

Final Exam Review

No screens



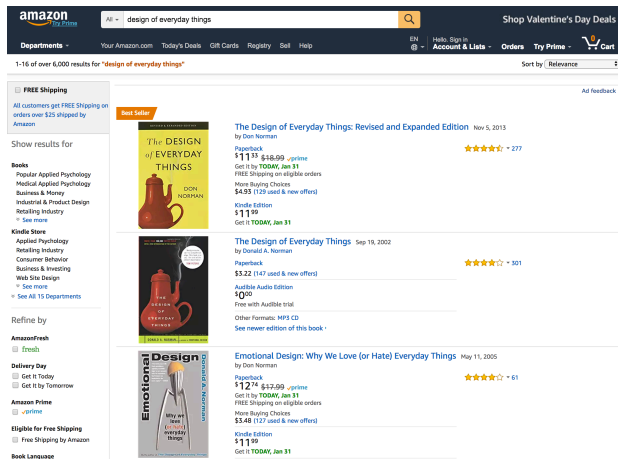
Prof. Lydia Chilton
COMS 4170
30 April 2018

Say your name

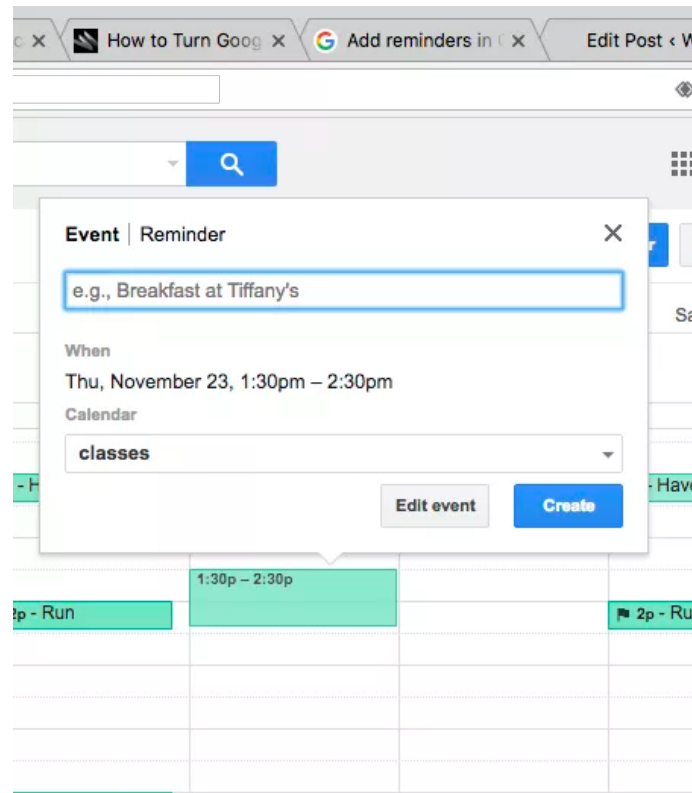


Users interact with a system to accomplish a goal

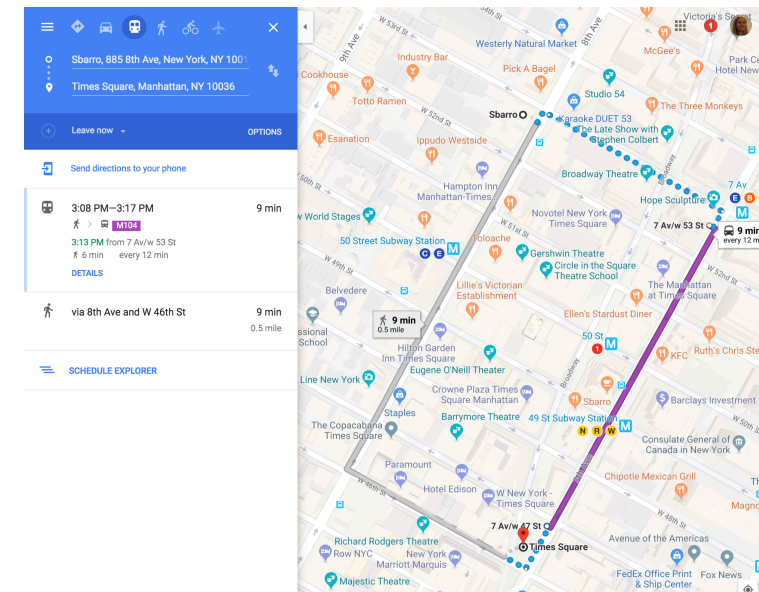
Buy a book



Get to events on time



Get a directions



User Interfaces should be designed to help users accomplish a goal.

