



Yoon's Whiteboard

CSE 451 2010 Autumn

Matthew Lauren

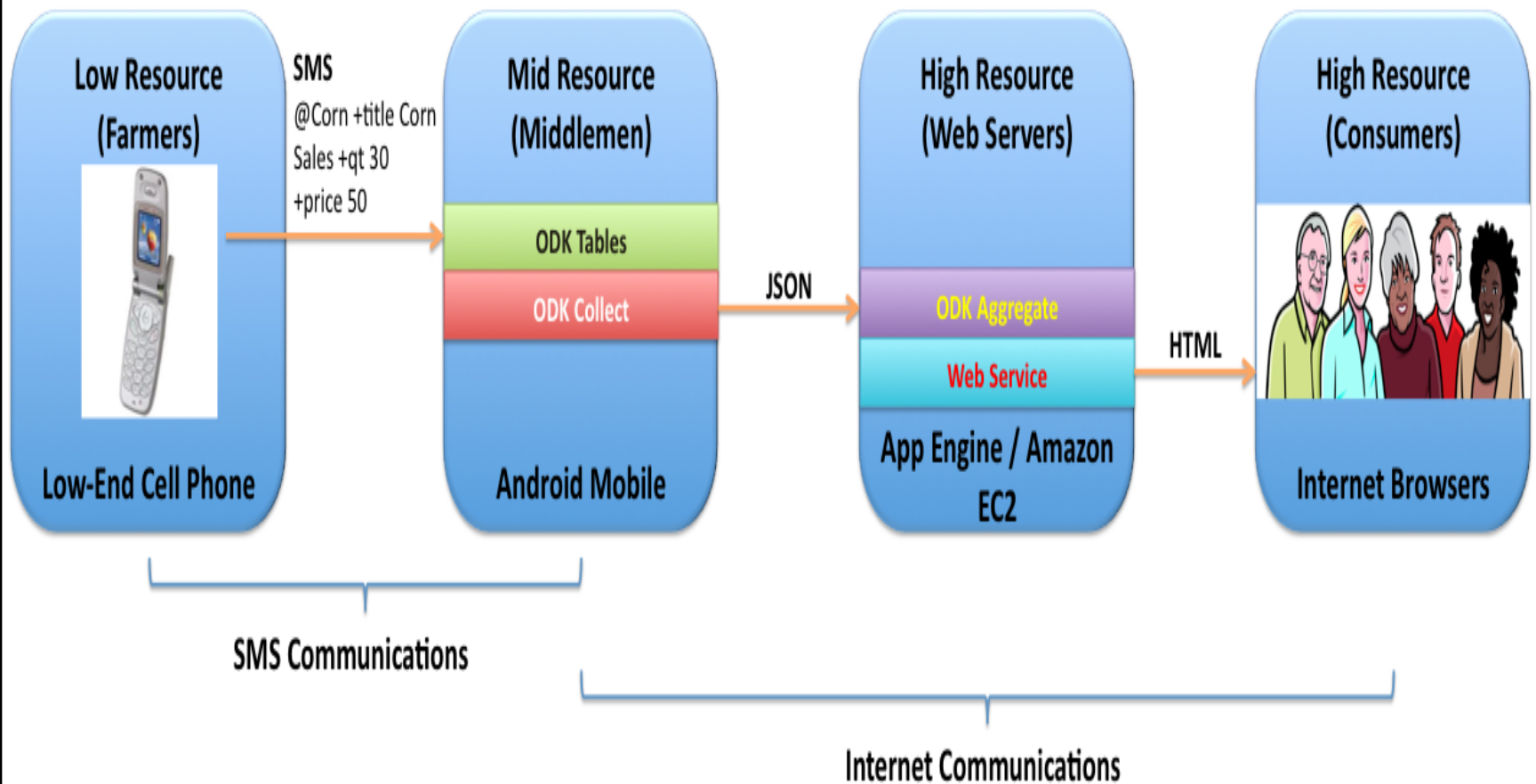
Ting-Yen Wong

Yoon Sung Hong

Hopes And Aspirations

- Create community-centered web service for developing regions
- In this class, connect farmers and potential consumers using mobile infrastructures and web services
- For the future, extend the service to the domain of job market, healthcare and vice versa

