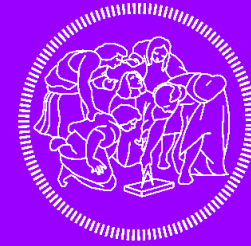


Design and Implementation of Mobile Applications

CommUNITY

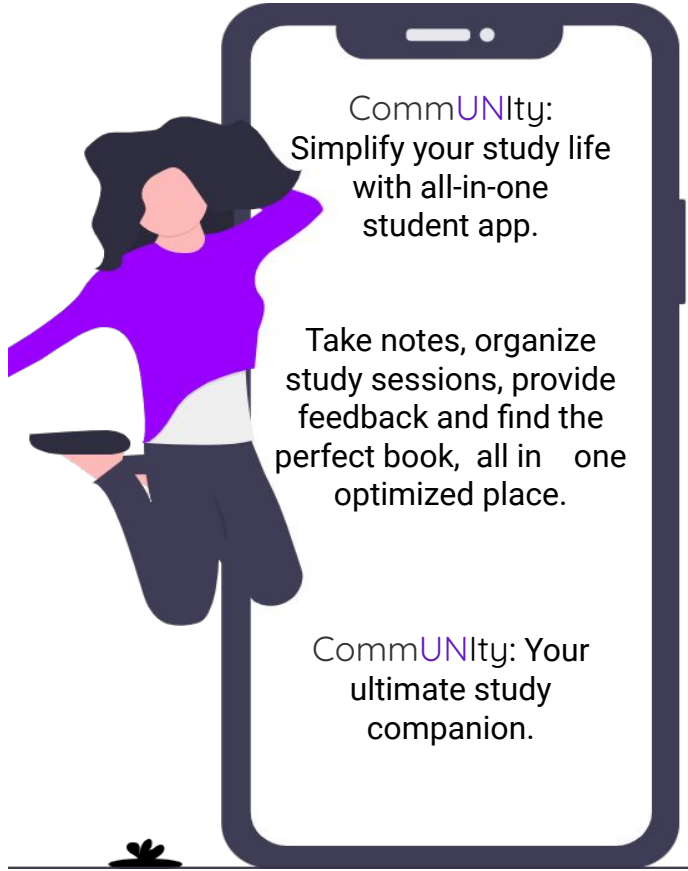


POLITECNICO
MILANO 1863

Erika
Giuseppe

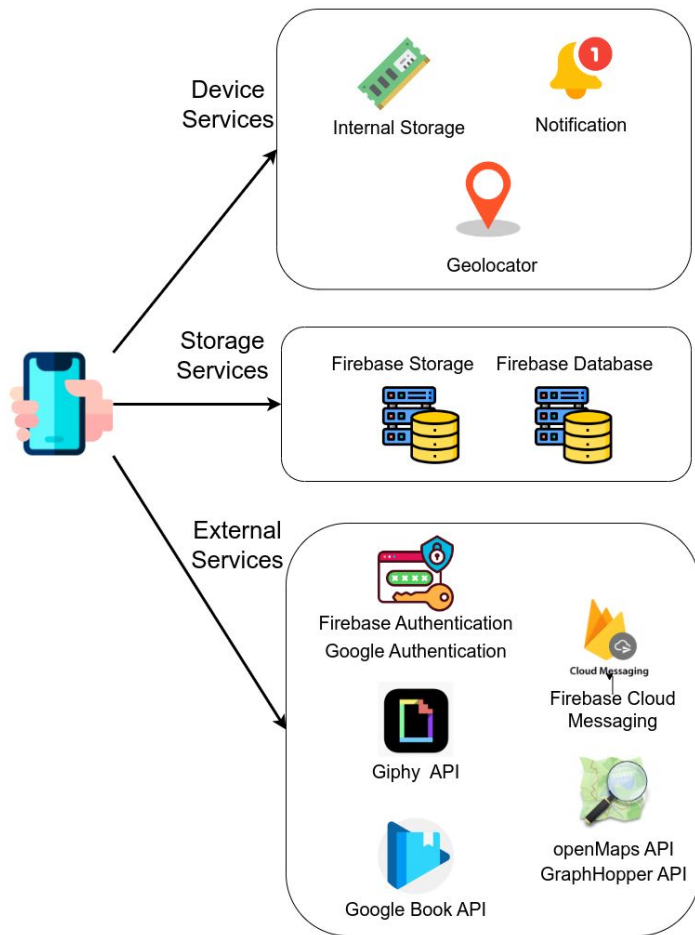
Prof. Luciano Baresi