Guide users' attention to important bits of information



Interact with the system in ways that provide clear actions and feedback.



Allow users to navigate through the system in ways that follow from their goal.



We have discussed concrete ways of thinking about goals

Grand but not actionable

“world peace”

“bring the world closer together”

“scale and democratize education”

Humble but valuable

“register 100 voters in Selma, Alabama”

“let Harvard students see what dorms their friends are in”

“teach my 12-year old cousin Nadia how to multiply fractions”

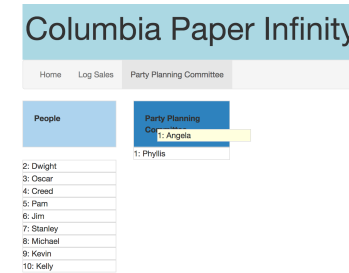
Goal 1

Build websites that suit the needs and abilities of users

Display information in a way that guides users' attention

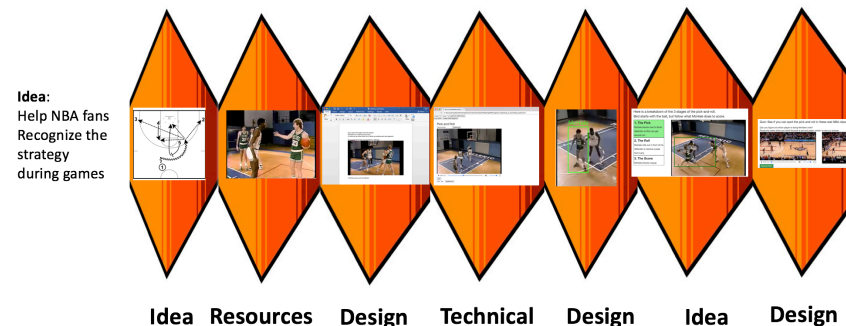


Implement interactions that allow users to accomplish a goal



Goal 2

When the needs and abilities of users are unclear, design systems by **learning from iteration** and experimentation.



Final Exam Logistics

Monday May 7 from 4-7pm

- You are allowed 1 sheet of notes (double sized)
- The exam is comprehensive.
- It covers everything in the lecture slides, homework, and class discussions except Lecture 1 and HW1 on Nielsen's Usability Heuristics.

Goal 1.1

Build websites that suit the needs and abilities of users

- **Visual Information Design**

- Information Hierarchy
- Gestalt (grouping)
- Layout
- Location/position
- Contrast
- Color
- Images
- fonts

Goal 1.2

Build websites that suit the needs and abilities of users

- **Interaction Design**

- User Model: Execute-Evaluate Loop
- Direct Manipulation
- Events and Feedback
- Menus and Navigation
- Widgets and JavaScript
- DBs and CRUD (Display and update information from a database?)
- Ubiquitous Computing
- Input Techniques for various needs
- Habits

Goal 2

When the needs and abilities of users are unclear, design systems by **learning from iteration** and experimentation.

- Brainstorming
- Iterative Design
- Low-Fi prototyping
- Running Prototypes
- Technical Feasibility
- Giving and Receiving Feedback
- Personas

Sample Final Exam Questions

Without answers.

But you may submit answers to Piazza and I will verify answers

Information Design

For the following announcement to be put on posters, please apply principles of visual design to guide users attention.

Use only the principles that you can draw with your pen or pencil. Do not use color. Keep the wording as similar as you can. You may only reword the language in small ways to make the graphic design clearer.

Show your drawing.

Annotate the **4 tools** use used and how to intend them.

Write a short paragraph for each of the 4 tools.

The deans of Hudson University invite you to participate in the Student Life Ideas Contest. The top 5 ideas will each be awarded a \$300 gift certificate to IHOP and a chance to compete at the regional level. Survey responses are due may31st 2018. Prize winners will be announced June 1st 2018. Your ideas are greatly appreciated. If you have any questions, contact the administrators: ask@hudson.edu Find the survey at: <http://Bit.ly/student-life>

Remake this design in HTML and CSS

Use only HTML and CSS.