System Architecture



Farmer → Middlemen

- Farmer sends his/her product information
@Sales +type Corn +name YoonSung +qty
10 +price 10



Middlemen

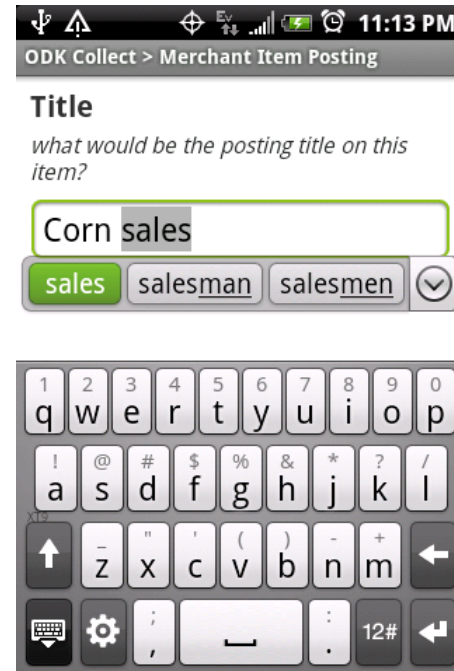
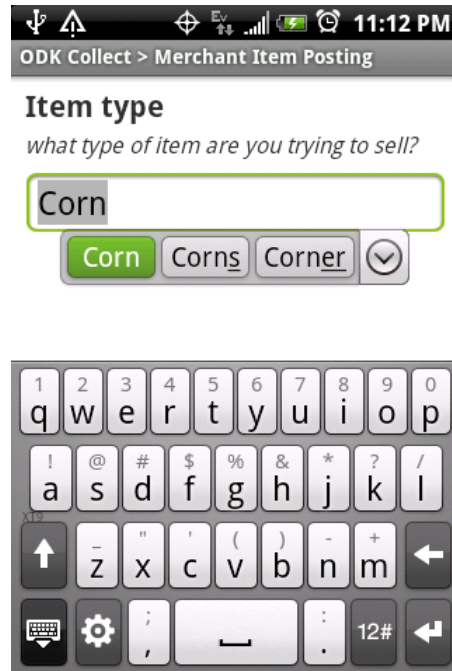
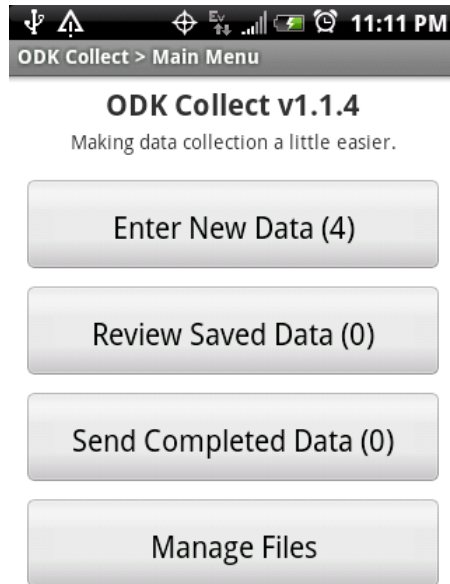
- Receives SMS on **ODK Tables**



