CSE224

FUNDAMENTALS OF ANDROID

Faculty

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Lecture #0

Course details

LTP – 2 0 2 [2 lectures,   2 practical's / (4)week]

Credit: 3.0

Books

Text Books:

   1. BEGINNING ANDROID PROGRAMMING WITH ANDROID STUDIO by J. F. DIMARZIO, WILEY.

References:
1. ANDROID APPLICATION DEVELOPMENT ALL-IN-ONE FOR DUMMIES by BARRY BURD, WILEY

Course Assessment Model

Components up	Marks break
Attendance	5
CA (Two best out of Three ATs)	45
ETE	50
Total	**100**

Course Outcomes

Through this course students should be able to

CO1 :: recall various components of Android system architecture used in andriod based projects

CO2 :: illustrate the different layouts used in android applications using Kotlin

CO3 :: classify the device architecture and build the permissions model required to maintain privacy

CO4 :: evaluate android mobile apps running on emulators and physical devices

CO5 :: summarize the prepared activities into single app

CO6 :: apply different menus based on application theme and user interface

Program: B.Tech (Computer Science and Engineering)

Program Code: P132

Program Educational Objectives (PEOs)

1.Those employed in industry will be able to apply fundamentals of technical knowledge in multidisciplinary areas related to automobile, thermal, manufacturing and mechatronics by participating as top professionals in leading Industries.

2.Pursue advanced education, research and development in science, engineering, and technology, as well as other professional endeavors.

3.Be receptive to professional and ethical responsibilities for the impact of engineering solutions on society being as a successful innovator, consultant and

Program Outcomes (POs)

1.Engineering knowledge::Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

2.Problem analysis::Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences

3.Design/development of solutions::Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

Program Outcomes (POs)

4.Conduct investigations of complex problems::Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions

5.Modern tool usage::Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations

6.The engineer and society::Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

Program Outcomes (POs)

7.Environment and sustainability::Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development

8.Ethics::Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

9.Individual and team work::Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings

10.Communication::Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions

Program Outcomes (POs)

11.Project management and finance::Demonstrate knowledge and understanding of the engineering, management principles and apply the same to one's own work, as a member or a leader in a team, manage projects efficiently in respective disciplines and multidisciplinary environments after consideration of economic and financial factors

12.Life-long learning::Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change

13.Competitive Skills:: Ability to compete in national and international technical events and building the competitive spirit

Program Specific Outcomes (PSOs)

1.Ability to formulate, simulate and use knowledge in domains such as Networking & Security, Database Management Systems, Intelligent Systems, Software Engineering, Web Technologies, Multimedia, Operating Systems and System Architecture for building IT applications.

2.Ability to acquire programming efficiency to ideate, design and deploy solutions for different business environments.

3.Acquaintance with the contemporary issues, latest trends in technological development and thereby innovate new ideas and provide optimal solutions to existing problems.

4.Provide effective and efficient real time IT solutions using acquired knowledge in various domains.

Syllabus

Unit I

Introduction to Android and Kotlin : Introduction to Kotlin, Variable, Data type, Operator, Control Flow, Function, Array, String, OOPs Concept, The Activity and its Life Cycle

Unit II

User Interfaces : Layout: Linear, Relative, Grid and Constraint

Unit III

Localize your app : App localization, Log, Snackbar

Intents and Toast : Intent Class, Implicit and explicit Intent, Toast event implementation, Action Bar

Permissions and App chooser : Request App Permissions, Handle the permissions request response, App chooser

Menus and Dialogs : Option Menu, Context Menu, Popup Menu, Alert Dialog, Custom Alert Dialog

List of Practical's / Experiments:

Basic of Kotlin : Create an application which will contain the basic concepts of Kotlin.

Layouts : Create an application which will contain different types of layouts like linear, relative etc.

SnackBar : Create an application based on snackbar

Intents : Create an application based on implicit intent and explicit intent.

Toast : Create an application which will display toast in the application.

Menus : Create an application which will contain different types of Menus like option, context etc.

Dialogs : Create an application to implement different types of dialogs.

Dos and Do'nts

Do:

1. Always keep your system ready.
2. Find the solution of given question or program.
3. Maintain the Discipline.

Dos and Do'nts

Don't:

1. Never Ignore the Dos mentioned in the previous slide.

Next class

Introduction to Android and Kotlin