INFO I270
Introduction to Human-Computer Interaction: Principles and Practice

Department of Human-Centered Computing
Indiana University School of Informatics and Computing, Indianapolis
Fall 2013

Section No.: 25237  Credit Hours: 3
Time: Mondays 3:00–5:40 pm
Location: IT 355, Informatics & Communications Technology Complex
535 West Michigan Street, Indianapolis, IN 46202 [map]
First Class: August 19, 2013

Instructor: Matt Hofmann, MS in Educational Technology, Purdue University
Office Hours: After class or by Appointment
Office: NA
Phone: (317) 440-0863 (Cell)
Email: mhofmann@gmail.com

Prerequisites: None

COURSE DESCRIPTION

Students learn the fundamental principles and practices of human-computer interaction (HCI) and evaluation. Specific focus is given to the introductory knowledge of HCI methods, tools, and techniques for designing and evaluating user interfaces through the use of low and high fidelity prototypes for the Web and software.

EXTENDED COURSE DESCRIPTION

This course will introduce Informatics undergraduate students to the fields of Human-Computer Interaction (HCI). The focuses on the use of computing technology. From this perspective, we can understand how various technologies fit into users’ lives more effectively and can extend users’ cognitive capabilities by designing new experiences for them in HCI. The course will introduce you to the design process that accompanies software development.

The course is divided into two main activities of interaction designers. The first activity deals with the design process of software and hardware technology and the relation of our designs to the user. Examples of design include learning about our software users, sketching and brainstorming different design alternatives, and developing prototypes. The
second important activity is the evaluation of the generated designs. Examples of evaluation include expert evaluation, usability studies, and field studies.

I hope that during this course you will gain a new understanding and appreciation for the users of your software. This appreciation then can be used to help generate design insight. This course is intended primarily for students wishing to become designers of interactive software and media; however, it is also relevant for technical students who wish to learn more about the users of the software that they develop. The course will focus on design activities including design and concept generation, user modeling, low fidelity prototyping, testing, presentation, critique, and so forth.

**Required Text:**

Title:   *Designing for Interaction: Creating Innovative Applications and Devices*

Author: Saffer, Dan

Edition: 2nd

Publisher: New Riders


Dan Saffer’s book is the required text and all CH# in assignments reference its chapter numbers.

**Additional Readings:**

Apart from Saffer’s book, all other articles will be available on OnCourse through the resources or library resources section.

**Learning Outcomes:**

By the end of this course, students will

1. Understand and explain a range of foundational HCI terms and topics, such as
   a) HCI basics, interaction design, and related areas
   b) HCI conceptual models
   c) User needs/requirements and product assessments
   d) The processes/life-cycle of interaction design
   e) Interface design and prototyping
   f) A user-centered approach to interaction design
g) Product evaluation/testing methods

2. Identify what tools and techniques exist for interaction designers to scaffold the process of design and the limitations of those techniques.

3. Collect evidence from potential users concerning their needs and how potential designs could fit into their daily habits.

4. Analyze user needs and requirements.

5. Prioritize values, needs, and requirements from multiple stakeholders in a design project and generate a list of viable and innovative concepts that fit the design space.

6. Apply a user-centered approach to interaction design, user profiling to interaction design, and interface design principles and processes.

7. Collaborate in the process of software design and integrate interaction design into a software development process.

8. Construct a well-reasoned argument supporting decisions in a design process and thoughtfully critique the design decisions of others.

9. Evaluate critically interactive software and system designs.

10. Use several different evaluative techniques—for example, conducting a usability study or performing a heuristic evaluation—to evaluate software designs and, based on the results, to generate new, more effective design concepts.

**Core Competencies:**

With respect to the IUPUI Principles of Undergraduate Learning, you can expect through this class to achieve competencies in the following areas:

**PUL 1A. Core communication: written, oral and visual skills:**

- Students will have several opportunities during the course to present to the class work-in-progress ideas.
- Students will give a formal presentation of group work for the final project on the last day of class.
- Students will learn to provide and receive critical, constructive feedback about their work and the work of others.
- Students will collaborate with team members in the product design process, including creative problem solving in the design process and critical thinking in the design validation process.

