**Introduction to the User-Centered Design Group Project**

**This topic of this course is the user-centered design (UCD) approach for designing user experiences, meaning user interactions and interfaces. Throughout the quarter, you will be working on a user-centered design project that gives you** an opportunity to apply what you learn from lectures, readings, and class discussions.

**UCD Project Approach and Phases**

In this multiple-step project, you and your team will go through key steps of user-centered design. Your outcomes and learnings from each step build upon each other. This iterative, team approach aligns with how technology companies generate user research insights and integrate them into the product development lifecycle. The project is divided into two main phases of research, formative and evaluative.

First, during formative research, you gain an understanding of a particular domain and its technology stakeholders. Each team will create user personas, user journey maps, and conduct a research study to inform and validate their understanding of the stakeholders.

Then, during the evaluative research phase, each team will design potential technology features for an existing or imagined technology product to support citizen science. Each team will conduct a usability study based on their technology prototype.

Graphical user interface, text

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The theme of the course project is Affect-Aware Computing, which is technology that is aware of, and intervenes upon, people’s emotions and affect (e.g., moods). Examples are social robots and chatbots that have emotion-based characteristics and behaviors.

See the “Overview of Affect-Aware Domain” document for a description of affect-aware computing, related technologies, and resources. Remember that in any work you do, if prior work inspires or informs you, you must cite it appropriately.

**CHOOSING AN AFFECT-AWARE COMPUTING SCENARIO AND PRODUCT**

For your project, you will choose an affect-aware computing user scenario to focus on. The scenario must be centered around using end-user, front-end technology (e.g., a mobile application) as opposed to solely back-end technology (e.g., machine learning for emotion artificial intelligence). The instructor will approve each team's project topic. Since you will be conducting user research, you should choose a topic area that will resonate with people you have access to. In other words, choose a topic that people you know like to do, or you can image them doing.

There are two approaches for selecting the affective computing scenario and corresponding product or technology.

1. Chose a product that already has some features related to user emotion (e.g., emoji's in text messaging).

For example, through a design process, you will create an interactive prototype demonstrating a change in how text messaging supports emotions. From a user-centered approach, you are choosing the user scenario of remote communication via text messaging. You are interested in ways to support people sharing/responding/reflecting upon emotions. Then during your initial information gathering (using research methods other than a user study), you are looking into how texting currently handles emotions, and the current feature set is emoji's. Your design challenge becomes how the texting interaction (phone, text entry, sounds, etc.) can include the richness of people's emotions.  
  
2. Choose a product that does NOT have any affect-aware computing functionality (e.g., GPS while driving).

For example, through a design process, you will create an interactive prototype demonstrating a way to account for driver emotions while using GPS. From a user-centered approach, you are choosing the user scenario of how drivers can safely regulate/manage their emotions during wayfinding. Then during your initial information gathering, you are looking into how people currently interact with their GPS during certain scenarios (e.g., getting lost; driving during a rainstorm). Your design challenge becomes how the GPS can become part of supporting the driver's emotional needs during those scenarios.

For either approach (1) or (2), after creating your prototype, you'll conduct a user study using your prototype. You will make design recommendations based on what you learned in your study.

**PROJECT ACTIVITIES**

There are multiple group assignments throughout the quarter so that the project moves steadily along. These assignments are designed to complete important deliverables for a design and research project. The group assignments include project checkpoints with the instructor and peer reviews of group work. The primary activities are:

1. Use online resources to gain an understanding of the domain including ethical challenges
2. Build personas and user journey maps
3. Conduct formative user research (e.g., diary study, survey, interview) about users and context of use
4. Iterate on personas and user journey maps
5. Create an interactive prototype
6. Plan and conduct a usability test of the prototype
7. Synthesizing your learning into a user experience portfolio and report

**INTERACTIVE PROTOTYPE**

Here are criteria for the technology you choose for your research and design activities:

* Technology prototype is interactive and has a comprehensive feature set (e.g., customizing affect-aware computing functionality, using the functionality in real-time)
* Team has access to current or potential users and conduct the research in an ethical manner (e.g., building trust with research participants, screening participants, providing consent forms)
* Any current technology must be in public domain (so student team and teaching team can access)
* Technology is a good showcase for your portfolio
* Each team in the class must choose a different technology

**Presentations and Demo**

* There are two presentation milestones for this project. First, after we complete the formative research activities, your group will give a 12-minute presentation, followed by a 3-minute Q&A with the class. In this presentation, you will provide an executive summary review of the following: (1) your formative research methodology, (2) key findings from your research thus far; and (3) potential design directions for your prototype.
* Second, at the end of the quarter, when we complete the evaluative research activities, your group will give a final presentation and demo of your prototype (total time is 12 minutes), followed by a 3-minute Q&A. In your final presentation, you will provide an executive summary review of the following: (1) your usability study method, (2) key findings from your usability study; and (3) prioritized design and feature recommendations.

**Research Report and Portfolio**

* There are two report and portfolio milestones for this project. For each of the 2 milestones (formative and evaluative research), your team will submit a summary report of your research from that phase. In addition, you will individually submit a portfolio piece that is designed to be posted to your personal web site or online presence (e.g., GitHub). The purpose of the portfolio piece is to showcase your work to someone coming to your site - perhaps someone interviewing you for a job! Note that you do NOT have to actually post the portfolio piece online for the assignment.

Good luck with the project, use the strengths of your teammates, and have fun!