

# Human Computer Interaction

Taslima Akter

Introduction  
to Human Computer Interaction

# In this session you will

Get an overview of the focus on this course covering

What is this course?

An introduction to human-computer interaction with an emphasis on **user interface design**.

You will learn about HCI theory, cognitive foundations, guidelines for effective interface design, and the evaluation of user interfaces.

## Goal 1

Demonstrate the importance of human-centered design and evaluation, and its place in a system development lifecycle.

## Goal 2

Define key HCI concepts and methods.

### Goal 3

Determine and apply appropriate User Experience (UX) theories and methods depending on developer needs and product lifecycle.

## Goal 4

Identify, analyze, and describe UX issues in common and low-complexity user interfaces.



Some vocabulary....

What is an interface?

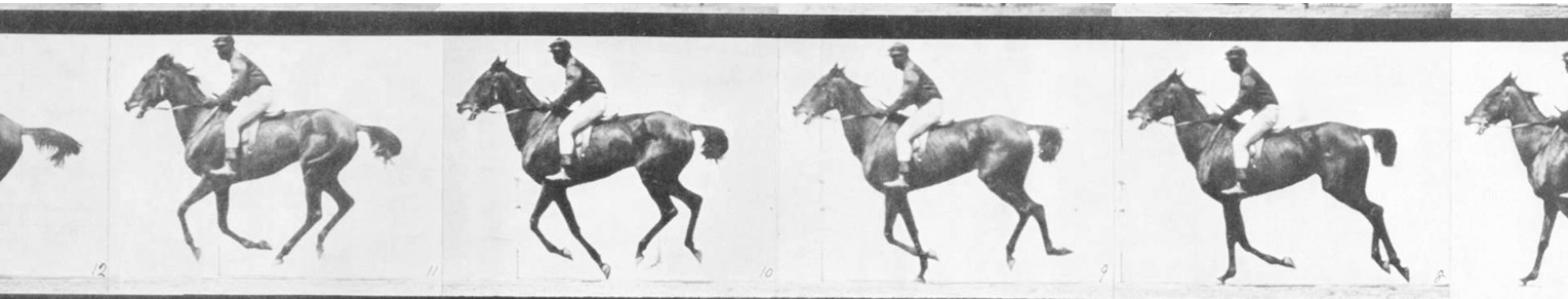
*“the place at which independent and often unrelated systems **meet and act on or communicate with each other**”*

