IN4MATX 148: Ubiquitous Computing Prototyping and Projects

Week 7: Design Crit 4, Role-playing and video sketches, Mobile gaming

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On Deck for Tonight

- Part I: Design Crit 4
- Part II: Role-playing and video sketches
- Part III: Mobile gaming
  - *Your Exercise for the Week*
- Part IV: Individual projects

Course Logistics

- Visual narrative/storyboard exercise (3) graded
- Animated sequence exercise (4) due **now!**
  - *Email files to **nsylvest@uci.edu** and svoida@acm.org*
  - *Graded and available for pick-up by Thursday morning*
- Group Projects: Poster session feedback
  - *Overall, very good presentations*
  - ***For this course,** communicating process is essential*
  - *Think about how you are communicating your ideas*
  - *Think about your audience*
- Questions? Comments? Concerns?

Part I: Design Crit 4

Design Crit 4

- Presenters, explain by introducing: *~ 3 minutes*
  - What you produced and why
  - How you imagine the technologies would be used
  - What is novel about the idea
    (what boundaries are being pushed?)
- Critics, constructively interrogate the work: *~ 4 minutes*
  - *What is going on?*
  - *What is the flow of the interaction?*
  - *What can be changed to make it more original?*
- (Politely) Push to make the designs clearer, stronger!

Part II: Role-playing and video sketches

Role-playing

- How to put yourself in the place/mindset of…
  - …a user?
  - …the system?
  - …“innocent” bystanders?

- Can be scripted or unscripted, directed or improvised
- Might be serious, funny, provocative, realistic, off-the-wall
- Can take place “in the studio” or “in the wild”
- May include props or physical sketches

PEOPLE, PLACES, ACTIVITIES, MOTIVATIONS			
People			
clergy	reporter/journalist	truck driver	farmer
fisherman	parent	national leader	professional athlete
real estate agent	nun	grandmother	supermodel
student	small business owner	sports coach	wheelchair user
teacher/professor	doctor/nurse	flight attendant	consultant
waiter/waitress	spy	researcher/scientist	lawyer
police officer	pre-literate child	pilot	building contractor
Places			
home office	a classroom	an elevator	an airplane
office building	the kitchen	a hotel room	a foreign country
driving in a car	a park	a restaurant	a shopping mall
the street corner	baseball stadium	a cab	an electronics store
a courtroom	the beach	a public transit bus	an airport
Activities			
planning a meeting	preparing a presentation	finding a lost phone	planning a vacation/ trip
socializing	shopping	thinking	placing a conference call
taking notes	composing email	saving the world	job hunting
commuting	moving	studying	day trading
preventing a crime	coordinating multiple schedules	paying household bills	chauffeuring kids between activities
Motivations			
save money	spend money	stay healthy	influence people
never lose touch with friends	selectively miss meetings	generate more free time	improve social life
make mo' money	keep track of personally relevant news	become witty in conversation	get a lot of work done while sitting on the porch
spend as little time in the supermarket as possible	feel secure about children when not at home	develop/support a strong fashion sense	research personal illness
don't get lost—again	stay sane		

Role-playing: Activities

You have invented a "life logging" device that can capture continuous streams of audio, video, and sensed context 24 hours a day. These devices becomes extremely popular and early adopters (think today's iPad owners) have quickly embraced the technology.

- Write and act out a short scenario that illustrates what might happen when one or more users of this technology enters a party/gathering with other people who do not have this technology. What does this social interaction "look" like?

Video sketches

- Extends last week's animated sequences technique

- How do people interact with the simulated interface?
  - *Easy version: Videotape an actor interacting with a pre-constructed animated sequence*
  - *Harder: Manipulate physical artifacts (through sleight-of-hand or post-processing) to appear interactive*

- Begins to really blur the line between sketches and prototypes; covers a new part of our spectrum

Video sketches

- Can be used to pose questions like…
  - *What happens when this technology becomes part of the real (social, complex, nuanced) world?*
    - *How would these novel devices/interaction techniques/environments interact with existing spaces?*
    - *How would these novel devices/interaction techniques/environments interact with people and groups?*
  - *What could be possible if missing or technically challenging infrastructure were made available?*

