Course Outlines of
CSE 489: ANDROID APP DEVELOPMENT
Semester: Summer 2023

Faculty Information:

Course Description:

Now a days each key person has a mini computer in their hand. Name it any brand or range. Most of the market share is holding android OS based phone sets. If you want to reach these individuals with the modern day facility, best way is through mobile applications. The course will have a practical focus, with significant in-class programming, programming assignments and a large project. The course philosophy is that programming is learned by doing. While the course focuses on Android, we will learn general principles of software engineering and mobile app development.

Pre-requisites: CSE370 – DATABASE SYSTEMS

Co-requisites: CSE111 – PROGRAMMING LANGUAGE-II

Course Outcomes:

CO 1	**Understand** the technology and protocols of Mobile Programming.
CO 2	**Familiarize** with common tools and techniques for developing Mobile applications.
CO 3	**Insight** of the Mobile marketplace to understand path of app publication.
CO 4	**Explore** Philosophy the programming is learned by doing.
CO 5	**Learn** The industrial workflow and practice how they work.

Course Outlines:

Week	Lecture Hours	Lecture Topics	3 Hours Lab Topics
Week 1	3	**Overview** Mobile platform, changing wave, Android basics; creating a first Android app **More Overview** Mobile web, Different development platform, layout; GUI widgets.	Related to last 3 hours lecture
Week 2	3	More widgets; lists. **Starting with external content** File processing; media player	Related to last 3 hours lecture
Week 3	3	**High Level UI** Multiple activities and Intents. **Behind the scene process** Activity lifecycle; State and preferences	Related to last 3 hours lecture
Week 6-7	6	**Dynamic UI** Synamic UIs with LayoutInflater; dialogs and custom dialogs **UI Fragments** Fragments; Landscape orientation	Related to last 3 hours lecture
Week 8	3	Review **Mid-term exam**	Project Proposal and Approval
Week 9	3	**External Libraries** libraries: Animations, Picasso, ButterKnife, Ion, Bootstrap, SwipeStack	Follow up and submission on

		Supporting Libraries User login; Text-to-speech; Camera	project Phase update
Week 10	3	**Server Communication** RESTful web APIs (list); libraries: Ion, GSON, Retrofit **Database** Local databases and SQL	Follow up and submission on project Phase update and marking
Week 11	3	**Server Database** Remote databases; Firebase **Draw Graphics** 2D graphics	Follow up and submission on project Phase update and marking
Week 12	3	**Basic Games development** basic 2D games **Multi Language support** Localization, Internationalization	Follow up and submission on project Phase update and marking
Week 13	3	**Background Tasks** Services; Notifications **Other points** React Native; course wrap-up; publishing to the App Store	Final Project Presentation.

Course Assessment Methods:

Homework

Homework shall be designed to ensure that the students have the required knowledge to analyze and design control systems. Specifically, they will support the students' progress in the project and term paper.

Assignment

Assignment will be designed to test the students' understanding in the course and to assess various course outcomes

Examinations

The exam shall contain problems designed to test knowledge and comprehension, to analyze control systems and/or to apply the engineering problem solving method.

Project and Term paper

The project and term paper shall evaluate the overall understanding of the course given that it must cover 2-3 COs depending on the instructor's preference.

Assessment Methods vs. Course Outcomes:

Assessment Methods	CO 1	CO 2	CO 3	CO 4	CO 5
Homework	X	X		X	
Assignment	X	X		X	X
Examinations	X	X			
Project and Term Paper	X	X	X	X	X

Textbook:

1 The Busy Coder's Guide to Android Development by Mark L. Murphy, FINAL Version ISBN: 978-0-9816780-0-9

2 Java: How to Program by Paul Deitel & Harvey Deitel 9th Edition, published by Pearson, ISBN-13: 978-0-13-257566-9, ISBN-10: 0-13-257566-3

Supporting Tools:

Lecture Notes and other material will be made available on the course website.

Course Policies:

Class Policy

- Classroom and laboratory attendance are mandatory. You should come to the classroom before the instructor. Late comers may/ may not be allowed to enter the classroom. Students, who are absent over 30% of the class time will not be allowed to enter the final examination
- You should turn off your cellular phone before entering the classroom. You should not leave the classroom to make or take cellular phone calls
- You should bring a notepad and/or a writing instrument to every class and take detailed notes.
- You should pay attention to the instructor and participate in class discussions.
- You should not do other work during class time.

Honor Code

Any form of cheating, plagiarism, and/or academic dishonesty will result in an "F" grade in the course.

Late Work and Examinations

Late assignments will not be accepted. Students who know that they are going to miss class should make arrangements in advance. Exams will be closed book. There will not be any make-up for quizzes and midterm exams except the cases of hospitalization or detention

Grading Policies:

Student's grades are assigned according to the grading scale of the Brac University Undergraduate Study and Examinations Regulations. In addition, the faculty are allowed to take into consideration the class average and standard deviation to reflect the actual class performance for student grade assignment. The grades at the university will be indicated in the following manner:

Marks	Grades
97-100	A+ (4.0)
90-96	A (4.0)
85- <90	A- (3.7)
80- <85	B+ (3.3)
75- <80	B (3.0)
70- <75	B- (2.7)
65- <70	C+ (2.3)
60- <65	C (2.0)
57- <60	C- (1.7)
55- <57	D+ (1.3)
52- <55	D (1.0)
50- <52	D- (0.7)
<50	F (0.0)
P	Pass
I	Incomplete
W	Withdrawal
R	Retaken

Course Assessment Methods:

Guidelines for CSE course teaching in BRAC University. The following assessment methods are based on Theory Course only.

Section	Marks (%)
1. Participation in class	5 %
2. Quizzes/Class Tests/Assignments/	35 %
3. Mid Term Examination	20 %

4. Project & Term Paper	40 %
Total	**100 %**

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