<https://www.merriam-webster.com/dictionary/interface>

*User Interface (UI) is the saddle, the stirrups, and the reins.*

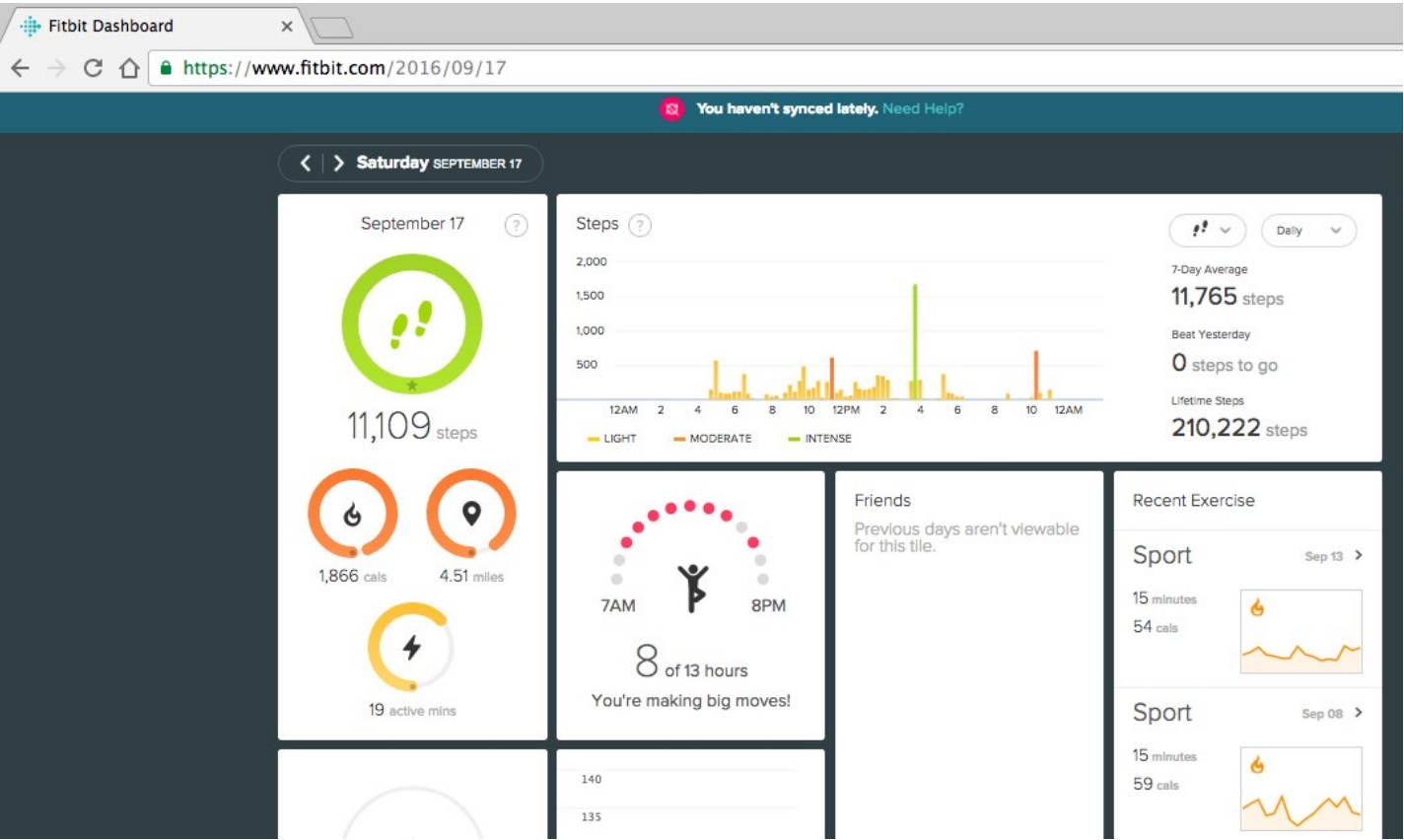
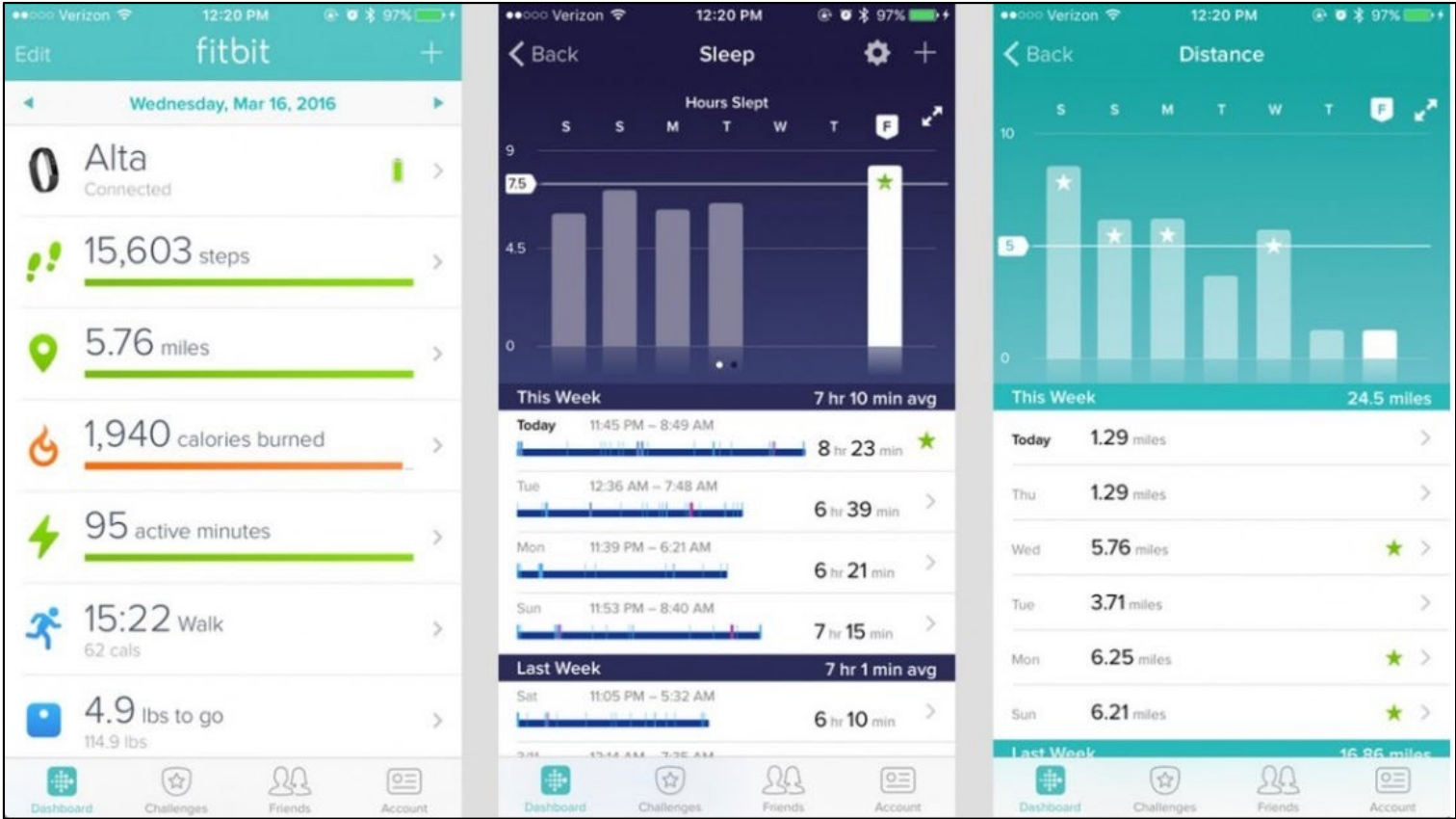
*User Experience (UX) is the feeling you get being able to ride the horse, and rope your cattle.*

