CS 160: User Interface Design

In Class Group Brainstorm 02/03/14
Due Last Friday

Individual Programming Assignment I
Design Exercise Part II

Grades available soon
Example Currency Converter

Andrew Lee
+ Connects to Web service
+ Updates as numbers entered
+ Handles orientation
+ Tells user where conversion rate comes from
Due Monday Feb 10

Group Brainstorm

Today aim for quantity (at least 50)
Be visual!

Later outside of class

Select initial course project idea
Specific target users
(not students)
Be creative! If you already can find your ideas it in the app store, think harder/more specific.
Due Monday Feb 10

**Group Collaboration Plan**

Discuss what you think works in project teams.

Share your strengths, experience

Figure out how (and when) you will work together as a team

Takes ~30 minutes
Individual Programming Assignment 2
Photo Paint (Turn in code + video)
Next Time

Task Analysis and Contextual Inquiry

Don’t forget!
Read, then write a comment
Group Brainstorm, Due Feb 10
Group Collaboration Plan, Due Feb 10
Programming Assignment 2, Due Feb 14
Group Project
Group project

Sound-based input **must be** a key feature
   Must enhance usability for target users

**You must not** design for students
   Define a clear target user (be specific)

**You must develop a working prototype**
   Be ambitious but realistic
Sound as Input
VoiceDraw

Use vocalization to control continuous parameters

• Stroke direction (vowels)
• Brush width (volume)
• Brush down (click)
• Speech reco. for cmds

Can you really draw with it?
Music Recognition

1. From music tracks build DB of signatures
2. Capture music, build signature and match to DB
How else can we apply this strategy?
Speech Recognition

Require more advanced machine learning techniques

But public APIs and open source codes are available:
Android: built-in - android.speech.SpeechRecognizer
Windows: Microsoft Speech API (SAPI)
iOS: OpenEars, based on CMU Sphinx (C, Java)

Commercial: Nuance SDK
Multimodal: Sound + X
Vocal Sound (breath) + Touch

Smule.com - http://www.youtube.com/watch?v=RhCJq7EALJA
Object Sound (finger) + Touch

TapSense. Harrison et al. UIST 2011
Speech Recognition + Touch

PixelTone
A Multimodal Interface for Image Editing

Adobe Research
Gierad Laput
Mira Dontcheva
Gregg Wilensky
Walter Chang
Aseem Agarwala
Jason Linder

PixelTone. Laput et al. CHI 13
Groups

20 groups

4-5 students per group

You cannot change groups
Groups

Peer assessment: your group members will evaluate your effort.

Your grade can be (significantly) higher or lower than the group average.

Take your commitment to your group seriously.
IDEO’s Brainstorming Rules

1. Sharpen the Focus
2. Playful Rules
3. Number your Ideas
4. Build and Jump
5. The Space Remembers
6. Stretch Your Mental Muscles
7. Get Physical
   **Aim for quantity**
   Hope for quality