
DES 420 Professional Practice I

Mobile App Design - Intro

Daria Tsoupikova



1 pm

Introduction – class goals and overview – syllabus and schedule
Course mechanics, website and logistics

1.30 pm

Research Partner Presentation / Q & A
Dr. Hedda Sander
Dept. Supply Engineering, Inst. for Bio- and Environmental Technology
Professor, Ostfalia University, Germany

3.30 pm

Introductions and Portfolio Presentations

4.30 pm

Team formation and discussion

Location

Mondays / Wednesdays

1-6.40pm

2068 Continuum

Electronic Visualization Laboratory (EVL)

Engineering Research Facility (EFR)

842 W Taylor St

Chicago IL 60607



EVL

Electronic Visualization Laboratory



ENGINEERING

Computer Science



COLLEGE OF
ARCHITECTURE
DESIGN
AND THE ARTS

/DESIGN





Electronic Visualization Laboratory (EVL) 1973-2023+

50 years of Design/Art/Science collaboration at UIC

EVL specializes in **collaborative visualization**, virtual reality, visual data science, and advanced computing and networking infrastructure. The distributed computing/visualization, the advancement of tools, software and techniques for collaboration over high-speed, experimental networks, the design of tools and techniques for real-time and interactive visualizations are some of the many areas of expertise offered by the EVL.

Some of EVL's most notable projects are the **Sayre Glove** (1976), **Star Wars Animation** (1976), **CAVE** (1992), **CAVE2** (2012), **COMPaaS** (2018), **SAGE3** (2020).



PARIS (1998)



Varrier (2003)



Geowall (2006)



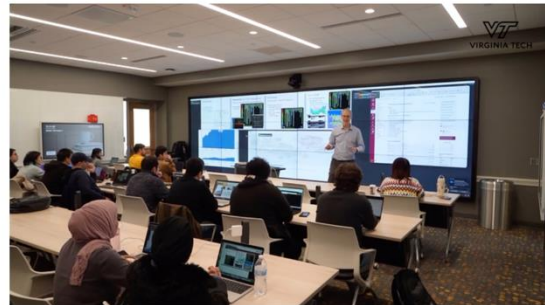
CAVE (1992)



SAGE3

An open-source platform designed to help individuals and teams collaborate effectively—with each other and with AI—to accelerate the process of understanding, problem-solving, and discovery.

It empowers **everyday citizens** to become **smarter and more innovative** by making complex information more accessible and actionable.

[ABOUT](#) [TEAM](#) [NEWS](#) [DOWNLOAD](#) [SUPPORT](#) [PUBLICATIONS](#)[VIDEOS](#)[WHY SAGE3?](#)[DOWNLOAD](#)[QUICK START GUIDE](#)

SAGE3 is funded by the following National Science Foundation awards: [2004014](#) | [2003800](#) | [2003387](#)



Problem Orientation

Work in teams

- communication
- project management
- regular meetings
- reports
- roles and tasks
- progress documentation

Work with a client

- research
- stakeholder interviews
- conduct market and user research
- UX and UI research
- User studies

DES 420

App Design:

- user interface
- interactivity
- mobility
- user experience (UX)
- mobile media technologies

Design Process:

- storyboard design
- client presentations
- iterative design
- incorporating client feedback
- low & high fidelity prototypes

DES 421

Functional prototypes Mobile interface design Current practice:

- development technologies
- tools
- frameworks
- programming languages

Production process:

- programming
- scripting
- debugging
- uploading on the Cloud
- collaborating with your team

Intro

Developing effective graphics and UX

Problem understanding

Research methods

Market research

Ideation / Concept /Sketching

User Experience (UX) research

User interface design

UX design

User studies

Prototype

Interactive simulation Wireframes UX

Low Fidelity Design (Wireframe)

High Fidelity Design (Storyboard)

Curriculum

The curriculum will be presented in two sequential areas of practice:

The Fall semester will be devoted to problem understanding, research, ideation, design and initial development. Design includes user interface design, graphic design, and UX. Solution prototypes will be presented to the client in the form of storyboards.

The Spring semester will be devoted to translating your design solution into a functioning application. This includes programming for all interactivity and multimedia required for mobile development, user testing, and incorporating the feedback into the process.

