



# CPSC 4140/6140: Human Computer Interaction

## Course Introduction

Professor Nathan McNeese

# Who am I from a Research Perspective?

- Assistant Professor of Human-Centered Computing
- Director of Team Research Analytics in Computational Environments (TRACE) Research Group
- Associate in Clemson's Human Factor's Institute
- Faculty Scholar in Clemson's School of Health Research and a Watt Family Faculty Fellow
- Post-doc in Human Systems Engineering
- Completed PhD from The Pennsylvania State University in December 2014
  - In Information Sciences and Technology
  - Focused on Team Decision Making and Team Cognition
- Highly interdisciplinary in research communities:
  - Human Factors
  - Human Computer Interaction
  - Computer Supported Collaborative Work
  - Cognitive Science
  - Information Science
- Study multiple contexts:
  - Human Machine Teaming
  - Intelligence Analysis
  - Medical
  - Extreme Environment
  - Design & Usability



# Who am I from a Personal Perspective?

- Married- Christine who works at Yelp
- I have a golden retriever- Mowgli
- My mom was a stay at home mom
- My dad is a full professor and former dean of college
- Originally from Dayton, Ohio
- I enjoy:
  - College football
  - Playing basketball
  - Classical music
  - Good hip-hop
  - Food & Cooking
  - Classic Cars



# My Teaching Philosophies

Problem-Based Learning

Multi-faceted Active Learning Pedagogy: Teacher-Student, Student-Student, & Student-Teacher

Teams as A Mechanism for Learning

Invest in Individuals



What's wrong here?

# Why do we care about Human Factors?

Impacts our lives on a daily basis

Everything that we interact with that has been designed at some level should take into account the human and how the human will use it.

If not, error can occur resulting in deadly harm

Odd example: Toilet

Serious Example: Control Panel of Airplane



# Activity #1: Human Factors & Design Thinking Random Bag

# What is Human Factors?

Human is the center of everything

- Understanding humans:
  - Work
  - Motivation
  - Needs
- To better design and evaluate *things* that hopefully:
  - 1) Improve efficiency and performance
  - 2) Limit Human Errors
  - 3) Increase Safety

Human Factors occurs at 4 different levels:

- Individual
- Team
- Organizational
- System

# Activity #1: Human Factors & Design Thinking Random Bag- Instructions

Take a piece of paper and write for each item how you feel that human factors is relevant to the design of that 5 different items (Get up and move around!....interact)

- What design characteristics are important?
  - What are the successes and failures of the design?
  - What are the implications if the item was not correctly designed in the best interest of the human?
- 
- We will discuss after 10 minutes



# What is Human Computer Interaction?



# What is Human Computer Interaction?

Should be called Human Technology Interaction

Study of how people interact with technological (used to be computing) systems

Goal of making computing systems both useful and usable

- User Research
- Design

Multidisciplinary field consisting of:

- Psychology (Cognitive, Social, Organizational)
- Social Sciences
- Computer Science

Consists of both applied and basic research

Scope is constantly changing due to new technologies

- Example: Mobility- Ubiquitous computing

# Activity #2: HCI for You & Me

## Activity #2: HCI for You & Me

Take a piece of paper and answer the following questions

- Where do you think you will be in 5 years? Doing what?
- Will HCI be impacting you? In your personal life? In your work life?
  - If so, how?
  - If not, why?
- What do you want to get out of this class?
- How can I help you learn?
  
- Take 10 minutes to do this and turn it in.

Time for some boring  
logistics...otherwise  
known as the syllabus