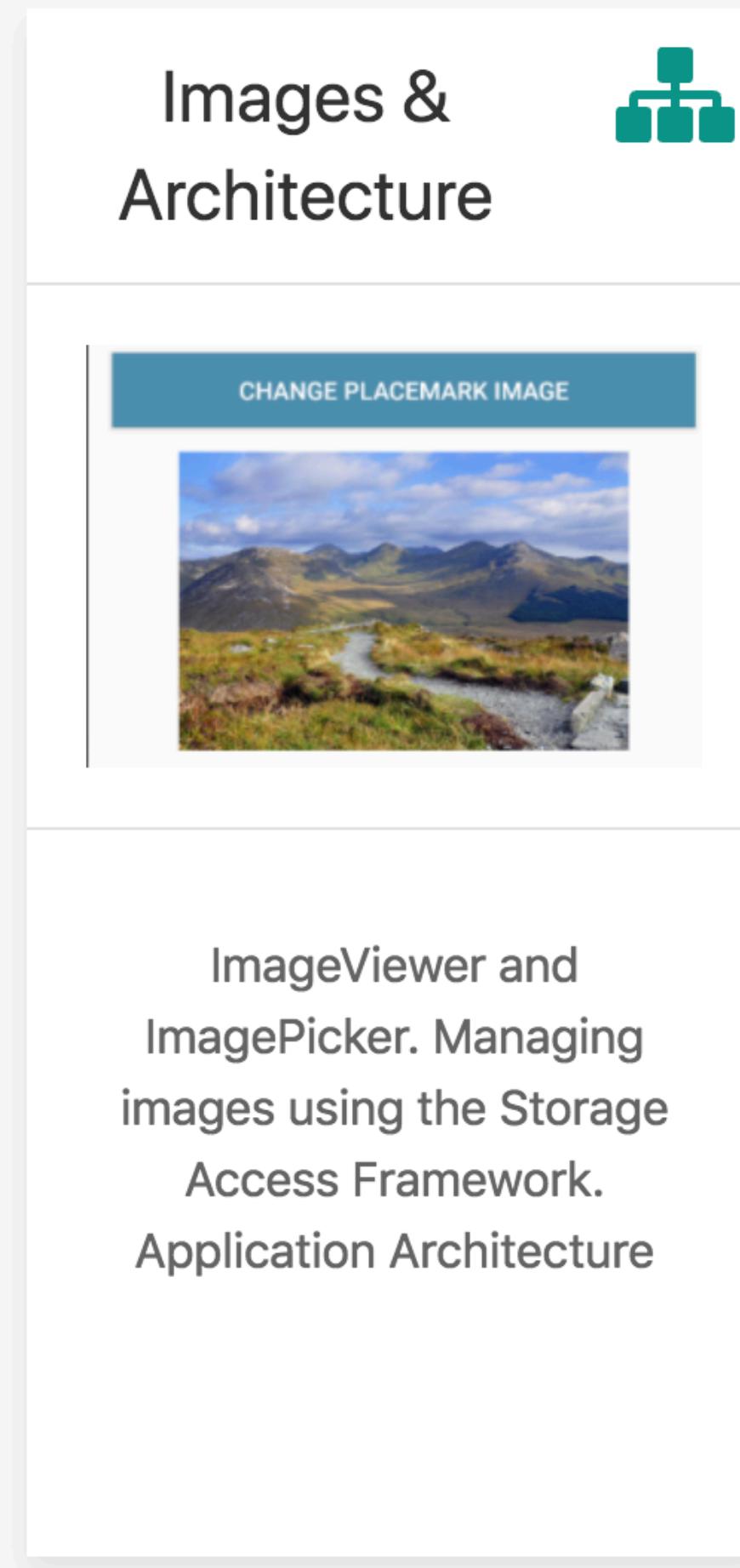
Edit Existing Placemarks

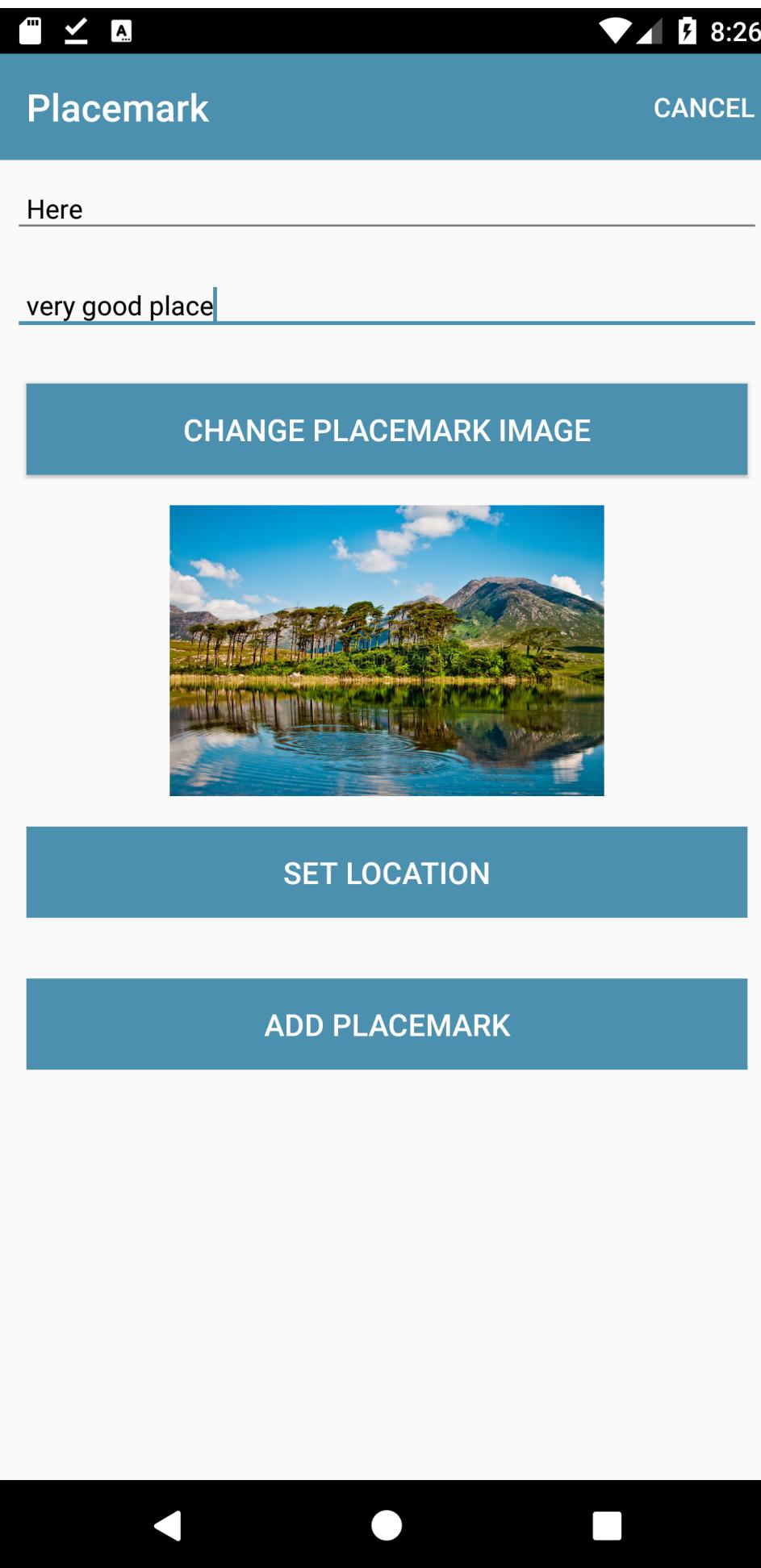
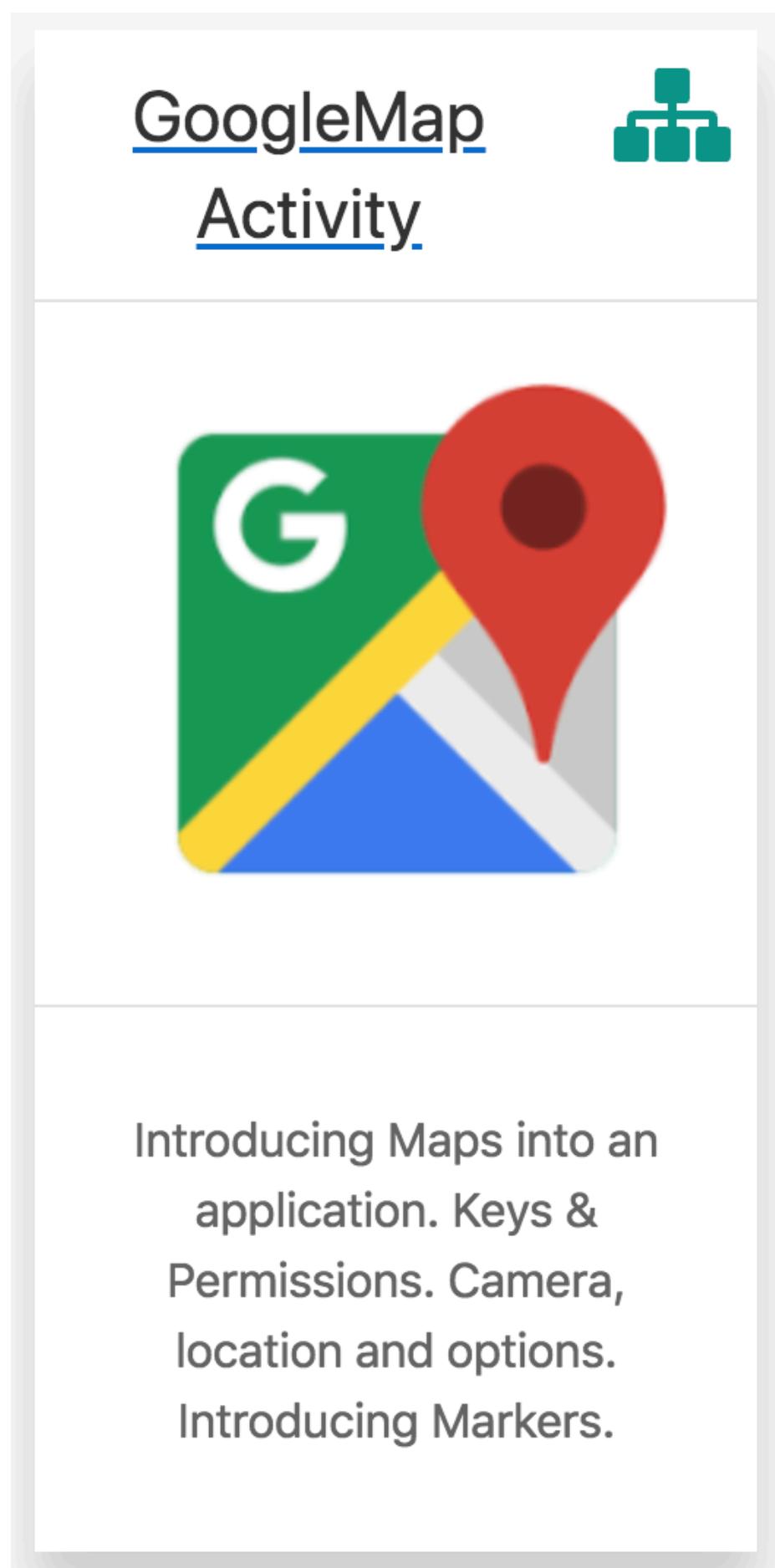