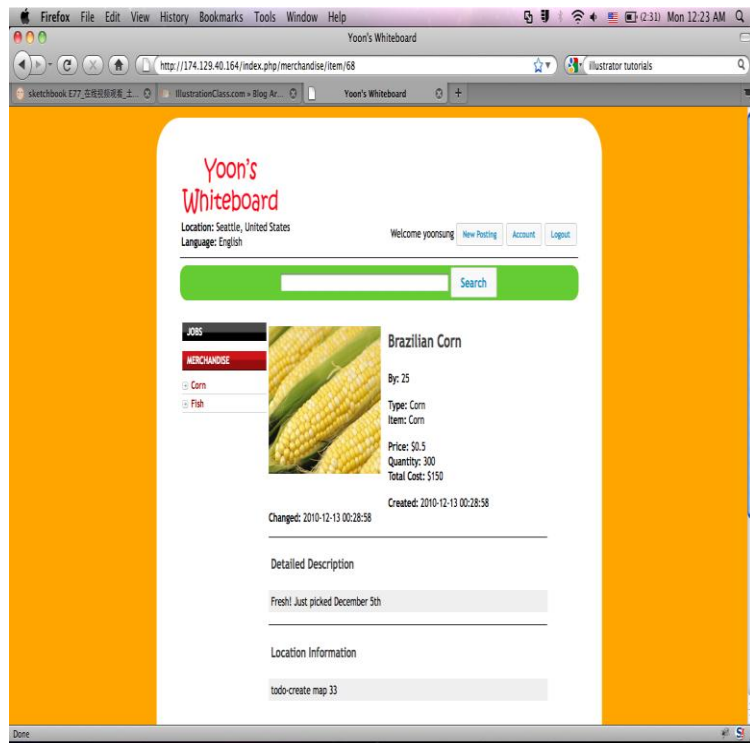
name	type	qty	price	_timestamp	_phoneNumberIn
Matt	Apple	34	22	2010 12/11 16:05:02	2064236793
Ting-Yen	Grape	15	20	2010 12/11 15:00:00	2062615490
YoonSung	Corn	10	10	2010 12/11 17:23:00	2062623428

Middlemen → Web Server

- Sends information to web server using **ODK Collect**



Web Service Demo



- Listing
- Search
- Comment System
- Mobile Page

Surprises

- Browser Compliance
- Search with Location
- Hadoop
- Oddly, Images

Lessons Learned

What Worked

- Architecture helps organization
 - MVC
- Reference Experts
 - Referred to Amazon UI and framework
- Devoted many initial design hours
 - Code architecture
 - Database
- Amazon AWS
- Utilize Tools
 - Time to work on other complexities
 - Location identification

Lessons Learned

What Worked



IPInfoDB

Google code



Lessons Learned

What Did Not Work

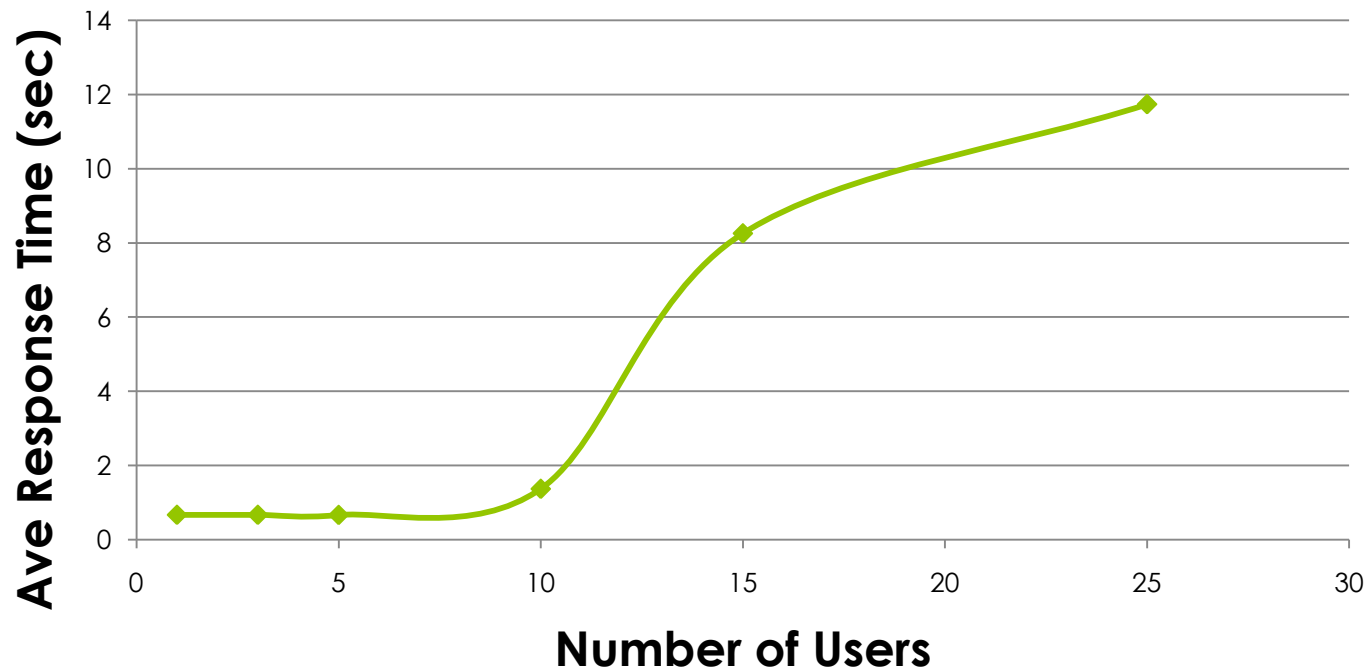
- Test Harness
 - Esp. as project got complex
- Not using Test Machines
 - Over 800 SVN check-ins
- Tools don't always fully work
 - AWS MapReduce
- Late changes

