

Course Title:	Project mobile programming
Course Code:	CSE573/1
Program:	Master Degree In Computer Engineering
Department:	Computer Engineering
Course coordinator:	Mr, Ahmed kHLIFI
Institution:	Private Higher School of Engineers of Gafsa (ESIP)

A. Course Identification

1. Credit hours: 3 (2-1-0)
2. Course type
a. College Department Others
b. Fundamental Transversal Optional
3. Level/year at which this course is offered: 3.1/3
4. Pre-requisites for this course (if any): Basic knowledge of Java programming, Android
Studio development environment installed.
5. Co-requisites for this course (if any):

1. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Self- study	Total workload	
1	Traditional classroom				
2	Blended	15			
3	E-learning		11	26	
4	Distance learning	re	2 n	genieur	
5	Other ()			Benneur	

2. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	
2	Laboratory/Studio	-
3	Tutorial	5
4	Others (Project)	10
	Total	15



B. Course Objectives and Learning Outcomes

Course Description

This Task Management with Android course is designed to introduce students to the development of mobile applications using the Android platform. During this program, students will learn the essential skills to create a mobile task management application, combining basic Android development concepts, user-friendly user interface design, and data management

Course Main Objective

At the end of the module, the student should be able to:

- ✓ Understand the fundamentals of Android, such as Intents, Activities, Fragments, and Services
- ✓ Gain a basic understanding of mobile application development, including the specifics of the Android platform.
- ✓ Know the requirements and steps to publish an application on platforms
- ✓ Master the use of common Android views to create an interactive user interface.
- ✓ Set up navigation between different application activities
- ✓ Present orally and in writing the key concepts of mobile development, the technical challenges, the solutions implemented, and the results obtained
- ✓ Perform unit tests to verify that the application is working properly.
- ✓ Collaborate with team members to propose and implement solutions to real-life mobile application challenges.

CLO	S	Aligned PLOs
1	Knowledge and Understanding	
3.1	 Understand the fundamentals of Android, such as Intents, Activities, Fragments, and Services 	
3.2	 Gain a basic understanding of mobile application development, including the specifics of the Android platform. 	PLO.K2
3.3	\checkmark Know the requirements and steps to publish an application on platforms	
2	Skills	
2.1	 Master the use of common Android views to create an interactive user interface. 	PLO.S2
4.1	 Present orally and in writing the key concepts of mobile development, the technical challenges, the solutions implemented, and the results obtained 	PLO.S4
5.1	 Collaborate with team members to propose and implement solutions to real-life mobile application challenges. 	PLO.S5
6.1	 ✓ Analyze the challenges and opportunities presented by the integration of embedded systems in diverse contexts, such as smart homes, healthcare, 	PLO.S6
	transportation, and industrial applications.	
7.1	 Analyze and evaluate the static aspects of software design, including architecture, data models, and user interfaces, with an emphasis on achieving well-structured and maintainable mobile applications 	PLO.S7

1. Course Learning Outcomes



C. Course Content

No	List of Topics	Contact Hours
	Project synopsis: The project consists of developing an	
	Android application for the activities of the GAFSA Higher	
	School of Engineers (events, training, news, etc.). The	
	application receives this data from an external server, from a	
	web platform with a user interface to add data (event, etc.).	
	The application is accessible offline, the data from the Web	
	Service is recorded in an internal database so that it can be	
	consulted in the event of no connectivity. For events outside	
	of school, we offer the possibility of consulting the itinerary	
	of the location of the event. The project must respect coding	
	recommendations and offer a better user experience, fluid and	
	easy to use.	
	Step 0: Team training and choice of topics	
	Step 1: Needs Analysis and Specifications	
	Step 2: Graphic design and Wireframing	
	Step 3: Creation of models under Android Studio Step 4: Implementation of the Web Server part	5
	1- Design and implementation of the database	5
	2- Creation of Web services	
	Step 5:- Implementation of the client-mobile functional part	
	Step 6:- Implementation of the local SQLite database.	
Total		15

