

A comparison of remote asynchronous usability testing and in-house lab testing of a Census Bureau website

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Question:

Does remote asynchronous usability testing provide the same results as in-house lab testing for a data dissemination website?

Why does this question matter?

- Recruit a variety of users to get different experiences
- Own devices
- Own time

U.S. Census Bureau data dissemination website: American FactFinder

Search - Use the options on the left (topics, geographies, ...) to narrow your search results

Your Selections

Search using...
People:Poverty:
Poverty
State
Maryland

clear all selections and start a new search

Search using the options below:

- Topics (age, income, year, dataset, ...)
- Geographies (states, counties, places, ...)
- Race and Ethnic Groups (race, ancestry, tribe)
- Industry Codes (NAICS industry, ...)
- EEO Occupation Codes (executives, analysts, ...)

Recommendations (4) SHOW

Search Results: 1-25 of 2,991 tables and other products match 'Your Selections' per page: 25

Refine your search results: topic or table name state, county or place (optional) GO ?

topics race/ancestry industries occupations

Selected: View Download Compare Clear All ?

ID	Table, File or Document Title	Dataset	About
<input type="checkbox"/> DP03	SELECTED ECONOMIC CHARACTERISTICS	2012 ACS 1-year estimates	?
<input type="checkbox"/> DP03	SELECTED ECONOMIC CHARACTERISTICS	2012 ACS 3-year estimates	?
<input type="checkbox"/> DP03	SELECTED ECONOMIC CHARACTERISTICS	2012 ACS 5-year estimates	?
<input type="checkbox"/> CP03	SELECTED ECONOMIC CHARACTERISTICS	2012 ACS 1-year estimates	?
<input type="checkbox"/> CP03	SELECTED ECONOMIC CHARACTERISTICS	2012 ACS 3-year estimates	?
<input type="checkbox"/> NP01	Population and Housing Narrative Profile: 2012	2012 ACS 1-year estimates	?
<input type="checkbox"/> NP01	Population and Housing Narrative Profile: 2010-2012	2012 ACS 3-year estimates	?
<input type="checkbox"/> S0201	SELECTED POPULATION PROFILE IN THE UNITED STATES	2012 ACS 1-year estimates	?
<input type="checkbox"/> S0201	SELECTED POPULATION PROFILE IN THE UNITED STATES	2012 ACS 3-year estimates	?
<input type="checkbox"/> S1701	POVERTY STATUS IN THE PAST 12 MONTHS	2012 ACS 1-year estimates	?

12:09 PM 3/13/2014

In-house lab testing at the Census Bureau



Loop11: Remote testing product

The screenshot shows a web browser window with the URL `http://www.loop11.com/usability-test/17699/PREVIEW_DO_NOT_USE_THIS_LINK_FOR_<`. The browser's address bar and menu bar are visible. A red box highlights a green task bar that contains the following elements:

- A progress indicator showing **0% Complete**.
- The question: **What is the number of men in poverty in Maryland? (Please write the answer down on a piece of paper--you will be asked for it next)**
- An **Abandon Task** button with a red 'X' icon.
- A **Task Complete** button with a right-pointing arrow icon.

Below the task bar, the American FactFinder website is visible. The header includes the U.S. Department of Commerce logo, the United States Census Bureau logo, and the American FactFinder logo. The navigation menu includes **MAIN**, **COMMUNITY FACTS**, **GUIDED SEARCH**, **ADVANCED SEARCH**, and **DOWNLOAD OPTIONS**. The **COMMUNITY FACTS** section is expanded, showing a search input field and a **GO** button. The page also features a large image of a smiling young woman in a classroom setting.

Methods: Participants

- In-house lab
 - 10 novice and 4 experienced American FactFinder users
 - Recruited from metro DC area
 - Database
 - Word of mouth, flyers
 - Newspaper, craigslist ads
 - Participants were given \$40 for their travel expenses / time
- Remote
 - 120 American FactFinder users
 - Census Information Centers and State Data Centers (experienced users)
 - 2 email notifications were sent
 - No monetary compensation

Methods: Timing

- In-house lab
 - 14 participants: December 10, 2012 - January 14, 2013
 - Analyzing and writing report: December 19, 2012 through February 2013
- Remote
 - 24 participants: September 9 - 27, 2013
 - Webinar to client: November 13, 2013

Methods: Tasks and Measures

- In-house lab
 - 8 tasks
 - Think-aloud
 - Accuracy
 - Time-on-task
 - Eye-tracking data collected
 - Satisfaction questions for each task
 - Debriefing satisfaction questions at end
- Remote
 - 4 tasks (identical to 4 used in in-house)
 - Accuracy
 - Time-on-task
 - Satisfaction questions for each task
 - Debriefing satisfaction questions at end

Accuracy: Follow-up question

Loop11 - Windows Internet Explorer

http://www.loop11.com/usability-test/17699/PREVIEW_DO_NOT_USE_THIS_LINK_FOR_COLLECTION/question/65143/

File Edit View Favorites Tools Help

Convert Select

Favorites Suggested Sites American FactFinder

Loop11

24% Complete

What was the population of Monroe County, Florida in 2010?

- 73,090
- 73,873
- 74,175
- 74,809
- I don't know because I abandoned the task
- Other, please specify

NEXT →

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Task 1: What is the number of men in poverty in Maryland?

