

CSE440: Introduction to HCI

Methods for Design, Prototyping and Evaluating User Interaction

Lecture 01:
Introduction

Nigini Oliveira
Manaswi Saha
Liang He
Jian Li Zheng
Jeremy Viny

Who we are

Nigini Oliveira

Studied computer science in Brazil

PhD in CS in 2017

Postdoc in CS here at UW

Work in cross-cultural collaboration and online experimentation

Likes literature and long distance bike rides



Who we are

Manaswi Saha

PhD CSE Student

Work in HCI and Urban accessibility

Have done past research on energy sustainability in India

Completed Bachelors and Masters in India

Trained in Indian Classical Music (vocals), like to travel



Who we are

Liang He

Studied Software Engineering/HCI in China, HCI in US
Master in Computational Design at CMU, 2015

CSE PhD student in HCI here at UW

Work in fabrication techniques (e.g., 3D printing) for social good

Likes painting, art, design, and travel

www.lianghe.me



Who we are

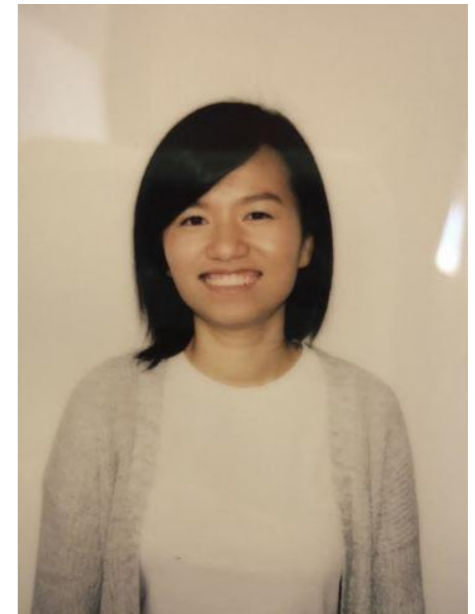
Jian Li Zheng

Schools: International Studies at U of Wisconsin, 2nd year Masters in HCDE here at UW

Work: UX research intern at Airbnb, product design intern at Remitly, UX researcher at URI

HCI focus: products/services that have an offline - online mix, and community building

Let's chat about: hiking all the great trails, Asian food, your favorite and least favorite user experiences.



Who we are

Jeremy Viny



I Studied Neuro Economics and Art

at Ohio State University. Currently, I am pursuing a Masters of Design in the School o Art + Art History + Design.

Research Focus: Design Research. In particular domestic IoT

Hobbies: Woodworking and furniture restoration.

Jerviny.com

HCI at UW

Cross-Campus HCI Efforts

DUB - weekly seminar at noon on Wednesdays

MHCID

My Teaching

CSE 440: Introduction to HCI

INFO 360: Design Thinking


Back in Brazil

All sorts of Software Engineering courses.

What is this course about?


Once upon a time...

[Our Experiments](#) [Findings & Data Sets](#) [Blog](#) [For Researchers](#) [About Us](#) English ▾



LAB IN THE WILD


232
participating countries



Test your reading speed!

Find out how your reading speed and comprehension compares to others by taking this test! The test takes around 12 minutes.


[Participate now!](#)



What is your privacy profile?

Find out how your data sharing behavior compares to others and learn about the Internet of Things. This study takes around 10 minutes.

[Participate now!](#)



What is your problem solving score?

How well do you solve new problems? Test your problem solving abilities! This study will take around 10 minutes.

[Participate now!](#)

We use personalized results...

Have a look at your results!

How good are you at data analysis?



Professional: You're ready to mentor others.

You are so close to the top! You accurately interpreted most of the tasks. With a little effort, you could surpass the rest of the field.

How do you compare?