Performance Testing

- Amazon Elastic MapReduce
 - Hadoop
- Up to 19 “instances” allowed
 - 1 cores each at 1 compute unit
 - 1.6GB Memory
 - Moderate I/O Performance
- Instances in Northern Virginia

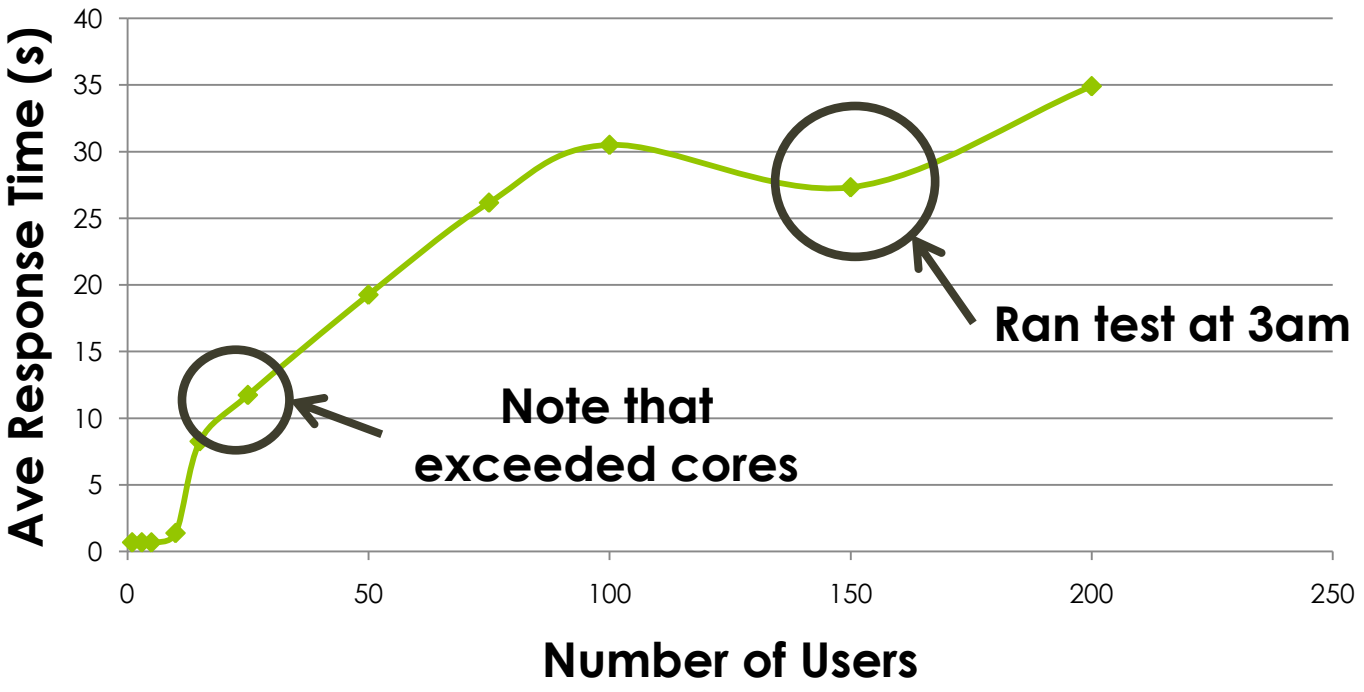
Performance Testing

Ave Resp Time vs. Num of Users