Method	Accuracy	Notes
Remote: By post-task question	69% (18/26)	2011 answers: 1 year=247,081 (12) 5 year=216,558 (4) 2012 answers: 3 year=252,726 (2 write-ins)
In-house: Test administrator marked correct or incorrect	40% (6/14)	Included experts and novice users

Task 2: What is the population of Monroe County Florida in 2010?

Method	Accuracy	Notes
Remote: By post-task question	96% (23/24)	Decennial Estimate (22) ACS Estimate (1)
In-house: Test administrator marked correct or incorrect	100% (14/14)	Answer from Community Facts, novice and expert users

Task 3: On average, how old are the people in Monroe County, Florida?

Method	Accuracy	Notes
Remote: By post-task question	88% (20/24)	2010 demographic profile from Census (18) 2012 Pop estimates (2) 2012 ACS (1) 3 people abandoned task
In-house: Test administrator marked correct or incorrect	86% (7/8)	Most from Community Facts number

Task 4: When will the population estimates in Montgomery County be released?

Method	Accuracy	Notes
Remote: By post-task question	50% (12/24)	3 said July 1 (we counted as a failure, was a misreading of table)
In-house: Test administrator marked correct or incorrect	50% (7/14)	

Satisfaction scores of AFF Ease of use*

	Task 1	Task 2	Task 3	Task 4
Remote	5.5 (26)	6.4	6.2	5.3
In-house	4.2 (4)	4 (4)	5.9 (10 novice)	5.3 (4)

Scale: 7-Very easy, 1-Very difficult

* There are some differences between the in-house and remote ease of use question

Satisfaction scores of AFF Frustrating to use*

	Task 1	Task 2	Task 3	Task 4
Remote	3.1 (26 participants)	1.8 (24)	2.4 (24)	3.4 (24)
In-house	3.5 (4)	4 (4)	1.3 (10 novice participants)	3.3 (4)

Scale: 7-Extremely frustrating, 1-Not frustrating at all

* There are some differences between the in-house and remote frustrating to use question

Time-on-Task - Efficiency

	Task 1	Task 2	Task 3	Task 4
Remote*	8 min. (27 participants)	2 min. 40 sec. (24)	3 min. 30 sec. (24)	3 min. 30 sec. (24)
In-house	6 min. 46 sec. (14)	2 min. 32 sec. (14)	1 min. 54 sec. (10)	2 min. 33 sec. (14)

* Includes success, failures, abandonments

Staff time

	OMB letter	Set up test (a)	Collect data	Analyze
Remote	2 hours	5 hours	0	4 hours
In-house	2 hours	16 hours	2 hours per participant	30 hours

(a) For In-house: includes creating protocol, recruiting participants, photocopying materials & dry run.

For remote: includes entering tasks, success URLs and satisfaction questions into application.

Collected in-house: Eye-tracking

The screenshot shows the American FactFinder interface with several eye-tracking heatmaps. A large red and yellow heatmap is centered on the search results table, particularly over the first few rows. Another heatmap is on the 'Your Selections' sidebar, and a third is on the navigation bar at the top.

Media: file:///C:/AFFScreens/3Q2012/wizard6.html
Time: 00:00:00.000 - 00:00:30.000
Participant filter: All

AMERICAN FactFinder
Feedback | FAQs | Glossary | Help

Max
MAIN | QUICK START | DATA FINDER | DOWNLOAD CENTER | USING FACTFINDER

Step-by-step access to Census information

1 Start | 2 Topics | 3 | 4 Geographies | 5 Race and Ethnic Groups | 6 Results

Select a table, file or document from these top search results:

Table Name	Dataset	ID
POPULATION BY STATE	2010 ACS 5-year estimates	DP02
POPULATION BY COUNTY	2010 ACS 5-year estimates	DP03
POPULATION BY COUNTY AND SEX	2010 ACS 5-year estimates	DP04
POPULATION BY COUNTY AND RACE	2010 ACS 5-year estimates	DP05
POPULATION BY COUNTY AND ETHNICITY	2010 ACS 5-year estimates	DP06
POPULATION BY COUNTY AND AGE	2010 ACS 5-year estimates	DP07
POPULATION BY COUNTY AND EDUCATIONAL ATTACHMENT	2010 ACS 5-year estimates	B06009
POPULATION BY COUNTY AND MARITAL STATUS	2010 ACS 5-year estimates	B07009
WOMEN 15 TO 50 YEARS WHO HAD A BIRTH IN THE PAST 12 MONTHS BY MARITAL STATUS AND EDUCATIONAL ATTACHMENT	2010 ACS 5-year estimates	B13014

Your Selections

Search using...

State

County

City, New York

Tables matching Your Selections: 24

See the [Data Finder](#) to view all search results matching the contents of 'Your Selections'.

PREVIOUS | | SHOW RESULTS NOW | CANCEL

Privacy Policy | 2010 Census | Data Tools | Information Quality | Product Catalog | Contact Us | Home

Source: U.S. Census Bureau | American FactFinder

Collected in remote: Pages visited

	Task 1	Task 2	Task 3	Task 4
Average # of pages visited*	9.1	3.7	5	4.4
Min/Max pages	(1/20)	(3/6)	(2/24)	(1/14)

* Includes success, failures, abandonments

Using remote usability testing

	In-House	Remote
High level problems were identified	✓	✓
Accuracy	✓	✓
Time-on-task	✓	✓
Satisfaction	✓	✓
Detailed problems were identified	✓	

When to use remote testing?

- In-house should come first
- Quick turn around
- Need performance measures to compare against
- Design comparisons
- Iterative testing

Questions?

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