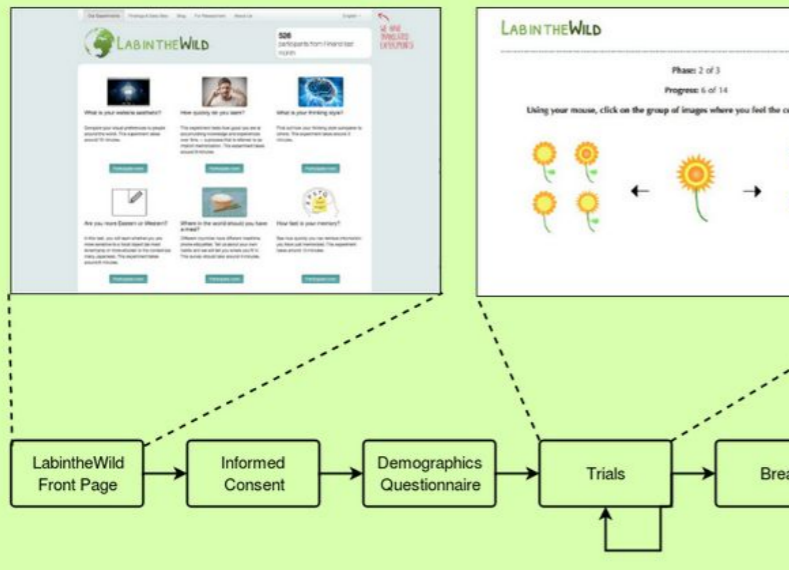
You got a score of 90%. You did better than 100% of test takers.

How can we help researchers?

Study Example Study Template About

What is a common experiment flow for LabintheWild experiments?

LabintheWild experiments can be accessed via the LabintheWild homepage (see left image below) or directly through a link to a specific experiment. All of our experiments start with an informed consent page and end with personalized results. The order of the remaining parts largely depends on the type of experiment. The image below shows a very common order.



litw-template-package

- Source
- Commits
- Branches
- Pull requests
- Pipelines
- Deployments
- Issues
- Downloads
- Boards
- Settings

Lab in the Wild - CORE Team / LITW-CORE

litw-template-package

Here's where you'll find this repository's source files. To give your users an idea of what they'll find here, [add a description to your repository.](#)

master Filter files

Name	Size	Last commit	Message
docs		2018-09-10	Merge master to retrieve_summary_database branch.
template		2018-09-10	Merge branch 'master' into retrieve_summary_database
.gitignore	100 B	2018-07-12	.gitignore edited online with Bitbucket - added config.php
README.md	2.15 KB	2018-09-10	Merge master to retrieve_summary_database branch.

README.md

LabintheWild Study Templates

This repository bundles together the LabintheWild template study and instructions to guide new developers to create their own online studies.

We created Digestif...

The image displays the Digestif web application interface, which is used for creating and editing online studies. The interface is divided into several sections:

- Navigation:** Includes buttons for "Study Example", "Study Template", and "About".
- Header:** Features the "digestif" logo, "Explore", and "Create" buttons. A notification in the top right corner states "You've ♥'d 8 blocks!".
- Left Panel (Blocks):** Titled "♥'d Blocks", it lists available components for page creation: "Experimental Design (1)", "Feedback (1)", and "Other Studies". A "Personality Survey" block is highlighted, showing a form with questions like "Are you already a participant in Cat Tracker?", "How did you find out about this survey?", and "Do you have any other comments?".
- Right Panel (Your Page!):** Titled "Your Page!", it provides a workspace to "Drop and edit your blocks here". It includes a "Download" button to "Get an HTML of your page" and a preview area showing a sample question: "I'm your curious participant! Can I understand you?".
- Repository View (Bottom):** Shows a "README.md" file for "LabintheWild Study Templates". The text describes the repository as a bundle of templates and instructions for developers to create their own online studies.

Additional elements include a "Clone" button and a "Settings" link at the bottom of the interface.

We created Digestif...

The screenshot displays the Digestif web application interface. At the top, there are navigation buttons for "Study Example", "Study Template", and "About". The main heading reads "What is a course experiment flow for LabintheWild?". Below this, a diagram shows the flow from "LabintheWild Front Page" to "Informed Consent".

The central part of the interface is a drag-and-drop editor. On the left, under "♥'d Blocks", there are several pre-made blocks: "Experimental Design (1)", "Feedback (1)", and "Personality Survey". The "Feedback (1)" block is expanded, showing a form with questions like "Are you already a participant in Cat Tracker?", "How did you find out about this survey?", and "Do you have any other comments?".

