CSAT 3160: USER INTERFACE DESIGN

12.30-1.20pm, Monday and Wednesday | January – May, 2017 | Room BAB 303, SRSU
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Office Hours: **MW: 8.30-10am   TR: 8.30-9.25pm**   and by appointment

Course Introduction

In this class you will learn how a user interacts with a machine, and develop optimal ways of presenting information and feedback in the clearest way possible. Emphasis will be on UI design for computer gaming. Please note that this class is a companion class to *CSAT 3360: User Interface Programming.*

Learning Objectives

In this course, you will:

- Learn how to take complex ideas and present them in an easy-to-digest manner via techniques, such as intelligent organization and grouping, smart use of color, clear typefaces, removal of non-essential information, and the use of symbols instead of text.
- Consider how a user interacts with a machine, through text forms, keyboards, touch screens, voice, etc.
- Build suitable feedback responses, indicating a user's input has been accepted.

Grading and Evaluation

You will be graded on exercises, attendance and participation in discussions and critiques, homework projects, and a final project. Details on how a project is graded are included in each project description. No extra-credit projects will be offered, so it is in your interest to submit work by the deadline.

Work submitted **no later** than the beginning of class, the day of the deadline, will be graded. **Any work submitted *one minute* past the beginning of class will be awarded a zero. There are no exceptions to this rule.**

Your final class grade will consist of:

- Projects : 70%
- Attendance, participation, and in-class exercises : 20%
- Final exam : 10%

Materials and Text

- 4GB (at least) jump/flash drive
- Access to Adobe Illustrator and/or Adobe Photoshop, and Adobe InDesign

No textbook is required for this course but a jump-drive is essential for saving your work. You are expected to back up your projects to another location, such as at a free service like www.dropbox.com or www.google.com/drive. Not submitting a project because you lost your jump-drive or some other technical difficulty will not be accepted as an excuse and will earn you a zero for that project.

Software Availability

Besides access to the software in the classroom, you can find Photoshop and Illustrator in the library on the second floor, in FAB 207, and the ACR computer labs. Corel Painter is available only in BAB 302 – the student edition is reasonably priced and can be bought as a digital download from a service such as www.amazon.com

Provided you have your own computer, a fully working 30-day trial version of Photoshop and Illustrator can be downloaded from Adobe.

Rules and expectations

Attendance is **compulsory**. If you must miss a class for a school-related activity, the absence must be discussed (and arrangements made regarding coursework) **prior to the absence**. If you must miss a class for an emergency or illness, please contact me **by email or phone as soon as possible**. Six (6) absences result in you being dropped from the course with a grade of "F" as per Sul Ross State University policy. Five (5) unexcused absences will result in a zero for your attendance and participation grade. Arriving to class **on time** is also essential **– arriving late more than two times**

will be counted as one absence. Lateness is defined as 15-minutes after the start of class. Leaving before class ends will result in you being marked absent.

Below is a guide to how much each absence impacts your attendance and participation grade.

- One (1) unexcused absence: -20%
- Two (2) unexcused absences: -40%
- Three (3) unexcused absences: -60%

- Four (4) unexcused absences: -80%
- Five (5) unexcused absences: - 100%
- Six (6) unexcused absences: FAIL

No cell phone usage. No social-networking websites. No instant-messaging. No checking personal emails. Headphones and earbuds are allowable ONLY when you are working, but not when the professor or a fellow student is speaking. **Doing any of these, or anything I consider disruptive to the class, will drastically drop your attendance and participation grade. You may be also asked to leave the class and will be marked absent for that day.**

Late work will not be accepted.

Plagiarizing, cheating, or any other dishonest behavior in the classroom will not be tolerated. Rules and regulations regarding plagiarism, dishonesty, and other issues concerning classroom participation can be found in University Rules and Regulations and Student Handbook. This course will abide by these established policies. A student found to be engaging in these activities will be penalized to the full extent of Sul Ross State University policy.

ADA Needs
It is Sul Ross State University policy to provide reasonable accommodations to students with disabilities. If a student would like to request such accommodations because of a physical, mental, or learning disability, please contact the ADA Coordinator in the Ferguson Hall, room 112 or call (432) 837-8691. Please relate all requests for special accommodations to the instructor by the third class period.