Include Images in Placemarks

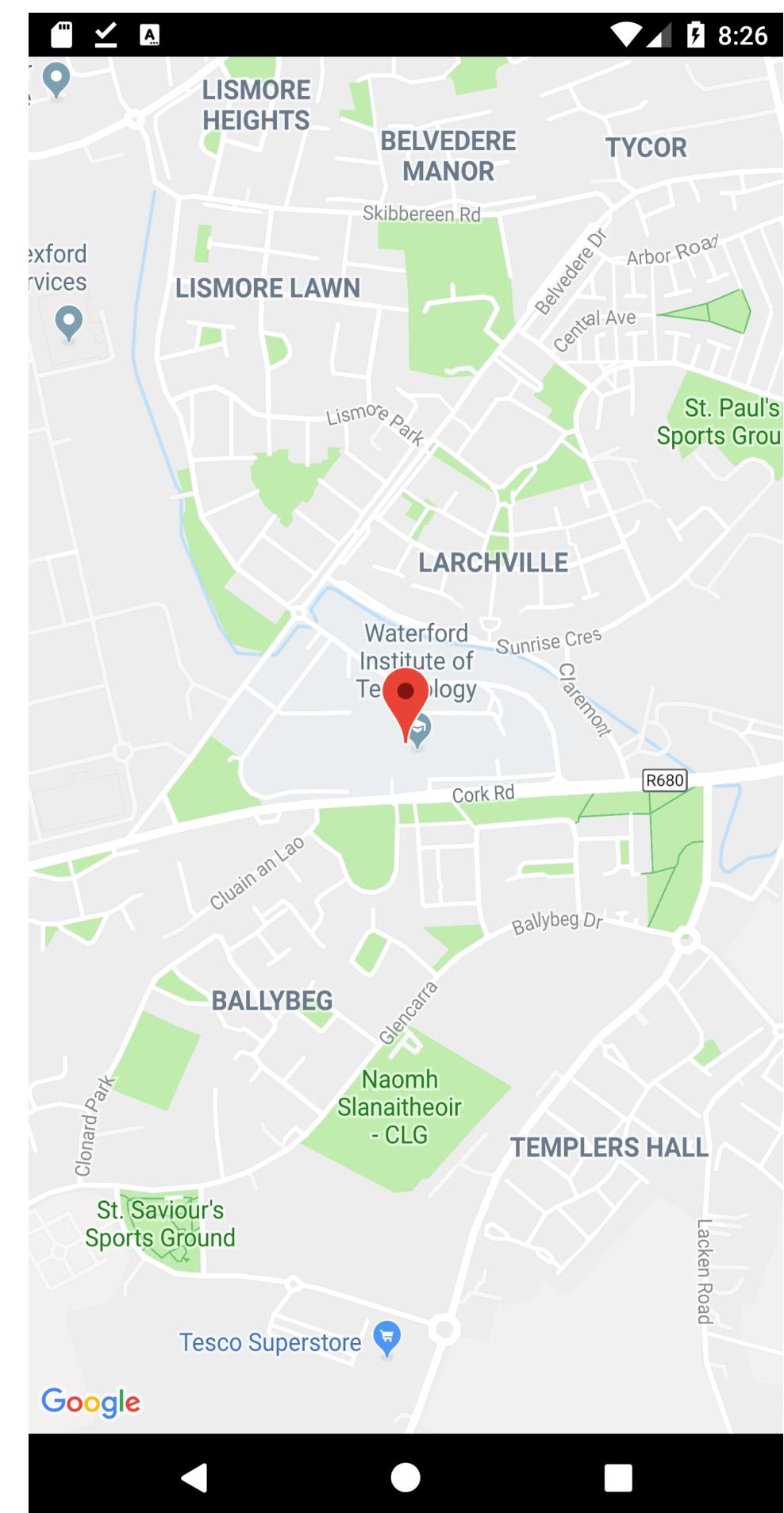
Images & Architecture 

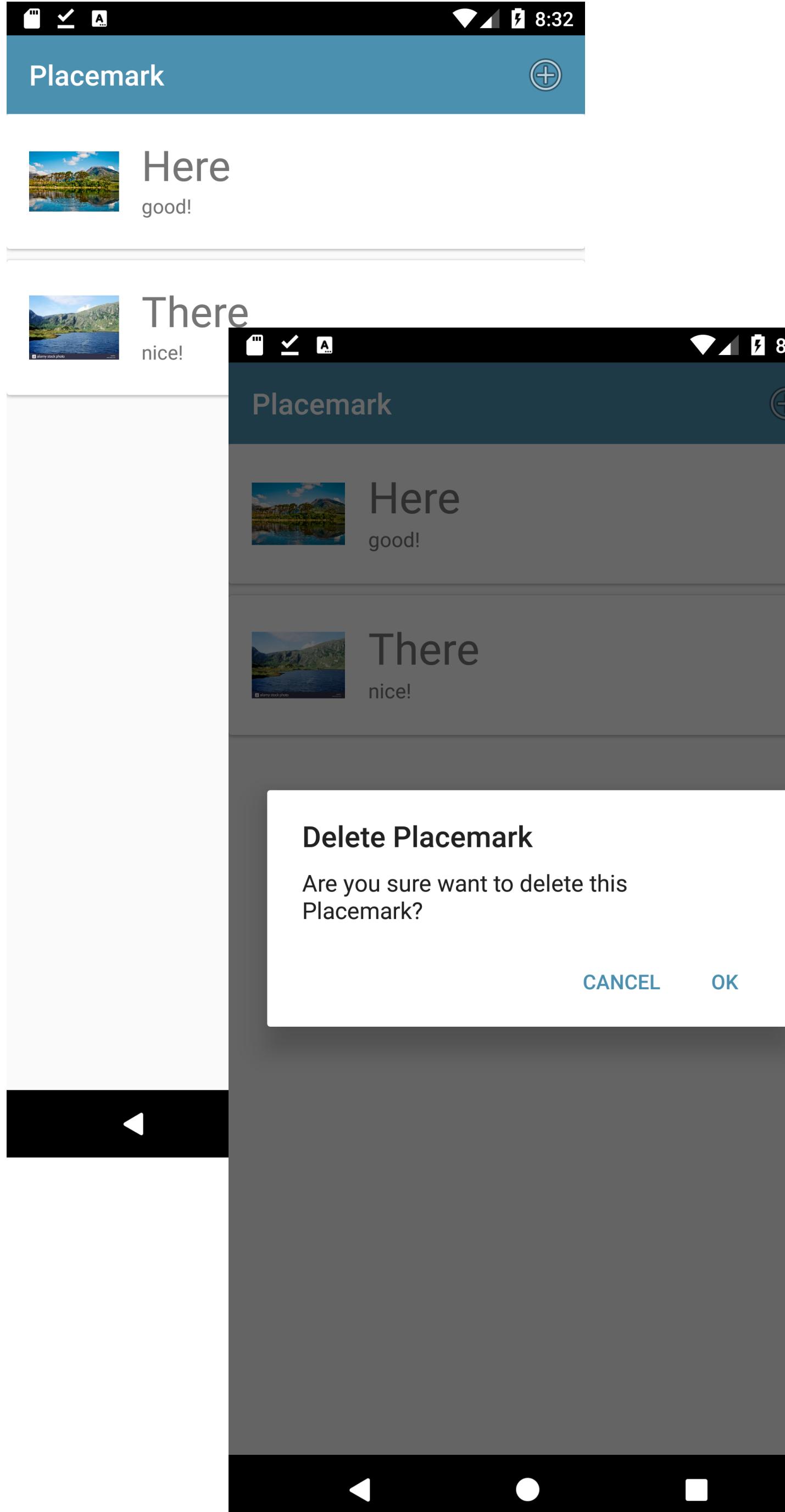
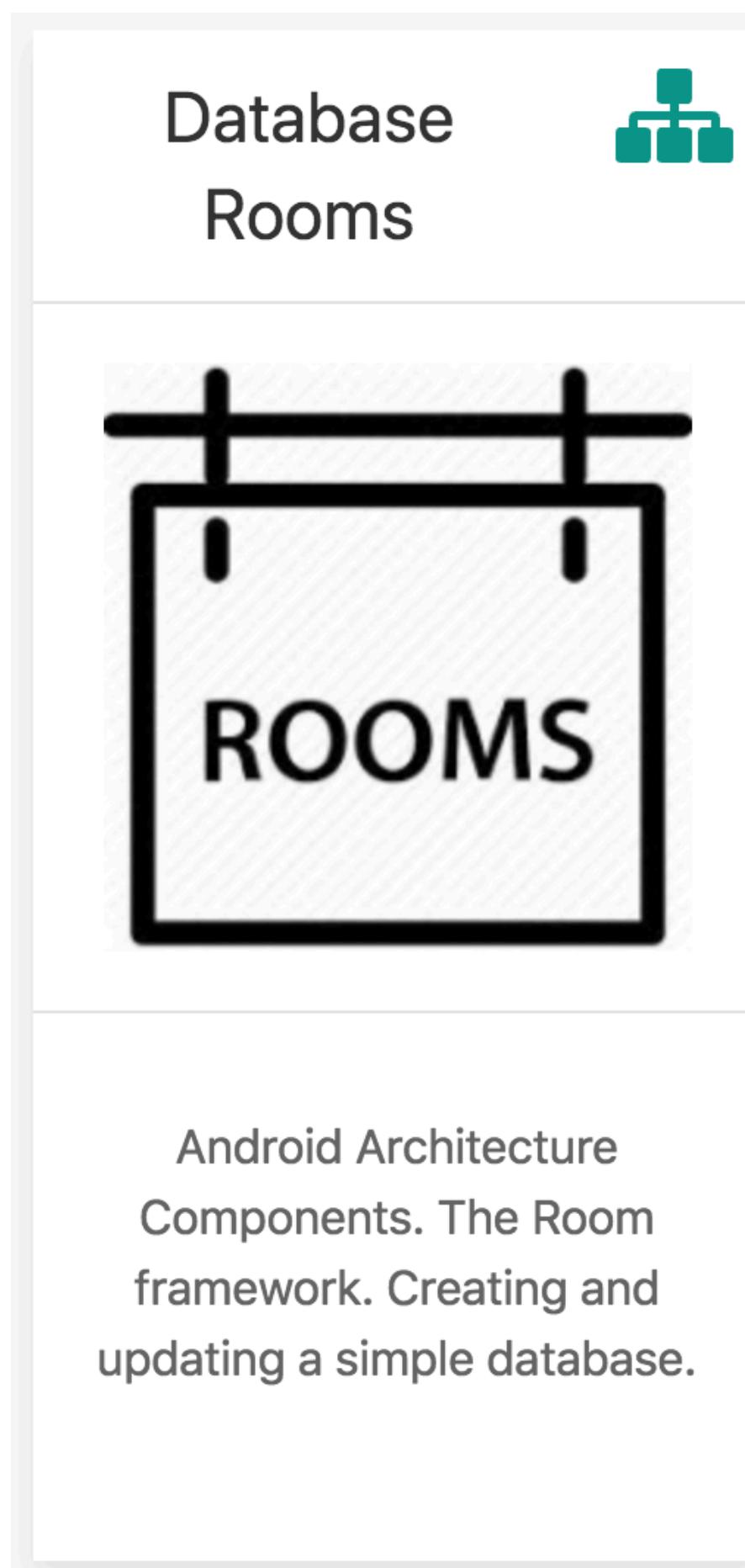
ImageViewer and ImagePicker. Managing images using the Storage Access Framework. Application Architecture