**PUL 2. Critical Thinking**

- Students will assess user profiles, i.e., personas, scenarios, and insights.
- Students will analyze evaluation data to draw well-supported conclusions about the interactive products they have designed.
• Students will identify, analyze, discuss, and debate various topics in class discussions.
• The students will engage in critique during the presentations of other classmates and be able to respond constructively when their work is critiqued.

**PUL 3. Integration and Application of Knowledge**

Use concepts professionally / meet professional standards

• Students will gain hands-on knowledge of HCI concepts in this practice-oriented course.
• Students will blog about HCI in their own lives and about how the principles they learn in class can help them become better designers of technology.
• Students will comment on other student’s blog posts to think about how their perspective on issues in HCI compares and contrasts with their own.

**PUL 4. Intellectual Depth, Breadth, and Adaptiveness**

• Students will understand the fundamental concepts of HCI.
• Students will apply HCI data collection and evaluation techniques.
• Students will develop effective interaction design concepts.

**Equipment used:**

For declared Informatics major, information on the Laptop Initiative is available at [http://informatics.iupui.edu/technology/laptop](http://informatics.iupui.edu/technology/laptop).

You will also need sketching equipment (e.g., sketching pad, pencils, pens, or markers), access to a scanner, and access to and rudimentary understanding of HTML, PowerPoint, Photoshop, or Fireworks. Adobe Creative Suite is available from [http://iuware.iu.edu](http://iuware.iu.edu).

**EXPECTATIONS, GUIDELINES, AND POLICIES**

**Attendance:**

A basic requirement of this course is that you will participate in all class meetings, whether online or face-to-face, and conscientiously complete all required course activities and assignments. Class attendance is required for classroom-based courses. It entails being present and attentive for the entire class period. Attendance shall be taken in every class. If you do not sign the attendance sheet while in class, you shall be marked absent. Signing the attendance sheet for another student is prohibited. The instructor is required to submit to the Registrar a record of student attendance, and action shall be taken if the record conveys a trend of absenteeism.

Only the following are acceptable excuses for absences: death in the immediate family (e.g. mother, father, spouse, child, or sibling), hospitalization or serious illness; jury duty; court ordered summons; religious holiday; university/school coordinated athletic or scholastic activities; an unanticipated event that would cause attendance to result in substantial hardship to one’s self or immediate family. Absences must be explained with the submission of appropriate documentation to the satisfaction of the instructor, who will
decide whether missed work may be made up. Absences that do not satisfy the above criteria are considered unexcused. To protect your privacy, doctor’s excuses should exclude the nature of the condition and focus instead on how the condition impacts your attendance and academic performance.

Missing class reduces your grade through the following grade reduction policy: You are allowed two excused or unexcused absences. Each additional absence, unless excused, results in a 5% reduction in your final course grade. More than six absences result in an F in the course. Missing class may also reduce your grade by eliminating opportunities for class participation. For all absences, the student is responsible for all covered materials and assignments.

Incomplete:
The instructor may assign an Incomplete (I) grade only if at least 75% of the required coursework has been completed at passing quality and holding you to previously established time limits would result in unjust hardship to you. All unfinished work must be completed by the date set by the instructor. Left unchanged, an Incomplete automatically becomes an F after one year. http://registrar.iupui.edu/incomp.html

Deliverables:
You are responsible for completing each deliverable (e.g., assignment, quiz) by its deadline and submitting it by the specified method. Deadlines are outlined in the syllabus or in supplementary documents accessible through OnCourse. Should you miss a class, you are still responsible for completing the deliverable and for finding out what was covered in class, including any new or modified deliverable. In fairness to the instructor and students who completed their work on time, a grade on a deliverable shall be reduced 10%, if it is submitted late and a further 10% for each 24-hour period it is submitted after the deadline.

Exams/quizzes:
Quizzes will be posted to OnCourse based on the readings each week. You will be quizzed over the material you read in this course to determine basic mastery and participation in the subject material. You will be graded on each quiz using the grading scale outlined in this syllabus.

The quiz will be available prior to class the week before the reading assignment is due. You will have until the start of the class that the assignment is due to complete the quiz. For example, the first quiz will be released prior to the first day of class. You will have until 2:59 PM the next Monday to complete it. Quizzes will be open book.

There will be a midterm exam over material presented in class and in the textbook. The take home exam will be provided on the 11th week of class and will be due on the 12th week of class.
If you have the proper documentation from Adaptive Educational Services, modifications to the exams will be made for you. Notify us at the beginning of the semester, not the week of the exam.

