CMPS 179

UX for Designing 3D, Animation, and Interaction for the Web

Professors: Reid Swanson & Matt Maclaurin
TA: Peter Mawhorter
CMPS 179: Course Information

- **Prof: Reid Swanson**
  - Email: reid+179@soe.ucsc.edu
  - Teaching: Monday & Wednesday
  - Office Hours: Monday 11:00-12:00 (Kresge 317)

- **Prof: Matt Maclaurin**
  - Email: mmaclaurin@ebay.com
  - Teaching: Friday
  - Office Hours: Friday 11:00-12:00 (Kresge 317)

- **TA: Peter Mawhhorter**
  - Email: pmawhhorter+ux13@gmail.com
  - Office Hours: TBD

- **Reader: TBD**

- [https://courses.soe.ucsc.edu/courses/cmps179/Spring13/02](https://courses.soe.ucsc.edu/courses/cmps179/Spring13/02)
CMPS 179: Overview

• What this course is not:
  – This is not a game design course
  – An open ended project of your choice

• What this course is:
  – Interactive data visualization class
  – More like an art or design studio course
  – Several lectures will be dedicated to critique
  – Lectures split between technical, design and lab
  – Targeted projects with lots of room for freedom
Telling a compelling interactive visual story about data

People who are concerned about their health may prefer hot dogs that are low in salt and calories. The "Hot dogs" datafile contains data on the sodium and calories contained in each of 54 major hot dog brands. The hot dogs are classified by type: beef, poultry, and meat (mostly pork and beef, but up to 15% poultry meat). A simple ANOVA model with type as the independent variable and calories as the dependent variable has an F-ratio of 16.074, which is highly significant.
CMPS 179: Some Examples

LeBron James
- Total Shots: 1,169
- Points per Shot: 1.1
- F.G. Percent: 53.1%

Kevin Durant
- Total Shots: 1,296
- Points per Shot: 1.09
- F.G. Percent: 49.6%

Dwyane Wade
- Total Shots: 837
- Points per Shot: 1.01
- F.G. Percent: 49.7%

Russell Westbrook
- Total Shots: 1,266
- Points per Shot: 0.92
- F.G. Percent: 45.7%

His athleticism and ball-handling create a lot of high-percentage shots near the basket. He prefers the wing locations beyond the 3-point line. His midrange game is his weakest.

Despite his size, he is a very effective midrange shooter, taking nearly half his shots from that zone and another 25 percent from beyond the 3-point arc.

This season, he is more of a post player and nearly half of his shots occur near the basket. He shoots a higher percentage of close-range shots than both Chris Bosh and James.

Like most point guards, he has success going to the basket. As a 3-point shooter, he is most accurate on the wings. Near the free-throw line he gets jump shots off pick-and-rolls.

What is Twitter's Favorite M&M's Color?

Created by Romain Vallemot
Built with Visual Sedimentation
Tested with Google Chrome

DISCLAIMER: This website is not affiliated to M&M's. M&M’s is a registered trademark of Mars, Inc. and its affiliated companies. Check out the official M&M’s Web site at http://www.mms.com/

http://www.visualizing.org/visualizations/what-tweets-favorite-mms-color

KJ @TheMindBlowing: Eating excessive amount of blue M&Ms can turn your skin bright blue temporarily!

about 7 hours ago
CMPS 179: Some Examples

All tweets on map: 46 / ~61 tw/s  
In window: 45 / ~60 tw/s  
Twitter API flow quality: 50%

http://tweereal.com/)
CMPS 179: Some Examples

http://zygotebody.com/
CMPS 179: Data Visualization

http://workshop.chromeexperiments.com/stars/
CMPS 179: Data Visualization
CMPS 179: Data Visualization

http://gamelab.mit.edu/games/a-slower-speed-of-light/
CMPS 179: Course Objectives

• Analyze data and visualize what’s interesting
• Learn basic HTML 5 including
  – CSS3
  – Javascript: raphael.js, three.js
• Working with web services and data
  – eBay APIs
• Basic design and datavis skills e.g.,
  – Best practices
  – Human perception
  – Color theory
  – Composition
  – Relation to games
CMPS 179: Just Because We Can…

Welcome to My Website

A demonstration of what can be accomplished visually through CSS-based design. Select any style sheet from the list to load it into this page.

