DIGITAL CANVAS: AN INTRODUCTION TO VISUAL DESIGN

UNITS: 2
GRADING: Satisfactory/No Credit
LECTURE: Once a week, ~2 hours
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FACULTY ADVISOR: Michael Bernstein (msb@cs.stanford.edu)
CLASS LIMIT: 20 students, by application only
PREREQUISITES: CS 142 or equivalent front-end web dev experience

COURSE DESCRIPTION

For many products, visual presentation plays a core role in defining the product and its experience. Through this course, students will explore the practice of designing web products from a visual perspective, and strengthen their skills with various visual design tools and techniques. By focusing on the web as a medium, we will also explore the link between developing digital products and designing them.

In this class, we will explore high-level graphic and visual design principles, including composition, color theory, and typography through interactive weekly discussion sessions. Students will also dive into the practice of design by doing a quarter-long visual design project, using the web as a medium. The project will emphasize the design process and iterating on peer critique, which students will regularly give and receive. These components are discussed in more detail below.

In relation to other CS classes, Digital Canvas fills a unique space. CS 142 primarily teaches web development, but does not address design. CS 147 is an introduction to the the digital design space, but focuses on the entire design process, including product development and testing, and only briefly touches on aesthetic and visual aspects. CS 247 goes into a little more depth on visual presentation; however, its perspective is more pragmatic as opposed to artistic. Digital Canvas can create a bridge between this functional approach and the artistic ones offered in the art department, and go into more depth on this specific topic than any of these classes can.

Prerequisites: Because we will focus on the web as a medium, an understanding of implementing web interfaces is required, such as through CS 142 or equivalent front-end programming experience.

CLASS SESSIONS

Class sessions will be approximately 2 hours long each week. The first half of the class sessions will be a lecture or discussion on a focused topic, including short design exercises to explore the topic, and design critiques of relevant work.

In the second half of the class session, students will split off into smaller groups of 4-5 students, led by a "critique leader." They will receive directed critique of their own projects and have a chance to respond to

feedback with guided support from their critique leader and other students, and learn about specific implementation techniques.

DESIGN PROJECT

Students will work on one major web design project. The project will incorporate material from the class, and will be done by each student independently. In order to make sure students get the most out of their projects, we will have some guidelines about the content of the website, as well as weekly milestones to help students progress in their work. They will also receive critique to guide their project through their critique groups.

Exercises: These are warm-up exercises assigned in the first two weeks before we get deep enough into the material. This type of design "sprint" is common as an industry practice to get people thinking about design decisions by making low-fidelity prototypes with a quick reflection turnaround.

Project: Students will design a webpage for an organization, student group, or product. Through the project, students will learn visual design in the product development process, branding and identity, and design principles and elements.

GUEST SPEAKERS

We also hope to have industry professionals as guest speakers during 2-3 of these sessions to have discussions with the students and review their work. In the past, the class has welcomed Palantir's design team, Yahoo's lead designer Marissa Louie, and Ari Sachter-Zeltzer of Google Motion Design. We have also done a field trip to 1185 Design, a firm in downtown Palo Alto led by Peggy Burke, where students experienced a studio environment and did design challenges by pairing with 1185's designers.

READINGS & WORKSHOPS

We will direct students to visual design and implementation resources, online and in print. Because this is a 2-unit class that includes both class sessions and a project, most, if not all, of these readings and resources will optional. We will also hold 1-2 workshop sessions for the two tools widely used in our class and in industry, Sketch and Photoshop. While these workshops are not necessary, they will be strongly recommended for students without a background in these tools.

MILESTONE/GRADING

Students will be graded on their attendance, class participation and project milestone or homework completion. Students are expected to attend class and participate constructively in discussion and critique sessions. 1 point will be awarded per class for attending and active participation. 2 points will be awarded for each milestone that is fully completed work, and have responded appropriately to all feedback from previous critiques. Since there are 10 class sessions, and 9 milestones, there are a total of 10 points for attendance, 18 points for milestone, giving **a total of 28 points**. A minimum of **24 points** is required to receive credit for this class.

SYLLABUS

WEEK 1 INTRO + ROLE OF VISUAL DESIGN
In this initial session, we will introduce the main goals of the class, and the direction the class will take for this quarter. We will also give an overview of the design project the students will complete, and what students should expect to learn from the class. Then, we will provide a motivation for the class: why is visual design important? We will discuss the role of visual design within the product design process, and how to create personality through visual design.

Critique Group: We divide the class into their respective critique groups for the quarter. The students will do a basic visual design activity to design a poster for their group, and then reflect on the process.

Exercise 1: The students will use some of the basic topics and processes we talked about in class to create a banner for a city website, and reflect on what they were trying to convey and the choices they made to do so.

References:
- From a [UX blog-post](#) on why aesthetics is important, listing various books, articles, and links on the function of aesthetics and design for the web

WEEK 2 EMOTION IN DESIGN
Guest lecture by an artist-designer: Marissa Louie (Yahoo!, BearBear) or Alice Lee (Dropbox)

Exercise 2: In this exercise, students will pick 3 or 4 emotions and try to illustrate them using only colors in various shapes (no text or imagery).