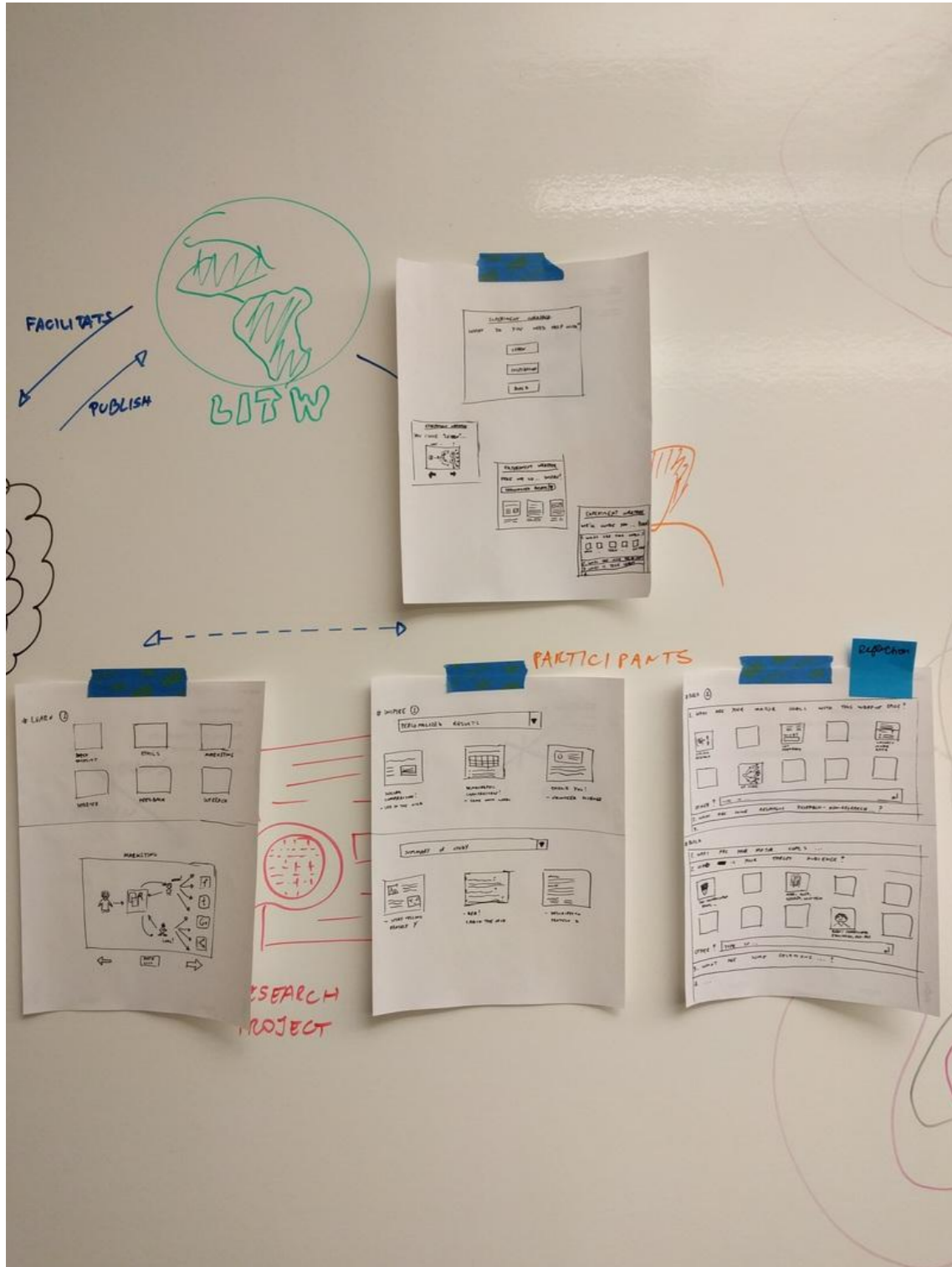
In the center, "Your Page!" is a workspace where blocks are dropped. It contains a rich text editor with a toolbar (Normal, Bold, Italic, Underline, Link, Code) and a text area containing the text: "Thank you for completing this survey! Your answers will help us to understand domestic cats in the United States." A large "NOV" watermark is overlaid on this area.

On the right, there is a "Download" button and a notification that says "You've ♥'d 8 blocks!". Below the editor, there are "Clone" and "..." buttons. At the bottom, there is a "README.md" section titled "LabintheWild Study Templates" with a brief description: "This repository bundles together the LabintheWild template study and instructions to guide new developers to create their own online studies."