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D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching	Assessment
Coue	Course Learning Outcomes	Strategies	Methods
1.0	Knowledge and Understanding		
PLO.K2	 Understand the fundamentals of Android, such as Intents, Activities, Fragments, and Services Gain a basic understanding of mobile application development, including the specifics of the Android platform. Know the requirements and steps to publish an application on platforms 	- Class discussions - Assignments - Projects	Assignments, , Report, Homework assignments
2.0	Skills		
PLO.S2	 Master the use of common Android views to create an interactive user interface. 		
PLO.S4	 Present orally and in writing the key concepts of mobile development, the technical challenges, the solutions implemented, and the results obtained 		
PLO.S5	 Collaborate with team members to propose and implement solutions to real-life mobile application challenges. 	- Class discussions	Assignments, , Report
PLO.S6	 Analyze the challenges and opportunities presented by the integration of embedded systems in diverse contexts, such as smart homes, healthcare, transportation, and industrial applications. 	- Assignments - Projects	Homework assignments
PLO.S7	 Analyze and evaluate the static aspects of software design, including architecture, data models, and user interfaces, with an emphasis on achieving well-structured and maintainable mobile applications 	l 'Ing	énieur

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Work carried	Weekly	20%
2	Prototype realization	Random	30%
3	Final Evaluation	-	50%



E. Student Academic Counselling and Support

Arrangements for availability of faculty and teaching staff for individual student

consultations and academic advice:

1- Office hours

2- Blackboard interface

F. Learning Resources and Facilities

1. Learning Resources

	1. Elliot Forbes – Mastering Android Development with		
	Kotlin, Packt Publishing, 2018. ISBN: 978-1788473699.		
	2. François Bonneville – État de l'art de développement		
	d'applications mobiles, ARICIA, Laboratoire		
	d'Informatique de l'Université.		
Required Textbooks	3. Microsoft Patterns and Practices – Mobile Application		
	Architecture Guide: Application Architecture Pocket Guide,		
	2008.		
	4. Ketan Thakkar – Difference between MVC vs. MVP vs.		
	MVVM, September 11, 2014.		
Essential References	NA		
Materials			
Materials	1. Android Developers Documentation – Official Android		
Materials	 Android Developers Documentation – Official Android SDK Documentation (developer.android.com) 		
Materials Electronic Materials	 Android Developers Documentation – Official Android SDK Documentation (developer.android.com) SQLite for Android – Database guide 		
Materials Electronic Materials	 Android Developers Documentation – Official Android SDK Documentation (developer.android.com) SQLite for Android – Database guide (sqlite.org/android.html) 		
Materials Electronic Materials	 Android Developers Documentation – Official Android SDK Documentation (developer.android.com) SQLite for Android – Database guide (sqlite.org/android.html) RESTful API Design Guidelines – (restfulapi.net) 		
Materials Electronic Materials	 Android Developers Documentation – Official Android SDK Documentation (developer.android.com) SQLite for Android – Database guide (sqlite.org/android.html) RESTful API Design Guidelines – (restfulapi.net) 		
Materials Electronic Materials	 Android Developers Documentation – Official Android SDK Documentation (developer.android.com) SQLite for Android – Database guide (sqlite.org/android.html) RESTful API Design Guidelines – (restfulapi.net) <u>http://blogs.k10world.com/technology/difference-betweenmvc-</u> 		
Materials Electronic Materials Other Learning Materials	 Android Developers Documentation – Official Android SDK Documentation (developer.android.com) SQLite for Android – Database guide (sqlite.org/android.html) RESTful API Design Guidelines – (restfulapi.net) <u>http://blogs.k10world.com/technology/difference-betweenmvc- vsmvp-vs-mvvm</u> 		
Materials Electronic Materials Other Learning Materials	 Android Developers Documentation – Official Android SDK Documentation (developer.android.com) SQLite for Android – Database guide (sqlite.org/android.html) RESTful API Design Guidelines – (restfulapi.net) <u>http://blogs.k10world.com/technology/difference-betweenmvc- vsmvp-vs-mvvm</u> Site officiel du développeur Android: developer.android.com 		

4. Facilities Required Dérieure d'Ingénieurs

Item	Resources
Accommodation	de C-atsa
(Classrooms, laboratories, demonstration	classroom board software
rooms/labs, etc.)	
Technology Resources	data show:
(AV, data show, Smart Board, software, etc.)	uata silow;



G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods	
Effectiveness of teaching and	Students, course coordinator, Alumni,	Direct/Indirect	
assessment.	Employers	Direct/Indirect	
Extent of achievement of course	Faculty, Program Leaders, quality	Direct	
learning outcomes.	department	Direct	
Quality of Learning resources	Faculty, Program Leaders,	Direct, Indirect	
Teaching and learning quality and effectiveness.	Students, Faculty Program Leaders,	Direct, Indirect	

H. Specification Approval Data

Council / Committee	Computer Engineering Council
Date	11/09/2023

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