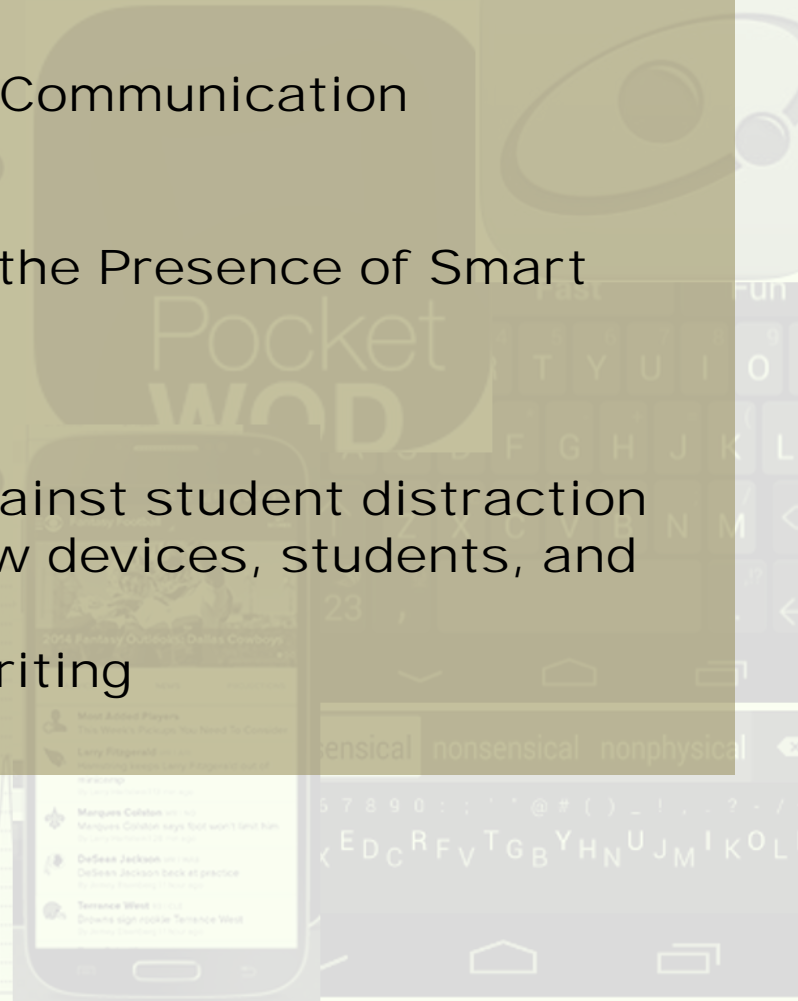**Kathryn Northcut, PhD**
Department of English and Technical Communication
Missouri S&T

"There's an App for That: Maximizing the Presence of Smart Phones in the Classroom"