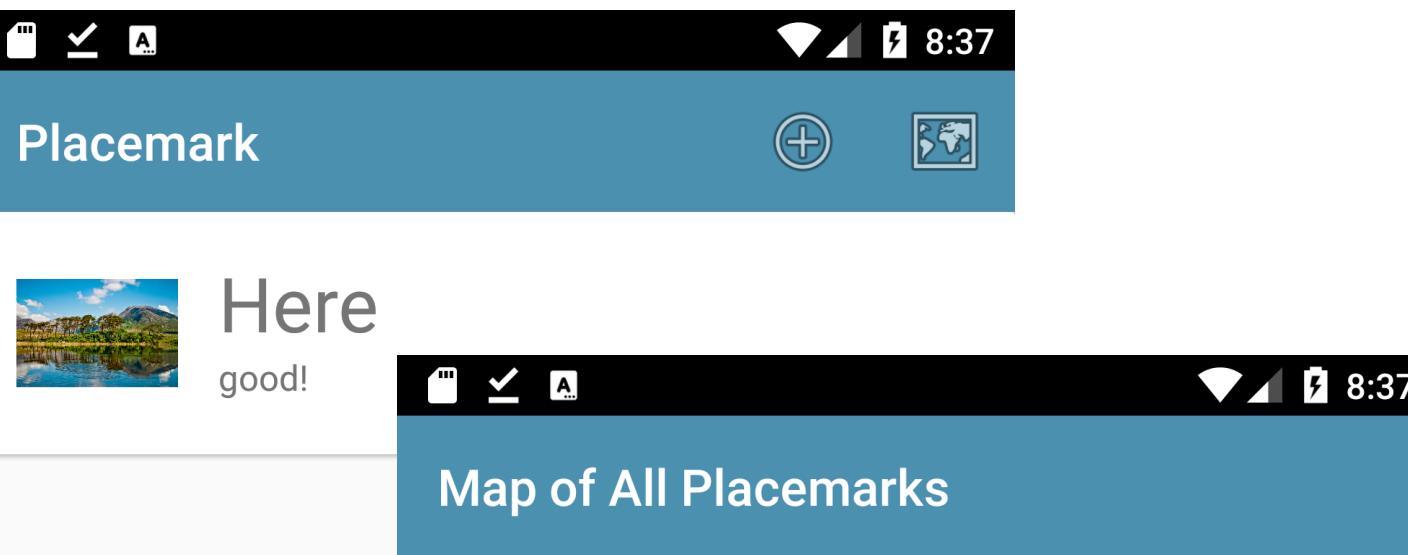
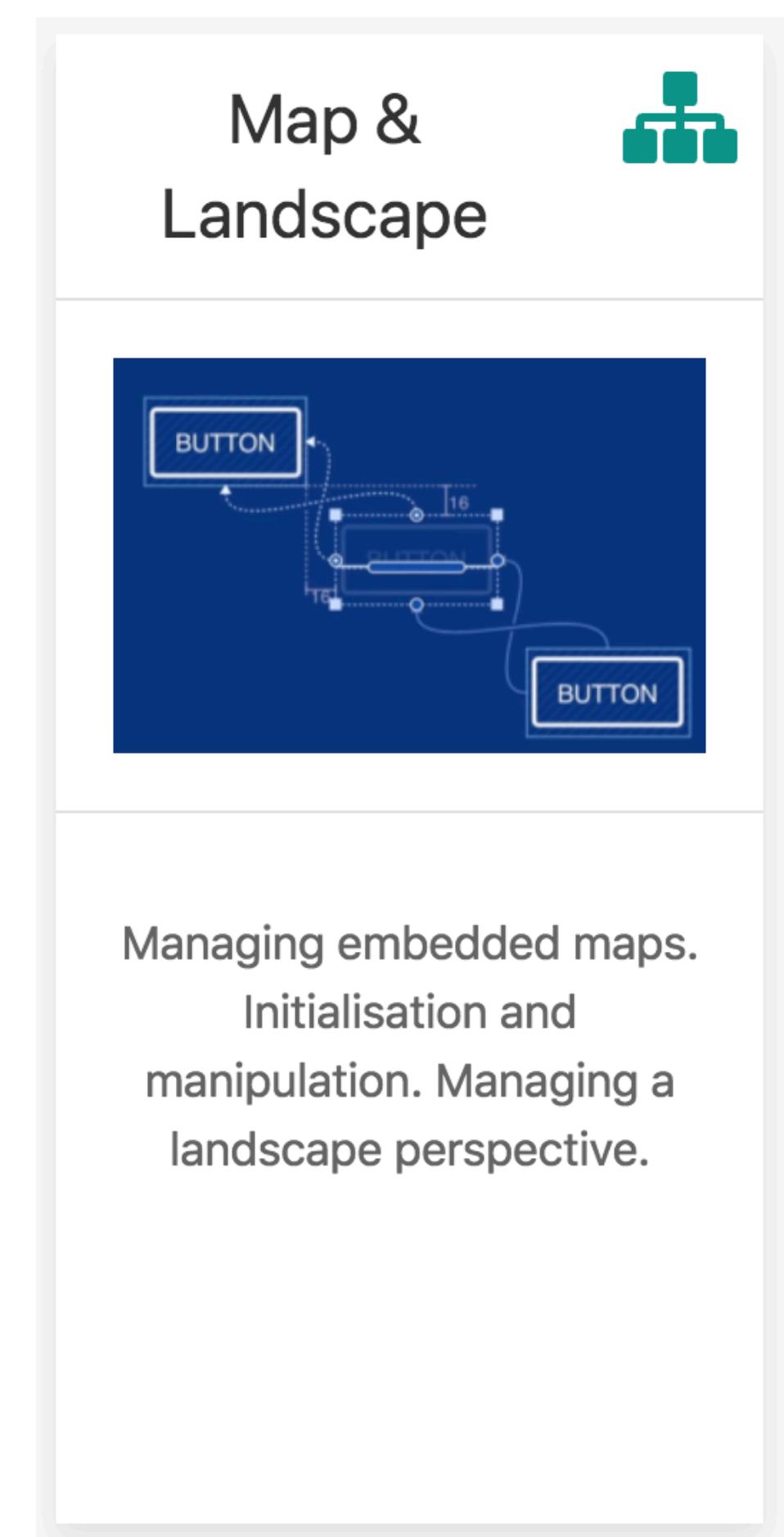