We will be forgiving about syntax of HTML and CSS as long as your intent is clear,
And your syntax shows knowledge of the basic principles.



**“We are not going to desert
these young people,” he said,
referring to DACA beneficiaries.**

Senator Bernie Sanders of Vt.

Remake this layout in HTML and Bootstrap

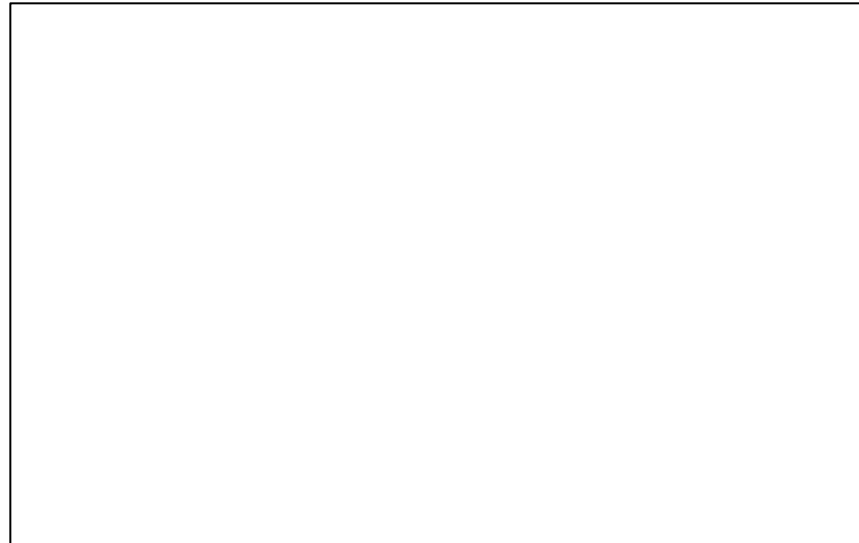
	Hamlet	Tomorrow and tomorrow and tomorrow creeps in this petty pace from day to day. To the last syllable of recorded time.	
	Hamlet	Tomorrow and tomorrow and tomorrow creeps in this petty pace from day to day. To the last syllable of recorded time.	
	Hamlet	Tomorrow and tomorrow and tomorrow creeps in this petty pace from day to day. To the last syllable of recorded time.	
	Hamlet	Tomorrow and tomorrow and tomorrow creeps in this petty pace from day to day. To the last syllable of recorded time.	

Dynamically create a button

Take the following html page and use JavaScript and jQuery to create a button that says “click me”.
When it is clicked, it pops up a message saying “I was clicked.”
Do not add anything to the HTML file.

```
<html>  
<script src="myJS.js">  
<body>  
</body>  
</html>
```

myJS.js



Create a ToDo list in the Model-View-Controller style of programming UIs

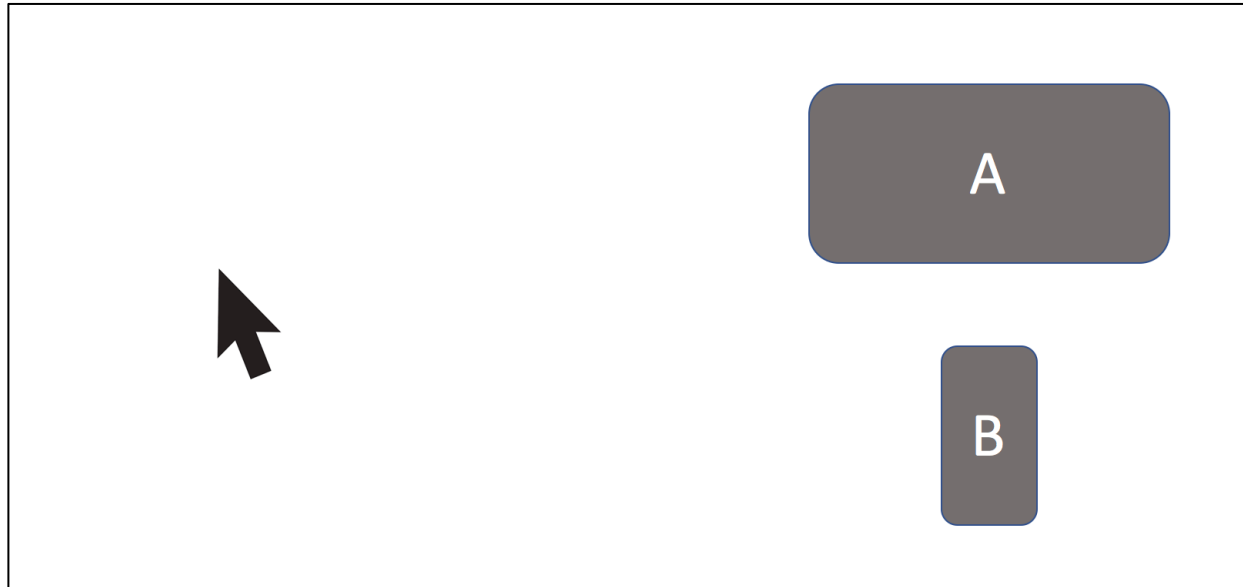
Use HTML, CSS, JavaScript, and JQuery to make a todo list where you can