**Class assignments:**

You will be assigned 5 short individual assignments throughout the semesters. These assignments will help you practice the basic skills that you will be evaluated on later in the class. Each assignment will take between 45 and 90 minutes to complete. You will have one week to complete each assignment.

Basic completion of the assignment will result in an 85%. Assignments that show good quality work and incorporate lesson learned from the reading will receive a 90 or 95 depending on the quality of the work. Exceptional work will receive a 100. The assignments are described in the calendar below and will be described in more detail when they are assigned the week before they are due.

**Final Project:**

The final project uses the skills developed throughout the week. This final project will require choosing a design topic from a list provided by the instructor and performing the entire user-centered process to create an original design addressing an identified problem or need for your target user group.

**Final deliverables:**

- Final presentation
- Group member evaluations
- Pamphlet describing design idea and its impact
- Submission packet, to consist of diary or report, scans, etc. The packet should leave no doubt about how your project went, what you did, how you did it, and what the final outcomes were. They will include:
  - User analysis, personas, and scenarios created.
  - Sketches of design alternatives brainstormed.
  - A final design. This does not have to be large, but it does have to include user interaction. In other words, it cannot be just informational. It has to do something.
  - Paper Prototype
  - CD/DVD or digital copy on OnCourse with High Fidelity Prototype.
  - Your lessons learned from testing and how these lessons were applied to the final product.
  - Final report. Much of this will be written, at least 10 pages, and probably much more including all the supporting material. The final report will include everything completed in the final project, including copies of the prototypes and the final design. The final report included everything, such
as details on how testing was performed, the actual data, and so forth. In the report, be sure to identify what part each team member completed.

Comprehensive detail will be provided in Week 9. The final project presentations will be during class time on the final day of class in Week 16 and final project materials will be due at 6 PM on Monday, December 12. (*Note: Final date may change to December 19th if the flex day is implemented.)

Final project grade will be based 80% on the quality of your work and 20% on your average group evaluation scores.

**Grading Information:**

- Participation** 10%
- Quizzes 10%
- Assignments 25%
- Midterm Examination 25%
- Final Project (Group) 30%

