Iterative Usability Testing in Preparation for the 2020 Census

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May 17, 2018

Denver, Colorado

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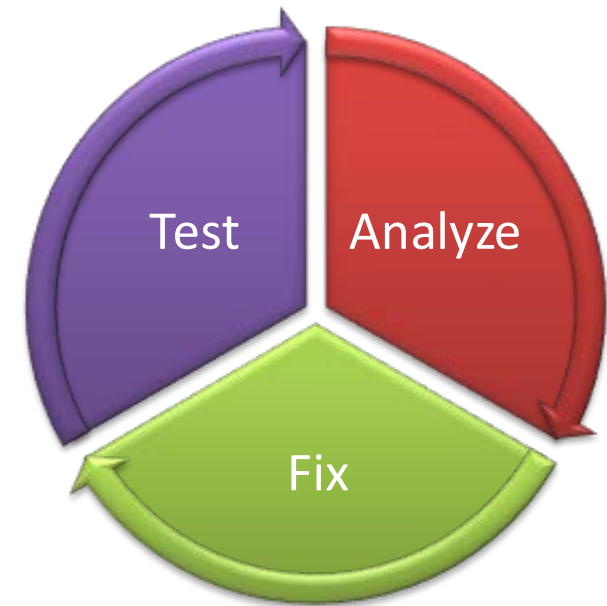
Usability Testing

- Usability testing shows us how users perform tasks

  - Measures effectiveness, efficiency and user satisfaction while accomplishing tasks (ISO Standard 9241-11: 1998)

  - Task for usability testing an online survey is to complete the survey

  - Goal of researcher is to watch what user is doing and see what parts may be confusing or difficult

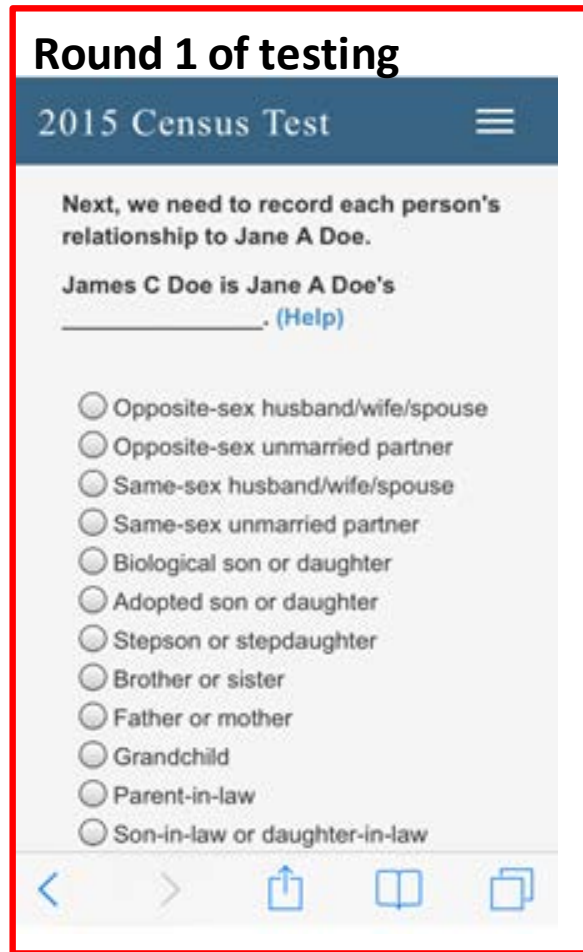Image source: UX Mastery, uxmastery.com

Iterative Usability Testing

- A best practice (Nielsen, 1993)
  - Multiple rounds of testing on same online survey added to schedule
  - Issues found in first round of testing can be fixed for next round and re-tested in subsequent rounds
  - Recommended changes can be validated or tweaked based on user feedback

- Can occur until questionnaire is deployed
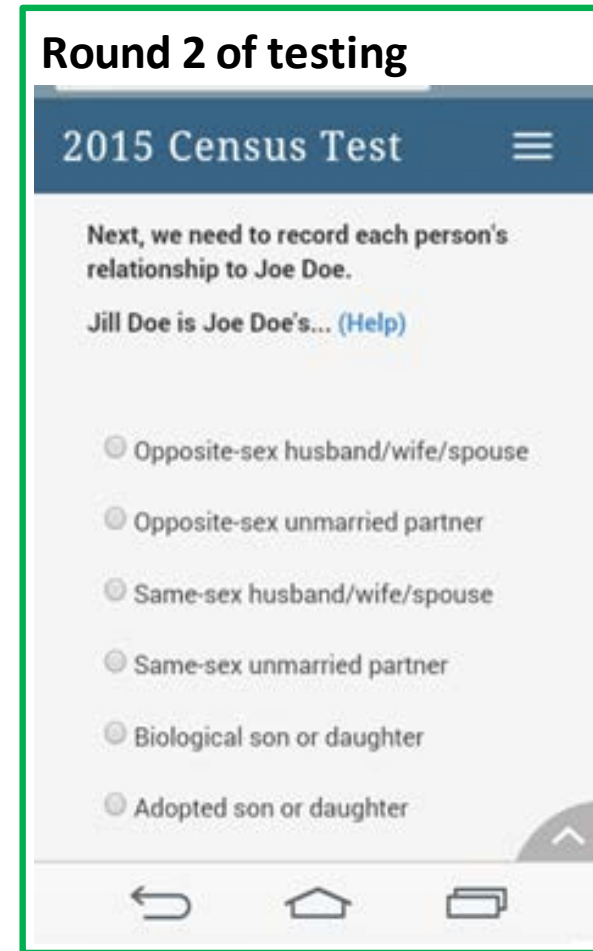 (Medlock, Wixon, McGee & Welsh, 2005)

Test   Analyze

Fix

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Example Iterative testing: 2015 Census Test

Same survey with 2 rounds of testing

Round 1 of testing

2015 Census Test

Next, we need to record each person's relationship to Jane A Doe.

