University of Zakho

Faculty of Science

Department of Computer Sciences

Subject: Mobile Applications

Course Book – (Semester 8)

Lecturer's name: Yousif Garabet Arshak (MSc.)

Academic Year: 2020/2021

Course Book

1. Course name	**Mobile Applications**
2. Lecturer in charge	**Yousif Garabet Arshak**
3. Department/ College	**Computer Science / Faculty of Science**
4. Contact	**E-mail: yousif.arshak@uoz.edu.krd** **Tel: 0750 4948858**
5. Time (in hours) per week	**Theory: 2** **Practical: 2**

6. Office hours	**Monday: -** **Wednesday: -**
7. Course code	
8. Teacher's academic profile	https://staffportal.uoz.edu.krd/en/yousif.arshak
9. Keywords	**Mobile Programming: Android, IOS and cross-platform**

10. Course overview:

This course is aimed at helping students build up an understanding of how to develop a Mobile app from scratch by guiding them through the development process and giving them the fundamental principles of Android and IOS app development with cross platform technology using Xamarin Forms. The course will initiate students to the variety app components, project management and different languages used.

11. Course objective:

The aim of this course is to help students how to develop an Android and IOS app from scratch

- By guiding them through the understanding of basic mobile programming terms and techniques.
- Having a glance of new techniques of mobile programming
- Understanding the design and layout of mobile apps
- Understanding the code behind design
- Understanding the integration of code and design

12. Student's obligation

- Installing Xamarin and Visual Studio on their personal PCs
- Homework
- Projects
- Pre-knowledge on Web Development

13. Forms of teaching

 Using Data show, PowerPoint slides, pointing devices

- assignments and Homework
- building up projects from scratch together

14. Assessment scheme

Semester-2				Final Exam	
50%				50%	
Presentation & Report	Quizzes & Assignment	Project	Mid Term	Theory	Practical.
10	10	10	20	30	20

15. Student learning outcome:

1. In this class, we will learn how to develop applications for the Android and IOS platform using C# language within Xamarin framework. In addition, a reasonable background knowledge of Native Script platform.

16. Course Reading List and References:

- David Ortinau_ Ed Snider - Mastering Xamarin.Forms app architecture techniques for building multi-platform, native mobile apps with Xamarin.Forms 4, third edition (2020)
- David Ortinau_ Ed Snider - Mastering Xamarin.Forms app architecture techniques for building multi-platform, native mobile apps with Xamarin.Forms 4, third edition (2020)

17. The Topics:	2 hours
Introduction to Mobile applications?	Week 1
Available platforms and challenges?	Week 2
Android and IOS architecture	Week 3
Introduction to Xamarin framework	Week 4

C# Language	Week 5
XAML Language	Week 6
Designing GUI	Week 7
Events Handling	Week 8
Sizing and Positioning	Week 9
Layouts	Week 10
Activity events	Week 11
Data Access	Week 12, 13
Navigation	Week 14
MVVM Architecture	Week 15, 16
18. Practical Topics	
Introduction Mobile Programming	Week 1
Xamarin Framework	Week 2
Layouts	Week 3, 4
Tool Box (Entry, Button….)	Week 5, 6
Images	Week 7
Lists	Week 8,9
Forms and setting pages	Week 10,11
Navigation	Week 12
Data Access	Week 13,14
MVVM Architecture	Week 15,16

19. Examinations:

Q1) Choose/fill the correct answer/s for the following:

Android C# code is compiled into a special ……. binary format.
Answers: **A**. SDK, **B**. Dalvik, **C**. JDK, **D**. JRE.

Xamarin is based on ……. editor.
Answers: **A**. Eclipse ADT, **B**. IntelliJ IDEA, **C**. Visual Studio, **D**. NetBeans.

……: the fundamental units of GUI in an Xamarin app.
Answers: **A**. activity, **B**. layouts, **C**. widgets, **D**. views.

In Xamarin, there are two types of views: …… , ……..

In linear layouts, we use ……. to specify the alignment direction that widgets are pulled to.
Answers: **A**. Orientation, **B**. Layouts, **C**. Gravity, **D**. Weight.

Which one of the following events is predictable exactly when/if it will be called?
Answers: **A**. onStart, **B**. onDestroy, **C**. onRestart, **D**. onResume.

To launch another activity (usually in response to an event), create an Intent object and call ……. with it.

You can access the Intent that spawned you by calling ……..

If the calling activity wants to wait for a result from the called activity: Call ……..

……..: launches another app, without naming that specific app, to handle a given type of request or action.

Q2) State whether the following statements are True or False.

1. Some software has source code that only the person, team, or organization who created it can modify. People call this kind of software "closed source" software.
2. When the user exits an app, it is instantly cleared from memory.
3. When onPause is called, your activity is invisible.
4. When we give match_parent in the width/height: as wide or tall as 100% of the screen or layout.
5. onRestart is called every time the activity begins.

Q3) Answer <u>one</u> of the following:

A) What is an IDE and its main components?

B) When an app is closed and re-opened again, what are the events that are triggered and what code do you recommend to write.

Q4) What are intents and how can we use them? Answer briefly.

20. Extra notes:

21. Peer review پێداچوونەوەی هاوەڵ