A.Y. 2022-2023



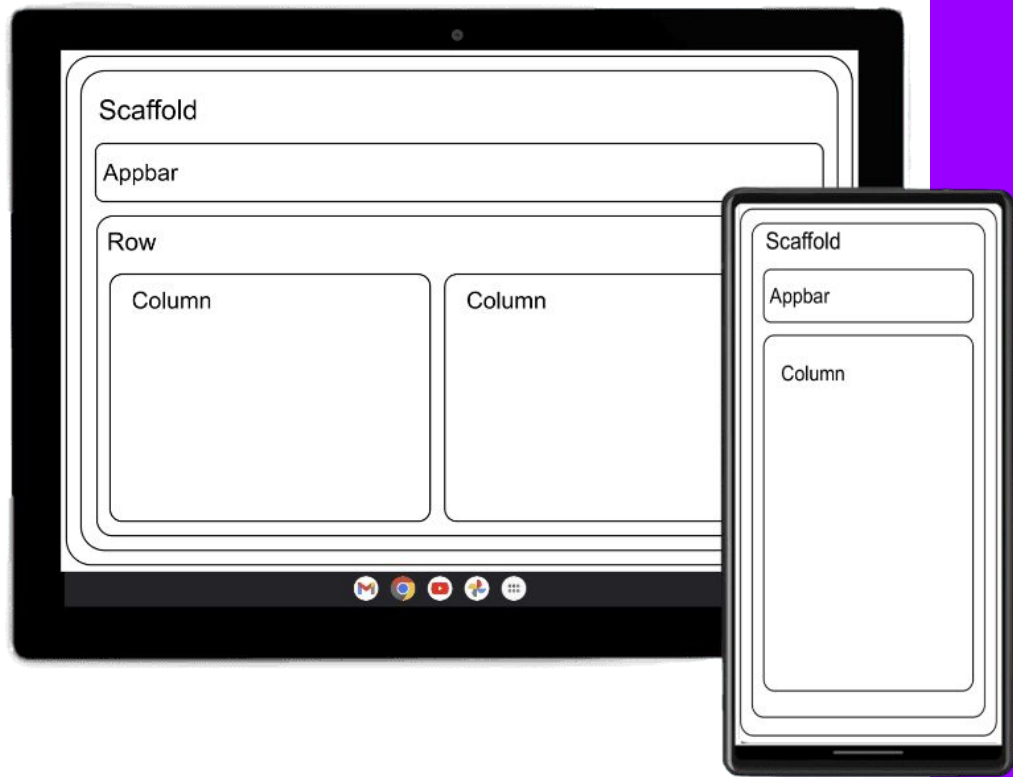
Main Features

- Login and Registration
- Subscribe to course
- Write and share notes or reviews
- Search book information
- Share your position
- Chat with colleagues



