

USC Iovine and Young Academy

Arts, Technology and the Business of Innovation

IDSN 533: Visual Software Development

Units: 2.0

Summer 2021–Thursday–7:30pm-9:35pm

Location: Online

Instructors: Chris Swain

Office / Office Hours: Virtual / By Appointment

Contact Info: cswain@usc.edu, 310-403-0798

IT Help: 2U Student Support

Hours of Service: Available 24/7, 365 days/year

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Course Description

In this course students will work on a venture with a focus on getting a functional software prototype in front of customers as efficiently as possible. Students are encouraged to apply the assignments in this course to their existing projects (such as projects from IDSN 545 Integrative Project and IDSN 585 Capstone). Students will work hands on with the Bubble.io visual programming language / application platform. Bubble.io is a “no code” software platform designed to be used by non-programmers. No technical expertise is required to excel in this class.

The No Code movement is perhaps the most impactful and transformative trend in the startup space today. Now, more than ever, non-technical entrepreneurs and intrapreneurs are able to launch a minimum viable product (MVP) quickly and start learning from users. This is thanks to a rapidly-evolving ecosystem of tools that enable sophisticated functionality without the need to write code. Examples of tools from this ecosystem include: Bubble, Webflow, Zapier, AppSheet, IFTTT, and others. Hundreds of companies and projects have gotten off the ground via this movement including Neyborly, NotRealTwitter, Qritiq, Goodgigs, Teeming, SideSupply, and many others.

This course is for aspiring product leaders and entrepreneurs who wish to be able to realize the vision for a product in a short time frame and start gathering data. In this course students will:

- a) Create a minimum viable product for a concept of their choosing and execute either as an individual or as a team
- b) Practice principles of the Lean Startup Methodology hands on – in particular as they relate to customer development and testing assumptions with stakeholders
- c) Learn Bubble.io via tutorials and exercises
- d) Get feedback entrepreneurs and investors from the LA startup ecosystem

Learning Objectives and Outcomes

After completing this course, students will be able to:

- Identify problems and translate them into solutions with potential to scale
- Develop a Minimum Viable Product and show it to users
- Use Bubble and Bubble integrations proficiently
- Conduct guerrilla user research using principles from Lean Startup Methodology
- Produce product design including wireframes, designs, prototypes, and user flows

Prerequisite(s): None

Recommended Preparation

IDSN 530 Technology Essentials. Students are encouraged but not required to visit a selection of no code tool websites and read the latest articles online about the space. Recommended tools to look at are: Bubble.io, Adalo, Webflow, Zapier, AirTable. This list will change each semester.

Course Notes

Grading type: Letter. Software used in the class will be browser based.

Students use personal laptops or computers and connect to course sessions via Zoom.

Lecture slides and any supplemental course content will be posted to Blackboard for use by all students. Any and all announcements for the course will be posted to Blackboard.

Technological Proficiency and Hardware/Software Required

Students must provide their own laptop. The laptop specifications take into consideration that students will be creating, streaming, and downloading audio and video; communicating using video conferencing applications; and creating and storing large multimedia files.

	Apple	Windows PC
Laptop (Minimum standards)	<ul style="list-style-type: none"> • 2.6 GHz dual-core Intel Core i5 or 2.0 GHz quad-core Intel Core i7 • Minimum 13" display • 250 GB SSD or larger • 16 GB memory 	<ul style="list-style-type: none"> • Intel Core i5 or Intel Core i7 • Minimum 14" display • 250 GB SSD or larger • 16 GB memory
Warranty	<ul style="list-style-type: none"> • Manufacturer warranty or extended warranty coverage (AppleCare) 	<ul style="list-style-type: none"> • Manufacturer warranty or extended warranty coverage
Operating System	<ul style="list-style-type: none"> • Mac OS X 10.13 or higher 	<ul style="list-style-type: none"> • Windows 7, 10 operating system or higher
Peripherals	<ul style="list-style-type: none"> • HD webcam, speakers and microphone (Most newer laptops have built-in webcam, speakers and microphone) • Headset • Digital camera (Cameras on newer smartphones are acceptable) • External drive for cloud account for backup and storage 	
Software	<ul style="list-style-type: none"> • Adobe Creative Cloud (Photoshop, Illustrator, and InDesign) • Adobe Acrobat Reader • Microsoft Office Suite • Sophos Endpoint Security (antivirus) • Browser: Most recent version of Firefox, Chrome, Safari, or Internet Explorer 	
Network	<ul style="list-style-type: none"> • Cable modem, DSL, T1/T3 or higher 	

