SIE 411/511 Human-Machine Interaction

Description of Course

Students (both onsite and distance learning) who take this course will get familiar with the basic concepts, methods, principles and skills in designing and evaluating various human-machine interfaces. Machine here is generally defined as any physical systems that can be operated by human operators. This course is composed of a systematic introduction of major principles and methods in human-machine interaction, including: 1) Fundamental concepts and principles of human-machine interaction; 2) User interface design, prototyping and interface analysis methods; 3) Quantitative and qualitative user modeling and interface evaluation methods. 4) Special topics in HMI: ecological and adaptive human-machine interface, speech and handwriting UIs in HMI, engineering aesthetics in HMI, as well as human-machine interaction in transportation.

Course Prerequisites or Co-requisites

For undergraduate students, the prerequisites is SIE 305 (Introduction to Engineering Probability and Statistics) or consent of the instructor. For Advanced Standing of undergraduate students, please visit the webpage for detail information to obtain the advanced standing: http://sie.engr.arizona.edu/advanced-standing.

For graduate students, it is recommended that you have some background in visual basic application in Excel or similar programming languages (but this not required for graduate students).

Instructor and Contact Information

M, W, F 1-1:50 PM at Engin 301

Instructor: Dr. Changxu (Sean) Wu, Professor at Department of SIE

Office: 318B ENGR

Email: changxuwu@email.arizona.edu; Phone: 621-2558 (255 ENGR); 621-2342 (318 ENGR)

Office Hours: Mon 2-4 PM or by Appointment

Teaching Assistants and Course Homepage Information may be announced in the classroom

Course Format and Teaching Methods

Lecture, group projects, in-class discussion, and out-of-classroom visit.
For distance learning students, you will find your team mates remotely and meet online for your projects (Instructor will provide you detail instruction about that in the recorded lecture). If you are not able to form team remotely, you are allowed to carry out the project individually based on recorded lectures accessible through D2L.

Course Objectives and Expected Learning Outcomes

1) For both undergraduate and graduate students

Course Objectives: Provide solid knowledge foundation for all students in the area of human machine interaction. Expected Learning Outcomes: By taking this course, students can not only use several effective methods to design and prototype human-machine interfaces based on the

needs and characteristics of users (e.g., PPT method, Visual Basic Applications user interface programming skills; simple Web design techniques etc.), but also apply both quantitative and qualitative evaluation methods to optimize the human performance, mental workload and aesthetics. To broaden students' view in HMI, relative new topics in HMI are also introduced in this course.

2) For graduate students:

Course Objectives: Develop the ability of critical thinking and creative thinking for graduate students. Expected Learning Outcomes: Students at 500 level will also learn the critical and creative thinking in human-machine interaction. Through a semester-long project, students will allocate the 1-2 key limitations of a human-machine interaction design, evaluation, or data collection method, and improve that method with critical and creative thinking in HMI.

Absence and Class Participation Policy

Participating in the course and attending lectures and other course events are vital to the learning process. As such, attendance is required at all lectures and discussion section meetings. Students who miss class due to illness or emergency are required to bring documentation from their health-care provider or other relevant, professional third parties. Failure to submit third-party documentation will result in unexcused absences. Attendance will be taken randomly throughout the whole semester. A student can only sign his or her own name on the attendance sheet. If you are late or missing during the class when the attendance is taken, you are not allowed to sign the sheet after the class only except medical reasons (Doctor's note is required).

Participation in class discussions will be particularly important if your final grade is borderline. If your participation is satisfactory the grade may be adjusted upward. If your participation is unsatisfactory, your grade may remain as is or adjusted downward. Participation is determined on the association of your name with class attendance, participation in discussions, offering insight to class topics, answering questions, etc.

Course Drop Policy: The UA's policy concerning Class Attendance, Participation, and Administrative Drops is available at: http://catalog.arizona.edu/policy/class-attendance-participation-and-administrative-drop

Religious Reasons: The UA policy regarding absences for any sincerely held religious belief, observance or practice will be accommodated where reasonable, http://policy.arizona.edu/human-resources/religious-accommodation-policy.