Recommended Reading
The following three texts are useful if you wish to further study UX and UI design:

- MULLET, K and SANO, D, "Designing Visual Interfaces," Prentice Hall, USA, 1995, 1st ed.
- TIDWELL, J, "Designing Interfaces," O'Reilly, USA, 2011, 2nd ed.
- SAUNDERS K, NOVAK, J, "Game Development Essentials: Game Interface Design," Cengage, USA, 2013, 2nd ed.

SLOs
3d. Students with a concentration in Digital Art will be able to demonstrate knowledge and familiarity of digital image creation and knowledge of professional practices in digital art.

a. Demonstrate the ability to produce a cohesive professional thematic capstone project which is well crafted and has a defined technique or personal style.
b. Demonstrate technical mastery of digital skills as they apply to the selected media.
c. Ability to produce a professional portfolio that meets current industry standards.
d. Ability to work in a timely manner.

Please note that this syllabus is subject to change.

COURSE SCHEDULE

WEEK ONE

Jan 18 (W):   * Class introduction and syllabus overview

<div align="center">WEEK TWO</div>

Jan 23 (M):   * *Presentation:* History of Human Computer Interaction (HCI)

Jan 25 (W):   * *Presentation:* Grids
                   * **Exercise One: Diegetics** – Answer a series of questions on how you can convey information diegetically

<div align="center">WEEK THREE</div>

Jan 30 (M):   * Introduction to Group project
                   * *Presentation:* Flow diagrams, sketches, and wireframing
                   * **Project Two: Grids**

Feb 1 (W):   * Continue working on your grid project

<div align="center">WEEK FOUR</div>

Feb 6 (M):   * Continue working on your grid project

Feb 8 (W):   * **DUE TODAY: Grid project**
                   * *Presentation:* Color
                   * **Project Three: Wireframing** – Sketch out and wireframe a version of Rock-paper-scissors

<div align="center">WEEK FIVE</div>

Feb 13 (M):   * Continue working on Rock-Paper-Scissors game

                   * **DUE TODAY: Project Three: Wireframing**
                   * Color Association Exercise
                   * **Project Four: Color** – Ingredient inventory for cooking game

Feb 15 (W):   * Continue working on your color project

<div align="center">WEEK SIX</div>

Feb 20 (M):   * **DUE TODAY. Project Four: Color**
                   * *Presentation:* Survey of input methods
                   * *Presentation:* Typography for the screen. Formatting large amounts of text, along with small pieces of text for buttons, etc. Choosing san-serif fonts over serif fonts
                   * *Project Five* – Format large amounts of text for an iPad and an iPhone

Feb 22 (W):   * Continue working on your text project

<div align="center">WEEK SEVEN</div>

Feb 27 (M):   * **DUE TODAY. Project Five: Text**
                   * *Presentation:* Introduction to icons and menus

* **Project Six: Icons and menus** – Create a set of menus and icon for your own game or the game details provided by the professor

Mar 1 (W):   * Continue working on your icon and menu group project

WEEK EIGHT

Mar 6 (M):   * Continue working on your icon and menu group project
                  * Work on your Group project

Mar 8 (W):   * Continue working on your icon and menu group project
                  * Work on your Group project

--- SPRING BREAK ---

WEEK NINE

Mar 20 (M):   * **DUE TODAY. Project Six: Icon and Menu**
                  * *Presentation:* Introduction to text input and buttons
                  * **Project Seven: Inputs** – Build buttons, conversational screens, and a registration form

Mar 22 (M):   * Continue working on project seven

WEEK TEN

Mar 27 (M):   * **DUE TODAY: Project Seven: Inputs**
                  * *Presentation:* Heads-up displays
                  * **Project Eight: HUDs** – Create HUDS for a horror game and fighting game

Mar 29 (W):   * Continue working on your HUD designs

WEEK ELEVEN

Apr 3 (M):   * **DUE TODAY. Project Eight: HUDs**
                  * *Presentation:* Introduction to skeuomorphs. Creating moods
                  * **Project Nine: Moods** (*select two*) – 1) Disco-era style interface for a dancing game using Microsoft Kinect. 2) 1920s graphic adventure. 3) Fishing game using the Nintendo Wii U aimed at EITHER a hobbyist angler/fisher or 3-5 year olds. 4) Your own game concept