Choose a
Location for the
Placemark

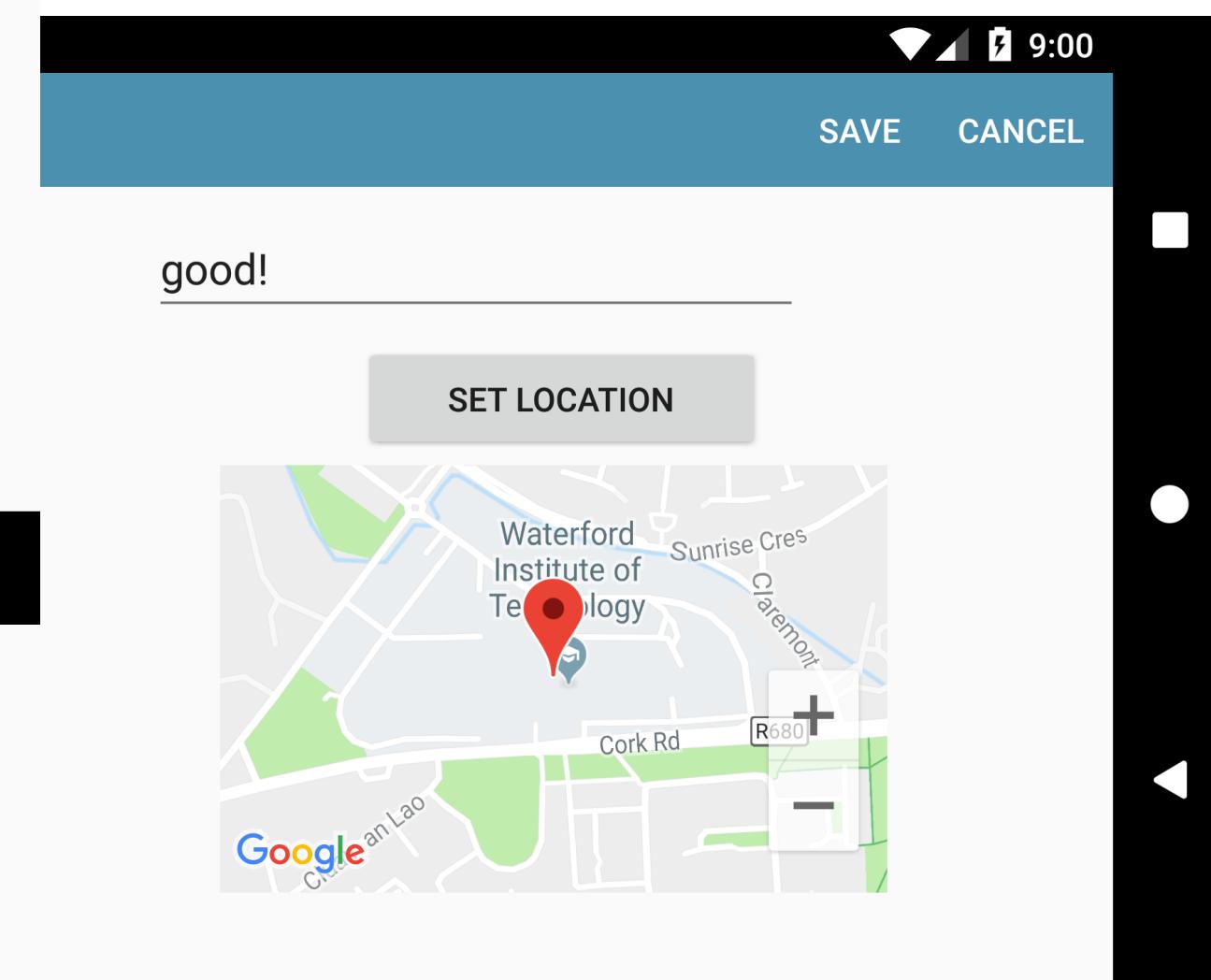
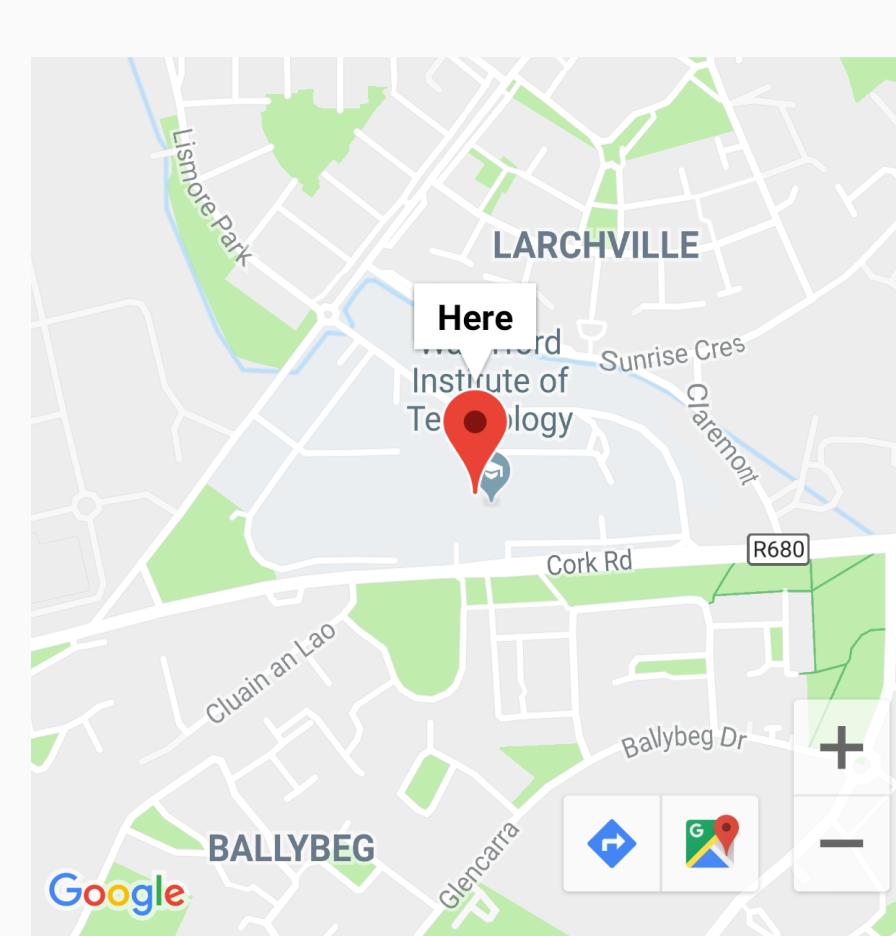