Performance Testing

Ave Resp Time vs. Num of Users

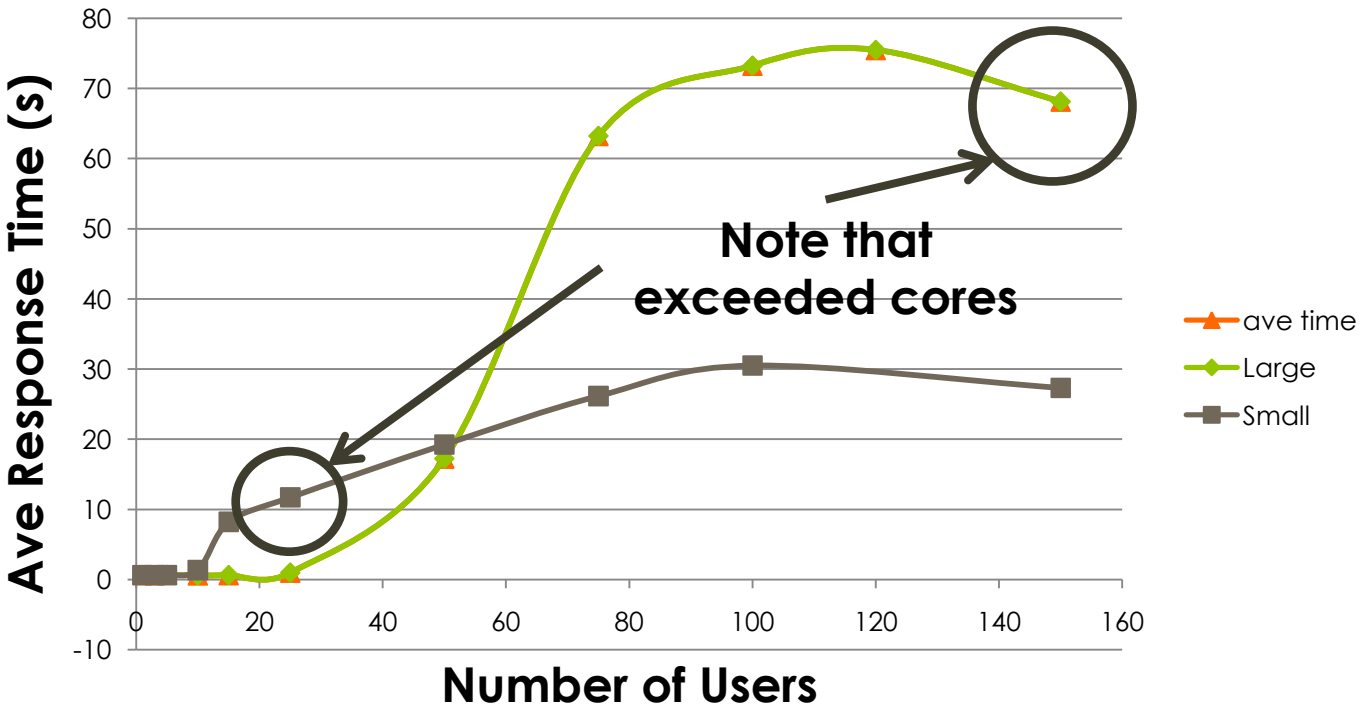


Performance Testing

- Amazon Elastic MapReduce
 - Hadoop
- Up to 15 “instances” capable
 - 8 cores each at 2.5 compute units
 - 7GB Memory
 - High I/O Performance
- Instances in Northern Virginia