Apr 5 (W):   * Continue working on your mood mock-up projects

WEEK TWELVE

Apr 10 (M):   * *Presentation:* Maps and navigation methods
                  * **Project Ten: Maps** – Build a map of the Sul Ross campus, along with a legend. Duplicate your map and show some sample paths

Apr 12 (W):   * Continue working on your map project

<center>WEEK THIRTEEN</center>

Apr 17 (M):   * *Presentation:* Audio and visual feedback

Apr 19 (W):   * **DUE TODAY: Project Nine: Moods**

<center>WEEK FOURTEEN</center>

Apr 24 (M):   * **DUE TODAY: Project Ten: Maps**
* *Presentation:* Inventories
* **Project Twelve: Inventories** – Create an inventory screen for a children's game where the aim is to collect insects. You must also design an inventory screen for a spelunking (cave exploration)

Apr 26 (M):   * Group project

<center>WEEK FIFTEEN</center>

May 1 (M):   * Group project

May 3 (W):   * **DUE TODAY: Project Twelve: Inventories**
* Group project
* Group project is due at **9am, May 5**
FINAL CLASS DAY

<center>WEEK SIXTEEN</center>

May 5:   **Examination week. Exam begins at 12.30pm**

<center>*Please note that this document is subject to change*</center>

PROJECT DETAILS

Group Project

Working with another student or own your own, mock up the following screens for a game of your own choosing. The game may be an existing title that needs improving, or your own invention.

1) A loading screen

2) A title screen

3) A customization screen (settings or character)

4) A How to Play screen or mockup of a tutorial level

5) The main play area where the game occurs. Include all necessary elements needed – perhaps virtual joysticks, score, dialog boxes,

6) A game over screen

7) A high score entry screen

Grading

Grading breakdown:

- Provide all seven screens.
- Use good layout, color, typography, etc.

Due Date

Your seven screens must be emailed to adumitrescu@sulross.edu no later than the beginning of class on the date listed in the syllabus.

Exercise #1: Diegetics

Providing information diegetically is a way of keeping the player immersed in the game world. For instance, a textbox popping up to convey a message will temporarily take you out of the story, whereas the same information being conveyed vocally by a character is more immersive.

Keeping that in mind, how could you show the following information diegetically? Remember that your solutions do not have to be visual – they could also affect feedback and input. Be aware too that any visual additions you suggest need to be animated, creating extra work for the artists and also making the game slightly larger. Please provide two (2) answers per question.

1. Time passing

2. Time left to complete a task

3. Drunk

4. Fatigue

5. Damage to a vehicle

6. Power to a magical weapon

7. Objects collected

8. A save point

Project #1: Grids

Load up InDesign and set up a 1920 x 1080 pixel sized interactive document (you may also use PowerPoint but it will not have the interactive functionality that InDesign offers). Blackboard has a zip file with 30 movie thumbnails (206x294px) that you can use for this project. Design a grid system where the following information is displayed:

- MAIN SELECTION PAGE: At least eight movie thumbnails, as well as a way to navigate through the other movies in the queue.

- SELECTED MOVIE PAGE: Once a movie is selected, more details, such as a short plot description, as well as a larger version of the chosen thumbnail. Feel free to generate filler text for this (e.g. - http://www.blindtextgenerator.com/lorem-ipsum), or grab it from wikipedia.org or imdb.com

Organization is important in this project. You should have a reasonable amount of information on the screen, but you also should not cram too much onto the page too. A successful solution to this project will require balance. Navigation of this project is achieved using the Smart TV's remote control. Besides the numbers 0-9, you may use up, down, left, and right arrow keys. Have a separate screen explaining how you plan on navigating through the movie choices.

Grading
Grading breakdown:

- Include **two** main selection pages and **three** selected movie pages (50%)
- Organize your information well, and make good use of color and typography (50%)

Due Date
Your InDesign file must be emailed as an Interactive PDF to adumitrescu@sulross.edu no later than the beginning of class on the date listed in the syllabus.