Required Readings and Supplementary Materials

There are no required textbooks for this class. That said, the following books provide important background, and will be used as reference material:

- Ries, Eric (2011). The Lean Startup. Crown Business. ISBN-10 9780307887894
- Thiel, Peter (2014). Zero to One: Notes on Startups, or How to Build the Future. Crown Business. ISBN-10 9780804139298

- Hoffman, Reid (2018) Blitzscaling: The Lightning-Fast Path to Building Massively Valuable Companies, ISBN-10 1524761419
- Horowitz, Ben (2014) The Hard Thing About Hard Things. ISBN-10 0062273205
- Olsen, Dan (2015). Lean Product Playbook. John Wiley and Sons. ISBN-10 1118960874
- Blank, Steve (2013). The Four Steps to the Epiphany. K&S Ranch;. ISBN-10 0989200507

Additional reference material and online reading will be provided in class.

Description and Assessment of Assignments

This course will make use of Blackboard for assignments. All assignments will be posted to Blackboard. Each assignment will include instructions, a due date, and instructions for electronic submission. Assignments must be submitted electronically.

Individual Assignments

Students will be exposed to a range of individual assignments to understand how to use Bubble. In addition students will do Lean Startup Methodology assignments to build hand on understanding of these practices. As individuals students will gain hands on knowledge of Bubble.io and best practices for using the platform to quickly create products.

Assignment Details

- Bubble Tutorials – students will read about features of the Bubble platform and complete tutorials hands on. Where applicable students will apply the lessons of the tutorials to their venture projects
- User Tests – students will talk to users and prepare user research reports in a format provided by the instructor

Semester Project Assignments

Students will work on a semester project of their choosing. Each student will work as part of a team or as an individual. Projects can come from students’ current or past courses – such as those developed for IDSN 545 Integrative Project or IDSN 585 Capstone or others. The deliverable will be a functioning minimum viable product as defined by Lean Startup Methodology. Each MVP will launch in basic form around week 8 and will evolve based on feedback from stakeholders.

Assignment Details:

- MVP Development – students will use the Bubble platform to create a functional product. Students will simplify their product features down to the base minimum to enable the primary use case for the product
- MVP Tests – Students will test their MVP using standard formats as provided by the instructor
- Final Presentation – Students will present their Bubble applications to classmates and any guest attendees. Students are expected to show the product step by step (as opposed to telling the audience about a vision for the product). Students are encouraged to increase the credibility of their presentations with data from user tests.

Grading Breakdown

The weight of the graded material during the semester is listed below:

Item	% of Grade
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Individual Assignments	40
Semester Project Assignments	35
Participation	10
Final Presentation	15
Total	100

Grading Scale

Final course grades will be determined using the following scale:

Letter Grade	Numerical Score
A	95-100
A-	90-94
B+	87-89
B	83-86
B-	80-82
C+	77-79
C	73-76
C-	70-72
D+	67-69
D	63-66
D-	60-62
F	59 and below

Assignment Submission Policy

All assignments will be submitted digitally using Google Folders. Each assignment specification will include a due date.

Late Submissions

Assignments will be accepted after the deadline with the following grade penalties. Do not ask for extensions; the below are the extensions.

Submission in the 24 hours after the deadline	10% deduction
Submission between 24 and 48 hours after the deadline	20% deduction
Submission between 48 hours and 3 days after the deadline	50% deduction
Submission more than 3 days after the deadline	100% deduction

Keep copies of all your files and emails until the end of the semester.

Grading Timeline

Instructors will provide feedback and grading on all deliverables in a timely manner, usually within 48-72 hours following an on-time submission.

Correcting a Grading Error or Disputing a Grade

If you don't inform the instructor of missing or incorrect grades within two weeks of those grades being posted, the grades will be assumed correct. Do not wait until the semester's end to check or appeal any grades. If you feel a grade merits re-evaluation, you are encouraged, within one week of the instructor providing a grade and initial feedback, to send the instructor a memo in which you request reconsideration. The memo should include a thoughtful and professional explanation of your concerns. Be aware that the re-evaluation process can result in three types of grade adjustments: positive, none, or negative. (Note: Complaints on the date of a graded assignment's return to you will not be addressed; it is essential to wait one full day prior to raising a concern.)

Academy Attendance Policy

The Academy maintains rigorous academic standards for its students and on-time attendance at all class meetings is expected. Each student will be allowed two excused absences over the course of the semester for which no explanation is required. Students are admonished to not waste excused absences on non-critical issues, and to use them carefully for illness or other issues that may arise unexpectedly. Except in the case of prolonged illness or other serious issue (see below), no additional absences will be excused. Each unexcused absence will result in the lowering of the final grade by $\frac{1}{3}$ of a grade (e.g., an A will be lowered to A-, and A- will be lowered to a B+, etc.). In addition, being tardy to class will count as one-third of an absence. Three tardies will equal a full course absence.