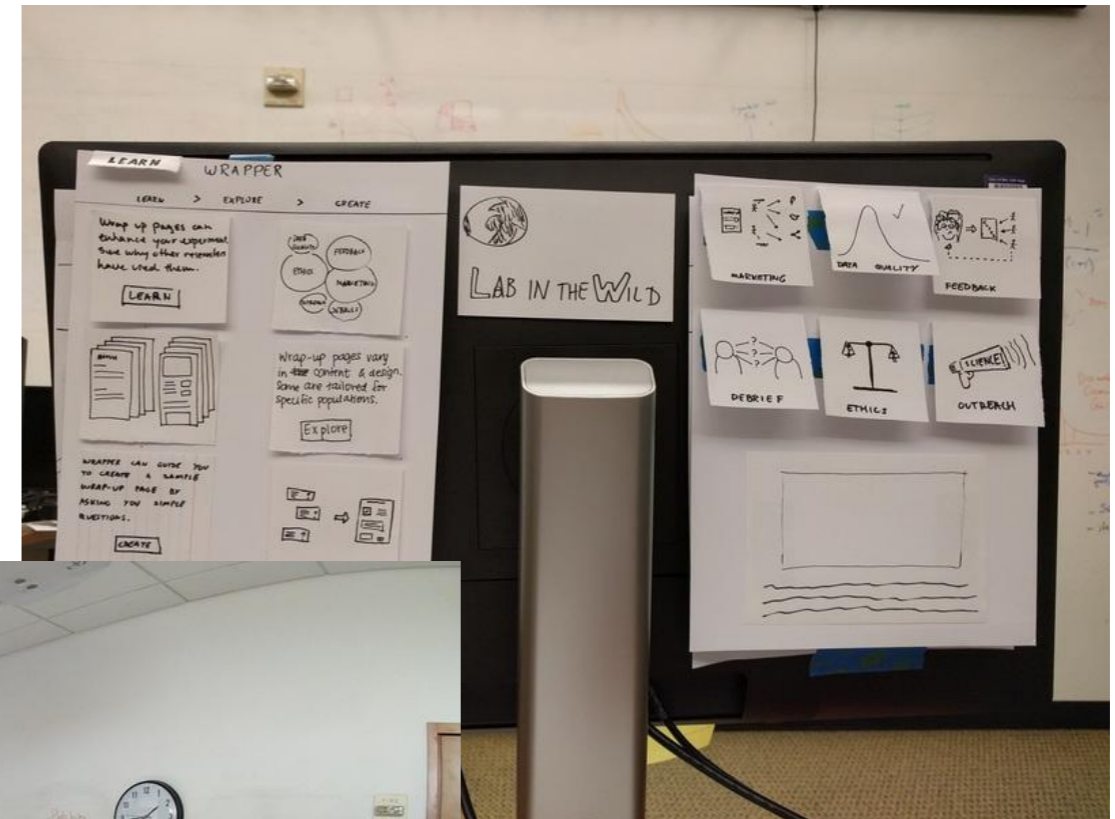
Learn about the problem.



Inventing (many, many) solutions...



Prototyping and testing...



Not easy to get here!

The image displays four overlapping screenshots of the Digestif web application interface, illustrating the process of creating a page:

- Top-left screenshot:** Shows the Digestif homepage with the logo, navigation links (Explore, Create), and a red notification badge stating "You've ♥'d 0 blocks!".
- Middle-left screenshot:** Shows a page titled "Movie Recommendation Study" with a description and "Explore" and "Create" buttons.
- Middle-right screenshot:** Shows a "My Blocks" page with a list of saved blocks: "Experimental Design (1)", "Feedback (1)", and "Personality Survey".
- Bottom-right screenshot:** Shows a page editor titled "Your Page!" with a "Download" button and a text area containing the message: "Thank you for completing this survey! Your answers will help us to understand domestic cats in the United States."

What is this course about?

It is about reading, discussing, examining, and practicing techniques that build this design process.

Activity (10 minutes)

In groups of 2...

Redesign bulky headphones:

- What problems do you want to solve?
- How does your design solve them?

