

# LONDON APP BREWERY



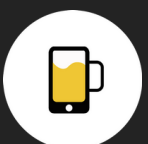
## Android App Development Curriculum

### Course Description

The Foundation in Android App Development course is a combination of guided tutorials and challenges. The guided tutorials introduce new concepts and provide detailed explanations of how to make a particular app. The challenges reinforce learning as participants solve problems by applying the concepts from the guided tutorials.

### Course Objectives

Participants will learn to code and develop Android apps by building over 8 popular apps from the Google Play Store from scratch using the Java programming language and Android Studio software. Through making these apps, students will learn key programming skills and become familiarised with the Android Framework.





## Learning to Code – Programming Techniques Covered



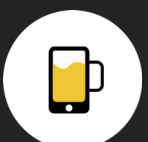
- **Concepts of Object Oriented Programming (OOP):** The type system, variables, functions and methods, inheritance, classes and protocols.
- **Control Structures:** Using If-Else clauses, Switch statements and logic to control the flow of execution.
- **Data Structures:** How to work with collections, such as arrays and dictionaries.
- **Software Design:** How to organise and format code for readability and how to implement the Model-View-Controller (MVC) design pattern.
- **Networking:** How to make asynchronous API calls, store and retrieve data from the cloud, and use the JSON format for server communication.



## Learning the Android Framework – Aspects Covered



- **Using Google's Android Studio software:** Learning to use Android Studio is key for making an Android app. Participants learn to set up projects, design the app with Layout XML files, integrate third party libraries into projects, and debug their apps based on compiler warnings and error reports in the console.
- **App Design:** Participants customise the appearance of an app using the Layout and Styles XML files, arrange UI (user interface) elements on screen, and learn to use set properties to make an app fit different screen sizes and screen orientations for a good user experience.
- **App Behaviour:** How to connect UI elements to code using Listeners and modify how they appear on screen. How to navigate between different screens and pass data between them using Activities and Intents.
- **Key Android classes:** How to work with key aspects of Android such as Activities, Intents, the ListViews, Adapters, SharedPreferences, and the LocationManager.





## Logistics



Students will need to bring their own laptops with Android Studio 2 pre-installed. We have a set of installation instructions for Android development which we will send out prior to the course.



Students who wish to run and test the applications on a physical device will require an Android phone running Android KitKat (4.4) or above and they will need to bring the USB connection cable.



The course will run from 10:00 to 17:00 over two consecutive Saturdays. The class is capped at 10 students, with 2 instructors present.



The course will take place in our central London classrooms. Students will receive the address and travel directions prior to the start of course. All locations are based within zone 1 or zone 2 with easy underground train access.