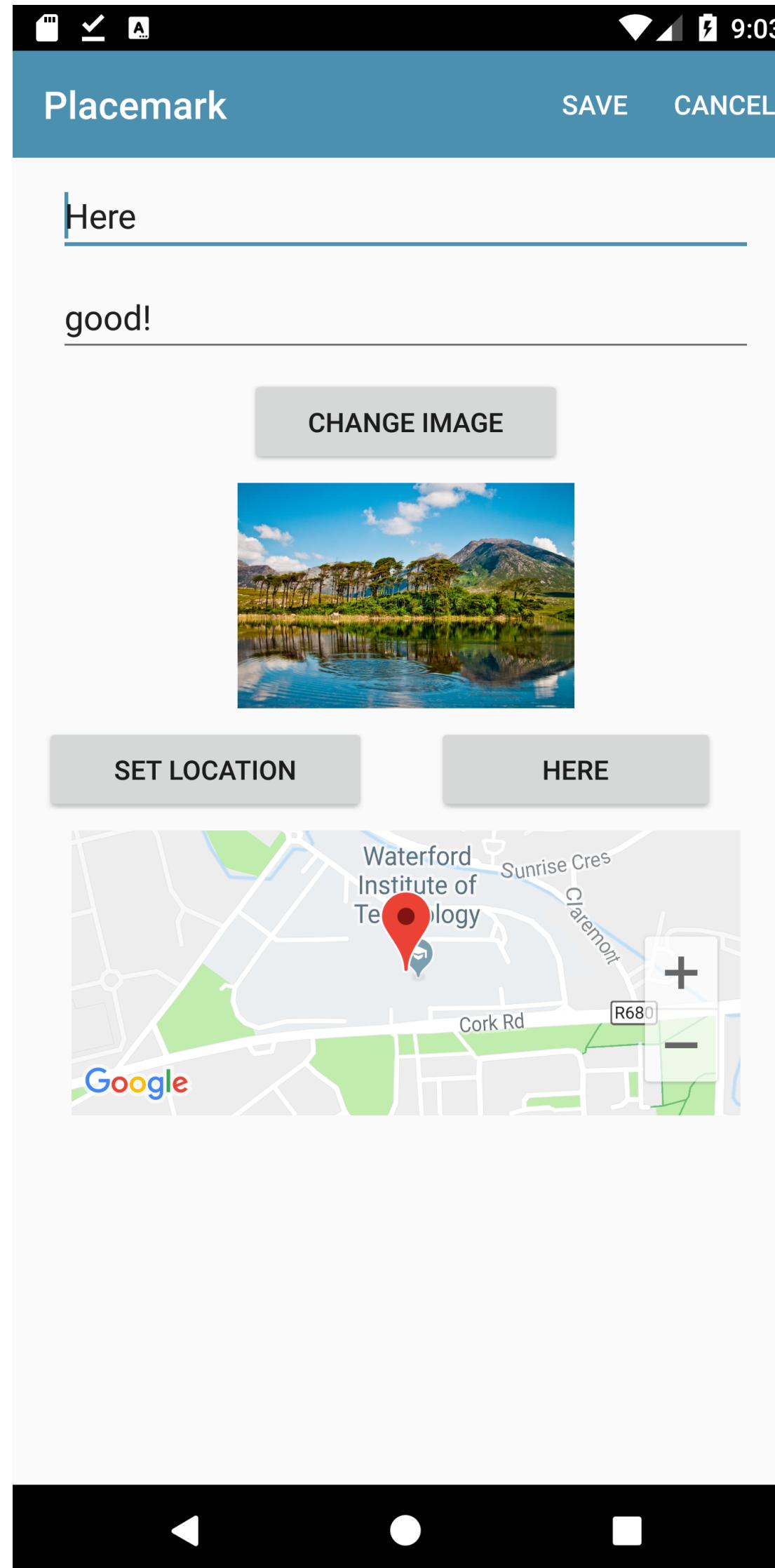
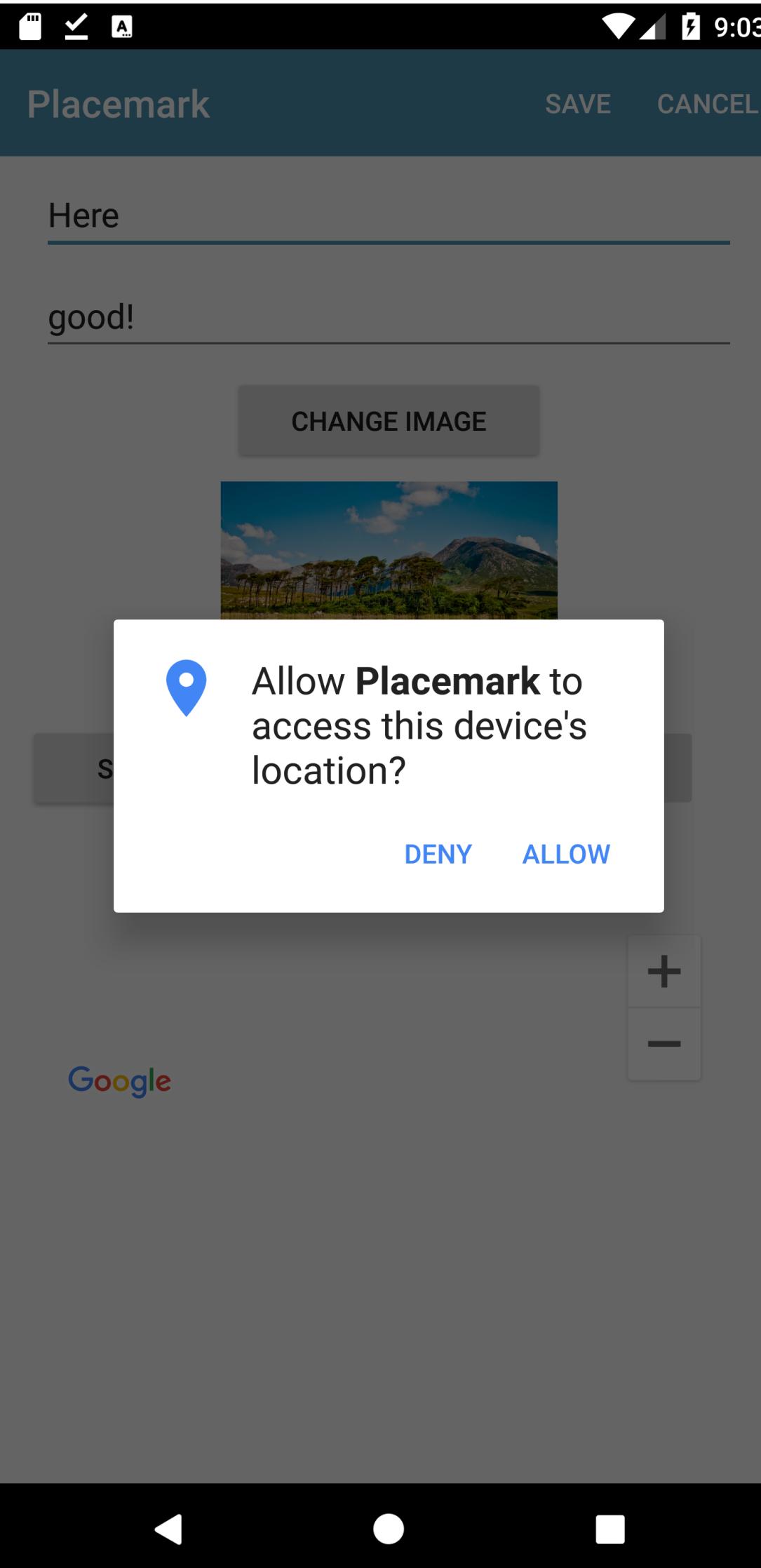
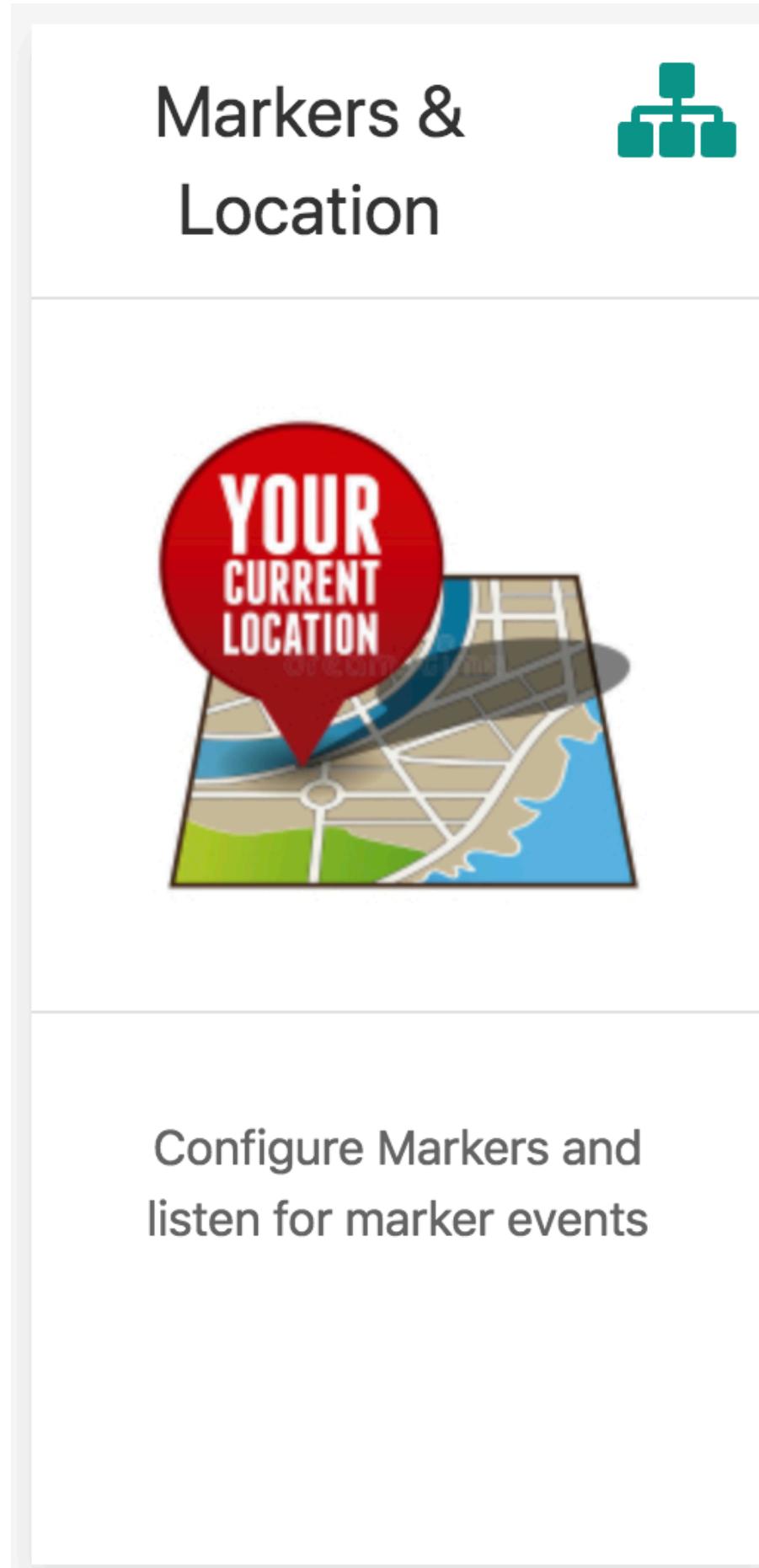
Store Placemark
in Database
Delete
Placemarks

