CSC 392/492: Mobile Applications Development for Android II

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Course Summary

This course will cover advanced topics in mobile application development for Android. The topics covered will be made explicit by the course instructor when the course is offered. PREREQUISITE(S): CSC 372/472

Grading Policy

Course Grade Evaluation:

Assignments:	70%
Quizzes:	20%
Attendance	10%

Grading Scale

A:	100 > total >= 93		C :	77 > total >= 73
A-:	93 > total >= 90		C-:	73 > total >= 70
B+:	90 > total >= 87		D+:	70 > total >= 67
B :	87 > total >= 83		D :	67 > total >= 63
B-:	83 > total >= 80		D-:	63 > total >= 60
C+:	80 > total >= 77		F :	60 > total

Course Attendance

Attendance counts for credit in this course (10%). Live-class students are expected to attend *every* class session; OL students are expected to view the recording of the class *as soon as possible*, usually within 1-2 Days of the in-class meeting. (Online students will be given a means to verify that they have watched the recorded lectures).

Be advised that a significant amount of topic and assignment content is given in class/on recordings and missing that assistance can severely compromise your ability to perform adequately in this course.

Text Resources

Google's Android Developer site (http://developer.android.com) is a great resource for all information related to Android App Development. It is kept up to date with current android releases, so it makes a great resource not only for students, but for professionals alike. Required readings will come largely from this resource. Other resources may be used from time to time as appropriate.

Course Expectations

This is an advanced software development course. The workload can be significant. Students are expected to have mastered the material in the prerequisite course(s) and to be able to put that knowledge to use on course assignments.

Course assignments will include a good deal of independent analysis and design work that students may not have encountered in previous courses. Students will be expected to work out the best way to implement the programming assignments based upon provided requirements with minimal architectural design input provided. Some students can find this particularly challenging.

Course Grade Evaluation

Course grades are *solely* based upon the student's academic performance - *only* upon their performance on their assignments and quizzes and nothing else. No other factors (including requests for special grade consideration/adjustments, requests for extra credit, requests for altered due dates, and requests for any situation not specified in this syllabus) will be considered or responded to. *THIS POLICY WILL BE STRICTLY ENFORCED.*

Course Performance Requirements

All assigned materials are expected to be reviewed in a timely manner. The assignments and quizzes are designed so the student can master mobile application development topics, as well as ensure that the student leaves the course with a working knowledge of these concepts.

The dates/deadlines assigned to the various assignments and quizzes in this course are firm and will not be changed. There are too many students in the course to tailor the schedule to each student's desires.

Coursework

All assignments in this course must be completed in a timely manner. For full credit on a given assignment, it must be submitted on time.

Late assignments will be accepted up to 1 week with a 10% penalty. (i.e., turned in from 1 minute to 1 week late = 10% penalty). Note that NO LATE SUBMISSIONS are allowed after 1 week beyond the due date. *Note that NO LATE SUBMISSIONS are allowed at all for the last assignment in the quarter. THIS POLICY WILL BE STRICTLY ENFORCED.*

Note: Late submission of assignments will impact subsequent assignments due to their back-to-back timeframes. Submitting assignments beyond the stipulated deadline will reduce the available time for the succeeding assignments. This sequential effect emphasizes the importance of timely submission, ensuring ample time for all assignments.

Programming Environment

As this is an android course section, students are required to use the *Java* programming language (with all available android extensions). All students are required to use the *Android Studio IDE* - we will cover its usage in class. No variation on programming language or IDE may be used. Assignment submissions done in a different IDE or programming language will receive a grade of zero.

Assignment Submission

All assignment submissions must be done via DePaul's D2L site. No submissions will be accepted via email or any other means. Please leave enough time as a due date/time approaches to prepare and make your online submissions. Submissions that are timestamped after the due date/time will be considered late.

Academic Policies

All students are required to manage their class schedules each term in accordance with the deadlines for enrolling and withdrawing as indicated in the University Academic Calendar. Students who withdraw from the course do so by using the Campus Connection system (http://campusconnect.depaul.edu).

Withdrawals processed via this system are effective the day on which they are made. Simply ceasing to attend, or notifying the instructor, or nonpayment of tuition, does not constitute an official withdrawal from class and will result in academic as well as financial penalty.

Academic Integrity and Plagiarism

Refer to *Appendix A: "Course Academic Integrity and Plagiarism Policy"* for the full Academic Integrity and Plagiarism policy. It is every student's responsibility to familiarize themselves with this policy and to strictly adhere to its content.

Students with Disabilities

Students who feel they may need an accommodation based on the impact of a disability should contact the instructor privately to discuss their specific needs. All discussions will remain confidential.

To ensure that you receive the most appropriate accommodation based on your needs, contact the instructor as early as possible in the quarter (preferably within the first week of class), and make sure that you have contacted the Center for Students with Disabilities (CSD) at: csd@depaul.edu.