Project #2: Wireframing
Sketch out on paper your ideas for a digital version of Rock-paper-scissors. Once you are satisfied with your ideas, use Illustrator to wireframe your design. The screen resolution will be 1920 x 1080 px.

Use the interactive functions of InDesign to mockup screens for the following.

- A title screen that states "Rock! Paper! Scissors!" along with buttons for the following six screens - start, settings, highscore, help, credits, and quit.

- **Start** - This takes you to a mock-up of the main gameplay screen. Show where the score, pause, and graphics should be.

- **Settings** - This screen allows you to change the graphics quality, music volume, SFX volume, and restore to defaults setting. Make sure you can exit this screen.

- **Highscore** - Should show the top five or ten players, as well as their scores. Make sure you can exit this screen.

- **Help** - State the basic rules of the game. Make sure you can exit this screen.

- **Credits** - Lists the programmer(s), artists, sfx artists, musicians, and producer (feel free to use any names you like). Make sure you can exit this screen.

Grading
Grading breakdown:

- Include the pages listed above (50%)
- Organize your information well, and make good use of color and typography (50%).

Due Date
Your InDesign file must be emailed as an Interactive PDF to adumitrescu@sulross.edu no later than the beginning of class on the date listed in the syllabus.

Project #3: Color

Design an ingredient selection screen for a cooking game. Platform will be a PC with a screen resolution of 1920 x 1080px. You may use InDesign, Photoshop, or PowerPoint.

Use color to separate each of the four categories: Meat, Vegetable, Fruit, and Spices. Each category must have at least **four** components and must use color to help differentiate each section.

For each component you also need to use color to signify when an ingredient is not available. Consider graying out your colors, playing with opacities, using an outline of the ingredient, etc.

Grading
Grading breakdown:
- Make good use of color to assist with categorization, and general aesthetics (60%)
- Organize your information well, and make good use of layout and typography (40%)

Due Date
Your screens must be emailed to adumitrescu@sulross.edu no later than the beginning of class on the date listed in the syllabus.

Project #4: Text

Design screens in InDesign that display the text below. Consider the contents of each block of text and find appropriate colors, typefaces, graphics, buttons, etc.

The text must be formatted twice - once for an iPad Air, and once for an iPhone 7. On both screens consider how you will navigate through the text. Examples include navigational aids such as scrollbars and buttons.

Besides being easy to navigate, each screen must reflect the **tone** of that particular piece of text. *(Text is taken from www.wikipedia.org)*

> *1) One Thousand and One Nights*
> *The main frame story concerns a Persian king and his new bride. He is shocked to discover that his brother's wife is unfaithful; discovering his own wife's infidelity has been even more flagrant, he has her executed: but in his bitterness and grief decides that all women are the same. The king, Shahryar, begins to marry a succession of virgins only to execute each one the next morning, before she has a chance to dishonour him. Eventually the vizier, whose duty it is to provide them, cannot find any more virgins. Scheherazade, the vizier's daughter, offers herself as the next bride and her father reluctantly agrees. On the night of their marriage, Scheherazade begins to tell the king a tale, but does not end it. The king, curious about how the story ends, is thus forced to postpone her execution in order to hear the conclusion. The next night, as soon as she finishes the tale, she begins (and only begins) a new one, and the king, eager to hear the conclusion, postpones her execution once again. So it goes on for 1,001 nights.*

> *2) Beowulf*
> *The main protagonist, Beowulf, a hero of the Geats, comes to the aid of Hroðgar, the king of the Danes, whose great hall, Heorot, is plagued by the monster Grendel. Beowulf kills Grendel with*

his bare hands and Grendel's mother with a sword of a giant that he found in her lair.
Later in his life, Beowulf is himself king of the Geats, and finds his realm terrorised by a dragon whose treasure had been stolen from his hoard in a burial mound. He attacks the dragon with the help of his thegns or servants, but they do not succeed. Beowulf decides to follow the dragon into its lair, at Earnanæs, but only his young Swedish relative Wiglaf dares join him along with Tinshaw. Beowulf finally slays the dragon, but is mortally wounded. He is buried in a tumulus or burial mound, by the sea.
Beowulf is considered an epic poem in that the main character is a hero who travels great distances to prove his strength at impossible odds against supernatural demons and beasts. The poem also begins in medias res ("into the middle of affairs") or simply, "in the middle", which is a characteristic of the epics of antiquity. Although the poem begins with Beowulf's arrival, Grendel's attacks have been an ongoing event. An elaborate history of characters and their lineages is spoken of, as well as their interactions with each other, debts owed and repaid, and deeds of valour.