Make sure you are either addressing a **novel problem** (something nobody has tackled before) or you are contributing a **novel solution!**

Sketch out your design on a piece of paper and be prepared to show it off to the class!



What problems did you choose to solve?

What problems did you choose not to solve?

What's your solution to those problems?



What process did you use for this activity?

What was hard and what was easy?

Anything you would do differently if you were to do this again?



“[Design is] a plan for arranging elements in such a way as to best accomplish a particular **purpose.**” Charles Eames



Core design skills

To **synthesize** a solution from all the relevant constraints

To **frame**, or reframe, the problem and objective

To create and **envision** alternatives

To **select** from those alternatives

To visualize and **prototype** the intended solution

Bill Moggridge

Iterative Human-Centered Design

This is a course about process

This is **not** an implementation course!

This is also **not** a course about “good” interfaces or rules that you should follow in design

Rapid **iteration and exploration** is the most important and effective tool for design

Learning Objectives

Understand what human-computer interaction and interaction design are

Develop skills on using design methods

Learn how to create design artifacts: scenarios, storyboards, prototypes

Think critically about design solutions

Learn how to do user testing

Communicate effective design critiques and defense

Course structure

(All details: courses.cs.washington.edu/courses/cse440/18au/)

Much more than **theory**

- But still some lectures and readings

Many in-class **exercises**

- Participation is a critical component of the course

Friday Section is primarily studio time with the TAs

- You will work on your project within section
- Participation is a critical component of the course

