BIRLA INSTITUTE OF TECHNOLOGY & SCIENCE, PILANI
K. K. BIRLA GOA CAMPUS
CENTER FOR TECHNICAL EDUCATION

Course Title : Introduction to Android Application Development
Instructors : Tanmay Dixit, Rushikesh Jogdand.
Co-instructors : Yash Jain, Nipun Agarwal, Priyesh Srivastava.

1. Scope and Objective of the course:
The course, **Introductory Android Application Development**, gives students a comprehensive overview of android app development using Android Studio. This course is aimed at students who have had interest in app development and wish to learn basic app development. We begin with a basic revision of Java with a practice assignment, and move on to the major focus of this course - **app UI components** and **in-app processing**. The aim of the course is to provide students a start in android app development as we focus on the relatively tricky topics. This will give students a good start in this field and they can then work on **Mobile App Club projects** or **other in-campus opportunities**.
For many of the examples and concepts, the source code of the *DoJMA*, the *Waves 16*, *ICEF'17*, *BPGC Login*, ARD and the *NMD'17* app will be used. You may check out our other projects on macbitsgoa.com or here.

2. Course Plan:

SR NO.	WEEK	TOPIC TO BE COVERED	DETAILS
1.	Week 1	Review of **Java**	During this week we will brush up on basic programming concepts and Object Oriented Programming concepts. Installation of **Android Studio**.
2.1	Week 2	Android UI basics 1	Intro to TextViews, **Buttons**, EditTexts. How to declare, initialize and define them.
2.2	Week 2	Android UI basics 2	During this week we will continue to brush up the basics such as using views, buttons, onClickListeners, Image Views.
3.1	Week 3	Basic XML layouts	Linear Layouts , Relative Layout, Coordinator Layout, Constraint Layout.
3.2	Week 3	Intents	How to move from one screen to the other. Types of intents.
4	Week 4	Shared Preferences	Local storage in the android device.

5	Week 5	Manifest	Android manifest, permissions.
6.1	Week 6	Lists in Android	We shall start with **RecyclerView**, which is an advanced customized form of listview and is used in almost every app.
6.2	Week 6	Customizations in RecyclerView	Why RV is the most important and functional part of every app and is used so often.
7.1	Week 7	Menus in android	Top menu and side nav drawer
7.2	Week 7	Comparison of Listview with **RecyclerView**.	Brief overview of ListView with its pros and cons.
8	Week 8	Good UI and UX practices	UI practices and material design 2.0
9.1	Week 9	Fragments	Types of fragments, their creation and applications
9.1	Week 9	Fragments + RV	Integration of android 2 most used components and their applications.
10.	Week 10	Commonly used external libraries and **basics of git.**	Here we shall discuss how to use common libraries such as [Fresco](), [Glide](), [Zxing]() etc.
11.	Week 11	Publishing your app on the **Play store**	For the final week we shall focus on **releasing your app** to the play store. Editing the proguard files and signing your application.

3. Evaluation:

Component	Weightage (%)	Tentative Date	Remarks
Online Test-I	10	1 month after start	Open internet.
Assignments	30	Regularly in class	Based on stuff we made in class.
Online Test-II	10	2 months after start	Open internet.
Online Test-III	10	4 months after start	Open internet.
Final Project	40	30 days before Compre	An App which will have all the components included.

Contact details

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Note: We will be providing detailed online resources to learn and practice from after each and every session. Every session/class will be about 1.5~2 hours long with a 5 min break in between. Students are expected to come in with a laptop to class. **In case of any doubts/queries feel free to contact any of the instructors at any time.**