Fundamentals of Android systems programming - course description

General information

Course name	Fundamentals of Android systems programming
Course ID	11.9-WE-INFP-FoASP-Er
Faculty	Faculty of Computer Science, Electrical Engineering and Automatics
Field of study	Computer Science
Education profile	academic
Level of studies	First-cycle Erasmus programme
Beginning semester	winter term 2019/2020

Course information

Semester	5
ECTS credits to win	5
Course type	obligatory
Teaching language	english
Author of syllabus	• dr hab. inż. Marek Sawerwain, prof. UZ

Classes forms

The class form	Hours per semester (full-time)	Hours per week (full-time)	Hours per semester (part-time)	Hours per week (part-time)	Form of assignment
Lecture	30	2	-	-	Exam
Laboratory	30	2	-	-	Credit with grade

Aim of the course

Familiarize students with basic concept and the role of the Android operating system.

Learning details about special issues of multi-thread user interface which supports touch-screen technology.

Shaping the basic skills in area of application design for the Android platform.

Prerequisites

Java programming language, WEB technologies

Scope

Installation and daily usage of programming environment for Android system, configuration of virtual machine for Android system.

Types and purposes of application for Android platform.

Programming graphical user interface.

Configuration of themes for user graphical interface.

Access to local and remote database servers.

Playing multimedia files.

Testing and debugging of Android application.

Real-time profiler for Android system.

Teaching methods

Lecture: conventional lecture
Laboratory: laboratory exercises, group work

Learning outcomes and methods of theirs verification

Outcome description	Outcome symbols	Methods of verification	The class form
Can create activity for playback of multimedia files		• a quiz • an examination test with score scale • an ongoing monitoring during classes	• Lecture • Laboratory
Is able to create activity by the use of standard widgets of the Android system user interface		• a quiz • an examination test with score scale • an ongoing monitoring during classes	• Lecture • Laboratory

Outcome description	Outcome symbols	Methods of verification	The class form
Can write activity which create a local database which support basic data operations like adding, deleting, modifying of data		• a quiz • an examination test with score scale • an ongoing monitoring during classes	• Lecture • Laboratory

Assignment conditions

Lecture - obtaining a positive grade in written exam.

Laboratory - the main condition to get a pass are sufficient marks for all exercises and tests conducted during the semester.

Calculation of the final grade: = lecture 50% + laboratory 50%.

Recommended reading

1. Sayed Hashimi, Satya Komatineni, Dave MacLean: *Pro Android 2*, Apress, 2010.
2. Grant Allen, Beginning Android, Apress 2015.
3. Ted Hagos, Learn Android Studio 3, Efficient Android App Development, Apress, 2018
4. Joseph Annuzzi Jr., Lauren Darcey, Shane Conder: Introduction to Android Application Development: Android Essentials, 5th Ed., Addison-Wesley Professional, 2015.
5. Bill Phillips, Chris Stewart, Kristin Marsicano: Android Programming: The Big Nerd Ranch Guide, 3rd Ed., Big Nerd Ranch Guides, 2017.

Further reading

1. Wei-Meng Lee: Android Application Development Cookbook: 93 Recipes For Building Winning Apps, Wrox, 2013.
2. Anders Göransson: Efficient Android Threading: Asynchronous Processing Techniques for Android Applications, O'Reilly Media, 2014.
3. Joshua J. Drake, Pau Oliva Fora, Zach Lanier, Collin Mulliner, Stephen A. Ridley, Georg Wicherski: Android Hacker's Handbook, Wiley, 2014.
4. Dmitry Jemerov, Svetlana Isakova: Kotlin in Action, Manning Publications, 2017.
5. Godfrey Nolan, Agile Android, Apress, 2015.

Notes

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Modified by dr hab. inż. Marek Sawerwain, prof. UZ (last modification: 28-10-2019 13:18)

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