** Participation and engagement with the course, such as preparation for the course; participation in class discussions; responsiveness to instructor requests for information in a timely manner.
<table>
<thead>
<tr>
<th>Week</th>
<th>Dates</th>
<th>Lecture Topic</th>
<th>Learning Activity</th>
<th>Assignment Due***</th>
<th>Project Info</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8/19</td>
<td>What is HCI? UXD, ID, UCD, IA</td>
<td>Design Activity, involving entire UCD</td>
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</table>
| 2    | 8/26  | Who are our users and how do we understand them? | Persona and Scenario activity | Read Saffer [Introduction, CH1-2]  
Read Merholz et al. on empathy.  
Read Calibria article on personas  
Read Lepore article on character in personas  
Quiz on HCI and personas |              |
| 3    | 9/2   | LABOR DAY |                  |                  |              |
| 4    | 9/9   | Trends in HCI | Videos of new technology in HCI. Interactivity Lab. | Assignment #1: Personas and Scenarios  
Read Harper et al. excerpt (pp. 12–51)  
Quiz on Trends in HCI |              |
| 5    | 9/16  | How to do research: Interviews and Observation | User research activity. | Read Berger excerpt on interviews and observation  
Read Saffer [CH 4]  
Read Szuc article on asking why  
Quiz on learning about users |              |
| 6    | 9/23  | The design team, design and product lifecycle | Video on team process. | Assignment #2: Problem Statements  
Read Merholz et al. excerpt on Agile |              |
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<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Activity</th>
<th>Readings</th>
<th>Assignments</th>
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| 7    | 9/30 | Designing and sketching and brainstorming | Design activity. Sketching practice | Read Saffer [CH 6]  
Read Buxton excerpt on sketching and design  
Quiz on design |
| 8    | 10/7 | Heuristic Evaluation: Coming up with good heuristics and basics in evaluation | Heuristic Evaluation Activity.  
**Group Project Work Time.** | Read all 4 Nielsen articles on heuristic analysis  
Quiz on heuristic analysis |
| 9    | 10/14 | **NO CLASS – FALL BREAK** | | |
| 10   | 10/21 | Analysis and Insights | Design activity. Affinity Diagraming Activity. | Assignment #3:  
Design Concepts and Conceptual Modeling  
Read Saffer [CH 5]  
Read Ellerby article on insights  
Read Baty articles on analysis techniques and finding patterns in data  
Quiz on analysis  
Final Project announced. |
| 11   | 10/28 | Paper prototyping | Design activity. Present and Critique. **Review** | Assignment #4:  
User Research & Insights  
Read Snyder article on paper prototyping  
Read Saffer [CH 8]  
Read Modero article on paper prototyping  
Quiz on prototyping  
Midterm exam assigned. |
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<tr>
<th>Date</th>
<th>Week</th>
<th>Activity</th>
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<tr>
<td>12</td>
<td>11/4</td>
<td>Usability testing metrics, evaluation, and interpreting results.</td>
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<td>Usability test on software prototype.</td>
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<td><strong>Read</strong> Unger and Chandler excerpt on Usability Testing</td>
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<td><strong>Read</strong> Snyder worksheet on usability tasks</td>
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<td><strong>Read</strong> Nielsen article on usability metrics</td>
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<td><strong>Quiz</strong> on usability</td>
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<tr>
<td>Midterm exam due.</td>
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<tr>
<th>Date</th>
<th>Week</th>
<th>Activity</th>
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<tbody>
<tr>
<td>13</td>
<td>11/11</td>
<td>High-fidelity prototyping</td>
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<td>Building a prototype in high-fidelity prototyping tools.</td>
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<td><strong>Assignment #5:</strong> Design Prototype and Usability Test</td>
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<td><strong>Read</strong> Saffer [CH 7]</td>
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<td><strong>Quiz</strong> on HCI concepts</td>
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<tr>
<th>Date</th>
<th>Week</th>
<th>Activity</th>
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<tbody>
<tr>
<td>14</td>
<td>11/18</td>
<td>Discussions on the business of HCI and ethics in HCI</td>
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<td></td>
<td></td>
<td>Discussions</td>
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<td></td>
<td></td>
<td><strong>Read</strong> Friedman article on design ethics</td>
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<td></td>
<td></td>
<td><strong>Read</strong> Saffer [CH 3, Epilogue]</td>
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<td></td>
<td></td>
<td>Quiz on ethics, business in HCI</td>
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<tr>
<th>Date</th>
<th>Week</th>
<th>Activity</th>
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<tbody>
<tr>
<td>15</td>
<td>11/25</td>
<td>Project Work Time</td>
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<tr>
<th>Date</th>
<th>Week</th>
<th>Activity</th>
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<tbody>
<tr>
<td>16</td>
<td>12/2</td>
<td><strong>In-class presentations and critique</strong></td>
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<tr>
<th>Date</th>
<th>Week</th>
<th>Activity</th>
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<tbody>
<tr>
<td>Final</td>
<td>12/9</td>
<td>Final Project Submission Packet due.</td>
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**Grading Scale:**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>A+</td>
<td>100%</td>
<td>Professional level work, showing highest level of achievement</td>
</tr>
<tr>
<td>A</td>
<td>93–99%</td>
<td>Extraordinarily high achievement, quality of work; shows command of the subject matter</td>
</tr>
<tr>
<td>A−</td>
<td>90–92%</td>
<td>Excellent and thorough knowledge of the subject matter</td>
</tr>
<tr>
<td>B+</td>
<td>87–89%</td>
<td>Above average understanding of material and quality of work</td>
</tr>
<tr>
<td>B</td>
<td>83–86%</td>
<td>Mastery and fulfillment of all course requirements; good, acceptable work</td>
</tr>
<tr>
<td>B−</td>
<td>80–82%</td>
<td>Satisfactory quality of work</td>
</tr>
<tr>
<td>C+</td>
<td>77–79%</td>
<td>Minimally acceptable performance and quality of work</td>
</tr>
<tr>
<td>C</td>
<td>73–76%</td>
<td>Unacceptable work, does not demonstrate mastery</td>
</tr>
<tr>
<td>C−</td>
<td>70–72%</td>
<td>Unacceptable work</td>
</tr>
<tr>
<td>D+</td>
<td>67–69%</td>
<td>Unacceptable work</td>
</tr>
<tr>
<td>D</td>
<td>63–66%</td>
<td>Unacceptable work</td>
</tr>
<tr>
<td>D−</td>
<td>60–62%</td>
<td>Unacceptable work</td>
</tr>
<tr>
<td>F</td>
<td>Below 60</td>
<td>Failure</td>
</tr>
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</table>
Assignment 1: Personas and Scenarios

Persona:
In this assignment, you will get practice creating personas to capture the most important aspects of who people are, what they do, and why they do it. I want you to choose four of your closest friends and create a single persona based on them. Do not use any of their names, but come up with a new name and a new image that represent this new persona you have created. Remember, believability of the persona is more important than being factual (though the persona should be based on facts). Key point: This persona is not about you. Write one page on this persona.

