Mobile App Development

ATLS 4120/5120, Fall 2022 Zef Houssney — zef.houssney@colorado.edu

There's an App for That.

Or is there? There are lots of apps. But what about *that* one? As an iOS developer, people have been telling me about their app ideas for over a decade. I've learned that while there are tons of amazing apps out there, there's still a ton of room for new concepts, ideas, and implementations.

As our devices and the developer tools that drive them continue to gain new capabilities, the potential for new types of apps that weren't previously possible just keeps growing.

Objective

You will learn how to design and develop iOS applications in a hands-on and collaborative environment. In this class, you will:

- Create iOS Applications using Apple's native frameworks and developer tools.
- Become proficient in Swift and the tools to thrive in the iOS app development environment.
- Use source control (git) for code management and collaboration.
- Explore user interface design and user experience through examples, discussion, and implementation.
- Practice constructive criticism and code review with peers.

Class Resources

Class resources will be posted at https://zef.github.io/ATLAS-iOS/.

The source for that page is in the `html` folder of the course repo at https://github.com/zef/ATLAS-iOS.

I will probably use Canvas too for some things, but it's likely that most of the class resources will be at the site and repo above.

Pre-requisites

ATLS-1300 Code/Computational Foundations 1, CSCI-1300 Computer Science 1, or an equivalent course is a required prerequisite. Knowledge of basic programming concepts is necessary for this course. For students that have not taken either course listed above, please come speak with me.

Required Materials

- A Mac with Xcode 14
- An Internet Connection
- A GitHub account
- A Can-Do Attitude

Lab Macs in the ATLAS building are available and should have Xcode installed. If you don't have a Mac of your own, let's talk.

Grading

I will seek to follow the ATLAS reccomended scale:

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A = excellent work
B = above average work
C = average or competent work
D = below average work
F = unsatisfactory work
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I recognize that levels of experience and ability vary, and I don't expect everyone to be at the same skill level. Students must demonstrate that they are putting in time, effort, and work to do good work and challenge themselves to learn and improve.

Work Due Dates

Assignments must be pushed to GitHub prior to the start of class on the due date. Late work will be penalized 10% per day that it's late. In case of emergency, notify me if you will miss an assignment before the due date so we can discuss special arrangements.

Code Plagiarism

If you copy or utilize code from the internet, you should understand what it does, and how it works. Add code comments that reference the URL from which the code was copied, and note anything interesting about it.

Third-party code libraries can be used, but you must develop a significant portion of your project through your own code as well. A project can tie together

Copying code from any source without citation is considered plagiarism and will be dealt with in accordance with the CU Honor Code.

Workload

This course is very technical and challenging and requires a great deal of time and commitment. Students should plan on spending 2-3 hours of outside class time for every hour in class. For this class, that translates to 8-12 hours per week of work outside of class. I welcome any students that are concerned about the time commitment or find themselves struggling to please talk to me personally.

Absence

If you expect to be absent due to illness or another reason, please let me know ahead of time in person, or send me an email at zef.houssney@colorado.edu.

Also, please inform any classmates that you are collaborating with on group projects.

Policies

Standard CU policies apply:

Classroom Behavior

Both students and faculty are responsible for maintaining an appropriate learning environment in all instructional settings, whether in person, remote or online. Those who fail to adhere to such behavioral standards may be subject to discipline. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, veteran status, political affiliation or political philosophy. For more information, see the policies on classroom behavior and the Student Conduct & Conflict Resolution policies.

Requirements for COVID-19

As a matter of public health and safety, all members of the CU Boulder community and all visitors to campus must follow university, department and building requirements and all public health orders in place to reduce the risk of spreading infectious disease. CU Boulder currently requires COVID-19

vaccination and boosters for all faculty, staff and students. Students, faculty and staff must upload proof of vaccination and boosters or file for an exemption based on medical, ethical or moral grounds through the MyCUHealth portal.

The CU Boulder campus is currently mask-optional. However, if public health conditions change and masks are again required in classrooms, students who fail to adhere to masking requirements will be asked to leave class, and students who do not leave class when asked or who refuse to comply with these requirements will be referred to Student Conduct and Conflict Resolution. For more information, see the policy on classroom behavior and the Student Code of Conduct. If you require accommodation because a disability prevents you from fulfilling these safety measures, please follow the steps in the "Accommodation for Disabilities" statement on this syllabus.

If you feel ill and think you might have COVID-19, if you have tested positive for COVID-19, or if you are unvaccinated or partially vaccinated and have been in close contact with someone who has COVID-19, you should stay home and follow the further guidance of the Public Health Office (contacttracing@colorado.edu). If you are fully vaccinated and have been in close contact with someone who has COVID-19, you do not need to stay home; rather, you should self-monitor for symptoms and follow the further guidance of the Public Health Office (contacttracing@colorado.edu).

Accommodation for Disabilities

If you qualify for accommodations because of a disability, please submit your accommodation letter from Disability Services to your faculty member in a timely manner so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities in the academic environment. Information on requesting accommodations is located on the Disability Services website. Contact Disability Services at 303-492-8671 or dsinfo@colorado.edu for further assistance. If you have a temporary medical condition, see Temporary Medical Conditions on the Disability Services website.

Preferred Student Names and Pronouns

CU Boulder recognizes that students' legal information doesn't always align with how they identify. Students may update their preferred names and pronouns via the student portal; those preferred names and pronouns are listed on instructors' class rosters. In the absence of such updates, the name that appears on the class roster is the student's legal name.

Honor Code

All students enrolled in a University of Colorado Boulder course are responsible for knowing and adhering to the Honor Code academic integrity policy. Violations of the Honor Code may include, but are not limited to: plagiarism, cheating, fabrication, lying, bribery, threat, unauthorized access to academic materials, clicker fraud, submitting the same or similar work in more than one course without permission from all course instructors involved, and aiding academic dishonesty. All incidents of academic misconduct will be reported to the Honor Code (honor@colorado.edu); 303-492-5550). Students found responsible for violating the academic integrity policy will be subject to nonacademic sanctions from the Honor Code as well as academic sanctions from the faculty member. Additional information regarding the Honor Code academic integrity policy can be found on the Honor Code website.

Sexual Misconduct, Discrimination, Harassment and/or Related Retaliation

CU Boulder is committed to fostering an inclusive and welcoming learning, working, and living environment. The university will not tolerate acts of sexual misconduct (harassment, exploitation, and assault), intimate partner violence (dating or domestic violence), stalking, or protected-class discrimination or harassment by or against members of our community. Individuals who believe they have been subject to misconduct or retaliatory actions for reporting a concern should contact the Office of Institutional Equity and Compliance (OIEC) at 303-492-2127 or email cureport@colorado.edu. Information about university policies, reporting options, and the support resources can be found on the OIEC website.

Please know that faculty and graduate instructors have a responsibility to inform OIEC when they are made aware of incidents of sexual misconduct, dating and domestic violence, stalking, discrimination, harassment and/or related retaliation, to ensure that individuals impacted receive information about their rights, support resources, and reporting options. To learn more about reporting and support options for a variety of concerns, visit Don't Ignore It.

Religious Holidays

Campus policy regarding religious observances requires that faculty make every effort to deal reasonably and fairly with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance.

See the campus policy regarding religious observances for full details.