



UNIVERSITÀ DEGLI STUDI DI TORINO

ID

VP11_DIP_INF

Visiting Professor Program Academic year 2021/2022

DEPARTMENT OF COMPUTER SCIENCE

TEACHING COMMITMENT: 12 hours

COURSE TITLE

Mobile Device Programming

TEACHING PERIOD

2nd term

SCIENTIFIC AREA

Computer Science

LANGUAGE USED TO TEACH

Italian

COURSE SUMMARY

1. Introduction to the design of mobile applications:
retrospective overview;
main development activities;
development options.
2. Mobile application development on the Android platform:
building your first app;
user interfaces: layouts;
Activities and Intents;
user interfaces: menus, ...;
multiple devices;
user interfaces: fragments;
data storage;

network;
content providers;
threads and Services;
system services.

3. Backend-as-a-Service platforms (hints):

introduction to Firebase.

4. Mobile application development on the iOS platform (hints):

main conceptual differences with respect to Android;
peculiar aspects of the Swift programming language.

5. Introduction to mobile application cross-platform development:

overview of the cross-platform development options;
introduction to Flutter;
introduction to React Native.

6. Introduction to the aggregate programming paradigm:

distributed computation and computational fields;
formalization of the approach: model and calculus;
aggregate programming toolchain: domain-specific languages and simulators.

LEARNING OBJECTIVES

The course contributes to the achievement of the educational objectives of the "Laurea Magistrale in Informatica" programme by providing a basic knowledge of design principles and foundation for mobile application development, by presenting Android development and by introducing some aspects of iOS and cross-platform (Flutter and React Native) development. Moreover, it presents the aggregate programming paradigm for programming distributed systems (like, e.g., set of mobile devices) by specifying the global behavior and automatically derive the local behaviors.

TUTORSHIP ACTIVITIES

N/A

LAB ACTIVITIES

Development of mobile applications using Kotlin, Flutter, React Native.

OTHER ACTIVITIES BESIDES THE COURSE

N/A

VISITING PROFESSOR PROFILE

REAEARCH

We are looking for senior scientists with a strong background on knowledge and information management over large scale, covering e.g.:

* How to capture information over large scale (the Web, the Social Web, distributed organisational archives, mobile devices, drones, sensors, etc.)

* How to use the captured information (e.g. for knowledge management, business intelligence, customer analysis, management of large scale events via social media, etc.)

* How to communicate the information (to final users, problem owners, etc.).

The ideal candidate has a demonstrated record of independently designing and conducting research and publishing results in competitive conferences and journals. The candidate must also have a documented record of funded projects where he/she worked in as a PI or co-PI, and documented experience in collaborating with industry .

TEACHING

The candidate must have teaching experience at graduted level.

CONTACT PERSON AT THE DEPARTMENT

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