Performance Testing

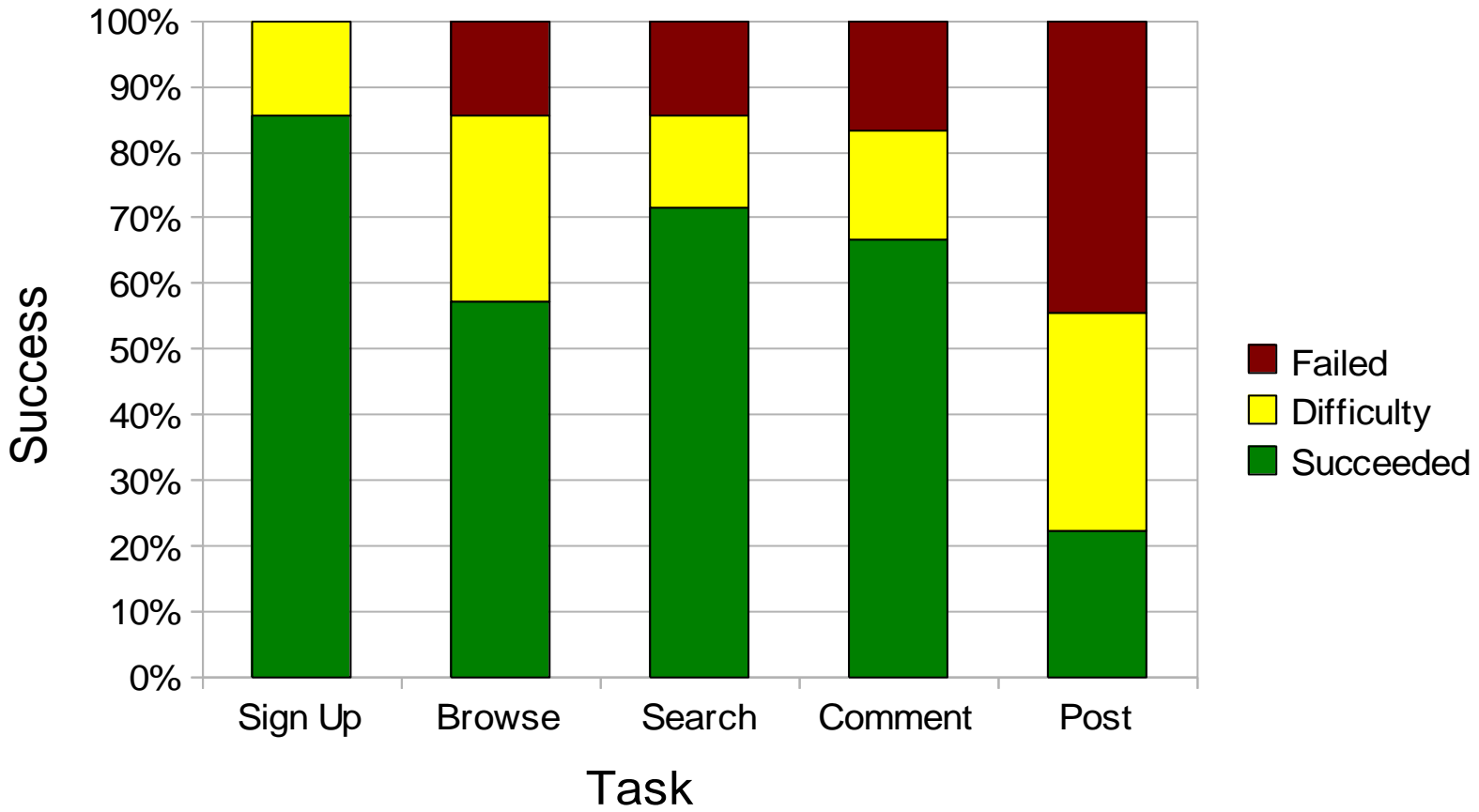
Ave Resp Time vs. Num of Users



User Testing

- **Goal:** Outside points of view
- **Who:** People with varied technical backgrounds
- **What:** Five scenarios covering basic functionality.
- **How:** Give a task, take notes on steps to completion.

Results



Task Example - Comment

- Leave a comment
 - Scroll Down
 - Type in Comment
 - Click Submit
 - View comment at top
- Simple Right?

What Went Wrong

- Ordering of comments of newest at top, to oldest at bottom not intuitive.
- Unable to pick out own comments easily.
- Item page too confusing.
- Did not realize had to be signed in.
- Reply: “Intuitive, but too ugly to use.”

What We Learned / Fixed

- Comments
 - Made it look better, pieces visually catching.
 - Changed color of your own comments.
- Other
 - Reworked posting process
 - Overall look of website

Division of Labor

- Matt
 - UI
 - Customer Interaction
 - User Study
- Yoon
 - Vision and Architecture
 - Mobile
 - Admin System
- Ting-Yen
 - Database
 - Search – natural language + location
 - Performance Testing



Questions?