This course is designed around **rapid feedback!**

Project Overview

The core of this course is a group project

Propose and do an intense end-to-end design

First step: Getting the Right Design

Second step: Getting the Design Right

Third step: Communicating the Design



Project Overview

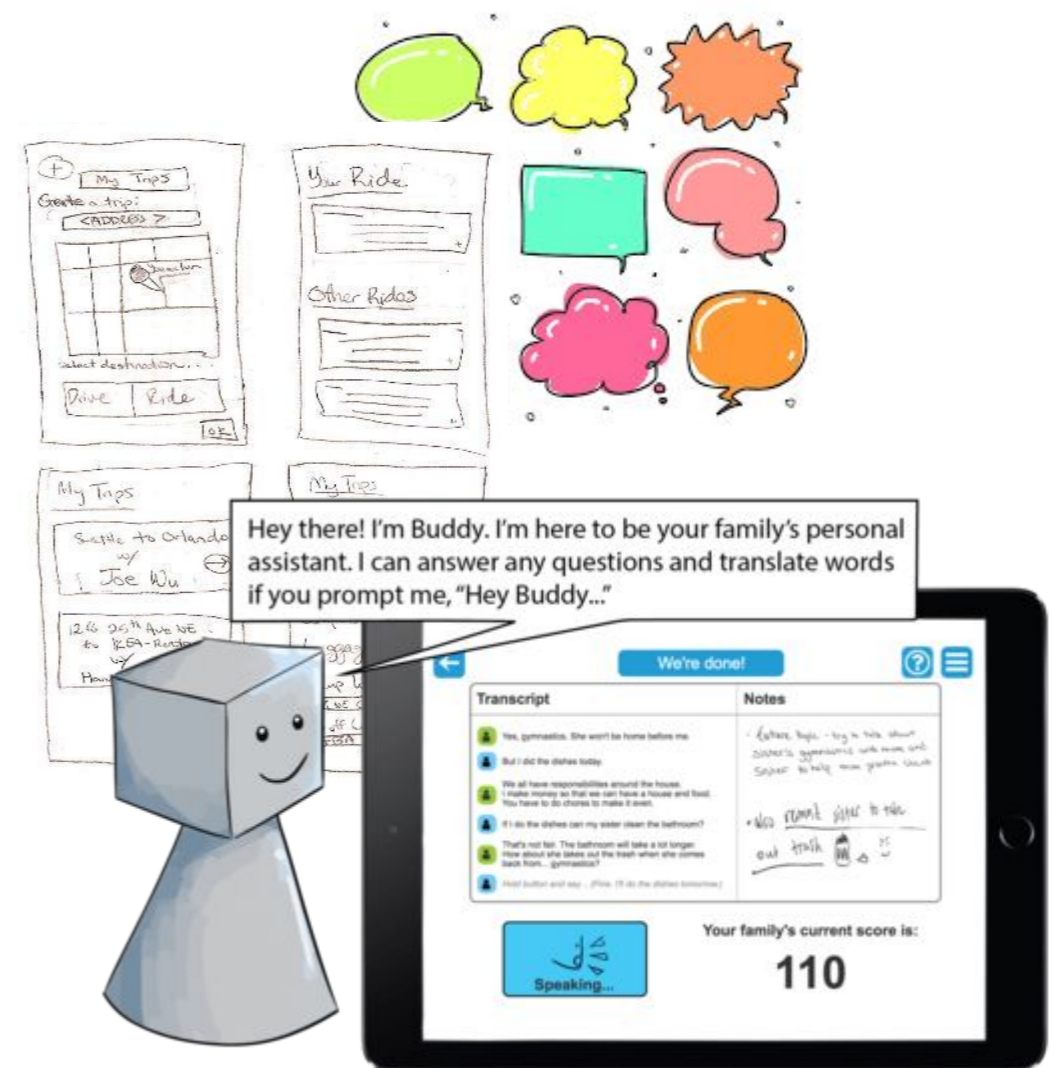
Talk to people, investigate problems

Sketching and Storyboarding

Low-fidelity Prototyping

Digital Mockup

Presentation & Communication



Projects from two previous quarters

<https://.../courses/cse440/17au/projects.html>

<https://.../courses/cse440/18wi/projects.html>

Project Theme: Designing for Diversity



Design for Diversity

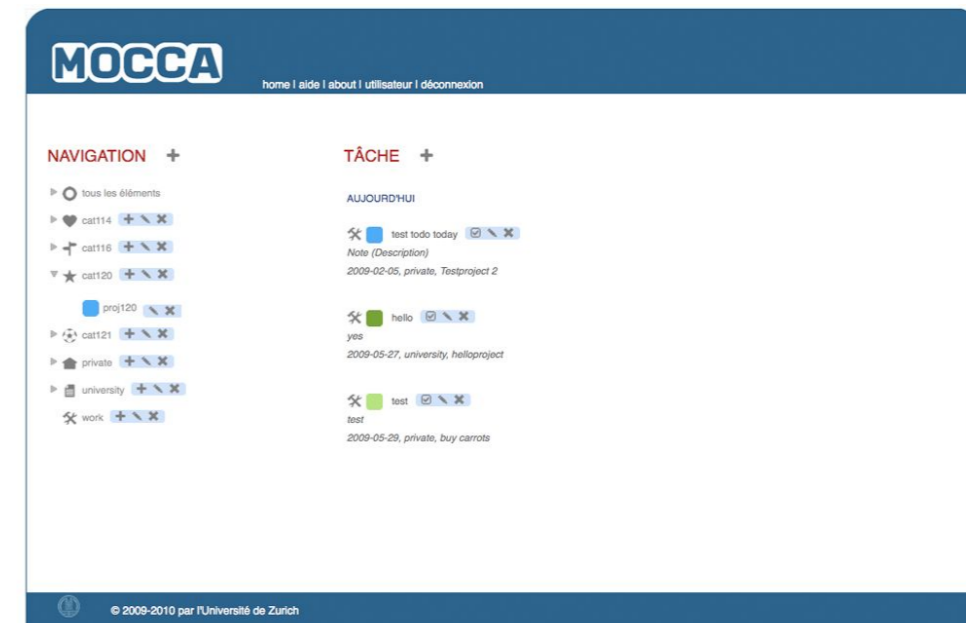
Thailand



Rwanda

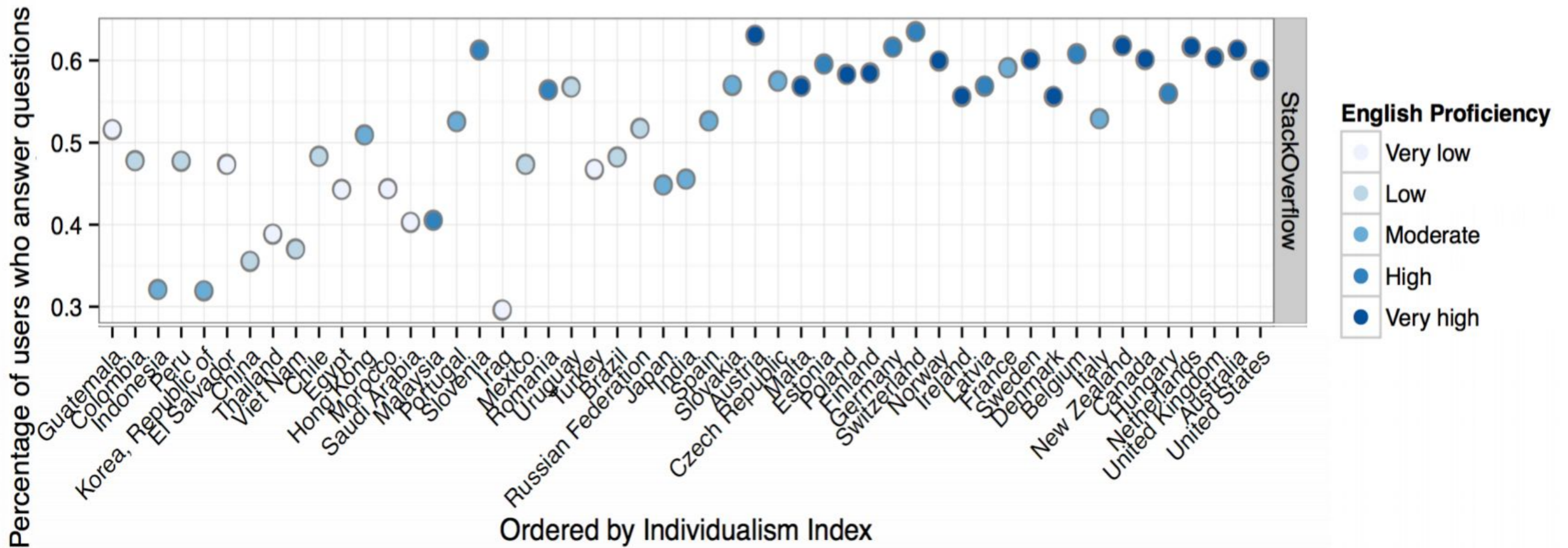


Switzerland












[Reinecke and Bernstein, 2013]

Design for Diversity



Design for Diversity

	Permanent	Temporary	Situational
Touch	 One arm	 Arm injury	 New parent
See	 Blind	 Cataract	 Distracted driver
Hear	 Deaf	 Ear infection	 Bartender

Designing for diversity in this class

Can be anything from **designing technology** for:

- a specific population
- civic engagement
- supporting interactions between diverse groups.

What are **the problems** that people face in their communities?

Think BIG!

Design a system to support one particular kind of activity or relationship that is **important to you** but which is not sufficiently well supported by current tools.

Characteristics of a good project

You are passionate about it

The problem itself is clear: your prototype will fulfill a clear goal