Dain Miller, UX Designer





The Device





A close-up photograph of Don Norman, an older man with a white beard and glasses, wearing a blue button-down shirt. He is pointing his right index finger upwards. The background is a plain, light-colored wall.

**NN/g**

## **Don Norman: The Term UX**

Some vocabulary...

Design is about making things

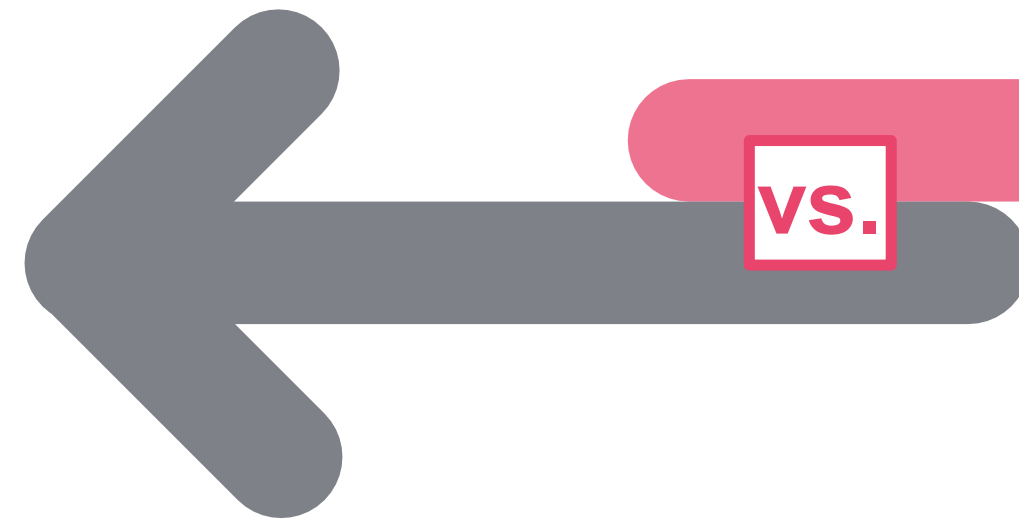
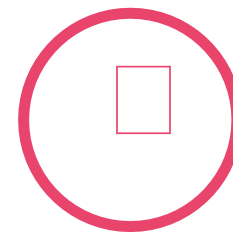
“[Design is] a plan for arranging elements in such a way as to best accomplish a particular purpose.”

Charles Eames

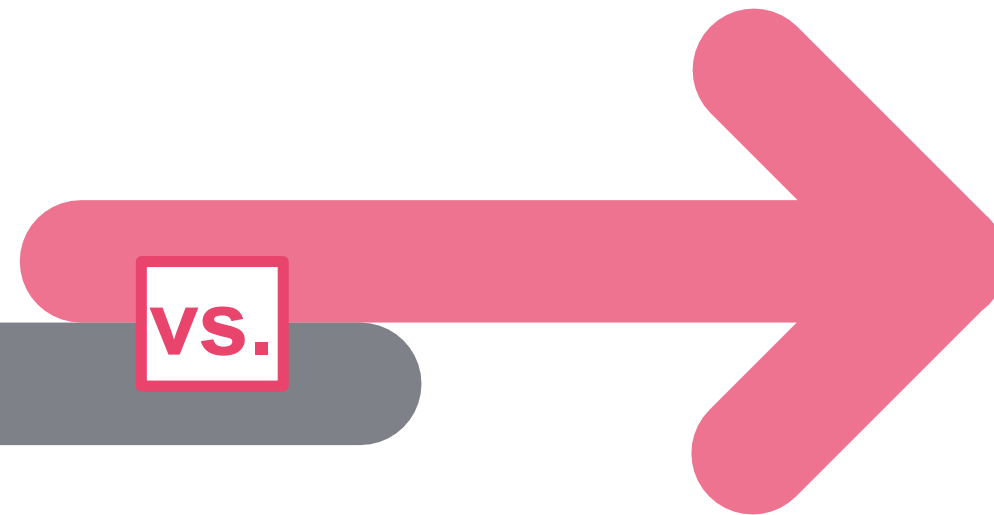


PROBLEM  
SOLVING

“how do we build this”