Office of the Professional

http://youtu.be/GK_-zHl81RM#t=1m24s
(1:24–3:32)

Knowledge Navigator

http://youtu.be/QRH8eimU_20

A Day Made of Glass

http://youtu.be/6Cf7IL_eZ38

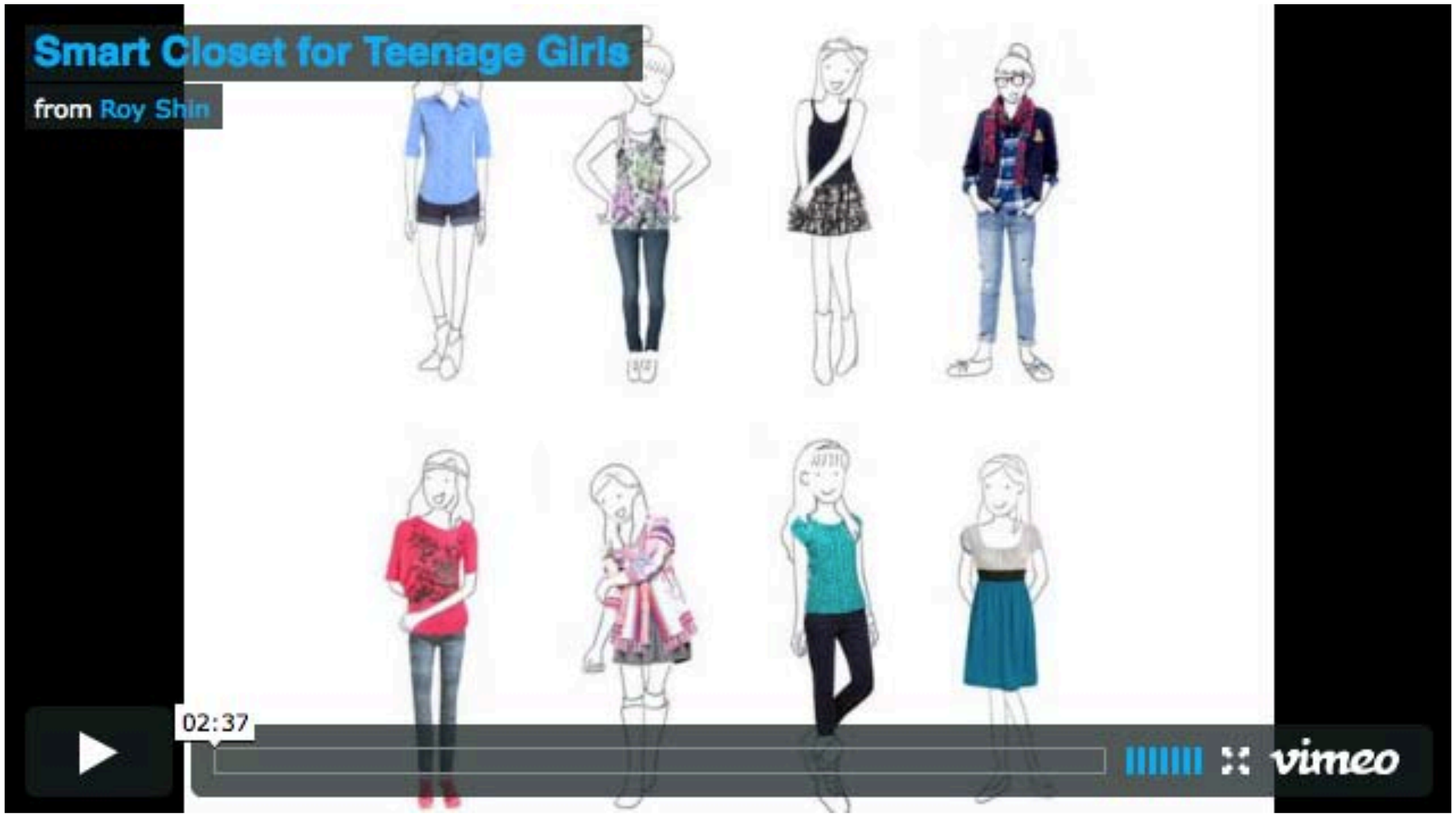
Seamless Media Design: Clearboard III

http://youtu.be/m8KpyodEzK0

Sketch-a-Move

http://www.lwk.dk/sketch_a_move/sketch-a-move_mov.html

StylePost



http://www.robotroy.com/work_015.html

DartMail

http://grouplab.cpsc.ucalgary.ca/Publications/2005-DartmailVideo.ECSCW

The Attributes of Sketches

- **Quick**
  - to make
- **Timely**
  - provided when needed
- **Disposable**
  - investment in the concept, not the execution
- **Plentiful**
  - they make sense in a collection or series of ideas
- **Clear vocabulary**
  - rendering & style indicates it's a sketch, not an implementation
- **Constrained resolution**
  - no higher than required to capture its concept
- **Consistency with state**
  - refinement of rendering matches the actual state of development of the concept
- **Suggest & explore rather than confirm**
  - suggests/provokes what could be i.e., they are the catalyst to conversation and interaction
- **A catalyst**
  - evokes conversations & discussion