Objectives

1. Design and implement an innovative mobile app module based on effective UX design principles.
2. Conduct user and client research to inform the design and development process.
3. Work collaboratively in interdisciplinary teams.
4. Build functional prototypes and interactive simulations for mobile platforms.
5. Design user interface elements suitable for coding and implementation.

Objectives

This course assumes a working knowledge of computers, intermediate design experience, and familiarity with web design tools and principles.

The course will use the Apple Macintosh platform and a range of professional design and development tools. While various software platforms are utilized, the emphasis remains on the research and development of thoughtful, engaging, and visually compelling user experiences.



Working collaboratively —
show early, share often, get feedback.
YES, even “ugly” sketches!

Hardware/Software

Mac OS 2022+
No windows!

SAGE3

Adobe CS

Xcode (IB+Swift)

Swift

Central Recourse

Course website (schedule, links, assignments)
<https://www.evl.uic.edu/mad/schedule.html>

-Zoom link - for research Partners

-email – course communication, announcements

-Canvas (grades, quizzes, tests)

-Box DES 420 (class folder with all the files and assignments)

-Google Box/Docs (editable documents) for your team projects, discussions and collaboration with clients

Electronic Communication

All course communication – Email;

If it's a grade or quiz it's on Canvas;

if it's any material, link, assignment, or schedule it's on the class website;

if it's a file upload/download, video, assignment submission folder or class files it's on Box.

Readings

iOS Programming. The Big Nerd Ranch Guide by Christian Keur, Aaron Hillegass, 7th edition

Beginning Xcode by Matthew Knott Daniel Bramhall

Mobile Usability by Jakob Nielsen and Raluca Budiu, New Riders

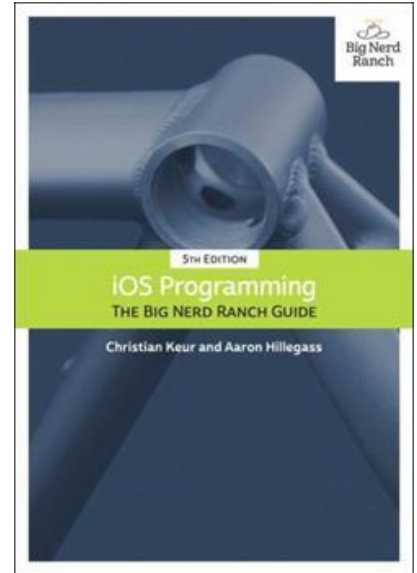
The Elements of User Experience: User-Centered Design for the Web
by Jesse James Garrett

A Project Guide to UX Design: For user experience designers in the field
or in the making by Russ Unger and Carolyn Chandler

Learn Xcode Tools for Mac OS X and iPhone Development by Ian Piper

Typography by Emil Ruder, Arthur Niggli/Teufen

The Elements of Typographic Style by Robert Bringhurst, Hartley & Marks Publishers



Collaboration Software

Defined by teams

Box Team Folder / Zoom / in person meetings / Discord / Slack/ Piazza

Box/ Google Docs –Team Meetings and Tasks document

Evaluation

Collaboration/participation(20%)

contribution to team project
collaboration
peer evaluation
attendance

Assignments, quizzes (\$30%)

Quizzes
Individual assignments

Team Project (50%)

A1 Market and UX research
A2 UX Design / sketches
A3 UX wireframe
A4 UX wireframe revisions
A5 Identity Design
A6 Storyboard
Midterm Presentation
A7 Storyboard Revisions
Final Presentation

Evaluation

14 classes = 9 work sessions

Attendance is mandatory
>2 absences – final grade reduction

late submissions will be penalized
by 15% grade reduction for the first day
10% for each day afterwards

Hardware failure is not an acceptable excuse for late assignment.

You should always make a backup of your files.