3) The Canterbury Tales
The Canterbury Tales is a collection of stories written in Middle English by Geoffrey Chaucer at the end of the 14th century. The tales (mostly written in verse, although some are in prose) are presented as part of a story-telling contest by a group of pilgrims as they travel together on a journey from Southwark to the shrine of Saint Thomas Becket at Canterbury Cathedral. The prize for this contest is a free meal at the Tabard Inn at Southwark on their return.
After a long list of works written earlier in his career, including Troilus and Criseyde, House of Fame, and "Parliament of Fowls", The Canterbury Tales was Chaucer's magnum opus. He uses the tales and the descriptions of its characters to paint an ironic and critical portrait of English society at the time, and particularly of the Church. Structurally, the collection resembles The Decameron, which Chaucer may have read during his first diplomatic mission to Italy in 1372.
It is sometimes argued that the greatest contribution that this work made to English literature was in popularizing the literary use of the vernacular, English, rather than French or Latin. English had, however, been used as a literary language for centuries before Chaucer's life, and several of Chaucer's contemporaries—John Gower, William Langland, and the Pearl Poet—also wrote major literary works in English. It is unclear to what extent Chaucer was responsible for starting a trend rather than simply being part of it. Also, while Chaucer clearly states the addressees of many of his poems (the Book of the Duchess is believed to have been written for John of Gaunt on the occasion of his wife's death in 1368), the intended audience of The Canterbury Tales is more difficult to determine. Chaucer was a courtier, leading some to believe that he was mainly a court poet who wrote exclusively for nobility.

Grading
Grading breakdown:
- You do not have to include all of each of the three pieces of text (that's where your scrollbars or other navigation elements will suggest there's more) but **enough** to show a large density of text that's still easy to read.
- Include navigation aids such as buttons, typefaces, text large/smaller buttons, etc (50%)
- Use appropriate typefaces and colors. Regarding color, it's always best to put dark text on light paper (not necessarily white). Light text on dark paper works for small areas of text (50%)
- Provide a total of six screens – one for an iPad Air, and one for an iPhone 5s.
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Due Date
Your screens must be emailed to adumitrescu@sulross.edu no later than the beginning of class on the date listed in the syllabus.

Project #5: Icons and Menus

For this project, you may design icons and menus/customization screens for your own game or instead use the example below. If you choose your own game, then you must provide at least the same amount of content as the example project.

Design eight (8) icons for a game where you control a robot entering a hostile environment. Icons require a lot of work and I expect you to sketch out on paper at least three ideas for each icon. The icons needed are as follows:

1)	Hail (greet)	5)	Ask a question
2)	Attack	6)	Yes
3)	Pick-up	7)	No
4)	Drop	8)	Leave

---EXTRA CREDIT---

Build a customization page for the robot game with the following elements:

Robot Name: textbox.

Robot color: your choice of colors.

Accessories: number of wheels, number of legs, number of arms, number of cameras, number of number of lasers, long-range scanner, heat sensor, number of batteries, physical storage capacity for storage.

Visualization: a mockup of the robot as it's currently outfitted (this does not have to be functional).

Grading

Grading breakdown:

- Provide a mocked up robot customization page making good use of color, typography, layout, and buttons (100%)
- Design eight icons. The pencil sketches are essential to the project but do not have to be emailed – I'll review these in class (100%)

Due Date

Your screens must be emailed to adumitrescu@sulross.edu no later than the beginning of class on the date listed in the syllabus.

