DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

COURSE CONTENT

National Winter Training Program on Android Apps Development

7 day workshop on "Android development"

A Workshop on "Android development" was conducted at seminar hall 6, MVJCE, Bangalore from 04th of February, 2016 to 11th of February, 2016 by the department of Computer Science & Engineering in association with Computer Society of India (CSI).

Both the trainee's arrived to grace the occasion at 9.30am. The event started with welcome speech by Dr. M Pauline, HOD, Department of CSE.

Following that our teacher coordinators Mrs. Suganthi Sivakumar & Mrs. Thanu Kurian have addressed the gathering with their words of wisdom. They have encouraged all the participants, and emphasized on the features of Android development. Then a brief introduction about the trainee was given. The trainee for the event was Mr. Ravikumar, Revert technologies. The trainer Mr. Ravikumar is working as Research & Development Engineer in Finland Labs. He has delivered more than 30 workshops.

There were 49 participants. The seminar session started sharp at 10 am by the speaker Mr. Ravikumar & continued till 4 pm. Once the days topic was concluded, the question answer session was opened, this continued for rest of the days.

The Android Development course is primarily designed for programmers who want to learn how to create applications in Android. You will create widgets, Customize List view, Grid view, Spinners etc, create applications using audio, video and sqlite database and finally publish it on Google Play.

After completing the Android Development training the students understood:

1. Basic Android Development tools such as Android Studio, DDMS, Drawables, Listeners, and so on.

2. How to use various Layouts and Widgets in Android Applications.

3. How to create interactive applications in android with multiple activities including audio, video and notifications.

4. How to create applications using SQLite database.

5. How to publish your App on Google Play.

The workshop comprised of the following themes:

Day I:

Introduction to Android What is Android?

- History Behind Android Development

- Setting up development environment

- Android Architecture

- Dalvik Virtual Machine

- UI Components - Views & notifications

- Components for communication

- Intents & Intent Filters

- Android API levels

- Hello Android example

Application Structure and UI Widgets

- AndroidManifest.xml

- uses-permission & uses-sdk

- Resources & R.java

- Assets

- Layouts & Draw able Resources

- Activities and Activity lifecycle

- First sample Application

- Working with Button

- Toast

- Custom Toast

- Button, Toggle Button

- Switch Button, Image Button

- Date Picker , Time Picker

Day II:

Activity & Intent

- Activity Lifecycle

- Activity Example

- Types of Intent

- Implicit Intent

- Explicit Intent

- Checkbox

- Alert Dialog

- Complex UI components

Layout Design

- Absolute layout

- Relative Layout

- Linear Layout

- Table Layout

- Grid Layout

- Frame Layout

Hand-on session

- Change one activity to another activity
- Calling and Dialing Application
- Camera Application
- Web and Url Application

DAY III:

Notification Manager

- Working in the Background
- Creating and Controlling Services
- Binding Activities to Services
- Creating New Threads
- Synchronizing Threads for GUI Operations
- Using Toasts in Worker Threads
- Introducing the Notification Manager
- Creating Notifications

Broadcast Receiver & Content provider

- Understanding Broadcast action, category and data
- Registering Broadcast receiver through code and through XML
- Sending Broadcast
- Accessing built in content providers
- Content provider MIME types
- Searching for content
- Adding, changing, and removing content
- Creating content provider
- Working with content files

DAY IV:

Animation

- Introduction of Android Animation
- Types of animation
- Property animation
- Scale animation
- Alpha animation
- Rotate animation
- Translate animation
- Frame by Frame Animation

Examples

- Hand on all type of animation

- Example of Scale animation

- Example of Alpha animation

- Example of Rotate animation

- Example of Translate animation

- Example of Frame by Frame Animation

DAY V:

Google Maps

- Maps & Location-Based Services

- Creating Map-Based Activities

- Introducing Map View and Map Activity

- Configuring and Using Map Views

- Using the Map Controller

- Customizing Map

- Google Map class

- Android Google Map Application

- Proximity alerts

- Working with Google Maps

- Showing Google map in an Activity

- Map Overlays

- Itemized overlay

Examples

- Gets current location using gap.

- Finding location using service provider

- Finding location Using Broadcast Receiver

DAY VI:

Multimedia in Android

- Multimedia Supported audio formats

- Simple media playback

Data Storage

- Using Shared Preferences

- Android File System

- Internal storage

- Using SQLite

- Introducing SQLite

- SQLite Open Helper and creating a database

Examples

- Application One Audio Player

- Application on Storing Data Using Shared Preferences

DAY VII:

Bluetooth device

- Controlling local Bluetooth device

- Discovering and bonding with Bluetooth devices

- Managing Bluetooth connections

- Communicating with Bluetooth

Android P2P Communication

- Introducing Instant Messaging

- Sending and Receiving Data Messages

- Transmitting Data Messages

- Receiving Data Messages

Example

- Application On sending SMS

Last Day test was conducted and the winners are issued with merit certificate and other students have received the workshop completion certificate.

Finally the Workshop event ended up with vote of thanks by Dr. M Pauline, HOD, Department of CSE. The trainer was delighted on the association of CS department and with the college and felt that the seminar was an excellent and unique opportunity to the students.

Principal Signature with Seal
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