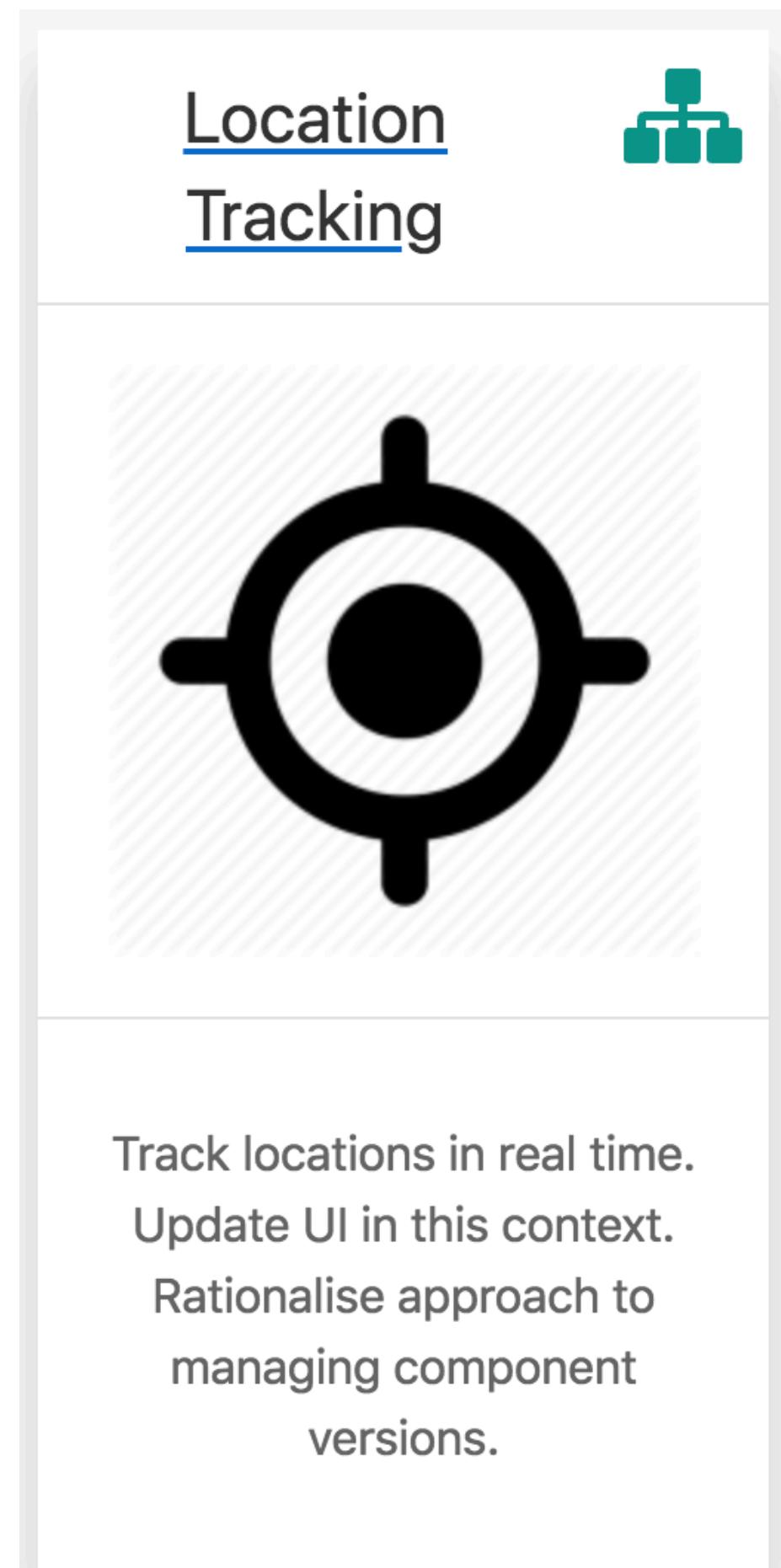


Display Map of all
placemarks

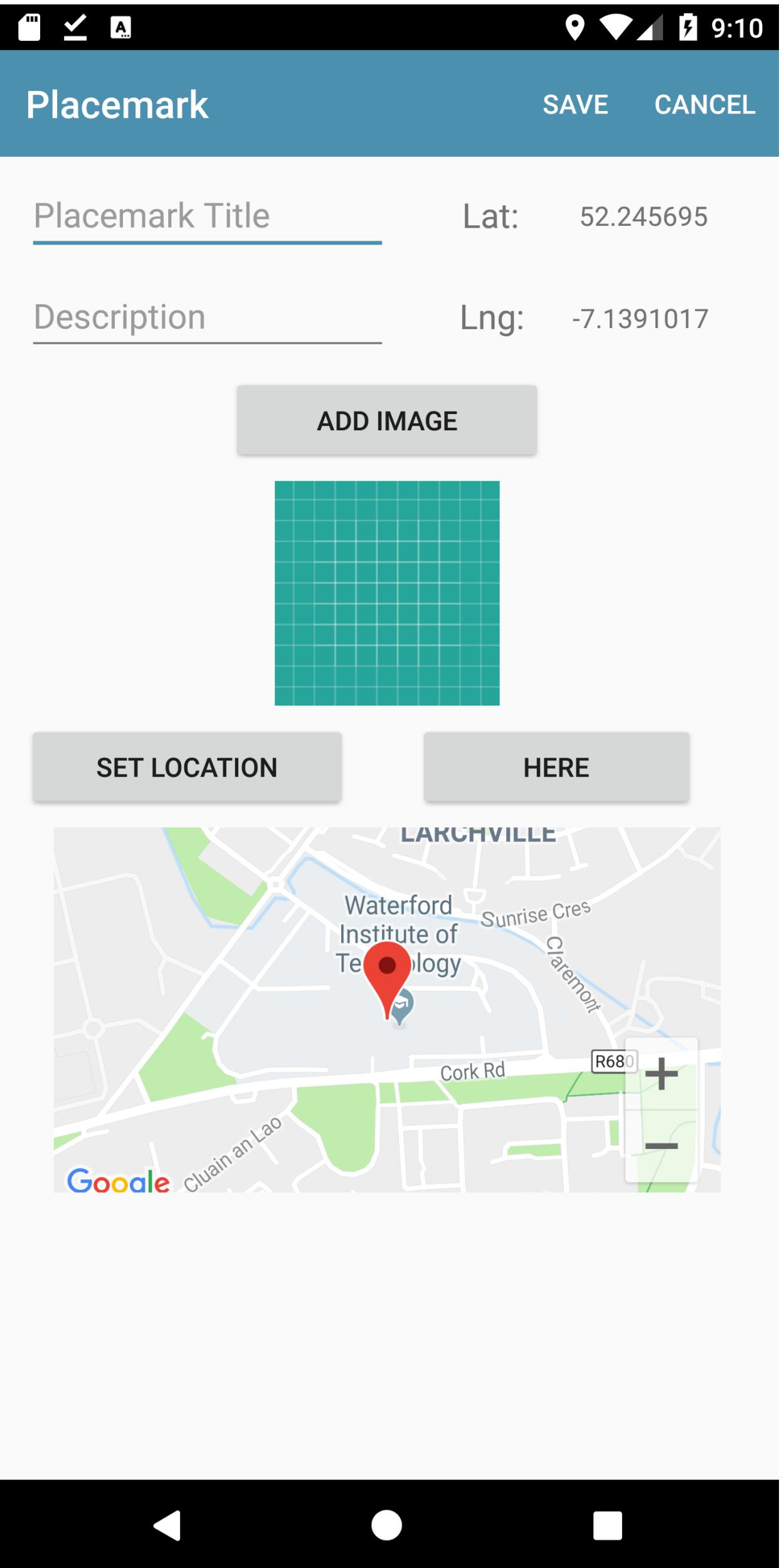


Support current location



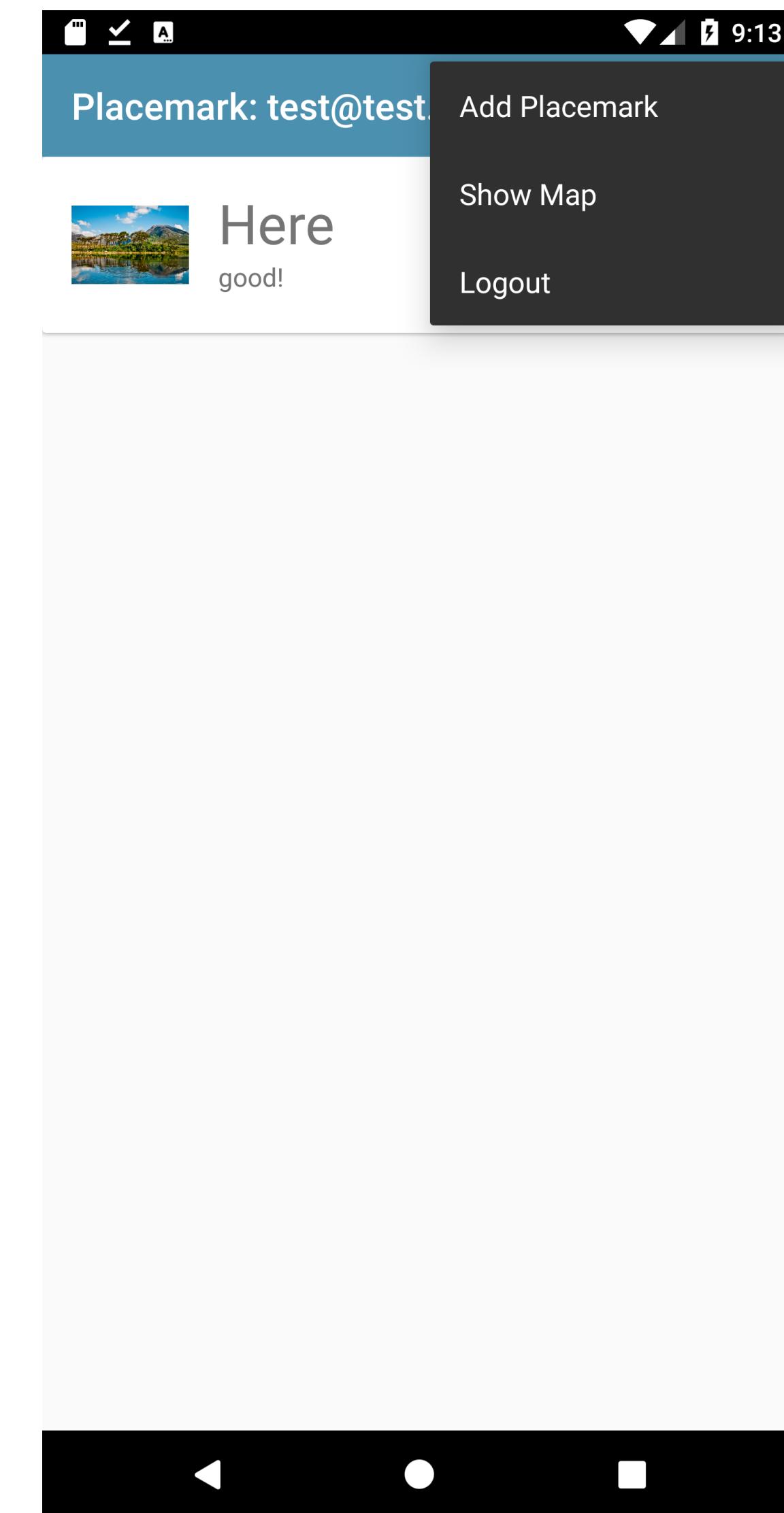
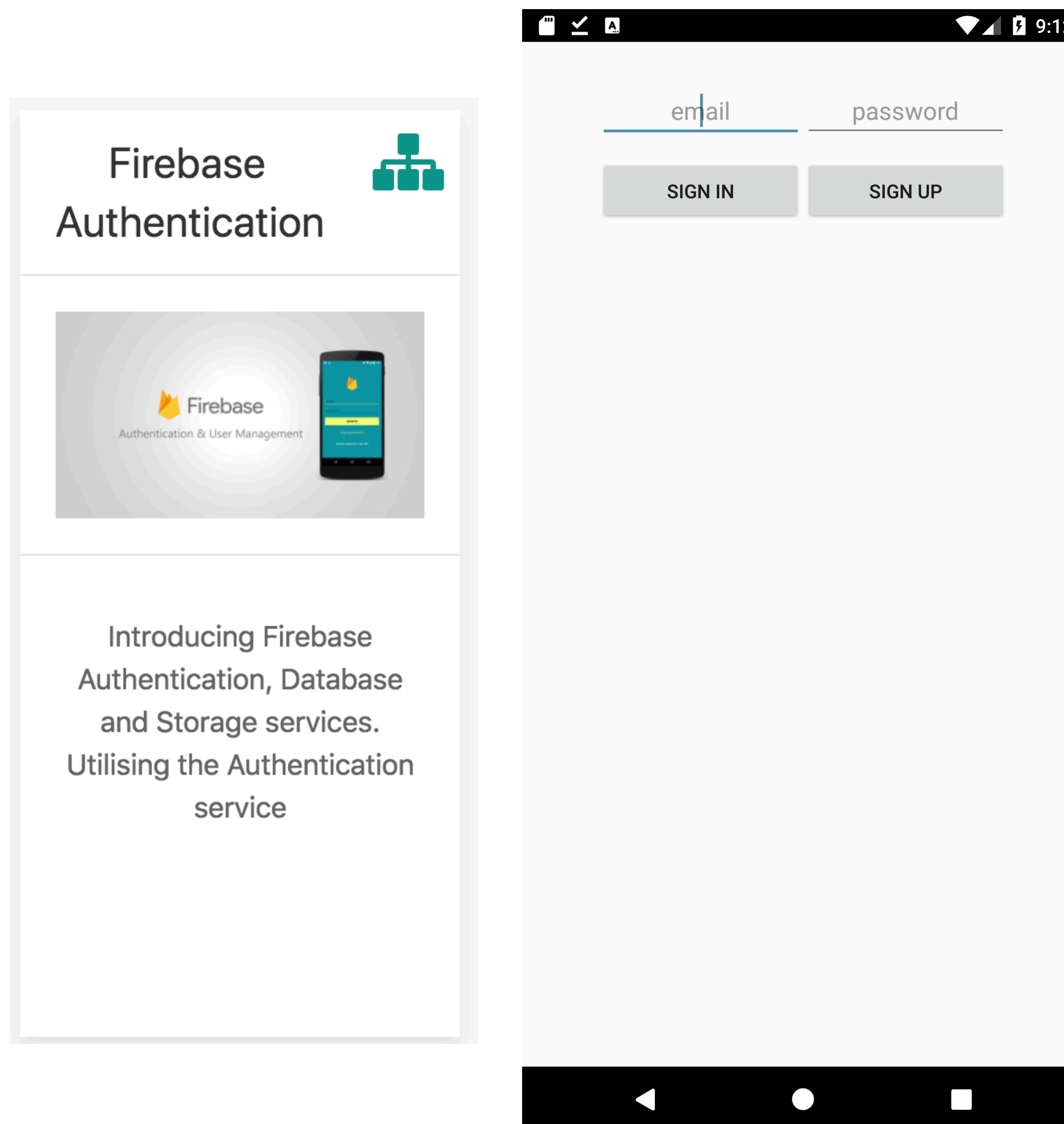