Furthermore, pretend that you are working for an online media organization. You are interested in understanding how people use media, what are their news and information consumption habits, what do they like to scrutinize closely and when and what do they care less about, what kinds of devices do they have and use, and so forth. Use these interests to guide your persona (and scenario) creation.

Scenario:
Once you have written the persona, create a scenario for how people would use news kiosks located in their most habitual locations (e.g., grocery store, mall, school, coffee shop, and so forth). The details of the kiosk are up to you, but write a 1/2 page to 1 page scenario.

Extra Credit: College Professor Persona (10 points)
Interview 3 professors from any department at IUPUI using a format similar to that provided above. For guidance, you may want to inquire about how they use technology for teaching and in their personal lives and problems and goals of technology as it applies to teaching. Create a single, one-page persona from your findings. Note: If you interview instructors from different departments (i.e., Math versus Psychology), determine whether there are similarities between them.

Assignment 2: Problem Statements
For this assignment, write a problem statement. Part of this course is becoming good at identifying areas for improvement. To find such areas, you need to be good at specifying what exactly a problem is for a particular domain. For this assignment, think of a problem with an interactive system that you have experienced. Find one article from a reputable authority that describes this problem. For example, it could be

- an argument criticizing the accessibility of a major company’s website
- a public critique of a piece of software or device from Microsoft or Apple
- an article describing issues with the next version of cellphone interfaces

In any case, the article must discuss a specific technology (not a group of technologies in general—like digital cameras, iPods, or cell phones). Your job is to understand the point the article is making and create a problem statement about it, from which you could then redesign the product. Remember, what we talked about in class for problem statements. They are succinct, specific—but not too specific—and communicative.
The length of this assignment may range from one paragraph to one page. Include the citation for the article you read in APA format.

Note: When creating the problem statement, do not get stuck on interface visual issues (even if the article does). Focus on problems that will occur in the use of the interface.

**Assignment 3: Heuristic Evaluation**

For this assignment, I’d like you to write a heuristic evaluation report for a site that you frequent. It does not have to be an educational website, but it should be something a little more complex and one that you could easily report on several different heuristics.

I’d like you to go through the site and come up with 15–20 different heuristics and write them in the reporting style similar to my example. Include with each

The heuristic

• Feedback Issues
• Screen Scope
• Severity
• Solutions and Trade-offs
• Screen Capture (if applicable)

Also include an executive summary and formatting similar to the first page.

Due: Monday, October 21 by 3PM

**Assignment 4: Usability Test Instructions**

For our final assignment, I’d like you to write a usability test for a more complex task that you perform online:

• Purchasing a product at a retail site—browsing using menus vs. searching for a particular item, selecting an item, adding it to the cart, removing it from the cart, creating an account, purchasing that item, completing the process
• Ordering a pizza on two different sites to compare the processes
• Using an online travel site to plan a vacation
• Select your class, find an assignment, complete an assignment, and check grades in OnCourse.

Do not use the same site you used for your group work.

Include an introduction, the instructions you would use in the test, and any follow-up questions you would have once the test was over. Look at last week’s PowerPoint presentation for examples.
Final Project: You Choose the Direction

This project is for groups of 4–5 people. You will have control over the design process as well as what project to pursue as a group and how to determine where the resources will be invested for this project. The two project ideas are

1. Health & wellness. In America, we have a tremendous difficulty with staying active. The focus of this project is not just on getting people active and walking, but also on helping people become aware of their level of physical activity. People must be made aware of the inherent value of walking to encourage greater physical activity. You will need to understand what prevents people for getting and staying active, what sorts of things motivate people, and what people value and how walking might be incorporated into that value system.