Course Topics

Topics covered in this course include (but are not limited to) the below. *Topics may be added or dropped based upon technological developments and class performance.*

- Scrolling Activities
- Drawers and Dynamic Menus
- ViewPager2
- Volley API
- Notifications
- List Filtering
- Ads (Google AdMob and Unity)
- Location Tracking
- Background Locations
- Biometrics/Fingerprints
- Custom Views
- Google Map Activities
- Geofencing
- Advanced Permissions with Rationale
- Dark Mode
- RecyclerView Popups
- Immersive Mode
- Tabbed Layouts
- Splash Screens
- Custom Fonts
- Animation/Sprites
- Scrolling Backgrounds
- Parallax Backgrounds
- Remote DBs
- Firebase Cloud Messaging
- Download Manager
- WorkManager
- Picture in Picture (PiP)
- Camera Usage
- Image Picker (Gallery) Activities
- API/Cloud Interactions
- Supporting Different Languages and Cultures
- Playing Sounds, Video & Streams
- Constraint Chains
- Activity Transition Animations
- Kotlin
- Hybrid Apps
- App Profiling & Optimization

Changes to Syllabus

This syllabus is subject to change as necessary during the semester. If a change occurs, it will be thoroughly addressed during class, and sent via email.

Student Guidelines

- Attend the live lecture (for live section students).
- Watch the lecture recording within 1-2 days of the live session (for "async" section students)
- Respond quickly and respectfully to any instructor emails.
- Always include the CSC 392 or CSC 492 course number in email subjects.

DePaul University is a community that thrives on open discourse that challenges students, both intellectually and personally, to be Socially Responsible Leaders. It is the expectation that all dialogue in this course is civil and respectful of the dignity of both students and instructors. Any instances of disrespect or hostility can jeopardize a student's ability to be successful in the course. The instructor will partner with the Dean of Students Office to assist in managing such issues.

Appendix A: Course Academic Integrity and Plagiarism Policy

1. **Purpose and Scope**

   This Academic Integrity Policy is established to govern the ethical conduct of students in this course. The policy covers all aspects of academic work, including code development, quizzes/exams, and the use of artificial intelligence tools. It provides clear guidelines and consequences to maintain the integrity of the academic environment.

2. **Plagiarism and Code Sharing**

   a. **Plagiarism Definition**: Plagiarism is defined as presenting the work, ideas, or intellectual property of another person or entity as one's own. This includes, but is not limited to, the content listed in section "b" ("Prohibition") below.

   b. **Prohibition**: Students are strictly prohibited from engaging in any form of plagiarism, including but not limited to:

   - Using software code provided to you by someone other than your instructor in your assignments.
   - Sharing your own (or anyone else's) code with other students in this or any other course.
   - Using any part of previously submitted assignment work written by yourself or someone else.
   - Using or adapting code from online repositories or forums.
   - Using or adapting code generated by any form of AI tool/utility (see section 3).
   - Submitting code obtained from previous course offerings or external sources.
   - Using, rewriting, or in any way modifying code not originally written by yourself for this course.
   - Fabricating code, data, or results and presenting it as original legitimate work.
   - Using any unauthorized assistance when working on assignments or taking quizzes.
   - Taking quizzes in a group setting, or in any context where you obtain assistance from others.
   - Using any assignment or quiz materials from a previous semester.

3. **Use of AI Tools and Automation**

   a. **AI Tools Definition**: AI tools encompass any software or algorithmic system designed to automate or enhance aspects of coursework development, including but not limited to code generation, testing, and debugging.

   b. **Prohibition**: Students are prohibited from using AI tools to create or modify code that is submitted as their own work. Examples include:

   - Using AI code generators to produce content used in your assignment submission.
   - Using AI code assistants in an IDE to produce content used in your assignment submission.
   - Copying and pasting code generated by any AI tools.
   - Modifying AI-generated code and submitting it as your own work.

4. **Individual Work and Collaboration**

   a. **Authenticity of Work**: All submitted quizzes/exams, assignments, projects, and code must be the individual work of the student submitting them. There are no group projects in this course, and collaboration with another individual or entity on any course assignments or quizzes is prohibited. The submission of work completed by others, whether from current or previous course offerings, is strictly prohibited.

   b. **Collaboration**: Students are encouraged to discuss course concepts and assignment requirements. However, all submitted work must be the sole effort of the individual student. Collaboration in the form of sharing or jointly producing assignment materials (as outlined in this document) is strictly prohibited.

5. **Academic Integrity Violation Detection**

   a. **Plagiarism Analysis Tools**: Every submission through the D2L platform undergoes meticulous scrutiny via automated plagiarism detection tools. This evaluation extensively examines submitted code against the entirety of current and

previous course code submissions, as well as cross-references with online code repositories, actively identifying any utilization of AI-generated code. These robust tools serve to guarantee the genuineness and uniqueness of all submitted academic work.

6. **Penalties for Violations**

    a. **Investigation**: Suspected violations of academic integrity will be thoroughly investigated as detailed in DePaul University's Academic Integrity Policy (https://offices.depaul.edu/academic-affairs/faculty-resources/academic-integrity/Pages/resources.aspx).

    b. **Penalties**: Penalties for violations may include, but are not limited to, receiving a grade of zero for the assignment, project, or exam, and potential course failure. Serious or repeated violations may result in academic sanctions, including suspension or expulsion. See DePaul University's Academic Integrity Policy (https://offices.depaul.edu/academic-affairs/faculty-resources/academic-integrity/Pages/resources.aspx) for more information.

7. **Reporting and Confidentiality**

    a. **Reporting**: Students, TAs, and graders are encouraged to report suspected violations promptly. Reports will be treated confidentially, and the identity of the reporting party will not be disclosed without consent.

By enrolling in this course, students acknowledge their understanding and acceptance of the terms outlined in this Academic Integrity Policy. Any violation of these terms may result in academic and disciplinary consequences as outlined in this policy and the institution's broader academic integrity framework.

Please note, your attendance in this course beyond the first day will constitute an implicit confirmation that you have thoroughly read and understood this entire document and agree to all content herein.