Students remain responsible for any missed work from excused or unexcused absences. Immediately following an absence, students should contact the instructor to obtain missed assignments or lecture notes and to confirm new deadlines or due dates. Extensions or other accommodations are at the discretion of the instructor.

Automatically excused absences normally may not be used for quiz, exam or presentation days. Using an excused absence for a quiz, exam or presentation, such as in the case of sudden illness or other emergency, is at the discretion of the instructor.

In the case of prolonged illness, family emergencies, or other unforeseen serious issues, the student should contact the instructor to arrange for accommodation. Accommodation may also be made for essential professional or career-related events or opportunities. All accommodations remain at the discretion of the instructor, and appropriate documentation may be required.

Additional Policies

Class notes policy: Notes or recordings made by students based on a university class or lecture may only be made for purposes of individual or group study, or for other non-commercial purposes that reasonably arise from the student's membership in the class or attendance at the university. This restriction also applies to any information distributed, disseminated, or in any way displayed for use in relation to the class, whether obtained in class, via e-mail or otherwise on the Internet, or via any other medium. Actions in violation of this policy constitute a violation of the Student Conduct Code, and may subject an individual or entity to university discipline and/or legal proceedings. Again, it is a violation of USC's Academic Integrity Policies to share course materials with others without permission from the instructor.

No recording and copyright notice: No student may record any lecture, class discussion or meeting with the instructor without his/her prior express written permission. The word "record" or the act of recording includes, but is not limited to, any and all means by which sound or visual images can be stored, duplicated, or retransmitted whether by an electro-mechanical, analog, digital, wire, electronic or other device or any

other means of signal encoding. The instructor reserves all rights, including copyright, to his/her lectures, course syllabi and related materials, including summaries, slides (e.g., Keynote, PowerPoint), prior exams, answer keys, and all supplementary course materials available to the students enrolled in the class whether posted to the LMS or otherwise. They may not be reproduced, distributed, copied, or disseminated in any media or in any form, including but not limited to all course note-sharing websites. Exceptions are made for students who have made prior arrangements with The USC Office of Disability Services and Programs and the instructor.

Participation: Students are expected to actively participate in this course. In an online forum, participation includes:

- Careful reading and viewing of assigned materials by the date due
- Regular, substantive contributions to discussions
- Active engagement with online content
- On-time attendance and full attention (with camera on) in synchronous sessions
- Significant collaboration with classmates and teammates

Course grades may be affected for students who do not contribute to the course through active participation. Students should notify the instructor in advance if they are unable to attend class. Those unable to attend will be required to review the online recording for the session missed and submit thoughtful feedback to the Instructor.

Contact Hours

This 2-unit course requires 1500 minutes of instructional time per semester, which equals 125 minutes (2 hours and 5 minutes) of instructional time each week. In addition, it is expected that students will work, on average, an additional 250 minutes (4.17 hours) per week outside of class — on readings/viewings, homework assignments, field experiences, and individual or team projects. Synchronous class sessions will be offered as a regularly scheduled evening class once each week.

Course Schedule: A Weekly Breakdown

	Topics	Reading
Week 1	Course Intro - Overview of the Guerrilla Software Development tools <ul style="list-style-type: none"> • Individual introductions • Survey of No Code Movement and Success Stories • Assignment: Bubble Tutorials • Assignment: Elevator Pitch v1 	Bubble Getting Started The Rise of No Code
Week 2	Bubble.io and Bubble Integrations 1 <ul style="list-style-type: none"> • Hands on with Bubble • Bubble Structuring an Application • Assignment: Bubble Tutorials 	Bubble Manual 1-6 120 Products Built with No Code
Week 3	Bubble.io and Bubble Integrations 2 <ul style="list-style-type: none"> • Bubble-made Plugins • Team Formation • Assignment: Bubble Tutorials • Assignment: MVP 1 	Bubble Manual 7-11 The MVP is Broken. It's Time to Restore the Minimum Viable Product
Week 4	Lean Product Canvas <ul style="list-style-type: none"> • Assignment Lean Product Canvas v1 	Intro to Lean Canvas
Week 5	Blitzscaling 1: What is Blitzscaling <ul style="list-style-type: none"> • Assignment MVP 1 continued • 	Blitzscaling, Part 1 <ul style="list-style-type: none"> - Three Basics of Blitzscaling - Five Stages of Blitzscaling - Key Techniques of Blitzscaling
Week 6	Guerrilla Customer Development <ul style="list-style-type: none"> • Assignment: User Test 	The Four Steps to the Epiphany <ul style="list-style-type: none"> - The Path to Disaster: Product Development - The Path to Epiphany: Customer Development
Week 7	Bubble.io and Bubble Integrations 3	Bubble Manual 12-15