Pre-Approved Absences: Absences pre-approved by the UA Dean of Students (or Dean Designee) will be honored. See: https://deanofstudents.arizona.edu/absences

Course Communications

If students have any questions or suggestions, please email to the teaching assistants or instructor, or inform the instructor directly in classroom or in his office hour.

Readings

- Papers and reports that instructor uploaded online for this course (required to read)
- Preece, J. Rogers, Y., and Sharp. H. (2017 or other years of edition) Interaction Design: Beyond human-computer interaction. John Wiley and Sons (Called HMI Book in this course). Availability: This book can be purchased online (e.g., Amazon), but we do not require you purchase this book for this course.
- Neville A. Stanton, Paul M. Salmon, Guy H. Walker, and Chris Baber (2005) Human Factors Methods: A Practical Guide for Engineering and Design (Called HF book in this course) Availability: This book can be purchased online (e.g., Amazon), but we do not require you purchase this book for this course.

Recommended Supplies

A laptop (Windows system) is recommended. We will teach VBA which works with Windows system the best.

Assignments/Homework:

Homework will be assigned throughout the semester. All homework will be submitted on D2L before 11:59 PM on the due date (See the weekly schedule). Penalty will be given to late homework. The ONLY exception is for illness (if it is a medical reason, please provide doctor's record or a signed letter by the doctor):

1) Homework submitted on the second day: -15% (15% of score of your homework will be taken off).
2) Homework submitted on the third day: -30%
3) Homework submitted on the fourth day or later:-100% (The solution will usually be Post on the 4th day; however, this -100% policy is independent of the issue time of the solution)

In addition, all homework should be submitted to the instructor or TA in the class. If students submit the homework elsewhere (e.g., put on the door of instructor or TA etc.), the students have to take the responsibility for the missing of these HWs (i.e., receiving those late penalty above until the missing HW is found or resubmitted).

Note: all homework, if you have a reference section (e.g., HW1), must strictly follow the reference format we taught in the class.

Grading of Homework: If we don't have TA in the semester, instructor will grade all of HW1, HW3, HW4 and 5 at the end of the semester; HW2 is special, the grading of HW 2 will be done by each student bringing their laptop and presenting their completed UIs and codes in the office (318 ENG) of the instructor on the due date of the HW2.

Exam

Students should read the test/exam instruction carefully before it starts, whether it is open-book or a close-book test/exam. If it is an open-book test/exam, students who forget to bring a textbook or other materials, are not allowed to borrow book or other materials from other students in the exam room.

Attention for Distance-learning students: It is your responsibility to find your proctor for the exam and ask the proctor to email the instructor with his/her edu/business email at least 3 days before the exam. You need to inform your proctor that the instructor will email the exam to him/her and he/she needs to print it out before the exam and also scan the exam after the exam. If the instructor does not get the email from the proctor (personal email from proctor may not count, e.g., Hotmail, gmail, etc.) on time, your exam can be delayed.

Students with disability, please contact the TA to arrange your tests/exams or schedule with the Disability Resource Center (DRC).

The date and time of the final exam or project, along with links to the Final Exam Regulations, https://www.registrar.arizona.edu/courses/final-examination-regulations-and-information, and Final Exam Schedule, http://www.registrar.arizona.edu/schedules/finals.htm.

Grading Scale and Policies

1) Grading Distributions

	Undergraduate Students	Graduate Students
Final Exam (Comprehensive)	60%	60%
Homework (HW1: 2%, HW2: 6%, HW 3: 2%, HW4: 2%, HW5: 3%)	15%	15%
Design Project	20%	-
In-Depth Project	-	20%
Attendance, participation including in class exercises, and classroom policy	5%	5%

We will calculate your final grade based on the final score based on the table above (See table below). As a guideline in grading your final grade, the following table (upper bound) may be used:

For all undergraduate and graduate students:

Total Score	Grade
>=90	A
>=80	B
>=70	C
>=60	D
Less than 60	E

*Note: Round up policy in both tables: Say, if you get a total score 89.5, we will round it up to 90. Unfortunately, if you get 89.4, we are not able to round it up to 90. We keep this rule same across all students.

