Mobile Application Development

Course Code: IT 332

Credit Hours: 3

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Objective

Learning how to build robust mobile applications for Android and iOS using latest web technologies. Understanding how to use frameworks such as Ionic to develop hybrid mobile applications. Learn different ways and techniques to creating dynamic and platform independant applications using industry best practices. Learn different ways to build mobile appications.

Course Content Breakup

Session	Topics
1	Course Introduction
2	Introduction to Ionic Framework Different ways to build mobile apps Set up simple Hello World Ionic App
3	Introduction to TypeScript and Angular.
4	Introduction to Components and component architecture. Angular Modules, Directives, Templates, Pipes.
5	Understand Angular and Ionic application folder structure.

6	Lifecycles in Applications. Angular / Ionic lifecycle methods.
7	Angular Forms (Reactive Forms)
8	Promises, Async Await, Observables. rxjs.
9	Passing data between components.
10	State Management. Angular Services.
11	Angular Routing / Navigation. Route Guards.
12	Web Storage APIs (Ionic Storage, WebSQL, IndexedDB, LocalStorage) and other storage options (Sqlite).
13	Brief Introduction to Ionic Components
14	Saving a simple form in Ionic.
15	Basics of APIs. GET / PUT / POST HTTP Verbs
16	Loading asynchronous data in Ionic.
17	**MID TERMS**
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19	Using a backend API (Nodejs API with Ionic)
20	Permissions handling.
21	How to use Google Maps in Ionic.
22	How to use native plugins in Ionic.

23	How to use Push Notifications
24	Theming in Ionic
25	How to use Firebase / FireStore
26	Targetting Specific Platforms in Ionic
27	Code Splitting and Lazy Loading.
28	Common production bugs and how to handle them (Crashlytics)
29	App Deployment
30	Explore other Mobile building platforms like React Native, Flutter.
31	Project Demos
32	Project Demos

Course Material

All related material would be provided.

Course Policy

- All assignments will need to be uploaded on Github.
- Late submissions will result in deduction of marks.
- A large part of the grade (20%) will be dependant on semester project.
- A maximum of 2 students can work in a group project. The grade for each student in the group will be marked seperately depending on their undestanding and the work done on the application they have built.