

CS 321: Introduction to HCI

Methods for Design, Prototyping and Evaluating User Interaction

Lecture 17:
Testing

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Testing

User tests vs. Usability tests

Different ways for gaining insights

- Quick and dirty: informal discussions with users
sometimes done using paper prototypes/Wizard-of-Oz testing
- Usability tests in lab
e.g., Human Task Performance Measures
- Remote usability tests
e.g., using recording software
- A/B testing

Remote Usability Testing

Conferencing-based testing

Use tools like video conferencing, instant messaging, and screencasting to test with a remote participant

Unmoderated remote testing

Automatic logging and some analysis of usage

Controlled online A/B experiments

Carefully measure results of showing different versions to different sets of live customers

Unmoderated Remote Usability Test

Move usability testing online

participants access the “lab” via web

answer questions & complete tasks in “survey”

records actions or screens for playback

can test many people completing many tasks

Analyze data individually or in aggregate

playback individual sessions

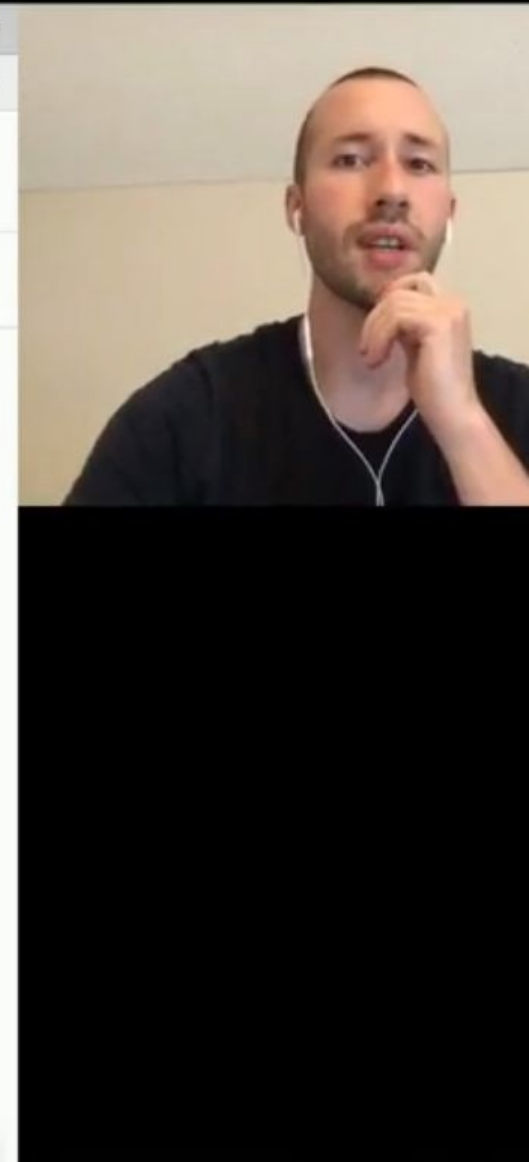
find general problem areas

if needed, look more closely with traditional methods

Unmoderated Remote Usability Test

Userlytics | Website User Testing"

The screenshot shows a browser window with the Airbnb website. The search bar contains "San Francisco, CA". Below the search bar are "Dates" and "Guests" buttons. The page is titled "Explore San Francisco" and features three categories: "Homes", "Experiences", and "Restaurants". Below this is a section for "49 Airbnb Plus homes in San Francisco" with a sub-header "A new selection of homes verified for quality & comfort". Four accommodation cards are visible, each with a "PLUS VERIFIED" badge and a "1 BED" or "2 BEDS" label. A task overlay window is positioned in the upper right, containing the following text: "Using the site, please find accommodations that cost between \$50-\$250 per night near or in San Francisco. Next, within that range, try and find the cheapest lodging out of all of those options. Please describe the process out loud as you do it. When you feel you've completed this task, please click Next." A blue "NEXT" button is located at the bottom right of the task overlay.