Evaluation

Be prepared for a lot of hard work

Self – studies outside of the class

Research/design/code

Class time is limited

In-depth course to prepare your graduation portfolio

Schedule

Fall 2026
Professional Practice I

Credit Hours: 4

www.evl.uic.edu/madi/Office Hours:
By AppointmentLecture/Lab:
Mon 1:00-5:40pm
EVL / room 2068
ERF / 842 W Taylor st.Daria Tsoupikova
tsoupik@uic.edu

Week

Date

Assignments

1

24 August
Course Intro & Logistics / Client presentation
Portfolio presentations / Team formation

A1 Market and UX Research

2

31 August
UX Design and Development / Team Presentations A1

A2 UX design / sketches

3

7 September
Labor Day / UX Design and Development

A2 UX design / sketches

4

14
Team presentations A2
Wireframes & Rough Prototyping / User studies

A3 UX wireframe

5

21
Team Wireframe presentations & Discussion A3
Brief History of Mobile Devices / Mobile and Mobility

A4 UX wireframe revisions

6

28
Client Wireframe Presentations
Revisions Worksession / Identity DesignFinal UX revisions
A5 Identity Design

7

5 October
UX Wireframe Lockout Date
Storyboard Design

A6 Storyboard Design

8

12
Storyboard Presentations
Worksession on navigation, UX, color, type, identity

A6 Storyboard Design

9

19
Midterm review with clients / Design Lockout Date
Review of presentations and client feedback

A7 Revisions

10

26
A7 Presentations / Worksession Midterm revisions

A8 Revisions

11

2 November
Introduction to Xcode

Readings/ Tutorials

12

9
Interface Builder

Readings/ Tutorials

13

16
Final preview with clients
Views and Hierarchy / Intro to Autolayout

A8 Quiz

14

23
Final project revisions

Final Project

15

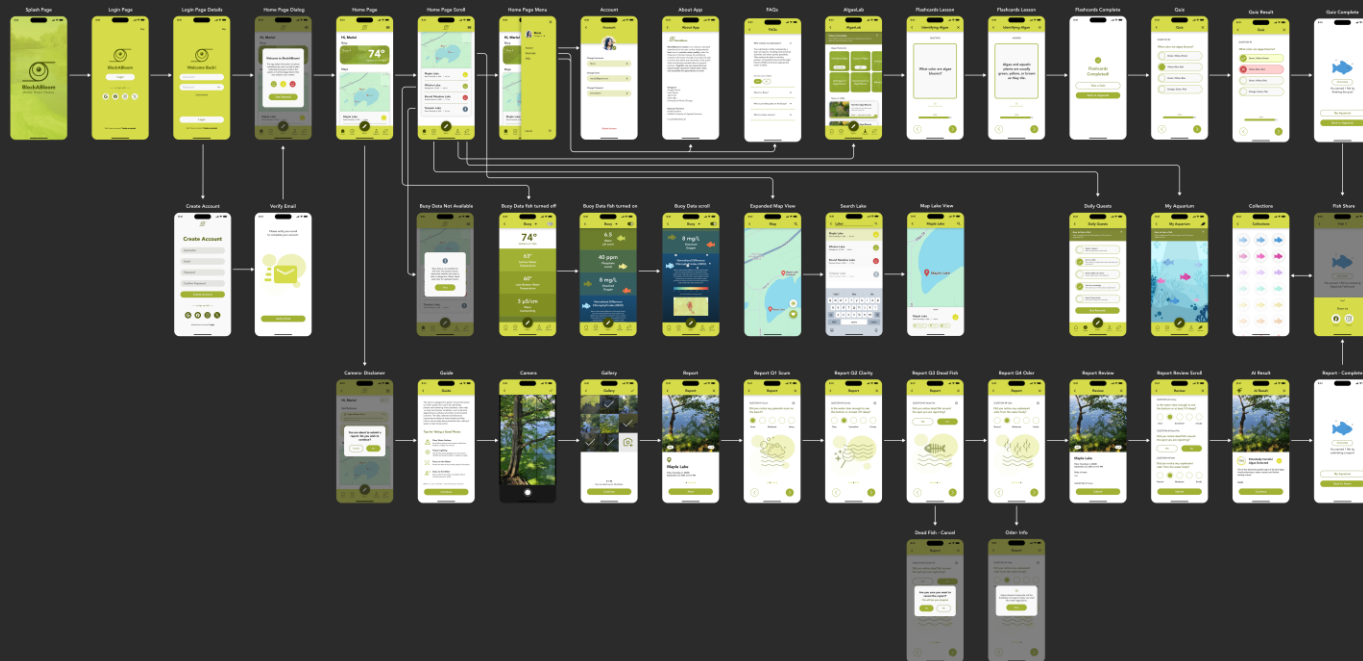
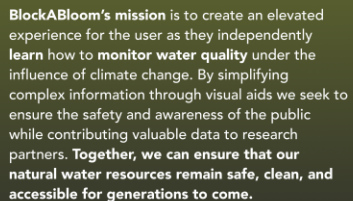
30 November
Final Review with Clients