- *add items

- *check and uncheck items.

Input:

How much faster is it to click A than B? Use and create variable names for quantities needed in the answer.



User Model

For the given scenario. Design an interface that helps the user achieve their goal.

Draw an annotate the screen or sequence of screens the user would execute, and what feedback the user would receive.

What do they execute?

What feedback do they receive?

A user wants \$110 from their ATM.

The machine only gives \$20's.

Design an interface that helps the user achieve their goal.

The user is having an awesome party,
but they see a lame song next on a playlist.

The want to skip it just this once.

Design an interface that helps the user achieve their goal.

Direct manipulation: Signifiers

Other than sitting,

what are the perceived affordances?

What are the signifiers?

What is the feedback?



Direct Manipulation

Design an interface to an alarm clock that you can set through direct manipulation based on an analog clock.

What objects are represented visually?

What actions are incremental and reversible?

In what way do users directly interact with the object?

Direct Manipulation: Drag and Drop

List 2 ways to make draggable elements discoverable without text:

List 2 ways to make Drop targets elements discoverable without text :

Events and Feedback

When pressed the compose button in gmail, the user received continuous feedback through several stages of action.

Starting and ending in “normal” state,

What are the 3 actions users perform that they get visual feedback for.

Events and Feedback

Whats wrong with implemented feedback like this.

Provide a better solution by adding, editing, or deleting the code below.

```
1 $(document).ready(function(){
2     $("#compose_button").mousedown(function(){
3
4         $(this).css("background-image", "linear-gradient(to bottom, #dd4b38, #400000)")
5
6     })
7 })
8
```

Menus and navigation

You are building a UI that lets users buy a ticket to a movie showing today at AMC Lincoln Center.
How do you allow users to navigate this data?

You are building a UI that allows users to access the aggregated critics scores of movies.
How do you allow users to navigate this data?

You are building a UI that allows users select the combination of sodas and flavorings
How do you allow users to navigate this data?

Menus and Navigation

You have a drone with a projector and a gesture recognizer.

Design a sequence of 4 action-and-feedback steps that allow the user to accomplish the goal of **Taking a selfie from 20 feet above you.**

Databases

What data fields do we need to store articles like this one in the New York Times?
List the 6 most important ones.

PRO BASKETBALL

'King' James Briefly Sat, and His Subjects Carried the Load

By MARC STEIN | APRIL 29, 2018



An exhausted LeBron James headed to the locker room after the Cleveland Cavaliers barely hung on to beat the Indiana Pacers in Game 7 of their first-round playoff series. Gregory Shamus/Getty Images

CLEVELAND — The statistics say LeBron James has never received less help in the N.B.A. playoffs from a group of teammates than he did in this first-round marathon against the Indiana Pacers.

Databases

Gmail emails are stored in a database with multiple fields representing an email.

Name three conceptually different) fields that are likely to get updated after the email is created

Ubiquitous Computing

Stemming from Mark Weiser's vision of computing devices being everywhere, what three properties matter most in ubiquitous computing?

Input devices

What is a strong need or use case for spoken dialog systems in the car? Why?