2. Travel system. In this project, you are to design a system for managing and organizing a multi-destination trip. You are to create a virtual travel agent where users can create and manipulate the details of your own trip. However, it is unacceptable to leave customers out on their own. This will need to be more than a simple website allowing them to book travel and hotels. It will need to help people to make decisions about trip details. Therefore, do not rely solely on Orbitz and Travelocity for your reservations, look for other sources to help guide the types of design decisions you need to make. You will need to understand how people take vacations, what kinds of expectations shape the vacations they are about to take, and what information can help people make decisions about their vacations.

3. Expansion of a previous in-class idea. Take one of the previous activities or projects done for class and expand on it. Design a system for voting online via app or desktop. Design an app for shopping for people’s birthdays or anniversaries.

The stated goals for each project will be what you will work towards and you will need to come up with some way to measure and account for them in your design (whether it be through survey questions, or some sort of usability evaluation). You may create other goals if you see fit, but the important part of this project will be in coming up with a way to measure whether the design you have created actually accomplishes these goals.

In this project, you will go through the entire design process. You will need to

- define the problem space you are working in,
- research the problem and find what has been written on the subject,
- perform user research that is appropriate of your choosing (observation, interview, survey, focus group, and so forth),
- generate several design alternatives,
- flesh out your best design idea in a paper prototype,
- generate metrics for how you can effectively test whether your design is successful,
- perform a usability test,
• and finally, create a set of recommendations for changes in the prototype.

For this project, you will work in groups of four or five. It is up to the group to determine who will work on what parts of this project (e.g., to split up the division of labor). Remember, you will be evaluated by your teammates and this evaluation will be part of your grade. So, everyone needs to contribute.

Presentations: Monday, Dec 2nd and 9th (if needed)
Project Due: Monday, December 9th by 11:59PM

Procedure
1. **Select a project idea** from the list above.

2. **Identify the target audience** for this project.

3. In addition to the user research that you do, you will need to do some background research on the field that you are focusing on. **You will need to locate, read, and summarize the findings of at least four relevant and authoritative articles on the field you have chosen.** These articles should come from one of the following: high quality magazine/news articles (*Forbes, Wall Street Journal, Wired, and so forth*), books, academic references such as conference papers, journal articles, or academic books.

4. **Decide an approach to user research.** Based on your experience in class, choose a method by which to learn about your users (you may choose more than one if you like, but you only need to do one). You may choose interview methods or observation or you may try an approach we mentioned only briefly in class such as survey, focus groups, or some other approach you feel may be appropriate. **Come up with a plan and share it with the instructor before implementing it. Include any things used as part of your user research** in your submission including questions asked, sites and activities observed, or anything like that.

5. If you interview or do a focus group, find between 4–5 people to interview. If you observe people, observe at least three different people for a long enough period of time that you have something interesting to report. If you observe someone, you will want to ask follow up questions about what they were thinking. If you do a survey, distribute the survey to between 12–15 people at least.

6. **As a group, record any insights you have from the user research** for the design.

7. **Create a short persona** based on the user data you have collected. Use this persona to help think about the current interface and analyze why the interface is not working. How can it be improved?
8. From this collected information about your users, create **four-to-five new and distinct design ideas** to address the user problem and still accomplish all of the same purposes and goals of the original interface. Distinct design ideas are ideas that do not represent incremental changes (such as moving the layout around—although this may be part of a larger idea), but about a new idea that accomplishes similar tasks of the interface in different ways.

9. **Include** both descriptions and sketches for each idea. The sketches should be simple and focus on the details of the design idea.

10. Finally, **choose the best idea** and make sure you have a rationale as to why that idea is the best. From this idea, create a **paper prototype (or otherwise appropriate low-fidelity prototype)**. You may use hand-drawn interface elements or interface elements drawn on a computer and printed out (for widgets). You may use anything you need to pull off the prototype—just make sure whatever you do is legal and safe.

11. You need to come up with an **evaluation plan**. How are you going to run your usability evaluation of the interface? What metrics are you going to look at to see if your prototype is effective? What tasks are participants going to be completing? Once you have your plan, run your usability evaluation on at least three different groups of people, but preferably five people.

12. You will need to write up a list of **recommendations for changes and their severity** based on the findings of the usability evaluation.

13. You will need to present your work for the final project to the class on **Dec 2nd**. Have a PowerPoint ready describing the problem space you worked in, what you learned from your literature research and user research as well as how you completed both, the design idea that you came up with and why it will be effective, and the results from your usability evaluation of the paper prototype. Each group will have 20 minutes to present and 10 minutes for questions.

