

Course title: Mobile Application Development

Course code: 12IS6D4

- a. Apart from classroom teaching, activity based learning and experiential learning approach used in teaching Mobile application development course which is an elective for 6thsem students (2012 scheme).
- b. Modern tool usage: Android studio for app development - Official IDE by Google for android app development.
- c. Teaching & Learning with ICT: All the concepts are demonstrated with the practical sessions in laboratory and students were made to develop simple apps to demonstrate the concepts using android studio, comprehend the basic features of android platform and android application development by experimenting with the simple apps and executing on the android studio emulator or real mobile devices.

Official Android site:

(<https://developer.android.com/training/basics/firstapp/index.html>) used as reference - Code samples for Android developers and learn how to build different components of android applications. Each sample is a fully functioning Android app.

- d. Import Samples from GitHub: Android Studio provides easy access to import Android code samples from GitHub and is the recommended method to retrieve Android code samples.
- e. Students are given the task of completing the two free courses on Android Fundamentals & App development listed below: (Recommended courses by Google developer console/community)

i. Android Development for Beginners (UDACITY course)

<https://www.udacity.com/course/android-development-for-beginners--ud837>

Very helpful in getting strong fundamentals on android app development, also details about android studio installation and how to work with android studio.

ii. Developing Android App

<https://www.udacity.com/course/developing-android-apps--ud853>

Details the concepts with hands on exercises and executing project named Sunshine APP.

f. **Assignment – Project execution (App development):** Explore the basic framework and usage of SDK to build GUI and apply advanced technologies in developing android apps. Evaluation process for the app development/ demo of the app is based on the following rubrics.

- The idea should be original; the app must be non-trivial, ideally incorporating multiple significant features of the Android platform (e.g. geo-location, camera, data storage, sensors etc.).
- The app should satisfy one or more of the following categories: Monetizable (i.e. it could generate a profit), Humanitarian (i.e. it improves quality of life in some significant way - not just fun)
- **Accuracy/ Completeness** – for supplying the deliverables listed (code), and for handing in an app that meets the various points in the specification. App should work without runtime errors on emulator/ real device.
- **Quality of the user interface** –Are the screens easy to use? Are they laid out neatly? Do they look viable?
- **Overall quality and complexity of the app** – the following features are checked for the quality and complexity check for the apps like: functionality, Number of activities and appealing UI.

g. **Open Book Exam**– Concept of open book evaluation was adopted for CIE.

Rubrics for Mobile Application Development Evaluation

	Component (marks)	Excellent	Good	Average	Course Outcome
a	Understanding of the App requirement, Literature survey (3 Marks)	Deep understanding of feasibility of the app and requirements (2-3 Marks)	Partial understanding of the app requirement (1-2 Marks)	No sufficient understanding for app development. (0-1 Marks)	CO1

b	Accuracy/ Completeness (3 Marks)	Application of appropriate concept for app development (2- 3 Marks)	Partial understanding of the concepts required for app development (1-2 Marks)	No proper usage of application components in the app. (0-1 Marks)	CO2
c	Quality of the user interface - (2 Marks)	Appropriate design, easy to use GUI, user friendly Screens (1-2 Marks)	Partial design of the GUI, difficult to use screens and trouble in navigating between the screens (0-1 Marks)	No idea of GUI component usage in user interface (0 Marks)	CO3
d	Result: Overall quality & complexity of the app (2 Marks)	Desired result (1-2 Marks)	Partial result (0-1 Marks)	No Result (0 Marks)	CO3, CO4

Table 5.6.1.4 given below gives the details of apps developed for the course Mobile Application Development.

**List of Mobile Apps developed for the course - Mobile Application Development
[12IS6D4]**

Sl. No	Application
1	Photostatic: The main aim of this app is to reduce the waiting time at the photocopying booth and maximize efficiency. The faculty staff could simply submit the notes to the photocopying booth, the person working there could update the database and the students could simply check if these notes were available for copying right from the app. If it is available, they

	could place the order and go collect the notes whenever they were free.
2	Hostel/PG Locator: The main objective of this project is to make the lifestyle of a student easier. Providing students with the wide variety of the options to find the right accommodation.
3	ISE Flash News App: An Offline/Online notification application which allow users to access notices about anything and everything happening within the college. These notices can be displayed, either in the form of text or images. This notification app is a place where the users of the college i.e. students and staff, can come together on a common platform and view any latest information released by the college.
4	Find My Teacher App: This app is for ISE department members who can find out the current location of the faculty members who belong to ISE department. The user of this app can view various details of a staff member along with the faculty's timetable. This is an offline app which does not require any internet accesses and hence can be used anywhere at any point of time. There is another feature in this app where in time table information is conveyed to the user in the form of an audio.
5	Work Made Easy App: This app is to make the lifestyle of a student easier by providing the students with the wide variety of options to find the right application form based on their requirement of resources. To seek permission to access different resources, students need to just download the app which consists of various form such as wifi access forms, matlab connection forms etc. where the students need to provide their data and just click on the submit button to apply for the requirement of resources.