Mobile Application Development 3161612

Course file

B.ESEMESTER- VI 2022– 2023

L. D. COLLEGE OF ENGINEERING
INFORMATIONTECHNOLOGY DEPARTMENT
AHMEDABAD

BY

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Professor

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Over all Term Planning

Affiliating University: **Gujarat Technological University, Ahmedabad**

Starting date of the term: **30-01-2023**

Ending date of the term: **27-05-2023**

End Semester Exam: **Jun,2023**

Semester – VI

Subject Name: Mobile Application Development

Type of course: Elective

Prerequisite: NA

Rationale: There is a growing number of people who uses smartphones and tablets and hence **mobile app development** has ability to access a large segment. Android has an advantage of being open source. This course will enable the students to develop mobile application using Android.

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks				Total Marks
				Theory Marks		Practical Marks		
L	T	P	C	ESE (E)	PA (M)	ESE (V)	PA (I)	
2	0	2	3	70	30	30	20	150

Content:

Sr. No.	**Content**	**Total Hrs**	**Marks Weightage (%)**
1	Overview of Android Introducing Android, The Android Application Components, The manifest file, Downloading and Installing Android, Exploring the Development Environment, Developing and Executing the first Android Application.	**03**	**10**
2	Using Activities, Fragments and Intents in Android Working with activities, Using Intents, Fragments, Using the Intent Object to Invoke Built –in Application	**03**	**20**

3	Working with the User Interface Using Vies and ViewGroups Working with View Groups, Building data with the AdapterView Class, Designing AutoTextCompleteView, Implementing Screen Orientation, Designing the views programmatically, Handling UI events, Creating Menus	**04**	**20**
4	Storing the Data Persistently Introducing the Data Storage Options, Using the internal storage, Using the external storage, Using the SQLite Database, Working with content Provider	**05**	**20**
5	Working with Location Services and Maps Working with Google Maps, Working with Geocoding and Reverse Geocoding.	**04**	**5**
6	Working with Graphics and Animation Working with Graphics, Using the Drawable Object, Using the ShapeDrawable object, Hardware Acceleration, Working with Animation	**04**	**10**
7	Audio, Video and Camera Use Media Player, Recording and Playing sound, Creating a sound pool, Using Camera, Recording Video	**02**	**10**
8	Publishing and Distributing Android Application Signing the Android Application, Versioning the Android Application, Publishing the Android Application	**03**	**5**

Suggested Specification table with Marks (Theory): (For BE only)

Distribution of Theory Marks					
R Level	U Level	A Level	N Level	E Level	C Level
10	**40**	**20**	**--**	**--**	**--**

Legends: R: Remembrance; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create and above Levels (Revised Bloom's Taxonomy)

Course Outcomes: Students will be able to

Sr. No.	CO statement	Marks % weightage
CO-1	Understand Android architecture, activities and their life cycle.	10
CO-2	Use View Groups comprising layouts and Views in application.	40
CO-3	Manage data binding, user interface events, maps	25
CO-4	Work with graphics, animation, still images and video.	20
CO-5	Publish and distribute Android Application	05

Books

1) Android Application Development Black Book by Pradeep Kothari, DreamTech
2) Beginning Android 4 Application Development by Wei Meng Lee, Wrox
3) Android Wireless Application Development By Lauren Darcey, Shane Conder, Pearson

List of Open Source Software/learning website:

1. https://developer.android.com/

3 – very good
2 – good
1 – average

0 - Not mapped

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	1	3	2	1	1	0	0	3	1	2	0
CO2	3	3	2	2	3	2	1	0	3	1	2	0
CO3	3	3	2	2	3	2	1	0	3	1	2	0
CO4	3	2	2	2	3	2	1	0	3	1	2	0
CO5	3	1	2	1	1	1	0	0	3	1	2	1

LESSON PLAN

Dept: Information Technology **SEMESTER: BE-VI** **TERM: 2022-23**

SUBJECT: - Mobile Application Development
Div: A
Faculty: Dr.Hiteishi Diwanji

Sr. No	Content	Lectures planned	Planned Date	Actual Date	Mode of Delivery	Resources required
1	Overview of Android					
	Introducing Android, The Android Application Components, The manifest file, Downloading and Installing Android	1	1/2/2023			
	Exploring the Development Environment	1	1/2/2023			
	Developing and Executing the first Android Application	**1**	8/2/2023			
2	Using Activities, Fragments and Intents in Android Working with activities Using Intents, Fragments Using the Intent Object to Invoke Built –in Application	**2**	8/2/2023 15/2/2023			
3	Working with the User Interface Using View and ViewGroups Working with View Groups, Building data with the AdapterView Class	2	15/2/2023 22/2/2023			
	Designing AutoTextCompleteVie	2	22/2/2023 1/3/2023			