What is a strong need or use case for augmented reality? Why?

What is a strong need or use case for wall displays? Why?

Habit Theory

What is an example of a software system that is designed to have variable rewards?

Why is this advantageous to the designer of the system?

Habit Theory

What behavior is driven by the feeling of confusion?

Habit theory

For a given craving (or goal), what are the three steps of a habit?

Brainstorming

Brainstorm 5 specific ideas to address the follow goal:

“Improve education”

“fix the environment”

“world peace”

What specific person

Has what problem/goal

And takes what action?

And how do they know it is complete?

Iterative Design

For the following ideas, what 2 things would you prototype and test in order of priority.

How would you prototype and test them?

Goal: Make an internet dating site that is more effective at matching couples than Match.com

Idea: automatically figure out the movies and ratings people have given on Netflix and match them based only on their viewing and rating history

Iterative Design

For the following ideas, what 3 things would you prototype and test in order of priority.

How would you prototype and test them?

Goal: Help your users look more like a celebrity.

Use AI and Big data to extract makeup tips from videos made by celebrities and transfer that make up style to a photo of your users.

Critique

Critique this design in the format discussed in class from the point of view.
Every college student should be able to find an affordable dorm decoration at a college-student budget.

Posters.com

HOME COLLEGE STUDENT? POSTER SIZES BACK TO SCHOOL SALE



Type a search term and hit enter ...



COOL POSTERS & ARTWORK



Affordable Art

Modern art posters, Original Art Posters, Fine art prints and Vintage prints from art masters for your home or dorm decoration project.



Movies

Classic Hollywood posters, latest movie posters, posters of foreign flicks, and many more for your bedroom or dorm room.



Music

Beatles, Jimi Hendrix, Rihanna, or Beethoven - if you have a fave band or artist, find their posters here.



Wall Stickers

Wall Stickers and Wall Decals offer a unique, trendy way to decorate and provide a quick and inexpensive alternative to painting.

Design

What do we call the process of trying many possible options before picking one?

Personas

Say all the technology worked in the scenario described.

Write a persona to test the application, and how they navigate through the system in 5-7 steps. You may alter the goal if you need to make a specific goal.

Goal: Give campus tours at night

Use a drone, a projector, and a gesture recognizer to give a tour of Columbia University at night.

Personas

Say all the technology worked in the scenario described.

Write a persona to test the application, and how they navigate through the system. You may alter the goal if you need to make a specific goal.

Goal: Help your users look more like a celebrity.

Use AI and Big data to extract makeup tips from videos made by celebrities and transfer that make up style to a photo of your users.

Personas

Say all the technology worked in the scenario described.

Write a persona to test the application, and how they navigate through the system. You may alter the goal if you need to make a specific goal.

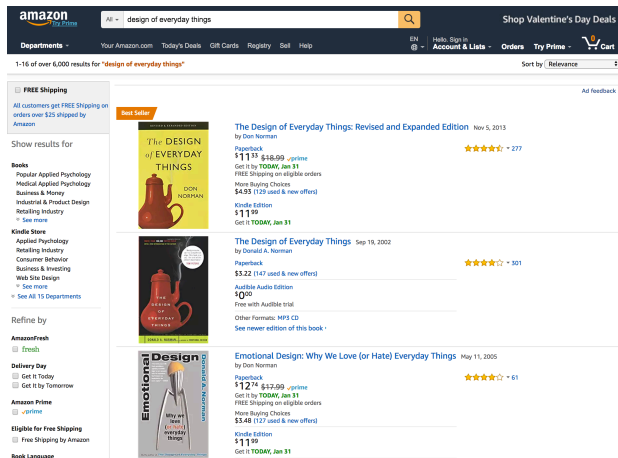
Goal: Make an internet dating site based purely on what movies you like.