Designed for
- **Educators wanting to push back against student distraction**
- **IT staff needing to demonstrate how devices, students, and education can co-exist**
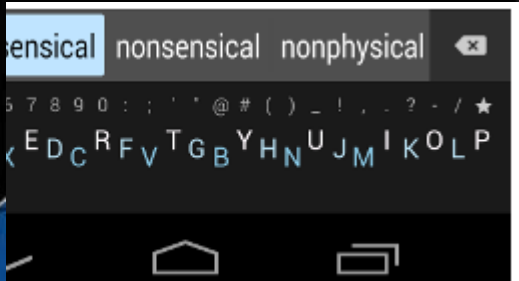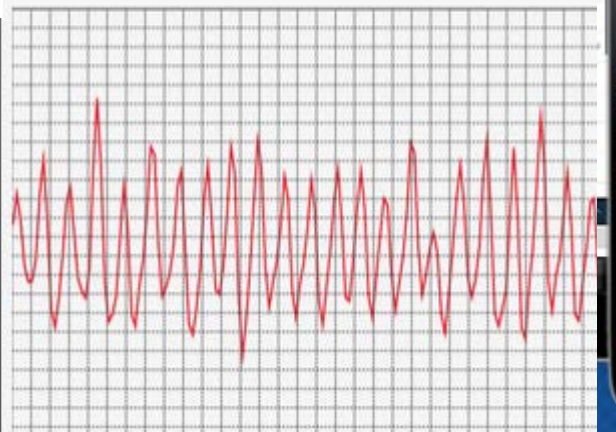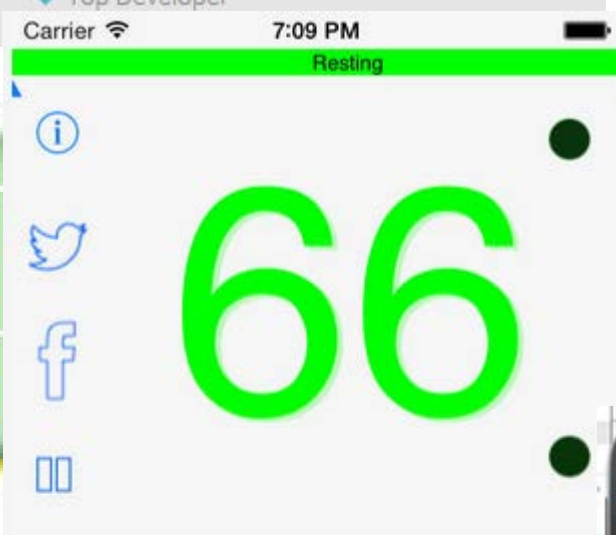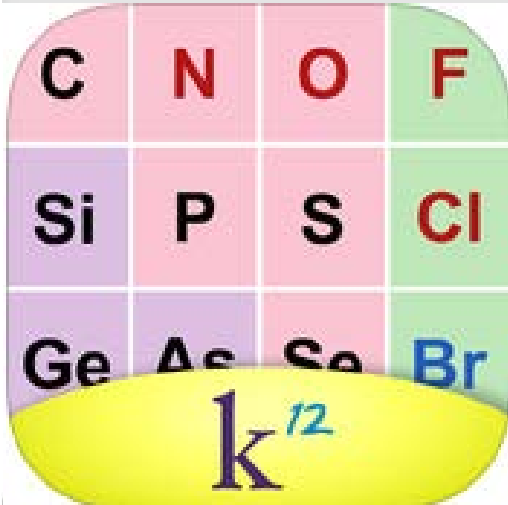- **Instructors who teach English or writing**

Shazam

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Top Developer

SoundHound

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Fantasy Football

2014 Fantasy Outlooks: Dallas Cowboys

ADVICE   NEWS   PROJECTIONS

Most Added Players
This Week's Pickups You Need To Consider

Larry Fitzgerald
Hamstring keeps Larry Fitzgerald out of miniscamp

Marques Colston
Marques Colston says foot won't limit him

DeSean Jackson
DeSean Jackson back at practice

Terrance West
Browns sign rookie Terrance West

Fast   Fun

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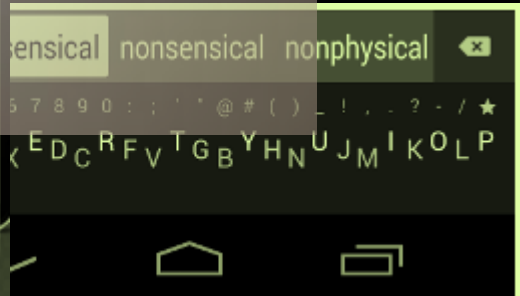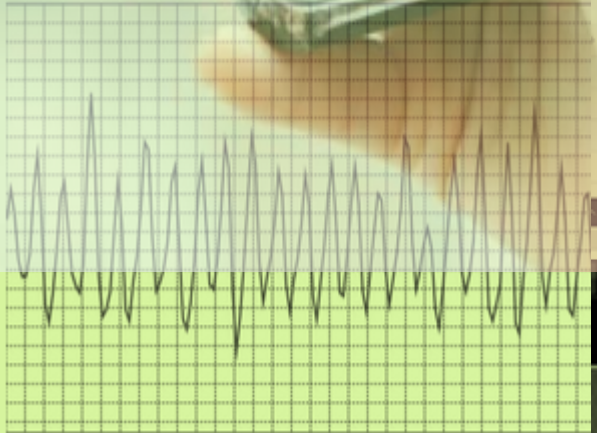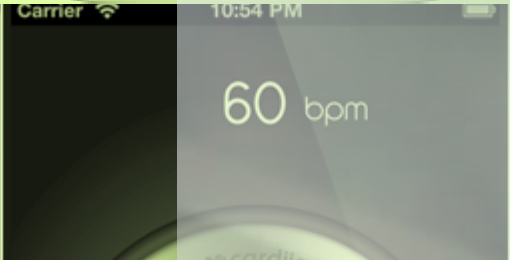67890 : ; ' ' @ # ( ) _ ! , . ? - / %