Requests for incomplete (I) or withdrawal (W) must be made in accordance with University policies, which are available at http://catalog.arizona.edu/policy/grades-and-grading-system#incomplete and http://catalog.arizona.edu/policy/grades-and-grading-system#Withdrawal respectively.

Teaching Assistant Responsibility, if We have

TA in this class will be responsible for grading all of your homework, exams, and work together with the instructor to grade your projects. TA is also responsible answering students' questions in homework and exams, helping instructor to prepare homework and exams, and collecting students' scores and other work assigned by the instructor.

Classroom Behavior Policy

To foster a positive learning environment, students and instructors have a shared responsibility. We want a safe, welcoming, and inclusive environment where all of us feel comfortable with each other and where we can challenge ourselves to succeed. To that end, our focus is on the tasks at hand and not on extraneous activities (e.g., texting, chatting, reading a newspaper, making phone calls, web surfing, etc.). In addition, students should follow the following Classroom Behavior Policy:

- Not leaving early. Early leaving will distract both the instructor and students
- Not talking with other classmates while the instructor or another student is speaking. If a student has a question or comment, he or she should raise a hand, rather than starting a conversation about it with a neighbor

- Not packing backpacks to leave until the instructor has dismissed class
- Showing respect and concern for others by not monopolizing class discussion. Students must allow others time to give their input and ask questions. Students should not stray from the topic of class discussion
- Not eating and drinking during class time

Threatening Behavior Policy

The UA Threatening Behavior by Students Policy prohibits threats of physical harm to any member of the University community, including to oneself. See http://policy.arizona.edu/education-and-student-affairs/threatening-behavior-students.

Notification of Objectionable Materials

This course will contain material of a mature nature, which may include explicit language, depictions of nudity, sexual situations, and/or violence. The instructor will provide advance notice when such materials will be used. Students are not automatically excused from interacting with such materials, but they are encouraged to speak with the instructor to voice concerns and to provide feedback.

Accessibility and Accommodations

Our goal in this classroom is that learning experiences be as accessible as possible. If you anticipate or experience physical or academic barriers based on disability, please let me know immediately so that we can discuss options. You are also welcome to contact the Disability Resource Center (520-621-3268) to establish reasonable accommodations. For additional information on the Disability Resource Center and reasonable accommodations, please visit http://drc.arizona.edu.

If you have reasonable accommodations, please plan to meet with me by appointment or during office hours to discuss accommodations and how my course requirements and activities may impact your ability to fully participate.

Please be aware that the accessible table and chairs in this room should remain available for students who find that standard classroom seating is not usable.

Code of Academic Integrity

Students are encouraged to share intellectual views and discuss freely the principles and applications of course materials. However, graded work/exercises must be the product of independent effort unless otherwise instructed. Students are expected to adhere to the UA Code of Academic Integrity as described in the UA General Catalog. See: http://deanofstudents.arizona.edu/academic-integrity/students/academic-integrity.

The University Libraries have some excellent tips for avoiding plagiarism, available at http://new.library.arizona.edu/research/citing/plagiarism.

For example, you should follow the following integrity codes in our class:

- No copy of other people's homework In grading your homework, TA will exam all of your homework carefully and catch anyone who is copying other people's homework. Even if they are from the same software's output, TA can still judge whether it is a copy of others or not based on your writing and formatting.
- No copy or discussion in the tests/exams TA and other students all will report these behaviors in exams and your exam papers will also be checked by TA carefully for any cheating behavior. Do not seat too close to each other in the exam.

*Selling notes and/or other course materials to other students or to a third party for resale is **not** permitted without the instructor's express written consent*. Violations to this and other course rules are subject to the Code of Academic Integrity and may result in course sanctions. Additionally, students who use D2L or UA e-mail to sell or buy these copyrighted materials are

subject to Code of Conduct Violations for misuse of student e-mail addresses. This conduct may also constitute copyright infringement.