Concepts from Bill Buxton's Book Sketching User Experiences (2007) Morgan Kaufmann

From Sketches to Prototypes

Early design

Brainstorm different ideas and representations

Choose a representation

Rough out interface style

Task centered walkthrough and redesign

Fine tune interface, screen design

Heuristic evaluation and redesign

Usability testing and redesign

Limited field testing

Alpha/Beta tests

Multitude of sketches

Sketch variations and details

Sketch or low fidelity prototypes

Low to medium fidelity prototypes

High fidelity prototypes

Working systems

Role-playing

Video Sketches

Late design

SKETCH		PROTOTYPE
EVOCATIVE	→	DIDACTIC
SUGGEST	→	DESCRIBE
EXPLORE	→	REFINE
QUESTION	→	ANSWER
PROPOSE	→	TEST
PROVOKE	→	RESOLVE
TENTATIVE	→	SPECIFIC
NONCOMMITTAL	→	DEPICTION

[1]From Bill Buxton's Book Sketching User Experiences (2007) Morgan Kaufmann

Video sketches: Tools

- Script
- Actors
- Capture equipment (purpose-built videocamera, cell phone, laptop camera)
- Movie-editing software (Windows Movie Maker, iMovie)
- Optional: Earlier-stage prototypes (physical artifacts, animated sequences)
- Optional: Special effects software (to accomplish chromakey, picture-in-picture)
- Goal: *Inspire? Question? Describe? Pose a solution?*