	<ul style="list-style-type: none"> • Bubble-made Plugins • Assignment: MVP 2 	
Week 8	The Matrix of MVP Tests <ul style="list-style-type: none"> • Assignment: MVP Tests 	The Matrix of MVP Tests
Week 9	Blitzscaling 2: Business Model Innovation <ul style="list-style-type: none"> • Assignment: MVP Tests Continued 	Blitzscaling, Part 2 <ul style="list-style-type: none"> - The Four Growth Factors - The Four Growth Limiters - Analyzing a Few Billion Dollar Business Models
Week 10	LA Startup Ecosystem <ul style="list-style-type: none"> • Assignment: Target Investors 	Guide to the LA Startup Ecosystem
Week 11	Pivot or Persevere including Case Studies <ul style="list-style-type: none"> • Assignment: Guerrilla Product Launch 	Lean Startup: Should You Pivot or Persevere
Week 12	Student Presentations + Future of No Code Tools Note: Students will present their Bubble applications / MVPs to classmates and any guest attendees. Students are expected to <i>show</i> the product step by step (as opposed to telling the audience about a vision for the product or present validation for the business opportunity). Students are encouraged to increase the credibility of their presentations with data from user tests.	

Statement on Academic Conduct and Support Systems

Academic Conduct:

Plagiarism – presenting someone else’s ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in SCampus in Part B, Section 11, “Behavior Violating University Standards” policy.usc.edu/scampus-part-b. Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on scientific misconduct, policy.usc.edu/scientific-misconduct.

Support Systems:

Student Health Counseling Services - (213) 740-7711 – 24/7 on call

engemannshc.usc.edu/counseling

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

National Suicide Prevention Lifeline - 1 (800) 273-8255 – 24/7 on call

suicidepreventionlifeline.org

Free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week.

Relationship and Sexual Violence Prevention Services (RSVP)

-213-740-9355 (WELL)

<https://studenthealth.usc.edu/sexual-assault/>

Free and confidential therapy services, workshops, and training for situations related to gender-based harm.

Relationship and Sexual Violence Prevention and Services provides immediate therapy services for situations related to gender- and power-based harm (e.g., sexual assault, domestic violence, stalking).

Office of Equity and Diversity (OED) | Title IX - (213) 740-5086

equity.usc.edu, titleix.usc.edu

Information about how to get help or help a survivor of harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants. The university prohibits discrimination or harassment based on the following protected characteristics: race, color, national origin, ancestry, religion, sex, gender, gender identity, gender expression, sexual orientation, age, physical disability, medical condition, mental disability, marital status, pregnancy, veteran status, genetic information, and any other characteristic which may be specified in applicable laws and governmental regulations.

USC Policy Reporting to Title IX (213) 740-5086

<https://policy.usc.edu/reporting-to-title-ix-student-misconduct/>

The university encourages individuals to report prohibited conduct to the *Title IX Office*. Individuals can report to the university's *Title IX Coordinator* in the *Office of Equity and Diversity*.

Bias Assessment Response and Support - (213) 740-2421

studentaffairs.usc.edu/bias-assessment-response-support

Avenue to report incidents of bias, hate crimes, and microaggressions for appropriate investigation and response.

The Office of Disability Services and Programs - (213) 740-0776

dsp.usc.edu

Support and accommodations for students with disabilities. Services include assistance in providing readers/notetakers/interpreters, special accommodations for test taking needs, assistance with architectural barriers, assistive technology, and support for individual needs.

USC Support and Advocacy - (213) 821-4710

studentaffairs.usc.edu/ssa

Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.

Diversity at USC - (213) 740-2101

diversity.usc.edu

Information on events, programs and training, the Provost's Diversity and Inclusion Council, Diversity Liaisons for each academic school, chronology, participation, and various resources for students.

USC Emergency - UPC: (213) 740-4321, HSC: (323) 442-1000 – 24/7 on call

dps.usc.edu, emergency.usc.edu

Emergency assistance and avenue to report a crime. Latest updates regarding safety, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible.

USC Department of Public Safety - UPC: (213) 740-6000, HSC: (323) 442-120 – 24/7 on call

dps.usc.edu

Non-emergency assistance or information.