UA Nondiscrimination and Anti-harassment Policy

The University is committed to creating and maintaining an environment free of discrimination; see http://policy.arizona.edu/human-resources/nondiscrimination-and-anti-harassment-policy

Our classroom is a place where everyone is encouraged to express well-formed opinions and their reasons for those opinions. We also want to create a tolerant and open environment where such opinions can be expressed without resorting to bullying or discrimination of others.

Additional Resources for Students

UA Academic policies and procedures are available at http://catalog.arizona.edu/policies

Student Assistance and Advocacy information is available at http://deanofstudents.arizona.edu/student-assistance/students/student-assistance

Confidentiality of Student Records

http://www.registrar.arizona.edu/personal-information/family-educational-rights-and-privacy-act-1974-ferpa?topic=ferpa

Subject to Change Statement

Information contained in the course syllabus, other than the grade and absence policy, may be subject to change with advance notice, as deemed appropriate by the instructor.

Design Project (Undergraduate Students)

This design project helps students to obtain on-hand experience in applying the principles, knowledge and methods taught in the class to design and evaluate a real product throughout the whole semester.

On-site students: The size of group is 2-3 people (max is 3) and it is strongly suggested that a mixture of students with different expertise (programming, statistics, prototyping, writing, etc.). The quality of this project is highly related to the quality of coordination among the group members.

Students will present their work in this project according to the arrangement of the course: when a new section of principles and methods are taught in the class, students will apply them into their projects. During the presentation, instructor and other students in the class will provide constructive comments on the current stage of the projects so that students can improve their projects in a continuous manner.

The project is composed of 3 presentations and 4 documents:

Presentations (See Table 1 for its detail requirement and Weekly Schedule for the presentation dates):

1) Presentation 1: Topic Selection and part of User Analysis and Data Gathering, see Table 1 for its expected content. (You will also need to submit your Stage Report A based on your presentation right before the presentation)

2) Presentation 2: User Interface Designing and Prototyping, see Table 1 for its expected content (You will also need to submit your Stage Report B based on your presentation right before the presentation)

3) Final Presentation of the Whole Project with emphasis on the content after Presentation 2 (e.g., usability test)

If none of your group members show up for any of these presentations, 5% of your project score will be take off for the whole group.

4 Documents all to be submitted via D2L (See Table 1 for its detail requirement and the weekly schedule for their due dates):

1) 1-page Project Plan (1 Page): See Table 1 for its expected content

2) 2 stage reports (A and B): See Table 1 for its expected content (2 pages per report excluding figures and tables)
3) Final Project Report: See Table 1 for its expected content

The project will be evaluated based on the quality of documents and presentations, including quality in applying the methods taught in the class, creativity and effectiveness in designing and improving the interfaces, and coordination among the group members.

Each of stage report summarizes the current work of the group and provides more detailed information than the presentation. We will give you comments and suggestions for each stage report, but scores of your project will be evaluated based on your final report and your final UI prototype as well as related documents submitted at the end of the semester (See Table 1 for detail score distributions). Therefore, please try your best to improve your project based on our suggestions in each stage.

The final Project Report is an integration of all of work the group conducted throughout the semester. Distribution of the project score will be in the following table (Table 1).

Table 1. Design Project Report and Presentation Content (Expectations and Grading)