Application Architecture

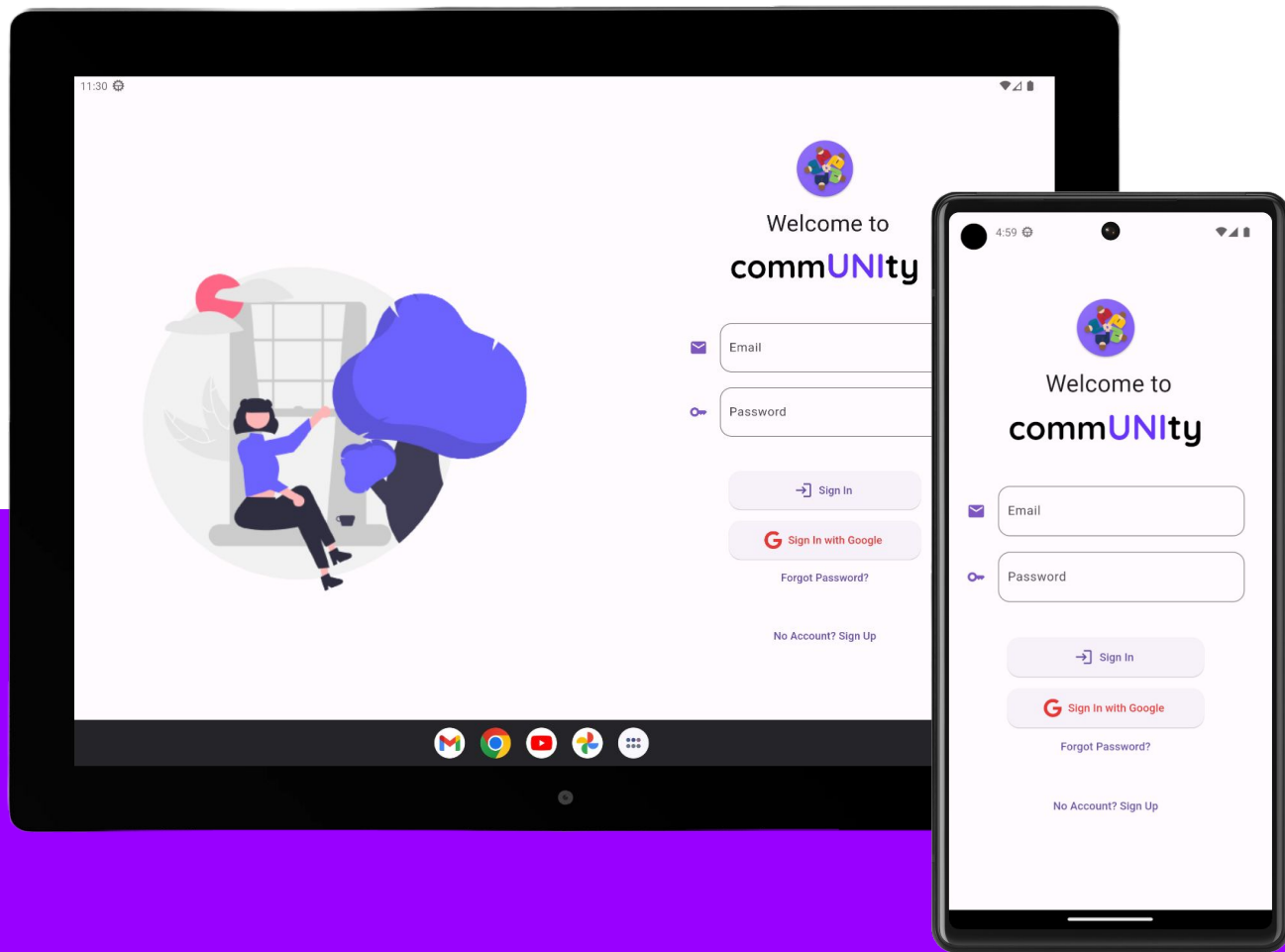
- Flutter framework
 - MVC pattern
 - Firebase back-end
 - Document-based data structure
-
- Map provided by OpenMaps
 - Book data provided by Google Books
-