**Deliverables**

1. Target audience
2. Summarization of findings and citation of research on the problem area.
3. User research plan, questions used or user activities observed, findings from research
4. Identified problem from interviews, persona based on user data
5. 4–5 distinct design alternatives
6. Paper prototype
7. Metrics for usability test
8. Usability test plan, any questions you were asking, tasks completed by participants
9. Usability test results, recommendations for changes
10. Pamphlet
11. Project presentation

You will need to combine all your information into one Word Document or PDF file. Scan your sketches using one of the scanners available on campus or at home, if you have one. There will be an Assignment page in OnCourse to submit your completed packet. You may also turn in a physical copy in an envelope for your group if you prefer—though, word documents, excel documents, and the like should be submitted through OnCourse. Also, include a copy of your presentation and high fidelity prototype online.

MISSION STATEMENT
The Mission of IUPUI is to provide for its constituents excellence in
● Teaching and Learning;
● Research, Scholarship, and Creative Activity; and
● Civic Engagement.

With each of these core activities characterized by
● Collaboration within and across disciplines and with the community;
● A commitment to ensuring diversity; and
● Pursuit of best practices.

IUPUI’s mission is derived from and aligned with the principal components—Communities of Learning, Responsibilities of Excellence, Accountability and Best Practices—of Indiana University’s Strategic Directions Charter.

STATEMENT OF VALUES
IUPUI values the commitment of students to learning; of faculty to the highest standards of teaching, scholarship, and service; and of staff to the highest standards of service. IUPUI recognizes students as partners in learning. IUPUI values the opportunities afforded by its location in Indiana’s capital city and is committed to serving the needs of its community. Thus, IUPUI students, faculty, and staff are involved in the community, both to provide educational programs and patient care and to apply learning to community needs through service. As a leader in fostering collaborative relationships, IUPUI values collegiality, cooperation, creativity, innovation, and entrepreneurship as well as honesty, integrity, and support for open inquiry and dissemination of findings. IUPUI is committed to the personal and professional development of its students, faculty, and staff and to continuous improvement of its programs and services.

CODE OF CONDUCT
All students should aspire to the highest standards of academic integrity. Using another student’s work on an assignment, cheating on a test, not quoting or citing references correctly, or any other form of dishonesty or plagiarism shall result in a grade of zero on the item and possibly an F in the course. Incidences of academic misconduct shall be referred to the Department Chair and repeated violations shall result in dismissal from the program.

All students are responsible for reading, understanding, and applying the Code of Student Rights, Responsibilities and Conduct and in particular the section on academic misconduct. Refer to The Code > Responsibilities > Academic Misconduct at http://www.indiana.edu/~code/. All students must also successfully complete the Indiana University Department of Education “How to Recognize Plagiarism” Tutorial and Test. https://www.indiana.edu/~istd

You must document the difference between your writing and that of others. Use quotation marks in addition to a citation, page number, and reference whenever writing someone else’s words (e.g., following the Publication Manual of the American Psychological Association). To detect plagiarism instructors apply a range of methods, including Turnitin.com. http://www.ulib.iupui.edu/libinfo/turnitin http://www.ulib.iupui.edu/libinfo/turnitin

Academic Misconduct:

1. **Cheating:** Cheating is considered to be an attempt to use or provide unauthorized assistance, materials, information, or study aids in any form and in any academic exercise or environment.
   a. A student must not use external assistance on any “in-class” or “take-home” examination, unless the instructor specifically has authorized external assistance. This prohibition includes, but is not limited to, the use of tutors, books, notes, calculators, computers, and wireless communication devices.
   b. A student must not use another person as a substitute in the taking of an examination or quiz, nor allow other persons to conduct research or to prepare work, without advanced authorization from the instructor to whom the work is being submitted.
   c. A student must not use materials from a commercial term paper company, files of papers prepared by other persons, or submit documents found on the Internet.
   d. A student must not collaborate with other persons on a particular project and submit a copy of a written report that is represented explicitly or implicitly as the student’s individual work.
   e. A student must not use any unauthorized assistance in a laboratory, at a computer terminal, or on fieldwork.
   f. A student must not steal examinations or other course materials, including but not limited to, physical copies and photographic or electronic images.
   g. A student must not submit substantial portions of the same academic work for credit or honors more than once without permission of the instructor or program to whom the work is being submitted.
h. A student must not, without authorization, alter a grade or score in any way, nor alter answers on a returned exam or assignment for credit.