It is novel

It needs to be well scoped

It is not another app! :)

Characteristics of a good team



Grading

Design is subjective, and so is this course.

- We can't really run a unit test and grade your design =)
- Wow us with your work, not with complaining

Entire project process is designed for feedback

- Milestone grades mean you did the milestone
- You must act on feedback (does not mean saying yes!)

A focus on **doing the work** and **searching for feedback** means final grades are more quality of result

Staying in Touch

<https://courses.cs.washington.edu/courses/cse440/18au/>

Calendar: You are responsible to keep track of the calendar

Canvas: To upload assignments etc.

Email Us: cse440-staff [at] cs.washington.edu

News: Canvas posts: make sure you are been notified

Adding and Dropping

This is going to be a challenging course.
But rewarding.

Attempting to Add

Say something to me after class

Considering Dropping

Do it ASAP! Please, communicate it

Be considerate, and do not drop after we assign groups next week
(But don't drop, it will be fun!) ;)

Section switch availability

We may need to move people to balance sections

Expectations

We are all learners here, let's make this a fruitful experience

Be professional

- Respect above all
- Helpful criticism (we'll learn more about this)
- Peer learning & support
- Show up on time, don't plagiarize, and all that!

Gadgets

- In general no, maybe for note taking (not recommended)
- (Gadget use lowers grades of all around you)
- Prefer paper here... It will be your friend in design

Ask me something!