WEEK 3 RESEARCH & IDEATION
In this session, we will dive deeper into how to start the design process, especially for visual design. We will talk about conveying personality and character through web design, as well as using the design thinking methodology in designing interfaces. In developing empathy and defining the specific uses of an interfaces, students will be able to brainstorm and iterate more effectively on their designs.

Critique Group: In groups, we will critique the work assigned in the previous two weeks, Exercise 1 and Exercise 2.

Project Milestone 1: Students will pick a topic for their website and create a moodboard for the concept and aesthetic they want to convey. They will also create a personality card for their work.

References:
- [Graphic Design: The New Basics](#) by Ellen Lupton & Jennifer Cole Phillips. Available both at Stanford Art Library and online.
- [Personality in Design](#) from the *A List Apart* web design magazine.

WEEK 4 DESIGN BASICS: PRINCIPLES AND ELEMENTS
This session will introduce students to basic design elements and principles, such as color, composition, balance or contrast. We will discuss these elements and principles using a combination of various in-class activities and examples. This class session will also introduce students to the basic process of wireframing and sketching ideas.

Critique Group: We will review the moodboards and sketches that students made, and discuss the consistency in each and the design choices that drive the elements of the moodboard.

Project Milestone 2: Students will brainstorm and consider a number of different layouts through many thumbnail sketches (roughly 30), and draw out 3 of them as wireframes.

References:
- [The Lost Art of Thumbnail Sketches](#) and [Wireframe Examples](#) as online readings
- [Relating Layout with Content](#) Article from *A List Apart*
- [Making and Breaking the Grid](#) by Timothy Samara. Available from the Stanford Art Library and online.

WEEK 5 COLOR

In this session, we will discuss how color influences a design. We will talk about the specific use of color to convey emotion and the use of color to create usability affordances. We will also talk about concrete ways to effectively pick colors and color combinations, such as by using triads, complementaries, split-complementaries, etc. Finally, we will introduce students to tools such as Adobe Color.

Critique Group: We will discuss the layouts and sketches that the students made and talk about the tradeoffs between the different types. We will also talk about the relationship between the layout and the aesthetic of the moodboard, and how color can bring more aspects of the moodboard into the wireframe.

Project Milestone 3: Students will make decisions about what colors to use in their design. They will refine their wireframe based on previous feedback and attempt 2 different color schemes.

References:
- Terry Stone's Color Design Workbook, available in the Stanford library, both print and online.
- Instructor-compiled examples from various websites such as behance and dribbble.

WEEK 6 TYPOGRAPHY

This session will explore typography and other iconography. We consider the use of typography in various contexts, such as body text or display text, and its contribution to the overall mood of the design. We will talk about technical aspects of text design, such as letterform, kerning and tracking, and font features, that can help students decide which typefaces they should use for a design.

Critique Group: Critique and discussion of the last milestone, as well as a discussion of how to move forward.

Project Milestone 4: Students will incorporate feedback from the last critique and also identify what text they want to use. They will incorporate typography decisions into their wireframe and turn it into a pixel-perfect mock. To do so, they will create a style guide, or a sheet that defines typographic and color decisions.

References:
- Ellen Lupton's Thinking with Type, available in the Stanford library, both print and online.

WEEK 7 STORYTELLING IN DESIGN

Guest lecture from IDEO, 1185, or a similar agency

Project Milestone 5: Students should incorporate peer and instructor feedback from the previous mock and continue to work on their design by doing a "redux" of their design.

WEEK 8 WEB AS AN INTERFACE

This session will focus on bringing the visual design principles covered in previous classes to designing web interfaces. While specific considerations for each topic will be alluded to in earlier classes, this session will focus on these considerations specifically. Additionally, we will cover some aspects of interaction design and information architecture, and even some usability principles to be taken into account when designing interfaces for specific use cases.

Critique group: bringing in color & typography to your mockup

Project 1-Milestone 6: Students will develop their design through a branding kit. They should also incorporate good color and typographic choices in their project 1 design from their branding kit.

References:
- The Nielsen Norman Group, a leader in user experience that outputs various articles on usability of interfaces
- The Design of Everyday Things, by Don Norman

WEEK 9 REAL-WORLD DESIGN PRACTICE

Guest lecture from Palantir Design, Nest, DoorDash, or similar design team

Project Milestone 7: Finalize their design and prepare for a poster or screen presentation for week 10.

WEEK 10 PRESENTATIONS

Students will present their projects to the class , instructors, faculty/staff, and invited industry professionals. They are required to put their work for the two major projects for display, and are invited to display any in-class assignments or milestone exercises they wish to.They will talk about some of the decisions they made, answer questions about their designs, and receive feedback.

ENDNOTES

Tools

The following are a list of major tools and frameworks that we will introduce in class sessions, use in our examples, and encourage students to use in their projects:

- *Sketch 3*
- *Adobe Creative Suite: Photoshop*
- *HTML/CSS*
- *Adobe Color*
- *Google Fonts + Typekit*

We will have at least one critique-leader who is proficient in the tool that the students could contact for any additional help with their project.