Unmoderated Remote Usability Test



Controlled A/B Experiments

Many names for concept

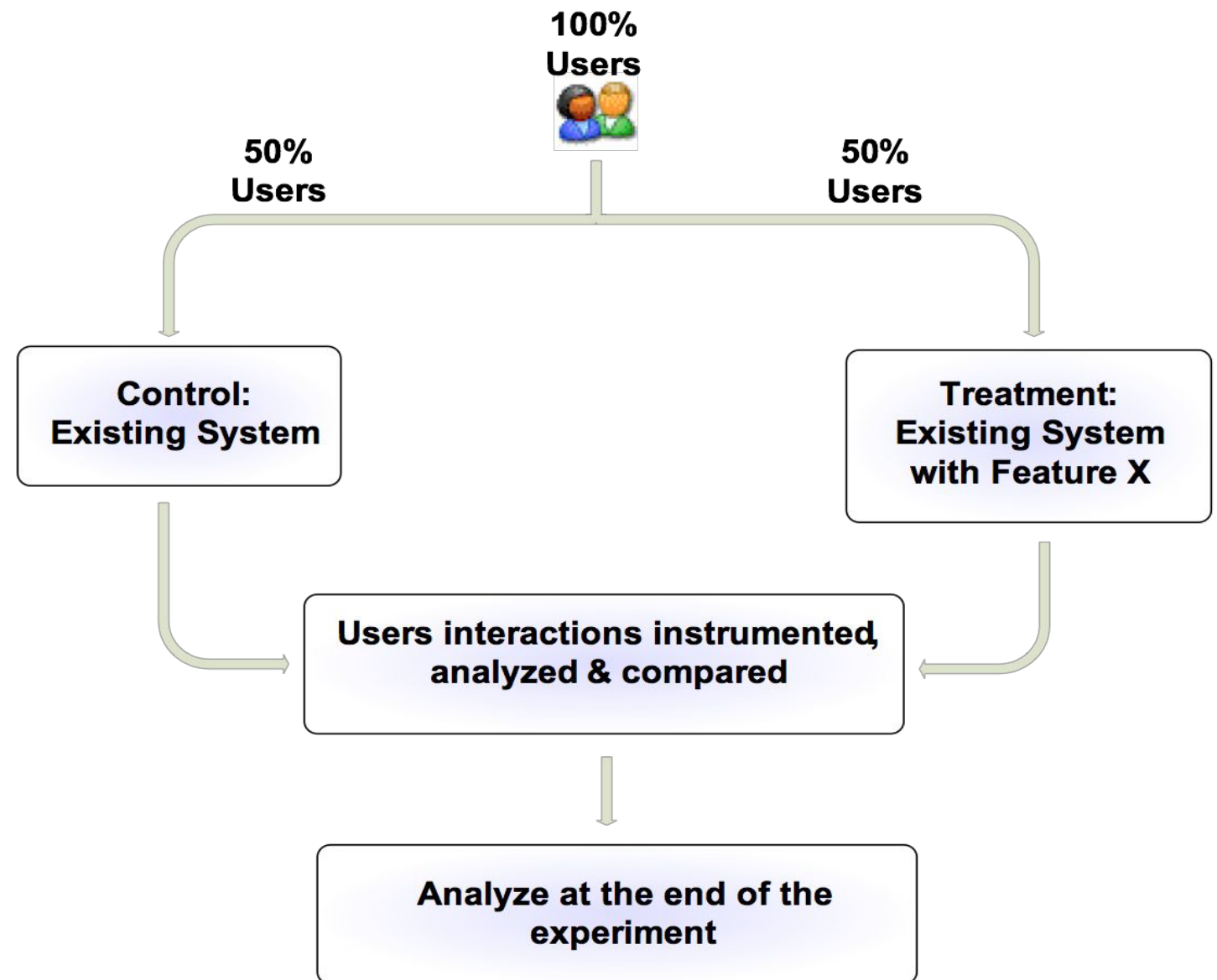
A/B tests or
Control/Treatment

Randomized
Experimental Design

Controlled experiments

Split testing

Parallel flights



Controlled A/B Experiments

Example: Amazon Shopping Cart Recommendations

Add an item to your shopping cart

Most sites show the cart

At Amazon, Greg Linden had idea to show recommendations based on cart items

Controlled A/B Experiments

Evaluation

Pro: cross-sell more items

Con: distract people from checking out

Highest Paid Person's Opinion:

Stop the project

Simple experiment run:

Wildly successful

Checkout Page

Conversion rate is percentage of visits that include purchase

Doctor FootCare™ Shopping Cart

Home | Products | Learn More | Tips | Testimonials | About Us | Contact Us | 1-866-211-9733

Shop With Confidence

- ✓ Satisfaction Guaranteed
- ✓ 30-day, hassle-free Returns
- ✓ 100% Safe, Secured shopping
- ✓ We assure your Privacy