	Presentation/ Report	Expected Content	Score Distr. in Final Report
Final Presentation and Final Project Report	Project Plan	1. Project Plan: Name of group members and their department (1%), expertise of each member (1%), 1 or more pictures of your target UI (1%), detail description of function and tasks of users in using this UI (1%), and justification that why this interface is selected (1%).	5%
	Presentation 1 and Stage Report A	2. User Analysis and Data Gathering: Apply two user analysis methods taught (4% each, including description of the details how you use the user analysis methods), and gather relevant and valid user information and data via these methods (7%). Sample size for reach method: 1) Questionnaire (>12 users); 2) Interview (3-5 users); 3) Focus group (1 group with at least 4 users); 4) Observation (3-5 users).	15%
	Presentation 2 and Stage Report B	3. User Interface Designing and Prototyping: Use PPT or VBA UI design methods taught in class, and prototype the UI (The quality of your UI mockup (25%) (e.g., completeness in mocking all of the interactions of the UI, number of PPT slides, no shifting of UIs when a user interacts it, quality of the graphics, and closeness between your mockup and real UI etc.), show the at least 5 graphics and screenshots of UI in the paper reports (5%), include all of graphics and screenshots of UI in the electronic submission (2%), and describe how the UI interact with users (1%); Note: If you use PPT to prototype the UI, at least 45 pages/slides of PPT either for the original/old UI or for your new UI should be set up to mock up the UI in detail with hyperlink all working well. If you developed interface for iPhone or Android systems, you need to demonstrate and test the PPT prototype working on a real iPhone or Android smart phone.	34%
		4. User Modeling: Apply one user modeling method we taught (E.g., GOMS or KLM): Obtain the modeling /calculation results (4%), AND improve the UI based on the modeling results or using the user modeling methods directly to improve UI (i.e. saving time) (6%)	10%

	Using subtitles in your final report for each part corresponding to this table (e.g., Section 1 of your final report will be "1. Project Plan"	5.1. Usability Evaluation: use two methods in usability evaluation (e.g., cognitive walkthrough and think aloud method; Suggested sample size for each method: >5 users) (3% each) to evaluate the UI 5.2. Usability Testing 1) Perform a complete usability testing with formal experimental design (including the independent (for each independent variable, please define its levels, it is a within or between subject design variable), dependent and at least 6 confounding variables in the test, minimal sample size based on the test design, how to measure the dependent variables in detail, and the users' tasks in detail, 8%). 5.3 Summary of Usability Evaluation and Testing Summarize all usability problems found in 5.1 and 5.2 (4%).	18%
		6. Iterative Improvements: Based on the results of user analysis, user modeling, and usability testing and evaluation, revise and improve the UI to minimize the usability problems (must show graphics of the improved UI in your final report) (7%) and describe why the improvement are able to address the usability problems (3%).	10%

		7. Final Report Integration, Formatting and Submission
		    Format: 12 font size; 1.5 line space; 1 inch margin on top, bottom, left and right; Each of the figure and table must have a caption and a figure/table number (2%): <u>Figure and Table Captions and their Numbers</u>: It is important to add figures and sometimes tables in your report. Each figure, please add its figure number and caption underneath the figure. Each table, please add its table number and caption on the top of the table. In your text, you need to write (See Figure X) or (See Table Y) to refer those figures and tables in your report. <u>Reference: If you have a reference section, you must strictly follow the reference format we taught in the class.</u>
		    Report Length: Depending on size of group (minimal group size: 2; max is 4), the following page numbers of the final report is expected (4 %):
		        1 People (Distance Learning Students Only): ≥6-page report <u>excluding</u> figures, tables, and extra spaces
		        2 People: ≥10-page report <u>excluding</u> figures, tables, and extra spaces
		         3 People: ≥14-page report <u>excluding</u> figures, tables, and extra spaces
		         4 People: ≥18-page report <u>excluding</u> figures, tables, and extra spaces
		    Submission: a) Paper version of the final report; <u>AND</u> b) Electronic submission contains: electronic version of your final report and Stage 1-3 reports, all of presentation slides in this semester, and all of data, interfaces you designed in electronic format, esp. PPT UI prototype (very important), or VBA codes, Excel file etc. Please email all of your files to hci.hciweb@gmail.com (not the instructor or TA's email). Your email's title should follow: Group Number and Project Title (if your files are too big to email, please burn a CD to submit). 5 points off if your team did not submit the electronic version of your documents before the proposal deadline.
			6%

		Communication with the company or organization to inform your new design (Attach your email communication with that agency in the appendix of your report. This item is required for all teams who are working on an improvement of an existing product, software or website etc. If you design a completely new thing which does not link	2%

		with a specific company or organization, please put a sentence at the end of your report, saying that "This completely new interface does not link with a specific company or organization."	

Late Submission Penalty of Project Reports:

Report submitted on the second day: -15%; Report submitted on the third day: -30%; on the fourth day: -45% (-n*15% rule will apply here) (n is number of late days); … till -100%.