Part III: Mobile Gaming

Mobile Gaming in Ubicomp

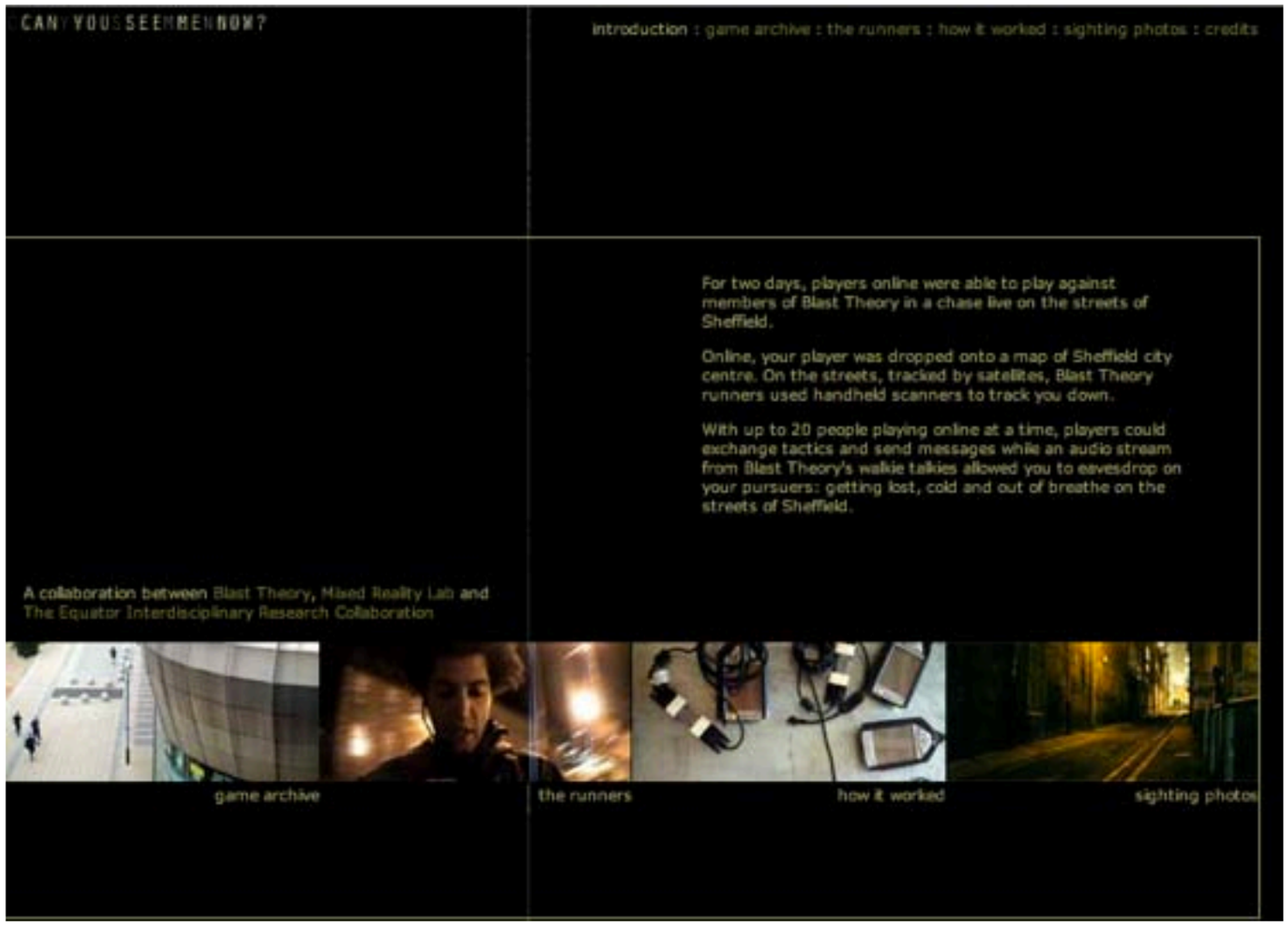
- Gets ubicomp out of the studio/lab, into the real world

- Can be used to find and better understand the “seams” in underlying technologies
  - *Contrast with notion of “invisible” computing!*

- Can help to develop/refine new interaction techniques

- Fun, highly visible way to share the vision of ubicomp with the broader community

Can You See Me Now?



http://www.blasttheory.co.uk/cysmn/sheffield/

Breakout for Two

http://exertioninterfaces.com/cms/breakout-for-two.html

Propinquity

http://youtu.be/o7WEWCQd_oc

YOUR EXERCISE FOR THIS WEEK

Imagine a ubicomp/mobile gaming adaptation of an existing board game, suitable for multiple players.

(Your game can be a literal re-interpretation of the game. Alternatively, you can create a game inspired *by the original, using a subset of the game mechanics transferred from the original.)*

1 short video sketch (2:00–4:00 in length) illustrating the gameplay in your proposed mobile gaming experience

Part IV: Individual Projects

Individual Projects: Start Now!

- One, in-depth design project **on your own**
- Expand on one of the weekly exercises **more deeply** and **from different perspectives**.
- **Deliverable**: Near-professional-quality design, using sketches or prototypes from at least three of the techniques introduced in the course (e.g., a suite of very well-refined artifact design sketches, a foamcore model of the artifact, and a video sketch of how the artifact might be used in a real-world scenario).
- Included in your final portfolio, along with 1-2 page reflection on the design process (*what did you do? why?*)

Next Week

- Video Sketching + Mobile Gaming exercise **Due**
  (Short film, 2:00–4:00 in length)
- Design crit 5 (full class discussion)
- Sketches to Prototypes: Introducing Computation
- **Bring: Your laptop**
- Intro to ambient displays
- Continue working on your group projects!
- *Don’t forget your readings!*