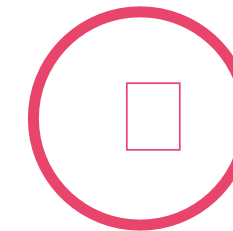


vs.



PROBLEM  
SETTING

“what is the right thing to build?”



Buxton on Design Thinking



“Design thinking is like writing an English essay—you figure it out as you go. You figure it out through the process of writing, or of designing.”

Design as a process (not an end)

Bill Buxton on Design Thinking

# Human-Centered Design\*

Approach to design usable systems via direct user engagement

## Principles

*Holistic*: grounded in needs & context to address the whole user experience

*Participatory*: users engaged throughout

*Formative*: not “solution jumping”

*Iterative*: driven and refined in multiple stages

*Multidisciplinary*: design team includes multiple perspectives

Applied broadly in information & computer science

\*ISO 9241-210, “Human-centered design for interactive systems”, 2010

# Why is HCD important?

*“Highly usable systems tend to be more successful both technically and commercially”\**

HCD can improve user experience and system adoption

HCD may reduce software development costs in the long term

\*ISO 9241-210, “Human-centered design for interactive systems”, 2010

Poor design can have serious impact





# Poor design can have serious impact

THE EYE

## Can Better Design Keep Kids From Eating Detergent Pods?

By KRISTIN HOHENADEL

OCT 01, 2013 • 9:15 AM

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The original transparent packaging for Tide Pods laundry detergent looks like a candy jar.

Photo courtesy of Procter & Gamble

Detergent pods are a modern convenience that has made doing the laundry less daunting for those who dislike measuring, any sort of mess, or lugging heavy detergent containers to the laundromat.

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Alex Hern

@alexhern

Mon 15 Jan 2018 04:51 EST

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Hawaii missile false alarm due to badly designed user interface, reports say

Alert occurred after employer pressed button labelled ‘missile alert’, instead of the one next to it marked ‘test missile alert’

! EMERGENCY ALERTS

16m ago

Emergency Alert

BALLISTIC MISSILE THREAT INBOUND TO HAWAII. SEEK IMMEDIATE SHELTER. THIS IS NOT A DRILL.

A false alarm warning Hawaiians of an incoming ballistic missile on Saturday, was reportedly issued because of a “terribly designed” user interface.

The computer system that allows the Hawaiian Emergency Management Agency (HEMA) to send emergency alerts asks employees to select the type of alert that they are sending from a drop-down menu.

Among the options available are two for missile alerts, according to the

most popular in US

Bitcoin biggest bubble in history, says economist who predicted 2008 crash

‘I was flat-out raped’: Amy Schumer says she was assaulted as a teenager

Live Dow slides as US stock market suffers worst week in two years - as it happened

‘Nunes memo’ published after Trump declassifies controversial document

Dow Jones suffers worst fall in two years amid fears of interest rate rise

# Throughout the rest of the class we will cover

History of HCI

Universal Design

Guidelines, Principles and Theories

Design Processes:

- Understanding Users

- Prototyping Interfaces

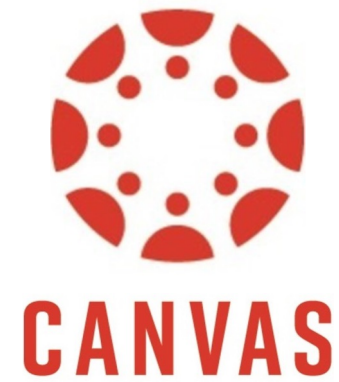
- Evaluating Interfaces

Information Architecture and Visual Hierarchy

Ethics and Accessibility

# Activity 01 - Review the Syllabus







Activity 01  
10 minutes

## Complete Activity 01 - Review the Syllabus

- › Work independently, but feel free to talk to each other

# Next

- › Thursday: Lecture (Topic: History of HCI)
- › Procure your textbook 
- › Skim the first chapter 

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Materials in this course were compiled from courses taught by: Matt Bietz, Stacy Branham, Tyler Fox, Elena Agapie, Katharina Reinecke, Andrew Davidson, Jennifer Turns, Daniel Epstein, Andrea Hartzler from UCI. Thank you to all.