100% Secured Checkout

Continue Shopping > Proceed To Checkout

Item Name	Item Number	Quantity	Remove	Unit Price	Subtotal
Trial Kit	FFCS	1		\$0.00	\$0.00

Update Total: \$0.00

Select Shipping Method Standard (\$5.95)

100% Secured Checkout

Continue Shopping > Proceed To Checkout

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- ✓ We assure your Privacy

100% Secured Checkout

Continue Shopping > Proceed To Checkout

Item Name	Item Number	Quantity	Remove	Unit Price	Subtotal
Trial Kit	FFCS	1		\$0.00	\$0.00

Discount	\$0.00
Total	\$0.00

Enter Coupon Code

Select Shipping Method Standard (\$5.95)

100% Secured Checkout

Recalculate Continue Shopping > Proceed To Checkout

Home | Products | Learn More | Tips | Testimonials | FAQ | About Us | Contact Us | Shopping Cart

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Which version has a higher conversion rate?

Checkout Page

Conversion rate is percentage of visits that include purchase

The image shows two versions of a checkout page for Doctor FootCare. Version A (left) and Version B (right) are compared. Red circles highlight specific elements in both versions.

Version A (Left):

- Shopping Cart icon in the top right.
- Navigation menu: Home | Products | Learn More | Tips | Testimonials | FAQ | About Us | Contact Us | 1-866-211-9733.
- Shop With Confidence section with four checkmarks: Satisfaction Guaranteed, 30-day, hassle-free Returns, 100% Safe, Secured shopping, and We assure your Privacy.
- 100% Secured Checkout badge.
- Buttons: Continue Shopping, Proceed To Checkout.
- Table with columns: Item Name, Item Number, Quantity, Remove, Unit Price, Subtotal.
- Item: Trial Kit, FFCS, Quantity: 1, Unit Price: \$0.00, Subtotal: \$0.00.
- Buttons: Update, Total: \$0.00.
- Select Shipping Method: Standard (\$5.95).
- Buttons: Continue Shopping, Proceed To Checkout.
- Footer: Home | Products | Learn More | Tips | Testimonials | FAQ | About Us | Contact Us | Shopping Cart.
- Copyright © 2003 Doctor Foot Care Inc. All Rights Reserved. Privacy Policy.

Version B (Right):

- Shopping Cart icon in the top right, circled in red.
- Navigation menu: Home | Products | Learn More | Tips | Testimonials | FAQ | About Us | Contact Us | 1-866-211-9733.
- Shop With Confidence section with four checkmarks: Satisfaction Guaranteed, 30-day, hassle-free Returns, 100% Safe, Secured shopping, and We assure your Privacy.
- 100% Secured Checkout badge.
- Buttons: Proceed To Checkout (circled in red).
- Table with columns: Item Name, Item Number, Quantity, Remove, Unit Price, Subtotal.
- Item: Trial Kit, FFCS, Quantity: 1, Unit Price: \$0.00, Subtotal: \$0.00.
- Buttons: Discount \$0.00, Total \$0.00 (circled in red).
- Form: Enter Coupon Code (circled in red).
- Select Shipping Method: Standard (\$5.95).
- Buttons: Recalculate, Continue Shopping, Proceed To Checkout (circled in red).
- Footer: Home | Products | Learn More | Tips | Testimonials | FAQ | About Us | Contact Us | Shopping Cart.
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Which version has a higher conversion rate?

Checkout Page

Conversion rate is percentage of visits that include purchase

The image displays two versions of a checkout page for Doctor FootCare. Version A (left) shows a shopping cart with one item, 'Trial Kit' (FFCS), priced at \$0.00. The total is \$0.00. Version B (right) shows the same cart but with a 'Discount' of \$0.00 applied, resulting in a total of \$0.00. Red circles highlight the 'Continue Shopping' and 'Proceed To Checkout' buttons in both versions, the 'Update' button in version A, the 'Recalculate' button in version B, and the 'Home Cart' link in the footer of version A.

Item Name	Item Number	Quantity	Remove	Unit Price	Subtotal
Trial Kit	FFCS	1		\$0.00	\$0.00

Item Name	Item Number	Quantity	Remove	Unit Price	Subtotal
Trial Kit	FFCS	1		\$0.00	\$0.00
Discount				\$0.00	\$0.00

Which version has a higher conversion rate?

Coupon Code decreases by factor of 10

Office Online Feedback

A

Please let us know if this content was helpful.