Project #6: Buttons and Text input

Build various forms that uses text boxes, sliders, radio buttons, and allows for a digital signature. Create a form for the following situations:

1. Create a registration page for a horror game in an iPad Air format: Name [text box], address [text box], country [drop-down menu], age range [slider ranging from 13-120], email address [text box], and signature box for a horror game registration page.

2. Design the following conversation and response screens for an iPad Air (feel free to come up with your own dialogues) :

    1) The rusted, creaking, devious robot drags itself to you, and stops close enough that you could kick it in its flickering, electronic face. "I have something to tell you, before I die," it says. Do you…

- Kick it repeatedly and then spit on its worthless body?

- Ask it what it wants to tell you?

- Offer to help it?

2) You begin your first day as a court jester and enter a court where sullen faces are everywhere. Approaching the King, who looks as if he's chewing bees, do you…

- Tell that joke about the turnip, dog, and goose-fat?

- Juggle some balls and 'accidentally' drop them in order to make him laugh?

- Beat yourself with a stick, in the hope of making him smile?

Grading
Grading breakdown:

- Create one registration page and two conversation and response screens (50%)
- Organize your information well, and make good use of layout and typography (50%)

Due Date
Your screens must be emailed to adumitrescu@sulross.edu no later than the beginning of class on the date listed in the syllabus.

Project #7: Heads-up Display

Create the following heads-up display for **one** of following (you may complete the second for extra credit) types of game using your own photos or art:

1) Horror - Virtual d-pad and two buttons, time left, health bar, score, and pause. Game intended for iPad Air (2048 x 1536 px).

2) Fighting game - Low, medium and high-powered punch. Low, medium, and high-powered kick. Pause. Score. Health bar. Enemy health bar. Game intended for PC display (1920x1080px).

Grading
Grading breakdown:
- Build your screens so the buttons are not obtrusive but also not difficult to find (70%)
- Provide a total of two screens (30%)

Due Date
Your screens must be emailed to adumitrescu@sulross.edu no later than the beginning of class on the date listed in the syllabus.

Project #9: Moods

Use color, typefaces, style and placement of graphics to suggest the following styles of game. Use InDesign, Illustrator, or Photoshop. You may also use traditional art but MUST digitize it and add some digital elements, such as color and some typography.

Mock up **two** screens for **one** of the concepts listed below (a total of two screens):
1) Disco-era style interface for a dancing game using Microsoft Kinect.
2) 1920s point and click adventure.
3) Fishing game using the Nintendo Wii aimed at EITHER a hobbyist angler/fisher or 3-5 year olds.
4) Your own game concept.

Grading
Grading breakdown:
- Provide two screens for each game, resulting in a total of four screens (30%)
- Organize your information well, and make good use of layout and typography (30%)
- Successfully capture the mood dictated by the game theme (40%)

Due Date
Your screens must be emailed to adumitrescu@sulross.edu no later than the beginning of class on the date listed in the syllabus.

Project #10: Maps
Build a map of the Sul Ross campus, along with a legend. Duplicate your map and show some sample paths. Color must be used wisely, and each building should be clearly distinguishable.

Grading
Grading breakdown:
- Ensure your map is clear, and easy to read (90%)
- Create two versions of the map – one with a plotted path from one location to another, and another without (10%)

Due Date
Your map must be emailed to adumitrescu@sulross.edu no later than the beginning of class on the date listed in the syllabus.

Project #11: Inventory
Chose ONE project:
1) Create an inventory screen for a children's game where the aim is to collect flowers. Players can collect a maximum of 12 *species* of flowers, with multiple amounts of each species. For example, the inventory may show 5 daisies, 2 roses, etc. The size of the inventory screen is up to you and may be full screen or part of the gameplay area. Set up your InDesign document as a 1920x1080px sized screen.

2) Design an inventory screen for a spelunking (cave exploration) game where you see treasures collected, food available, flares left (for frightening away cave creatures), and pieces of rope (for climbing). Set up your InDesign document for an iPhone 5s sized screen.

Grading
Grading breakdown:
- Make good use of color to assist with categorization, and general aesthetics (100%)

Due Date

Your screens must be emailed to adumitrescu@sulross.edu no later than the beginning of class on the date listed in the syllabus.