CS 442 Syllabus

Overview

Students will learn a variety of software engineering techniques and design patterns to assist in the rapid development and prototyping of mobile software applications, leveraging frameworks and APIs provided by the Flutter toolkit. Application lifecycles, data management and persistence mechanisms, and user interface design, among other topics, will be covered.

Class Outcomes

Upon completion of the course, students should be able to:

- develop applications targeting multiple platforms using Flutter, making use of a substantial portion of its libraries and APIs

- discuss the decisions and tradeoffs inherent in the design and architecture of an application development framework such as Flutter

- identify and explain common design patterns for separating and managing user interface elements, interactivity, dynamic data, persistence, and concurrency, among other software application concerns

- take a mobile development project from concept/mockup to final implementation

Prerequisites

You must have taken the following classes (or equivalents):

- Undergraduate students: CS 331 and CS 351

- Graduate students: CS 401 and CS 402

Grading

Grades in the class are broken down as follows:

- 70%: Assignments
- 30%: Quizzes

The grade scale is {A > 90%; B > 80%; C > 70%; D > 60%; E < 60%}.

Assignments

Each assignment will ask you to implement a working software application based on a high-level specification and set of functional requirements. Typically, the assignment description will also specify what pre-existing components (e.g., widgets, local/remote APIs) you should / should not use.

Late policy

Each student starts the semester with a 7-day late pool, which can be distributed however they please (one day at a time) across assignments. E.g., a student may choose to submit the first assignment 1 day late and the second assignment 2 days late, at which point they still have 4 late days to apply to later assignment(s). Once a student is out of late days, late assignments will not be accepted for credit. Late days may not be used after the last day of classes.

When submitting an assignment, please let the TA know if you are using late days.

Quizzes

Quizzes consisting mostly of objective questions (multiple choice, T/F, etc.) will be periodically administered via Blackboard. The function of these quizzes is to help you assess your understanding of conceptual material covered in lecture and assigned readings. You may take each quiz an unlimited number of times before its associated due date --- the highest score earned on each quiz will be counted.

Disability Resources

Reasonable accommodations will be made for students with documented disabilities. In order to receive accommodations, students must obtain a letter of accommodation from the Center for Disability Resources and make an appointment to speak with me as soon as possible. The Center for Disability Resources is located in the Life Sciences Building, room 218, 312-567-5744 or disabilities@iit.edu.

Sexual Harassment and Discrimination Information

Illinois Tech prohibits all sexual harassment, sexual misconduct, and gender discrimination by any member of our community. This includes harassment among students, staff, or faculty. Sexual harassment of a student by a faculty member or sexual harassment of an employee by a supervisor is particularly serious. Such conduct may easily create an intimidating, hostile, or offensive environment.

Illinois Tech encourages anyone experiencing sexual harassment or sexual misconduct to speak with the Office of Title IX Compliance for information on support options and the resolution process.

You can report sexual harassment electronically at iit.edu/incidentreport, which may be completed anonymously. You may additionally report by contacting the Title IX Coordinator, Virginia Foster at foster@iit.edu or the Deputy Title IX Coordinator at eespeland@iit.edu.

For confidential support, you may reach Illinois Tech's Confidential Advisor at (773) 907-1062. You can also contact a licensed practitioner in Illinois Tech's Student Health and Wellness Center at student.health@iit.edu or (312)567-7550

For a comprehensive list of resources regarding counseling services, medical assistance, legal assistance and visa and immigration services, you can visit the Office of Title IX Compliance website at https://www.iit.edu/title-ix/resources.

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