	w Implementing Screen Orientation Designing the views programmatically					
	Handling UI events	1	1/3/2023			
	Creating Menus	2	15/3/2023			
3.1	Test 1 – Team activity					
4	Storing the Data Persistently Introducing the Data Storage Options, Using the internal storage, Using the external storage, Using the SQLite Database Working with content Provider	4	29/3/2023 5/4/2023			
5	Working with Location Services and Maps Working with Google Maps, Working with Geocoding and Reverse Geocoding.	2	12/4/2023			
6	Working with Graphics and Animation	1	19/4/2023			
	Working with Graphics, Using the Drawable Object, Using the ShapeDrawable object, Hardware Acceleration	3	19/4/2023 26/4/2023			
	Working with Animation	4	3/5/2023 10/5/2023			
7	Audio, Video and Camera Use Media Player, Recording and Playing sound, Creating a sound pool, Using Camera, Recording Video	2	10/5/2023 17/5/2023			
7.1	Test 2– team activity					
8	Publishing and Distributing Android Application Signing the Android Application, Versioning the Android Application, Publishing	2	27/5/2023 24/5/2023			

	the Android Application					

LABORATORY PLANNING

Dept: Information Technology **SEMESTER: BE-VI** **TERM: 2022-2023**

SUBJECT: **Mobile Application Development** **Batch :A1**

Faculty: Dr. Hiteishi Diwanji

1) **Mapped to CO1 :** Understand Android architecture, activities and their life cycle.

Sr. No.	Topic	Labs Planned	Planned Date	Actual Date
1	Instllation of Android Studio Develop an application to print the "Android icon" and name of the application.	1	3/2/2023	
2	Develop an application to print your biodata with photo.		3/2/2023	
3	**Create an Android Application using intents and two activities. On the first activity, 3 user names are displayed. On pressing the username the second activity should be started. The second activity must show the photograph of appropriate user.**	1	10/2/2023	

Mapped to CO2: Use View Groups comprising layouts and Views in application.

Sr. No.	Topic	Labs Planned	Planned Date	Actual Date
1.	Develop **voice based calculator**. Decide the appropriate layout of digits and signs. Also choose the views which are needed.	**2**	**17/2/2023** **24/2/2023**	

Mapped to CO3: Manage data binding, user interface events, maps

Sr. No.	Topic	Labs Planned	Planned Date	Actual Date
1.	Create food app like "Zomato". Do a customer survey. Identify one feature that is to be changed. Implement toggle button on menu. If a menu is expanded, it should be "Grey" and user should not be able to click on it again. For example "vegetable" button is selected then it should turn "Grey". Create an Android	**2**	**3/3/2023** **10/3/2023**	

	app for food delivery. Also Track customer and food delivery boy location. Analyze if showing location tracking on map is the useful feature or not.			

Mapped to CO4: Work with graphics, animation, still images and video.

Sr. No.	Topic	Labs Planned	Planned Date	Actual Date
1.	Prepare a photo album. Put the photographs. When a photograph is selected, it should Rotate. Also photograph should be zoomed.	**2**	**17/3/2023 24/3/2023**	
2	Prepare a “Dancing balls” Game. Take red ball and blue ball. Red ball should rotate in clockwise manner for the time user has set. The blue ball should rotate in anticlockwise manner for the time user has set.	**2**	**31/3/2023 21/4/2023**	

PROJECT WORK

Test 1 (Based on CO1, CO2) (Identify the team)

Q-1 Design an appropriate views and layouts for “PicPic” app which is a collection of photographs.

Test 2 (Based on CO3, CO4) (Identify the team)

Q-1 Give following facilities to “PicPic” app

1. Suitable presentation – creation of album with specific person.
2. Allow to choose the design of photoframe.
3. Allow accessories to be added to the person for example spectacle, turban.
4. Allow to choose background.

OR

Test 1 (Based on CO1, CO2) (Identify the team)

Q-1 Design an appropriate views and layouts for “LearnLearn” app which is a collection of study material for specially abled people (Blind, Deaf & Dumb, Dilexia, Autism)

Test 2 (Based on CO3, CO4) (Identify the team)

Q-1 Give following facilities to “LearnLearn” app

1. Suitable presentation – creation of lessons.
2. Test generation for faculty and Test attempt by students.
3. Performance analysis

Evaluation

Midsemester Exam (CO1) (CO2) (CO3)	 05 marks 15 marks 10 marks
Project work(CO4)	10 marks
Practical list 2,3 (CO2, CO3)	10 marks
Practical list 4 (CO4)	10 marks
Practical test (CO1,CO2, CO3,CO4) (if a student gets > 50% in regular practical work of the semester.	10 marks

Rubrics for Practicals:

	Clear(Good)	Average/partial	Poor/not at all
Understanding of problem statement	5	3	0
Flow of program/logic	3	1	0
Error free /Generate output	2	1	0

Rubrics for Projectwork(20 marks – rounded to 10)

	Clear(Good)	Average/partial	Poor/not at all
Background knowledge, Literature survey	5	3	0
Proposed implementation/logic/flow of project	5	3	0
Implementation	5	3	0
Report writing	5	3	0