Final Presentation





Anagha Karnik
Iriam Garcia
Jabril Hull
Veena Bijo







BlockABloom



BlockABloom Style Guide

Anagha Karnik | Iriam Garcia | Jabril Hull | Veena Bijo



01 App Icon



02 Typography

Avenir
Aa
Typeface

Aa Aa Aa Aa
Roman Medium Heavy Black

Page Headers
Heavy 25px

Copy text
Roman 15px, 12px

Buttons
Heavy 20px

Navigation text
Heavy 10px

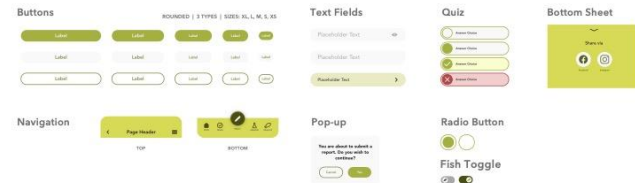
04 Iconography



03 Color Palette



05 UI Components



Let's get started.



Market Research & Analysis

Submit to Box / A 1 folder

The primary objective of this assignment is to conduct a comprehensive audit of the competitive landscape within your selected problem domain (apps).

Your research will help inform and shape your design direction by identifying existing solutions, evaluating their effectiveness, and uncovering opportunities for innovation. In addition to assessing market competitors, this project has a strong focus on engaging community members and citizen scientists. Your goal is to research and select applications and digital experiences that are as accessible, inclusive, and motivating as possible for these users.

Consider how your solution can empower non-experts to participate meaningfully in data collection, analysis, or community action. Think about usability, clarity, and the sense of purpose your application can instill in its audience.

Market Research & Analysis

Submit to Box / A1 folder

DES 420

Fall
Professional Practice I
Credit Hours: 4

Description

Mobile App Design Assignment 1

www.evluic.edu/track/

Office Hours:
By Appointment

Lecture/Lab:
Mon/Wed 1:00-5:40pm
EVL / room 206B
ERF / 842 W Taylor st

Daria Tsouplikova
tsoupli@uic.edu

Market and UX Research & Analysis

1) Current Market Overview and Other Available Apps.

The goal of this exercise is to take a deep dive into your problem domain, and thoroughly understand what's out there that may compete with your solution hypothesis, or inform your solution direction. You should organize your approach to this "competitive audit" by studying: relevant apps on the market (download and try); user reviews, articles covering trends in solving similar problems; new uses of technology in solving similar problems; consumer insight into these issues. Focus only on iOS and Android apps.

Each teammate should download and try as many apps which have similar objectives (\$10). You should also look at other apps currently used in the same field. And look for and show us apps that simply inspire you from a design & usability point of view. Prioritize primary use cases to list five apps that might compete with yours, have similar features, address, audience or similar objectives. If you feel that no other apps are sufficiently similar (e.g., yours is a new subject previously covered primarily in publications), then please list related apps the same audience would be likely to buy. This will give us a sense of how to position your app in the market. Provide short descriptions of how they solve the problem; list any key features or innovations; look for and describe strengths & weaknesses. As much as possible, provide screenshots capturing what you are critiquing.

2) UX and UI Research & Analysis

There are many angles to consider when doing UX research and analysis, in this exercise it is about simplifying everything as much as possible and reducing the number of steps it takes for a user to reach their goal. Analyze the app's user flow and overall UX—by walking an app in the users' shoes—to discover many weak points and frustrations and uncover opportunities that will improve the user experience. Take notes and draw sketches if you have an idea how to simplify UX and UI.

"Walk" the User Flow
Consider User Expectations
Analyze the Number of Steps in User Flows
Evaluate the App Structure
Simplify the Design

3. Draw pencil sketches to illustrate the alternative solutions for UX/UI ideas/structure.

- Evaluating overall app structure and interface clarity
- Brainstorming ways to simplify the experience, reduce complexity, and increase motivation
- Sketching ideas or proposing structural improvements