<u>Distance Learning Students:</u> Due to physical location difference, distance learning students will form your team in a remote manner or carry out this project individually. You will still submit the four documents on time to the D2L system. For the presentations, please record your presentations in videos and send or share the presentation videos with teaching assistant via Dropbox, email, clouds or other online sharing systems.

In-Depth Project (Graduate Students)

This in-depth project is a relatively challenging project which is designed for graduate students to deepen their understanding in HMI and provides an opportunity for them to contribute this field at the level of methodology.

Each team is composed of 1-3 graduate students (max is 3). Students will select ONE of the following suggested HMI methods. After the method is selected, you will conduct a literature review of existing studies about this method, identify its disadvantages, propose possible creative solutions to one or several of its disadvantages (e.g., using knowledge in mathematics or brain-storming), implement these solutions in simple software or other tools, and finally test whether these solutions can effectively solve the disadvantage(s) of this method or not.

- KLM Method (Covered in lecture)
- GOMS/NGOMSL Method (Covered in lecture)
- Observation Method (Covered in lecture)
- Focus Group Method (Covered in lecture)
- Interview Method (Covered in lecture)
- Link Analysis (Covered in lecture)
- Layout Analysis (Covered in lecture)
- Verbal Protocols (Covered in lecture)
- NASA-TLX Workload Measurement (Not covered in lecture, you will read the HF book)
- Social Network Analysis (SNA) (Not covered in lecture, you will read the HF book)
- Other HMI method your group hope to choose (You need to discuss with the instructor first)

Be careful, you are improving this method in general (it can be applied to different UIs), rather than improve just one UI this method applied. You need to try to use the method first then you will realize its limitation(s).

There are 3 presentations and 4 documents in this in-depth project:

<u>Presentations</u> (See Table 2 for its detail requirement and Weekly Schedule for the presentation dates):

1) Presentation 1: Selection of a method and Literature Review, see Table 2 for its expected content (You will also need to submit your Stage Report A based on your presentation right before the presentation)

2) Presentation 2: Identification of the limits of the method and possible solutions to its disadvantages, see Table 2 for its expected content (You will also need to submit your Stage Report B based on your presentation right before the presentation)

3) Final presentation of the whole project with emphasis on the content after Presentation 2

If none of your group members show up for any of these presentations, 5% of your project score will be take off for the whole group.

<u>Documents</u> all to be submitted via D2L (See Table 2 for its detail requirement and the Weekly Schedule for the presentation dates):

1) Project Plan (1 page): See Table 2 for its expected content. <u>Note:</u> the instructor may coordinate the topic if there are many teams doing the same project.

2) Stage Report A and B: See Table 2 for its expected content (At least 2 pages for each report).

Each of stage report summarizes the current work of the group and provides more detailed information than the presentation. We will give you comments and suggestions for each stage report, but scores of your project will be evaluated <u>only</u> based on your final report and its related documents. Therefore, please try your best to improve your project based on our suggestions in each stage.

3) Final Project Report: See Table 2 for its expected content. The final Project Report is an integration of all of work the group conducted throughout the semester. Distribution of the project score will be in the following table.

Table 2. In-Depth Project Report and Presentation Content (Expectations and Grading)