2. Fabrication: A student must not falsify or invent any information or data in an academic exercise including, but not limited to, records or reports, laboratory results, and citation to the sources of information.

3. Plagiarism: Plagiarism is defined as presenting someone else’s work, including the work of other students, as one’s own. Any ideas or materials taken from another source for either written or oral use must be fully acknowledged, unless the information is common knowledge. What is considered “common knowledge” may differ from course to course.

   a. A student must not adopt or reproduce ideas, opinions, theories, formulas, graphics, or pictures of another person without acknowledgment.

   b. A student must give credit to the originality of others and acknowledge indebtedness whenever:
      1. directly quoting another person’s actual words, whether oral or written;
      2. using another person’s ideas, opinions, or theories;
      3. paraphrasing the words, ideas, opinions, or theories of others, whether oral or written;
      4. borrowing facts, statistics, or illustrative material; or
      5. offering materials assembled or collected by others in the form of projects or collections without acknowledgment.

4. Interference: A student must not steal, change, destroy, or impede another student’s work, nor should the student unjustly attempt, through a bribe, a promise of favors or threats, to affect any student’s grade or the evaluation of academic performance. Impeding another student’s work includes, but is not limited to, the theft, defacement, or mutilation of resources so as to deprive others of the information they contain.

5. Violation of Course Rules: A student must not violate course rules established by a department, the course syllabus, verbal or written instructions, or the course materials that are rationally related to the content of the course or to the enhancement of the learning process in the course.

6. Facilitating Academic Dishonesty: A student must not intentionally or knowingly help or attempt to help another student to commit an act of academic misconduct, nor allow another student to use his or her work or resources to commit an act of misconduct.

OTHER POLICIES

1. IUPUI course policies: A number of campus policies governing IUPUI courses may be found at the following link: http://registrar.iupui.edu/course_policies.html
2. **Classroom civility:** To maintain an effective and inclusive learning environment, it is important to be an attentive and respectful participant in lectures, discussions, group work, and other classroom exercises. Thus, unnecessary disruptions should be avoided, such as ringing cell phones, engagement in private conversations, and other unrelated activities. Texting, surfing the Internet, and posting to Facebook or Twitter during class are generally not permitted. IUPUI nurtures and promotes “a campus climate that seeks, values, and cultivates diversity in all its forms and that provides conditions necessary for all campus community members to feel welcomed, supported, included, and valued” (IUPUI Strategic Initiative 9). IUPUI prohibits “discrimination against anyone for reasons of race, color, religion, national origin, sex, sexual orientation, marital status, age, disability, or [veteran] status” (Office of Equal Opportunity). Profanity or derogatory comments about the instructor, fellow students, invited speakers, or other classroom visitors, or any members of the campus community shall not be tolerated. A violation of this rule shall result in a warning and, if the offense continues, possible disciplinary action.

3. ** Bringing children to class:** To ensure an effective learning environment, children are not permitted to attend class with their parents, guardians, or childcare providers.

4. **Disabilities Policy:** In compliance with the Americans with Disabilities Act (ADA), all qualified students enrolled in this course are entitled to reasonable accommodations. Please notify the instructor during the first week of class of accommodations needed for the course. Students requiring accommodations because of a disability must register with Adaptive Educational Services (AES) and complete the appropriate AES-issued forms before receiving accommodations. The AES office is located at UC 100, Taylor Hall (Email: aes@iupui.edu, Tel. 317 274-3241). Visit [http://aes.iupui.edu](http://aes.iupui.edu) for more information.

5. **Administrative Withdrawal:** A basic requirement of this course is that students participate in all class discussions and conscientiously complete all required course activities and/or assignments. If a student is unable to attend, participate in, or complete an assignment on time, it is the student’s responsibility to inform the instructor. If a student misses more than half of the required activities within the first 25% of the course without contacting the instructor, the student may be administratively withdrawn from this course. Administrative withdrawal may have academic, financial, and financial aid implications. Administrative withdrawal will take place after the full refund period, and a student who has been administratively withdrawn from a course is ineligible for a tuition refund. Contact the instructor with questions concerning administrative withdrawal.