



Department of Computer Science

College of Science

University of Cihan Sulaimaniya

Subject: Mobile Application Development I

Stage: 4

Lecturer's name: Hazhar Najat Ahmed

Academic Year: 2023/2024

Course Book

1. Course name		Mobile Application Development I
2. Lecturer in charge		Hazhar Najat Ahmed
3. Department/ College		Computer Science
4. Contact		e-mail: hazhar.najat@sulicihan.edu.krd Tel: 07702154325 - 07723931515
5. Time (in hours) per week		Theory: 2 Practical: 2
6. Office hours		
7. Course code		
8. Teacher's academic profile		https://uni.sulicihan.edu.krd/qa/profile.php?id=162
9. Keywords		Flutter , Mobile Application, Dart
	<p>10. Course overview: Mobile devices are becoming ubiquitous for a number of reasons: exponential growth in computing power and storage increased Internet accessibility, growth of cloud computing services, novel advances in human computer interfaces, and significant drops in hardware prices. Developers are now devoting significant effort to build applications for these smartphone and tablet devices. In this course, we will learn how to develop applications for one of the most popular mobile platforms: Flutter. Students will work in teams to develop applications which will hopefully be placed in the Mobile Market.</p>	
	<p>11. Course objective: Upon completion of this course, students should be able to:</p> <ul style="list-style-type: none"> • Understand mobile applications types • Describe the basic components of a mobile application • Define the flutter and feature • Describe the basics of Dart language • Describe the basics of widget 	
	<p>12. Student's obligation</p> <ul style="list-style-type: none"> • The assignments that have work to be assessed will be given to the students in separate documents including the due date and appropriate reading material. • Submit your homework covered with a sheet containing your name, course title and number, 	

	<p>13. Forms of teaching <i>Duration: 16 weeks, 48 hours in total</i> <i>Lectures: 32 hours (3 per week)</i></p>	
	<p>14. Assessment scheme The 100 marks will be divided into :-</p> <p>Midterm Examination 25 % Practical midterm 15 % Quizzes and activity & HW 10 % Final Examination 35 % Practical Final Examination 15 %</p>	
	<p>15. Student learning outcome:</p> <p>Knowledge and understanding</p> <ul style="list-style-type: none"> • Understand mobile applications types • Describe the basic components of a mobile application • Define the flutter and feature • Describe the basics of Dart language • Describe the basics of widget • professional including understanding the need for quality <p>Cognitive skills (thinking and analysis).</p> <ul style="list-style-type: none"> • Solve a wide range of problems related to the flutter • Analysis and Design of Android mobile systems of small sizes by using flutter <p>Communication skills (personal and academic).</p> <ul style="list-style-type: none"> • Be able to present projects <p>Practical and subject specific skills (Transferable Skills).</p> <ul style="list-style-type: none"> • Students will work in teams to develop applications which will hopefully be placed in the mobile Market. 	
	<p>16. Course Reading List and References:</p> <ol style="list-style-type: none"> 1. <i>Flutter Recipes Mobile Development Solutions for iOS and Android</i> 2. <i>Flutter for Beginners</i> 3. <i>Modern App Development with Dart and Flutter 2</i> 4. <i>Practical Flutter Improve your Mobile Development</i> 	
<p>17. The Topics:</p>	<p>practical</p>	
<p>Introduction</p> <ul style="list-style-type: none"> • Introduction to Course Contents 	<ul style="list-style-type: none"> • VS code to use flutter • Run Emulator 	<p>Week1</p>

<ul style="list-style-type: none"> • review of Mobile Applications 		
Mobile Applications <ul style="list-style-type: none"> • Mobile technology • Mobile Application • Mobile Application Developments • types of mobile applications • What is flutter • Features of Flutter • Flutter Widgets • Widget Build Visualization 	<ul style="list-style-type: none"> • Create first applications • Text Widget Constructor • TextStyle properties • Font Family 	Week2
Text Widget Constructor <ul style="list-style-type: none"> • TextAlign • TextDirection • Maxlines • OverFlow • RichText • TextSpan 	Text properties: <ul style="list-style-type: none"> • TextAlign • TextDirection • Maxlines • OverFlow • RichText • TextSpan 	Week3
Dart-1 <ul style="list-style-type: none"> • Variable • Data Types • conditions 	Dart-1 <ul style="list-style-type: none"> • Variable • Data Types • conditions 	Week4
Dart-2 <ul style="list-style-type: none"> • loops • List • Set 	Dart-2 <ul style="list-style-type: none"> • loops • List • Set 	Week5
Scaffold <ul style="list-style-type: none"> • appBar • body • Drawer and end Drawer • floatingActionButton 	Scaffold <ul style="list-style-type: none"> • appBar • body • Drawer and end Drawer • floatingActionButton 	Week6
Material App <ul style="list-style-type: none"> • Route • Navigator 	Material App <ul style="list-style-type: none"> • Route • Navigator 	Week7
AppBar and Drawer <ul style="list-style-type: none"> • leading • title • actions • DrawerHeader • ListTile • Image 	AppBar and Drawer <ul style="list-style-type: none"> • leading • title • actions • DrawerHeader • ListTile • Image 	Week8

Flutter Layouts Layout a widget Single Child Widgets <ul style="list-style-type: none"> • Center • Container • Padding • Margin • Align 	Flutter Layouts Layout a widget Single Child Widgets <ul style="list-style-type: none"> • Center • Container • Padding • Margin • Align 	Week9
Flutter Layouts Layout a widget Multiple Child widgets <ul style="list-style-type: none"> • Row • Column • GridView • Stack 	Flutter Layouts Layout a widget Multiple Child widgets <ul style="list-style-type: none"> • Row • Column • GridView • Stack 	Week10
Flutter State Management and Flutter Gestures setState GestureDetector	Flutter State Management and Flutter Gestures setState GestureDetector <ul style="list-style-type: none"> • onTap • onTapDown • onTapUp • onTap • onTapCancel 	Week11
Material Design-1 <ul style="list-style-type: none"> • Buttons • TextFields • TextFormField 	Material Design-1 <ul style="list-style-type: none"> • Buttons • TextFields • TextFormField 	Week12
Material Design-2 <ul style="list-style-type: none"> • Dialogs, Alerts, and Panels • Snack Bar Widget • Date and Time Picker 	Material Design-2 <ul style="list-style-type: none"> • Dialogs, Alerts, and Panels • Snack Bar Widget • Date and Time Picker 	Week13
Firebase	Create a new Firebase project. Configure a Firestore database.	Week14
present a seminar paper	present a seminar paper	Week15
20. Extra notes:	The last week of this course each student presents a seminar paper about a mobile application topic	

21. Peer review	
Main Lecturer in charged: Hazhar Najat Ahmed	Head of The Department: Dr.Lway Faisal Abdulrazak