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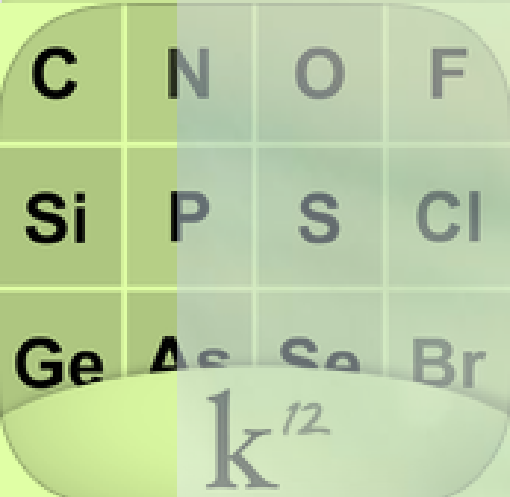
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Fast Fun

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ID

Fantasy Football

2014 Fantasy Outlooks: Dallas Cowboys

There's an App for That!

- What are we trying to do?
- Why this assignment?
- Why research?
- Why usability testing?
- Why apps?
- Isn't this just more techno-rah-rah?

Smart phone apps are used about 37 hours per month by users aged 18-24.
July 1, 2014, Nielsen.com

Tech writing for the S&T student

- Students need to collect data in order to "own" it, act as expert, have reason to communicate findings

- Students have a (more) genuine purpose in writing when they have information that others don't have, but might need

- Students (so goes the theory) learn and perform better with projects that have real-world meaning

Pseudotransactional writing is that which conceals its real purpose for writing (real purpose being the grade, presumed purpose being some rhetorical act). --Petraglia

Summary of goals

1. Create contexts, in a technical writing course, for juniors and seniors who are majoring in engineering to experience some of the challenges of writing on the job
   – Knowing something others don't know
   – Needing to communicate information to decision makers
   – Focusing on multiple audiences at once
   – Writing from a position of weak credibility in such a way as to build credibility

Summary of goals, continued

2. Standardize multi-section course so that it is teachable not only by instructors with both academic and industry experience but also by

- International graduate students
- Graduate students fresh from non-tech-com undergraduate programs
- Adjunct instructors with backgrounds in other fields

Research in Tech Com

- Empirical, replicable, with testable hypotheses and established theoretical underpinnings

- Informed by social sciences/humanities/science

- With respect to machines, software, and documents, [usability testing](#) (industry standard practice based on rhetorical theories of audience, purpose, objects, and context of use) reigns supreme

Brown goods are "complex, clever," requiring skill (Wajcman)

Usability Testing

- Systematic, planned

- Actual products

- Actual users, even disabled ones (accessibility)

- Natural contexts of use (wetware cf Wajcman)

- Concurrent vs. retrospective

- Metrics include memorability, efficiency, error recovery, and user satisfaction

White goods are for women, simple, easy to use; usable objects are feminized (Wacjman)

Net Promoter Scores

User satisfaction of products

Scale of 0-10

- Promoters (9-10)

- Passives (7-8)

- Detractors (0-6)

Better than arbitrary measurement of "happiness," "pleasure," "aesthetics," or other idiosyncratic approaches