Download the sample html file and css file

The Road to Enlightenment

Littering a dark and dreary road lay the past relics of browser-specific tags, incompatible DOMs, and broken CSS support.

Today, we must clear the mind of past practices. Web enlightenment has been achieved thanks to the tireless efforts of folk like the W3C, WaSP and the major browser creators.

The css Zen Garden invites you to relax and meditate on the important lessons of the masters. Begin to see with clarity. Learn to use the (yet to be) time-honored techniques in new and invigorating fashion. Become one with the web.

So What is This About?

UNDER THE SEA! BY ERIC STOLTZ
MAKE 'EM PROUD BY MICHAEL MCAHON AND SCOTTY REIFSNYDER
ORCHID BEAUTY BY KEVIN ADDISON
OCEANSCAPE BY
CMPS 179: Who is Interested in these Skills?

• Short Answer - Everyone

• Longer answer
  – Game companies
  – News organizations
  – Scientists
  – Economists
  – Political analysts
  – Public policy analysts
  – Public health analysts
  – Government agencies
  – Designers
  – Engineers
  – Architects
  – Sports analysts
  – Social network companies
  – Tech companies
  – The Fortune 500
  – Did I mention... everyone!
CMPS 179: Overview

• Weeks 1-2
  – Background and intro to HTML, CSS and JavaScript

• Weeks 3-5
  – 2D web technologies
  – 1\textsuperscript{st} design challenge using real eBay data and 2D technologies

• Weeks 6-8
  – 3D web technologies
  – 2\textsuperscript{nd} design challenge using eBay data and 3D technologies

• Weeks 9-10
  – Refinement of a previous project
• Projects (80%)
  – 30% - 2 Design challenges using the eBay API
  – 20% - 1 Final project that refines a previous project

• (Roughly) Weekly assignments (20%)
  – Short exercises to familiarize you with the tools
  – Short reading and writing assignments
  – Each equally weighted
  – Satisfactory, Not Satisfactory, Missing

• Groups
  – Groups are not required,
  – But you can pair up if you want (for the projects)
CMPS 179: Project Grades

• Must be made publically available on the web

• Project Grades
  – 50% - Expert review (panel of design judges)
  – 25% - Peer review (classmates)
  – 25% - Technical level (professors)
  – 5% late penalty per day

• Project Criteria
  – Must fulfill the requirements
  – Level of technical skill
  – Density of information
  – Clarity of information
  – Visual aesthetics
  – Creativity
CMPS 179: Resources

- Discussion Forum
  - [https://piazza.com/class#spring2013/cmps1792](https://piazza.com/class#spring2013/cmps1792)

- Required book
  - *Envisioning Information* by Edward R. Tufte

- Highly Recommended
  - *Javascript: The Good Parts* by Douglas Crockford
  - *CSS3: The missing manual* by David McFarland
CMPS 179: Assignment 1 (Due Monday April 8)

- **Read**
  - *10 Things You Can Learn From the New York Times’ Data Visualizations*
  - *Data Visualization (Blue Paper)*
  - *Chapters 2-3 from Eloquent JavaScript*
- **Pick two visualizations from the information is beautiful awards**
  - 1 that you like, 1 that you don’t like
  - What do you like aesthetically about the good one?
  - What’s good about the interaction?
  - Why don’t you like the bad one?
  - What you would change about the bad one to make it better
- **Email me your choices by Friday and let me know which is which**
CMPS 179: The Rest of the Week

• Register for an account on [http://codepen.io](http://codepen.io)
• Vote for office hours on piazza
• Download and install Eclipse
  – [https://courses.soe.ucsc.edu/courses/cmps179/Spring13/02/pages/tutorials](https://courses.soe.ucsc.edu/courses/cmps179/Spring13/02/pages/tutorials)
• Wednesday - Closer look at data visualization
• Friday – Intro to HTML and CSS