Training Outlines
Training Program: Training for Mobile App Developer on Android Platform

Course Outline

I.

Name of the Course	Time Duration
Mobile Application Development (Android)	**Total Duration = 200 hrs.** **Demonstrations=180hrs.** **Project work=20hrs**

Student Assessment Method:

    a. Online Assessment
    b. Exams
    c. Project Demonstrations

II. **Assessor Requirements:** Refer to training methodology
III. **Certification System:** Certificate of Competence & Certificate of Participation (see methodology for full details)

Time Distribution

Module No	Job Focused Module	Details	Hrs
1.	**Revisiting JAVA & OOP** **Lecture-1**	• Introduction to Android	**2**
		• Installing the Android Development Environment	**2**
2.	**Revisiting JAVA & OOP** **Lecture-2**	• Object-oriented Concepts	**2**
		• Java Basics	**2**
3.	**Android Development Environment** **Lecture-3,4**	• Creating a New Android Studio Project	**1**
		• Designing the User Interface	**2**
		• Adding a Form Widget	**1**
		• Creating Activities	**1**
		• The Android Manifest File	**1**
		• Testing in the Emulator	**1**
		• Opening a Saved App in Android Studio	**1**
4.	**Android User Input, Variables, and Operations** **Lecture-5,6,7,8**	• Android Themes	**2**
		• Simplifying User Input	**2**
		• Declaring Variables	**1**
		• Working with Mathematical Operations	**3**

		• Displaying Android Output	**2**
		• Simple app using the module taught e.g: Calculator.	**6** **(8 lecture)**
5.	**Icons and Decision-Making Controls** <mark>**Lecture 9-11**</mark>	• The Launcher Icon	1
		• RadioButton and RadioGroup Controls	3
		• Making Decisions with Conditional Statements	4
		• Different types of sensors	4
6	**Android Lists, Arrays, and Web Browsers** <mark>**Lecture 12-17**</mark>	• Creating a List and Using the onListItemClick Method	4
		• Decision Structure - Switch Statement	4
		• Android Intents	1
		• Launching the Browser from an Android Device	3
		• Building layouts including XML, Views, ViewGroups etc.	4
		• Adding Multiple Class Files	2
		• Simple app using the module taught. E.g.: Things To Do, Report Card.	6
7	**Implementing Audio in Android Apps** **Lecture 18-21**	• Creating a Splash Screen •	2
		• Designing the main.xml File •	2
		• Playing Music •	2
		• Creating a Raw Folder for Music Files •	2
		• Using the MediaPlayer Class •	2
		• Simple app using the module taught. E.g.: Simple MediaPlayer	6
8	**Android Security** **Lectuer-22**	• Android security concept	2
		• Using and defining permissions	2
9	**Android Networking and Background Tasks** **Lecture 23-29**	• HttpURLConnection	4
		• JSON Parsing	4
		• Asynctask Vs Loaders	4
		• Looper, Handler and Handler Thread	4
		• Network Communication using any Library (Retrofit)	4
		• Sending Email, SMS, Phone Call	4
		• Simple app using the module taught. E.g.: Weather Forecasting	4
10	**Android Storage and**		**4**

SKILL DEVELOPMENT FOR
MOBILE GAME APPLICATION

DIGITAL BANGLADESH
Skilled. Equipped. DigitalReady.

ICT DIVISION
FUTURE IS HERE

	Content Provider Lecture 30-35	• Using the SQLite database	
		• Using and defining Content Provider	4
		• Outlook: Loader	2
		• Firebase Cloud Storage, Database and Authentication	2
		• Firebase notification, analytics	4
		• AdMob Integration	2
		• Simple app using the module taught. E.g.: Quiz App using Fire Base	6
11	Services Lecture 36-39	• Location and Map API	4
		• Marker, Marker Options and Clustering	2
		• Direction, Nearby Place API	2
		• Geocoder and Geofencing	2
		• Simple app using the module taught.	6
12	Custom widgets and the canvas API Lecture 41-42	• Defining custom widgets	2
		• Compound widgets	2
		• Canvas API	2
		• View state persistence	2
13	Advanced Android Concepts Lecture 43-45	• Meaningful Motion (Animation)	4
		• Gradle for Android	2
		• Espresso (Android Testing Support Library)	2
		• Adaptive Design	2
		• Android Wear (Create Wear Interface for Weather App)	2
14	Android Application Deployment	• Android Application Deployment on device with Linux and Windows	1
		• Android Application Deployment on Android Market	1
15	Project work	• **2 complete projects have to be completed and delivered for every student (First one is a group project and the last one is the individual project).**	20