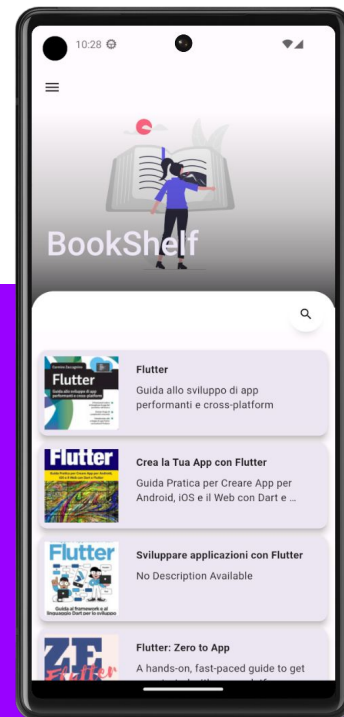
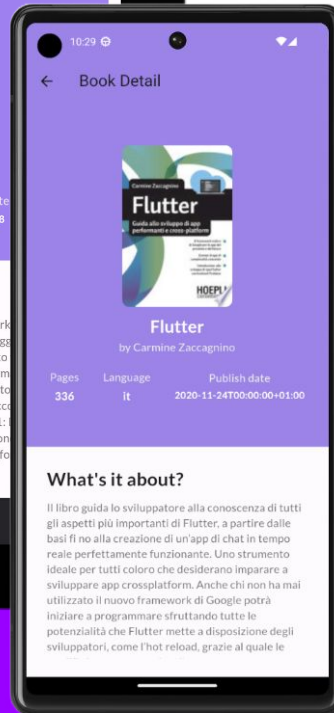
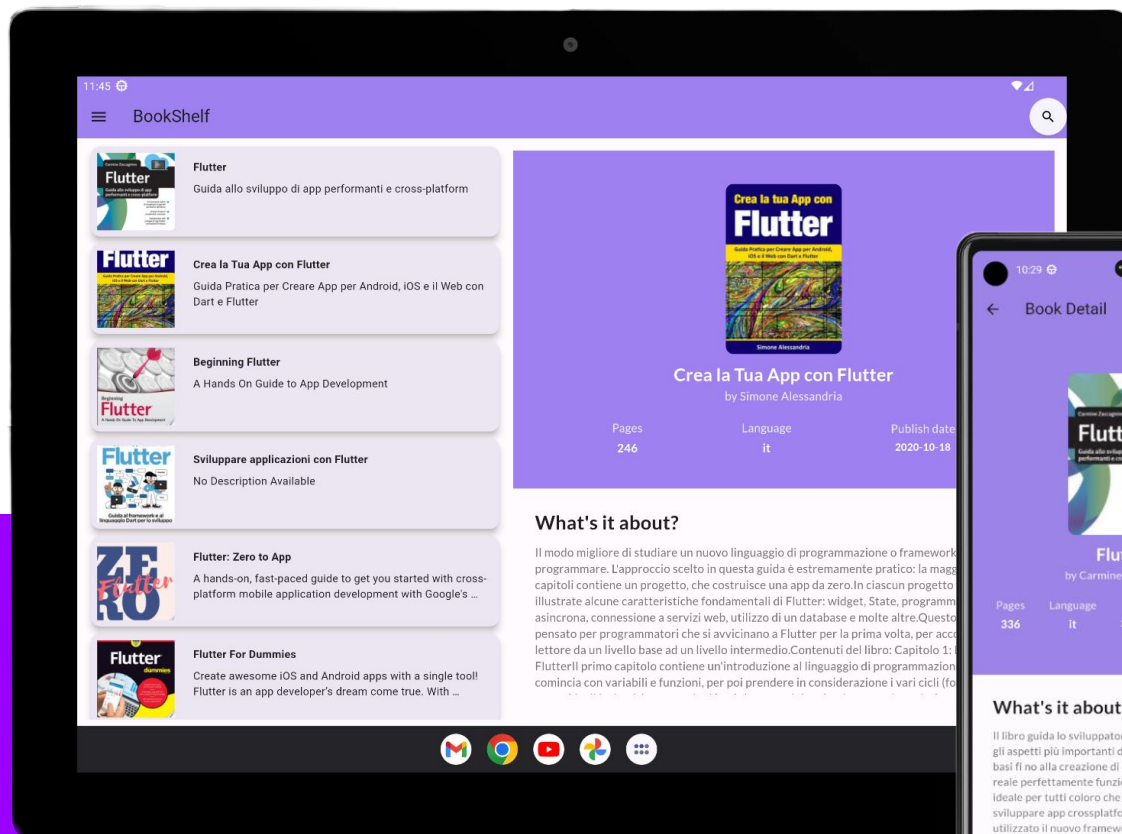
Widget Architecture