Multi-stage project

- Students select app they want to use
  - Selection is approved or denied
- Students identify study they can perform with users of the app
  - Study is revised if necessary
- Students request approval for the study
  - Request is approved or denied
- Students perform the study
- Students report on the study not only to instructor, but also to developer of app
  - Suspension of disbelief
  - OR students can send the report to the developer

Proposal

- Formal proposals: academia and industry
- Response to RFP/CFP
- Request
- Common pitfalls:
  - Failure to articulate possible benefit of project
  - Jumping the gun
  - Hesitancy in valuing work
  - Underestimating time
  - Poor scheduling skills

Sample Student Projects

- Dice rolling apps: analog, web-based, app
- Periodic table apps for HS science students
- Tactical navigation app
- Evernote
- Keyboard apps
- Weather apps
- Sports apps
- WOD (workout of the day)/Crossfit

Recommendation Report

- Complex audience

- Conveys information that only the student has to someone who already cares (me) and someone who could benefit from the information (developer/designer/owner/decision-maker)

- Formal document requiring some expert usage of MS Word: generated TOC, section breaks, labeled images, data displays

Most interesting results

Net promoter scores (and variants) vs. time for task completion

- Measure how quickly users complete task, such as information location, dice roll, data entry

- Compared times to satisfaction scores

  - Speed and satisfaction don't inversely correlate

  - Speed/accuracy correlations

More interesting results

- Products may not actually do what they promise, but may be better than the competition

- Products may all be equally functional, but may vary in how quickly users are able to find results or how clearly results are displayed on small screen

- Mobile and web versions of same app may vary in usability

Student engagement evidence

- Creativity of report cover pages
- Quality of projects
- Users of different ages/demographics
- ROTC students as usability test subjects for Tactical Nav
- Identification of good audiences for report
  - Administrators
  - Directors
  - Owners/developers/designers

Alternatives to this assignment

- Provide students "dummy" data, give them a hypothetical situation, and grade writing as a test of whether they figure out what the instructor is looking for in the report (*traditional model*)

- Provide students truly authentic disciplinary experiences, which will have a wide variety of inconsistent outcomes, documents, evaluators, bodies, fluids, etc. (*radical feminism alternative*)

Justification of method

- Focus on humans in technologically-mediated world
  - Accessibility
  - Critical consumption
  - Making arguments to humans who make decisions
- Engagement of students with technologies and communiation challenges so they will practice skills we know they use on the job
- Teachability
- Some deterrents to plagiarism

Gendered analysis

- The project redefines the role of student as participant (not just maker/user binary)
- All students practice exerting power from position as knowledgeable consumer/co-designer (not typical gendered power binary)
- All students are renegotiating the symbolic meanings (Wajcman) that may be inherent in technology use and understandings of technology at a male-dominated, STEM university in the Midwestern US

Conclusions

The assignment/curriculum, like any, represents a tradeoff between what we can do and what we should do.

The curriculum needs to continually evolve to maintain relevance, and the coin of the realm right now is apps on mobile devices (used to be Web sites, and before that, newsgroups/forums, MOOs, MUSHes).

"An emancipatory politics of technology requires more than hardware and software; it needs wetware - bodies, fluids, human agency" (Wajcman, 2004, 77)

Selected References

Brumberger, Eva. 2011. "Visual Literacy and the Digital Native: An Examination of the Millennial Learner." Journal of Visual Literacy 30.1: 19-47.

Johnson-Eilola, Johndan and Stuart Selber. 2007. Understanding Usability Approaches. In Selfe, Cynthia, Resources in Technical Communication: Outcomes and Approaches, Amityville, NY: Baywood, pp. 219.

Petraglia, Joseph. 1995. "Spinning Like a Kite: A Closer Look at the Pseudotransactional Function of Writing." Journal of Advanced Composition 15: 19–33.

Schriver, Karen. Dynamics of Document Design.

Wajcman, Judy. 2004. TechnoFeminism. Malden, MA: Polity Press.