Track locations in real time.
Update UI in this context.
Rationalise approach to
managing component
versions.



Track current Location

Authentication



Firebase Database



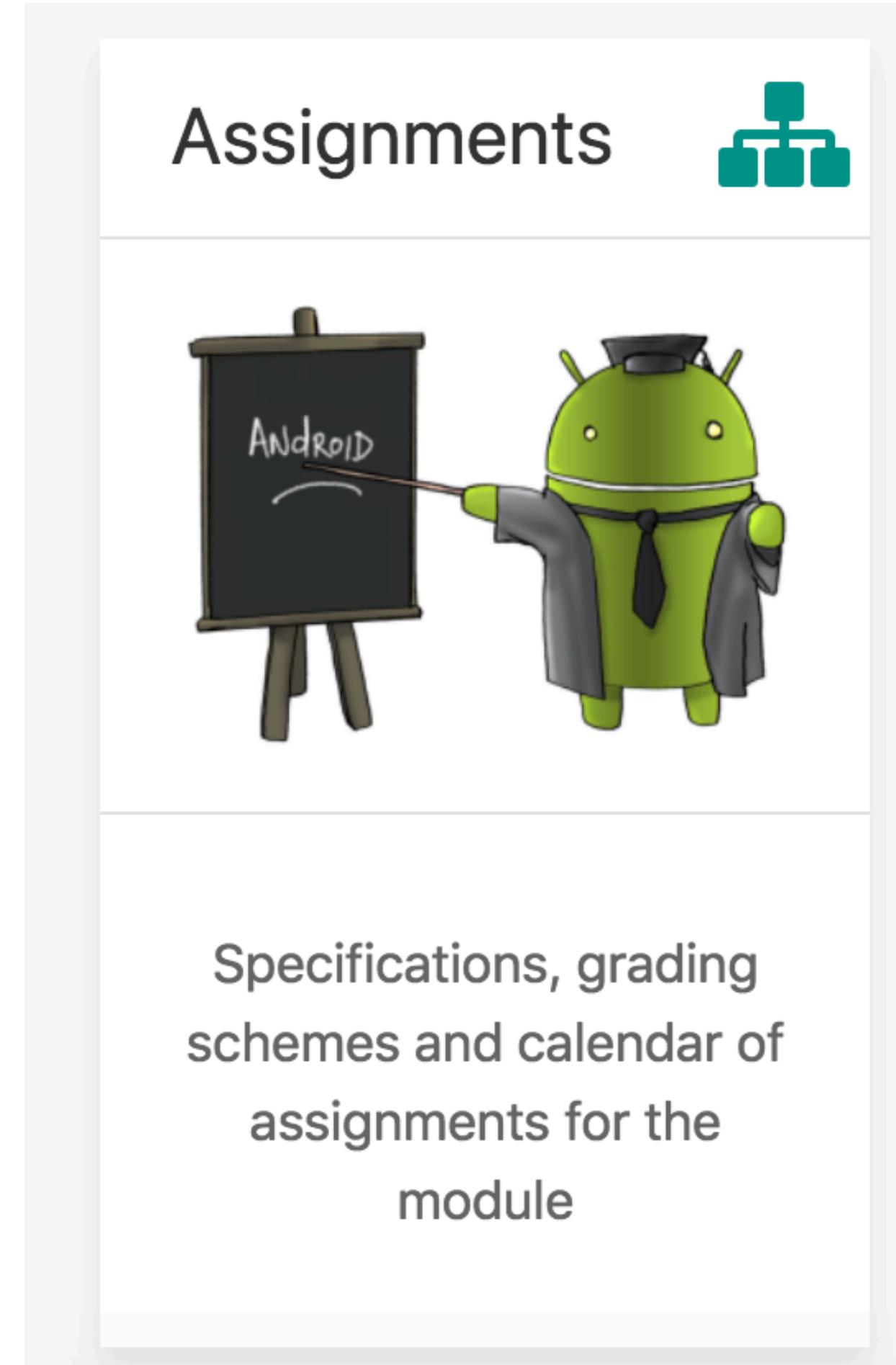
Replacing Rooms with
Firebase Database services.
Moving images from the
Storage Access Framework
to Firebase Storage

Cloud Database

Assessments

Single Project - submitted at
end of semester (late
December 2017)

An Android Application



OTH Moodle Courseweb

<https://elearning.uni-regensburg.de/course/view.php?id=34200>

The screenshot shows the Moodle course page for 'Android Programming with Kotlin – Hr. de Leastar – IN – WiSe18/19'. The page includes the OTH Regensburg logo, a search bar, and a navigation menu. The course title is displayed prominently, along with a 'Turn editing on' button. The left sidebar features 'QUICKLINKS' and 'ADMINISTRATION' sections, while the right sidebar lists course resources like 'Ankündigungen' and 'Q&A Forum'.

GRIPS-Suche Fakultät Informatik und Mathematik

Eamonn De_Leastar

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► APK-de Leastar-IN-WiSe18/19

[Turn editing on](#)

QUICKLINKS

- [Meine Kurse \(Dashboard\)](#)
- [Mitteilungen](#)
- [Logout](#)

ADMINISTRATION

- ▼ Course administration
- [Edit settings](#)

Course: Android Programming with Kotlin – Hr. de Leastar – IN – WiSe18/19

Your progress [?](#)