Idea: automatically figure out the movies and ratings people have given on Netflix and match them based only on their viewing and rating history

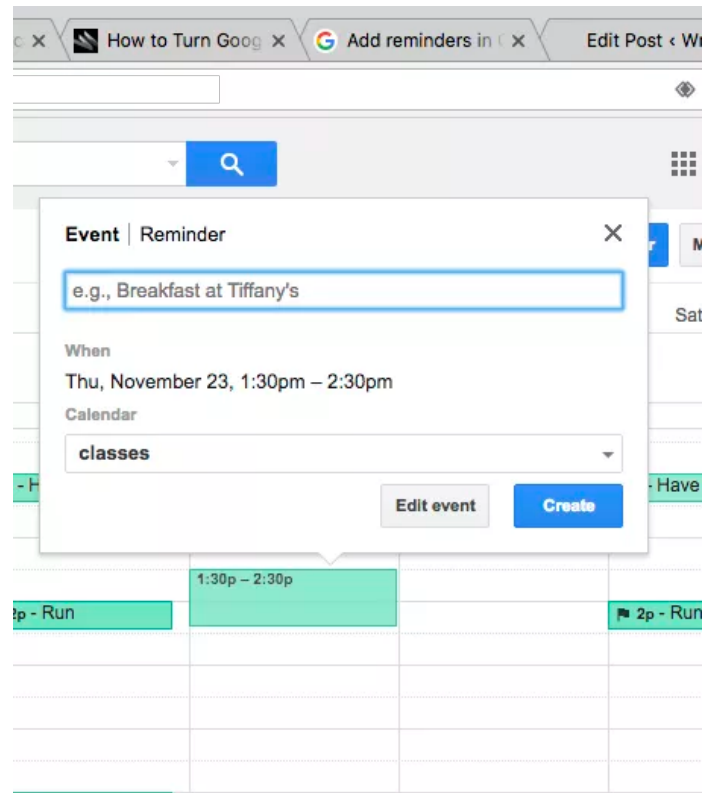
Summary

Users interact with a system to accomplish a goal

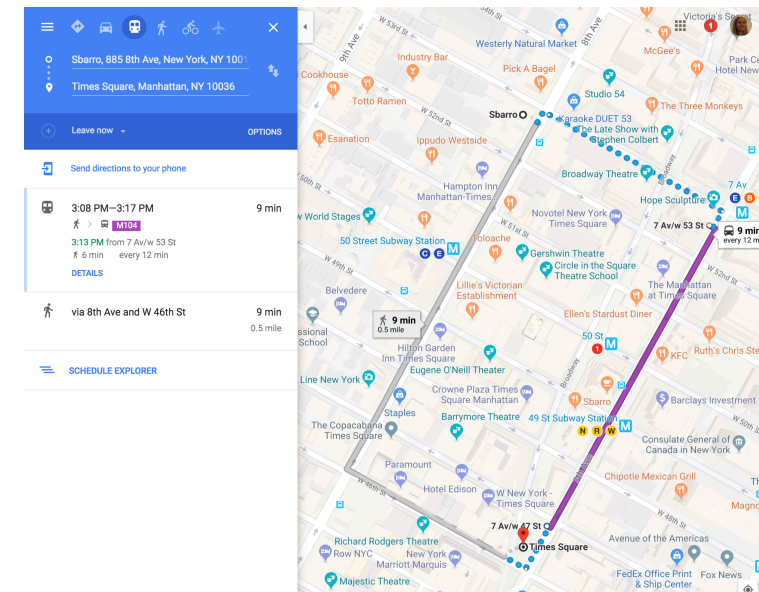
Buy a book



Get to events on time



Get a directions



User Interfaces should be designed to help users accomplish a goal.

Guide users' attention to important bits of information



Interact with the system in ways that provide clear actions and feedback.



Allow users to navigate through the system in ways that follow from their goal.



We have discussed concrete ways of thinking about goals

Grand but not actionable

“world peace”

“bring the world closer together”

“scale and democratize education”

Humble but valuable

“register 100 voters in Selma, Alabama”

“let Harvard students see what dorms their friends are in”

“teach my 12-year old cousin Nadia how to multiply fractions”

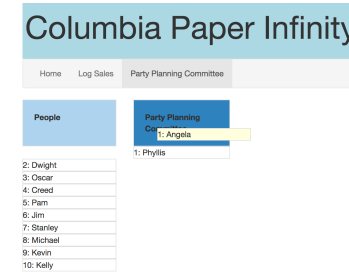
Goal 1

Build websites that suit the needs and abilities of users

Display information in a way that guides users' attention



Implement interactions that allow users to accomplish a goal



Goal 2

When the needs and abilities of users are unclear, design systems by **learning from iteration** and experimentation.