Rate this content:
☆☆☆☆☆

Tell us why you rated the content this way (optional):

Remaining characters: 650

B

How helpful was this information?
Click a star.

Not helpful ☆☆☆☆☆ Very helpful

Click to rate: 3 out of 5 stars

How helpful was this information?
Click a star.

Not helpful ★★★★★ Very helpful

Why did you rate the information this way?

Remaining characters: 650

Which one has a higher response rate? By how much?

Office Online Feedback

A

Please let us know if this content was helpful.

Rate this content:
☆☆☆☆☆

Tell us why you rated the content this way (optional):

Remaining characters: 650

B

How helpful was this information?
Click a star.

Not helpful ☆☆☆☆☆ Very helpful

Click to rate: 3 out of 5 stars

How helpful was this information?
Click a star.

Not helpful ☆☆☆☆☆ Very helpful

Why did you rate the information this way?

Remaining characters: 650

Which one has a higher response rate? By how much?
B gets more than double...

Another Feedback Variant

Call this variant C. Like B, also two stage.

Which one has a higher response rate, B or C?

Was this information helpful?

Yes

No

I don't know

How was this information helpful?

Back

Submit

What are you trying to do?

Back

Submit

How can we make this information more helpful?

Back

Submit

Another Feedback Variant

Call this variant C. Like B, also two stage.

Which one has a higher response rate, B or C?

Was this information helpful?

How was this information helpful?

What are you trying to do?

How can we make this information more helpful?

C outperforms B by a factor of 3.5

Obama Campaign

CONTROL

“SEQUENTIAL”

↑ +5%

<http://kylerush.net>

<http://o04151985.kylerush.net/blog/optimization-at-the-obama-campaign-ab-testing/>

Obama Campaign

CONTROL

"SEQUENTIAL"

↑ +5%

<http://kylerush.net>

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Data-Driven Methods Not Just Online



[PREVIOUS](#) [NEXT](#)

[Back to story](#)

1999

Made from cardboard, the first Netflix mailer weighs more than an ounce. But with only 100,000 customers, reducing material and shipping costs is not yet a priority for the company.

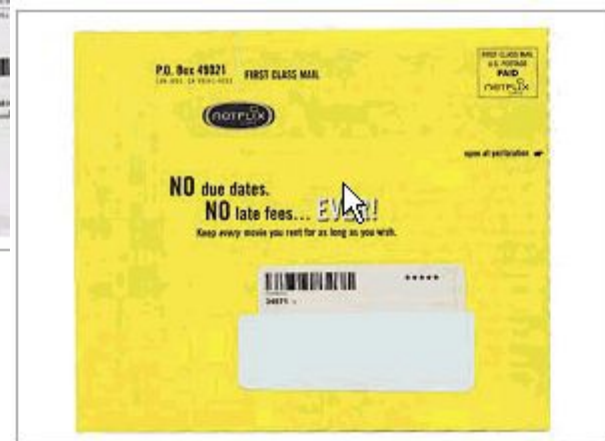


[PREVIOUS](#) [NEXT](#)

[Back to story](#)

2000

Thick paper replaces cardboard. DVDs are inserted and removed from the top rather than the side.



[PREVIOUS](#) [NEXT](#)

[Back to story](#)

2000

Full-color printing is introduced. Top-loading is abandoned in favor of side-loading, which is judged more convenient.

[NEXT >>](#)

NUCCI STUDIO

Data-Driven Methods Not Just Online



[PREVIOUS](#) [NEXT](#)

[Back to story](#)

2000

Customers are asked to peel off a sticker to reveal Netflix's return address. The design is eventually deemed too complex.



[PREVIOUS](#) [NEXT](#)

[Back to story](#)

2000

Made from plastic instead of paper, this mailer is cheaper, but it sometimes inflates when transported on airplanes.



[PREVIOUS](#) [NEXT](#)

[Back to story](#)

2001

An airhole (the black dot on the left side of the mailer) is added to prevent the package from inflating.