Ankündigungen

Q&A Forum

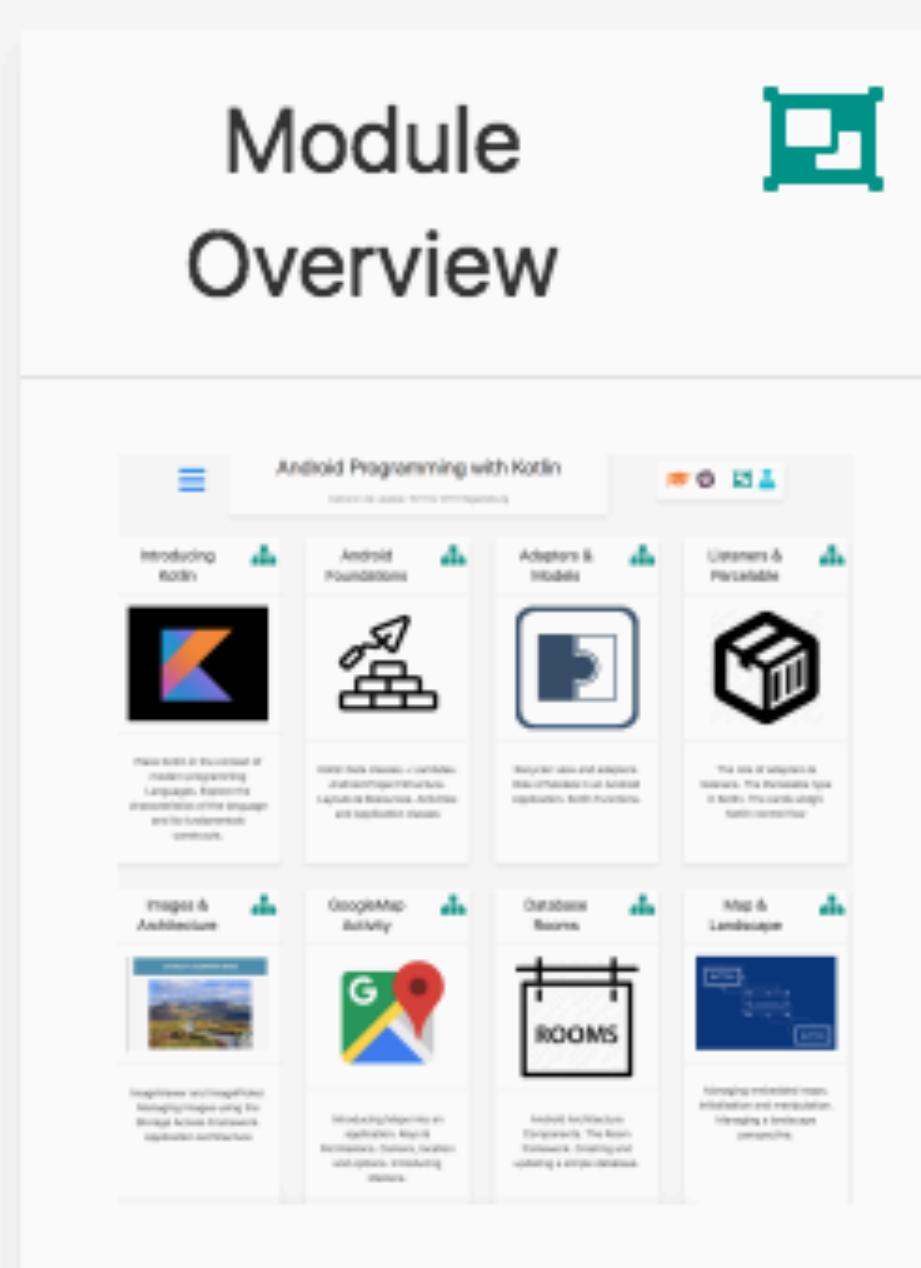
Module Home Page

Join Programme Slack Channels

<https://wit-oth-regensburg-android-kotlin-2018.github.io>

Android Programming with Kotlin

Eamonn de Leastar, WIT for OTH Regensburg



Module Overview

Introduce the module, delivery methods and course infrastructure

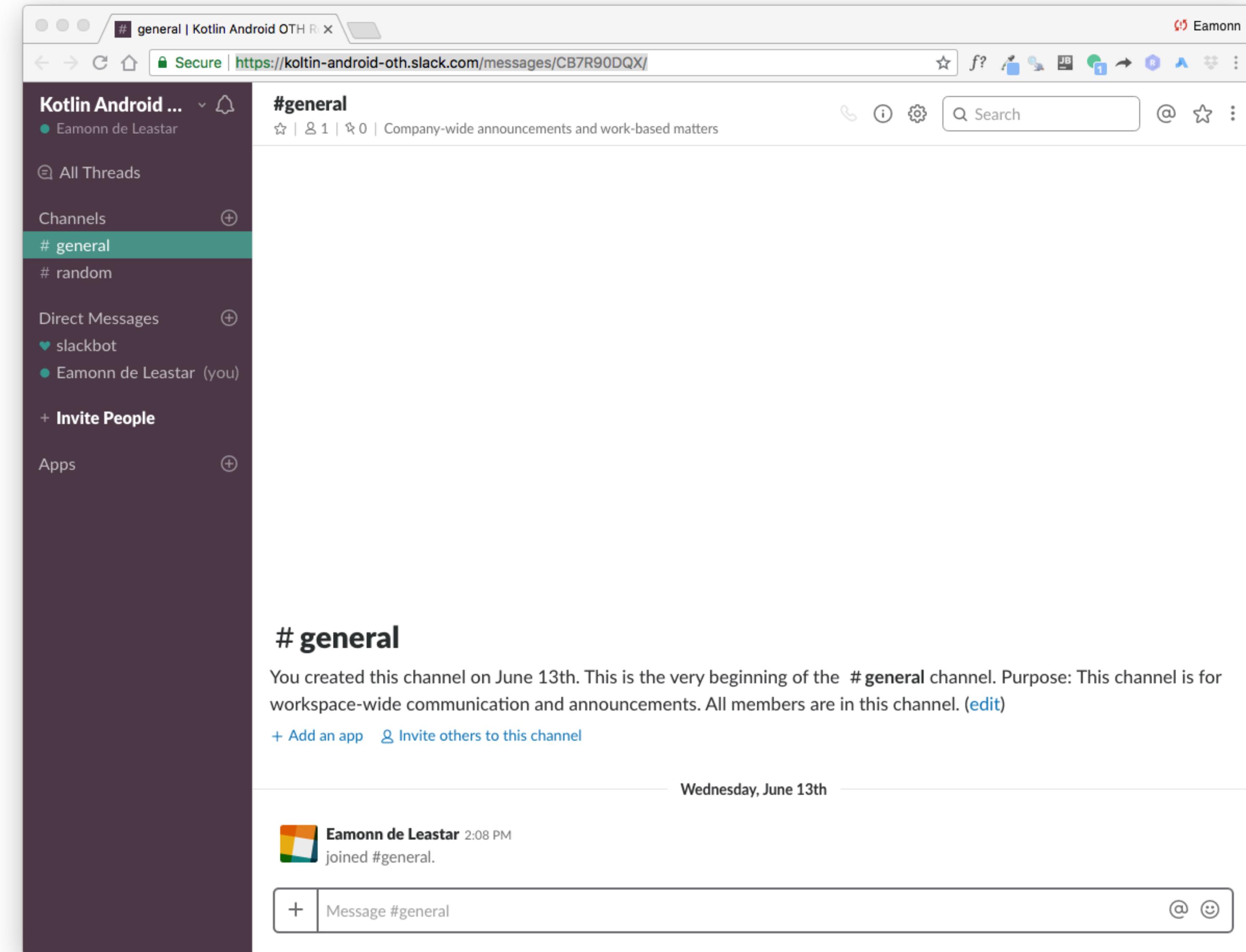
Module instructional Material will appear here

Slack Channel: <https://kotlin-android-oth.slack.com>

A communication platform.

Used to support peer learning & general course interaction

Invitations accepted from **oth-regensburg.de** student emails

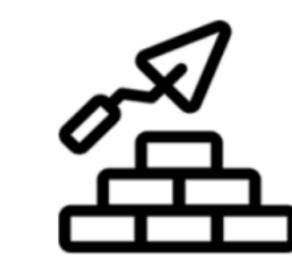


Introducing Kotlin

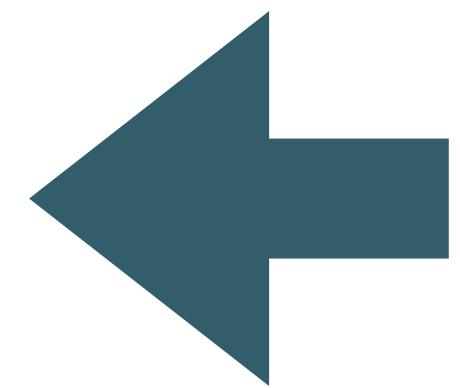


Place Kotlin in the context of modern programming Languages. Explore the characteristics of the language and its fundamental constructs.

Android Foundations

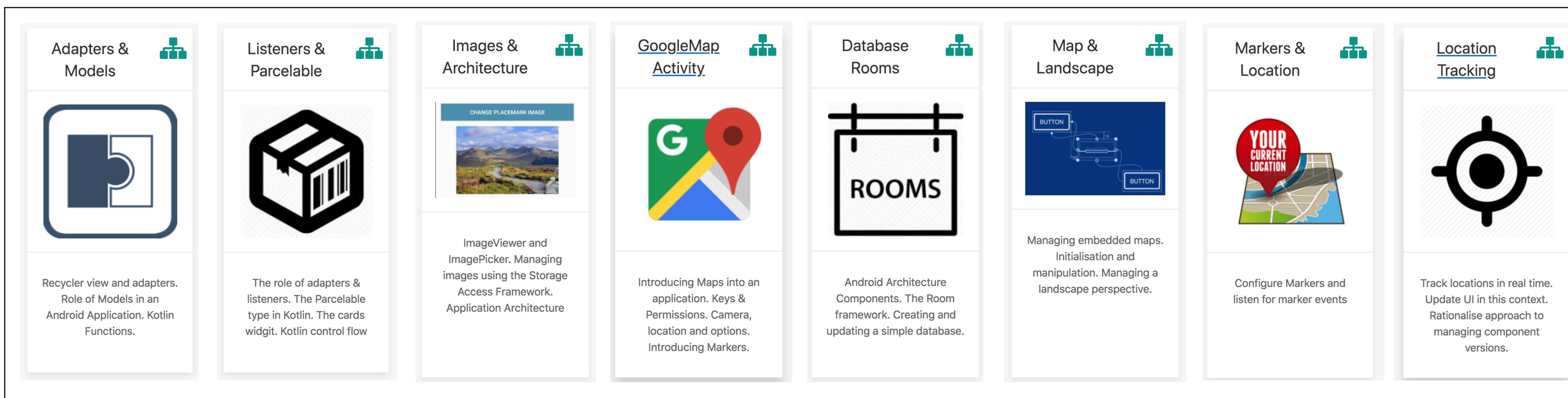


Kotlin Data classes + Lambdas. Android Project Structure. Layouts & Resources. Activities and Application classes



online
pre-
course

Course Structure



onsite
programme

online
post-
course

| | |
|--|--|
| Firebase Authentication | Firebase Database |
|  |  |
| Introducing Firebase Authentication, Database and Storage services. Utilising the Authentication service | Replacing Rooms with Firebase Database services. Moving images from the Storage Access Framework to Firebase Storage |

GRIPS-Suche SUCHEN Fakultät Informatik und Mathematik

OTH OSTBAYERISCHE TECHNISCHE HOCHSCHULE REGENSBURG Eamonn De_Leastar

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► APK-de Leastar-IN-WiSe18/19

Turn editing on

QUICKLINKS

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- [Mitteilungen](#)
- [Logout](#)

ADMINISTRATION

- [Course administration](#)
- [Edit settings](#)

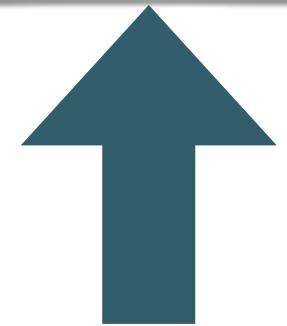
Course: Android Programming with Kotlin – Hr. de Leastar – IN – WiSe18/19

Your progress [?](#)

- Ankündigungen
- Q&A Forum
- Module Home Page
- Join Programme Slack Channels



Eamonn de Leastar
edeleastar@wit.ie



Join me on Slack by Clicking here