- 2 different layouts
- LayoutBuilder implementation for dynamic layout switch

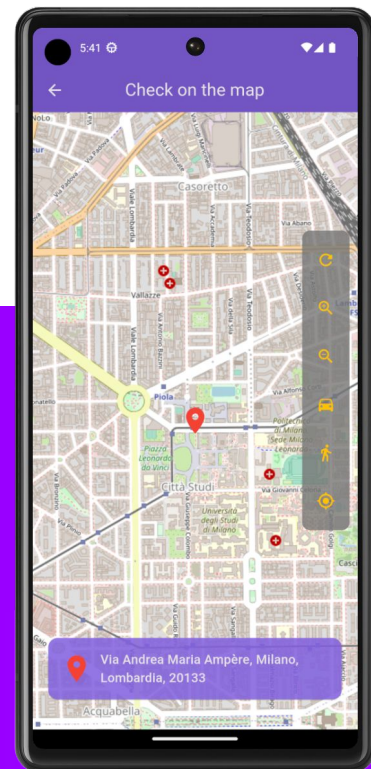
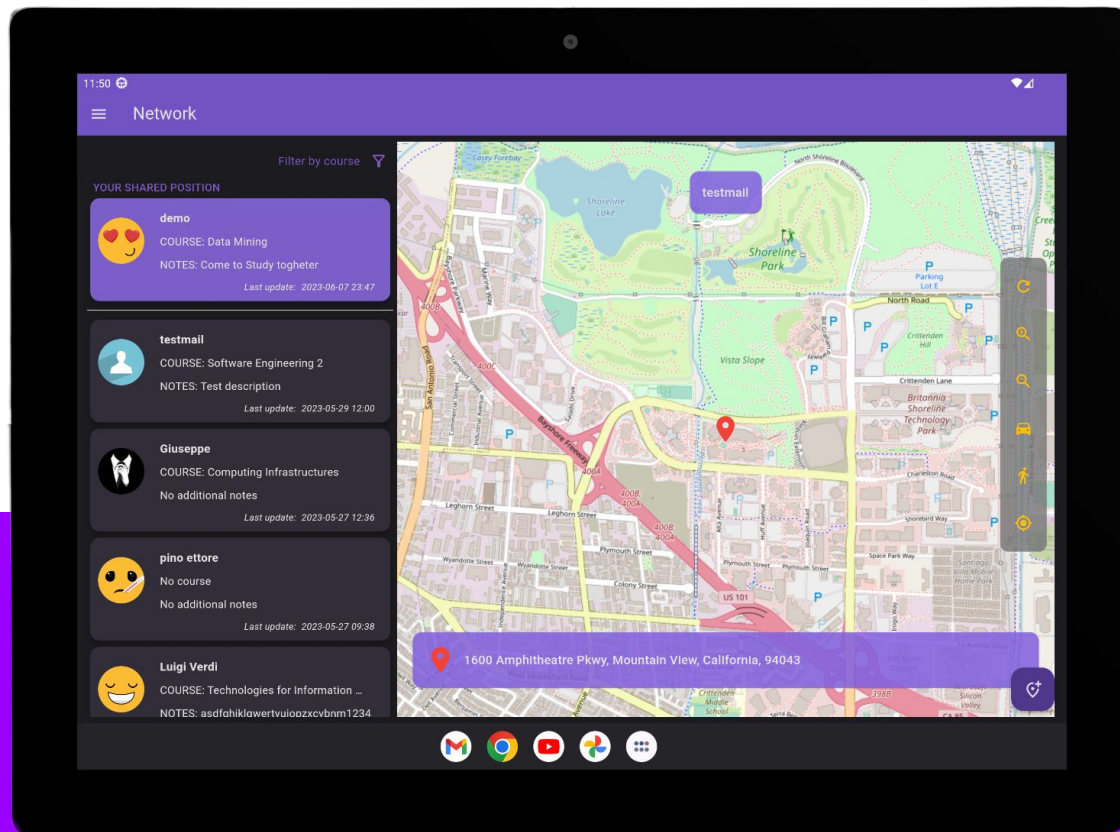
UI Design



UI Design



UI Design



Testing environments

- **Mocking environment:** all the external APIs are replaced with a mock version
- **Deploy environment:** real device



Testing campaign*

- Widget test
- Integration test
- User test

Code coverage analysis is performed with the following results: 91% lines coverage on over 50 tests for tablet and smartphone views (100 tests in total).

Manual analysis ensured the irrelevance of uncovered code for these tests.

* Flutter Unit tests are limited due to mock environment constraints and heavy reliance on external services, making meaningful testing impractical in this scenario.