[PREVIOUS](#) [NEXT](#)

[Back to story](#)

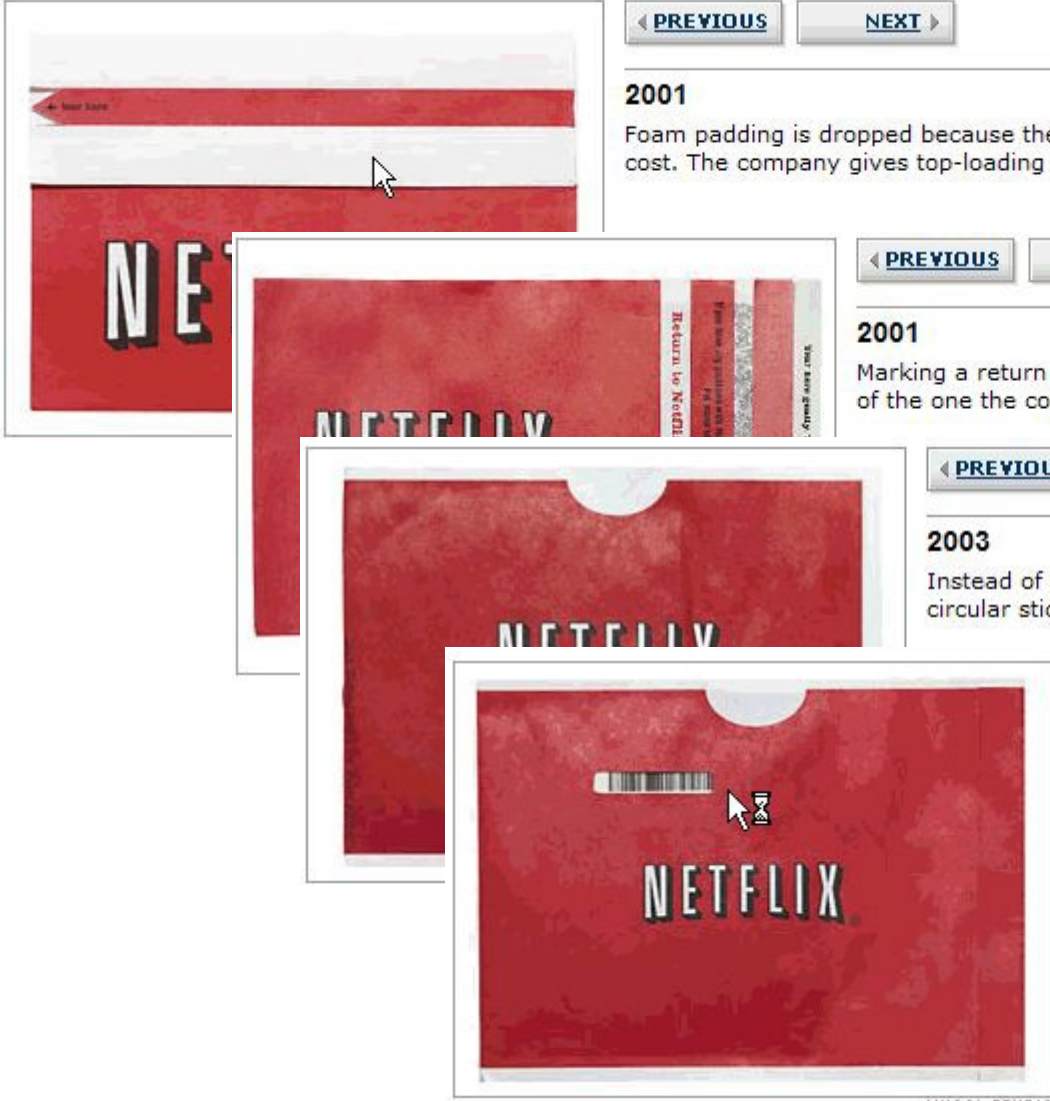
2001

Netflix returns to paper because it's easier to recycle. Foam padding is added to reduce breakage.

[NEXT](#)

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Data-Driven Methods Not Just Online



2001
Foam padding is dropped because the benefits don't justify the cost. The company gives top-loading another try.

2001
Marking a return to side-loading, this mailer is a direct ancestor of the one the company uses today.

2003
Instead of sealing the entire top and bottom, Netflix introduces a circular sticker, affixed only on the top.

2004
A window shows the disc bar code. Speculation is that this enables storing discs in mailers prior to shipping.

Navigation: PREVIOUS, NEXT, Back to story, NEXT>>

NUCCI STUDIO

Limitations

Drives hill-climbing, but not overall design

A design may be better, but is it good?

Impossible for new designs to compete

Can be difficult to scale to many features

Ideation and Evaluation

Case Video:
Phone Button Lay-Out

<http://www.youtube.com/watch?v=kCSzjExvbTQ>