UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Mobile Programming

2223-3-E3101Q135

Aims

At the end of the course the student will be able to develop Android apps, also taking care of aspects related to the user experience.

Contents

Design and development of mobile applications. Design of the user interface. Development of applications for Android devices.

Detailed program

1) Introduction to the design and development of mobile applications
- Development of mobile applications
- Market Opportunities
- Technical requirements for Apple (iOS), Google (Android)
- Challenges: limited screen size, memory problems and fragmentation
- Notes to cross-platform framework (e.g., Flutter, React Native, Apache Cordoba, Sencha, Corona, Xamarin)
2) Designing the user interface
- Guidelines for designing a user interface that is not only beautiful, but also usable (Material Design)
- People in first place: parameters to consider in order to make your application accessible to all
- Mobile Design First and Responsive Design
- Learn how to use colors, fonts, and in general the most appropriate graphic components for each context
3) Development of applications for Android devices
- Introduction to the Android platform

- Development Environment: Android Studio, Google Software Development kit and versions, Genymotion and debugger
- Life cycle of an application: Activities and Fragments
- Basic and advanced layouts and widgets
- The competition: asynchronous threads and tasks
- Beyond the graphic aspect: Content providers and services
- Architecture of an Android application
- Publish an application on the Google Play Store

Prerequisites

Object-oriented programming with Java and distributed programming

Teaching form

Lectures and recitations. Practice labs with tutor support and auxiliary leaning material.

The course will be given in Italian.

During covid-19 emergency, the lectures, recitations and practice labs will be both online and recorded.

Textbook and teaching resource

Android Programming: The Big Nerd Ranch Guide (3rd Edition)

Semester

First semester

Assessment method

Assignment of a practical project and oral discussion of the project.
The artifacts of the project must include a project description document, the software and its documentation. The oral discussion will focus on the solution adopted on the project.

The project will be evaluated with respect to the completeness of the proposed solution, the design of the solution, and the user experience.

Office hours

On appointment.

Sustainable Development Goals