Presentation/Report.		Expected Content	Score Dist. in Final Report
Final Presentation and Final Project Report	Project Plan	1. Method Selection: Team members, select and describe briefly ONE of the methods, describe why you select this method	5%
	Presentation 1 and Stage Report A	2. Literature Review: Conduct a comprehensive literature review in HMI and summarize the work in using or improving this method you selected. Published journal papers are preferred. Note: If you perform an incomplete literature review and actually turns out that your new method already exists in the literature, you will lose most of points in this section.	10%
	Presentation 2 and Stage Report B	3. Identification of its Disadvantages: Based on literature review and your knowledge in HMI, identify disadvantages of this method (7%) and describe the reasons in detail (8%).	15%
		4. Propose Solutions: Propose and describe possible solutions to solve one or two of its disadvantages (5%). Your proposed solutions (e.g., using knowledge in mathematics) will be evaluated based on its creativity (e.g., similar work has been seen before or not) (5%), usage of mathematical modeling/equations (10%), and easiness of implementation in practice (10%). Note: if you use mathematical equations, please describe how they are derived step by step or cite the corresponding work in literature.	30%
		5. Application of Modeling Methods and Implementation of the Solutions: Develop/implement the improved method based on your solutions so that it can be used by other people (e.g., if you proposed a new procedure/model, describe it in detail; you proposed a software solution of the method, implement that software etc.) (23%).	23%
		6. Test your Implementation of the solution Conduct your own experiment and test the improved method can improve designers' or/and users' performance compared with the current method in literature (Show your data and statistics results, e.g., p values in statistics test etc.). If your new method is not significantly better than the existing method based on statistics test, you need to further improve your new method.	10%
		7. Summery and Report Format & Submission: Summarize all of the previous sections and draw your conclusions (2%). Format: 12 font size; 1.5 line space; 1 inch margin on top, bottom, left and right (2%): Figure and Table Captions and their Numbers: It is important to add figures and sometimes tables in your report. Each figure, please add its figure number and caption underneath the figure. Each table, please add its table number and caption on the top of the table. In your text, you need to write (See Figure X) or (See Table Y) to refer those figures and tables in your report. Reference: For your reference section, you must strictly follow the reference format we taught in the class.	7%

		Report Length (5%) depending on number of student(s) in a group: 1 People (including distance learning students and on-site students): ≥7-page report <u>excluding</u> figures, tables, and extra spaces 2 People: ≥14-page report <u>excluding</u> figures, tables, and extra spaces 3 People: ≥21-page report <u>excluding</u> figures, tables, and extra spaces Submission: 1) Paper version of the report AND b) Electronic Submission: electronic version of your final report and Report A-C, all of presentation slides in this semester, and all of data, software and other tools in electronic format, e.g., VBA codes, Excel file etc. Please email all of your files to hci.hciweb@gmail.com (not the instructor or TA's email). Your email's title should follow: Group Number and Project Title (if your files are too big to email, please burn a CD to submit). 5 points off if your team did not submit the electronic version of your documents before the proposal deadline.	

Late Submission Penalty of Project Reports:
   Report submitted on the second day: -15%; Report submitted on the third day: -30%; on the fourth day: -45% (-n*15% rule will apply here) (n is number of late days); ... till -100%.

<u>Distance Learning Students:</u> Due to physical location difference, distance learning students will carry out this project individually. You will still submit the 3 documents on time to the D2L system. For the presentations, please record your presentations in videos and send or share the presentation videos with teaching assistant via Dropbox, email, clouds or other online sharing systems.

Send Feedback to US:
   If you have any questions, suggestions or comments related to the class, you are very welcome to contact the instructor or TAs directly. We have several ways for communications:
   1) In-Class Feedback Papers (White papers) (Anonymous)
   2) Office Hours
   3) Emails
   4) Individual Appointment (if you cannot come in Office Hour).

Threatening Behavior Policy:
   The UA Threatening Behavior by Students Policy prohibits threats of physical harm to any member of the University community, including to oneself. See: http://policy.arizona.edu/education-and-student-affairs/threatening-behavior-students.

UA Nondiscrimination and Anti-harassment Policy:
   The University is committed to creating and maintaining an environment free of discrimination, see: http://policy.arizona.edu/human-resources/nondiscrimination-and-anti-harassment-policy
   Inclusive Excellence is a fundamental part of the University of Arizona's strategic plan and culture. As part of this initiative, the institution embraces and practices diversity and inclusiveness. These values are expected, respected and welcomed in this course.
   This course supports elective gender pronoun use and self-identification; rosters indicating such choices will be updated throughout the semester, upon student request. As the course includes group work and in-class discussion, it is vitally important for us to create an educational environment of inclusion and mutual respect.
Additional Resources for Students Statement: Office of Diversity (http://diversity.arizona.edu/)
http://www.health.arizona.edu/counseling-and-psych-services
http://oasis.health.arizona.edu/hpps_oasis_program.htm