James C Doe is Jane A Doe's
_____. (Help)

○ Opposite-sex husband/wife/spouse
○ Opposite-sex unmarried partner
○ Same-sex husband/wife/spouse
○ Same-sex unmarried partner
○ Biological son or daughter
○ Adopted son or daughter
○ Stepson or stepdaughter
○ Brother or sister
○ Father or mother
○ Grandchild
○ Parent-in-law
○ Son-in-law or daughter-in-law

Users tried to click on underline

Response options too close together

Round 2 of testing

2015 Census Test

Next, we need to record each person's relationship to Joe Doe.

Jill Doe is Joe Doe's... (Help)

○ Opposite-sex husband/wife/spouse

○ Opposite-sex unmarried partner

○ Same-sex husband/wife/spouse

○ Same-sex unmarried partner

○ Biological son or daughter

○ Adopted son or daughter

Use of ellipses instead of line

More spacing between response options

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Usability Testing in a Production Environment

- Iterative testing of the survey is the goal – but sometimes…
  - Survey life-cycle does not allow for iterative testing
  - Usability team may only gain access to final online instrument weeks before it is released to the public
  - What kind on an impact can usability have?
    - No time to make major (or even minor) changes
    - No time to re-test changes
    - No time to see what new issues may occur

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Reoccurring Surveys & Usability Testing

- Surveys that run every year

- Surveys that run on a periodic basis –

  - Updated questions

  - Moving from paper to online or online to mobile

- Can do iterative usability testing across field periods as opposed to only before a single field period

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Iterative Usability Testing: The Long Term Approach

- Conduct usability testing across the different field tests
  - One field test:
    - Conduct usability testing
    - Identify user issues & make recommendations
    - Site goes live "as is" - without user issues being addressed
  - Next field test:
    - Modify usability testing protocol updated for new field test
    - Add in vignettes and debriefing probes (can address issues from prior year's field test)
    - Conduct usability testing
    - Identify user issues & make recommendations
      - Learn whether issues observed in prior field test persist, or if new issues arise

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Multi-year Iterative testing
Similar survey, across field periods

National Content Test 2015

2016 Census Test

Long Term Approach

Need to remember what the user issues were in last field test

**Likely you have had other projects in the interim, and when next field test comes around – do you recall what the issues were?
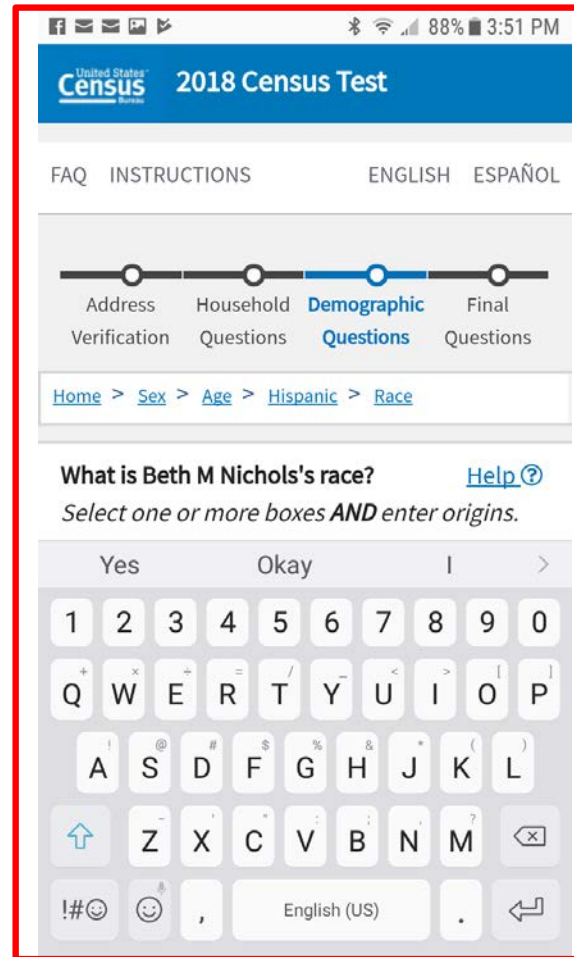
Long Term Approach: Strategies

- Documentation
  - Screenshots of previous versions
  - High level findings & recommendations
- Communicate with sponsor & programmer
  - Learn whether new design has incorporated issues found in last round of testing
  - If you continue to have meetings – bring it up. Ask about the status of the changes
  - Helps to remind team of what was found and what was agreed to at end of last testing cycle
- Follow up once gaining access to instrument
  - As you prepare for the next round of testing (months or even a year later) – check to see what has changed
    - Were issues addressed?
    - If not, document and ask to meet with team to discuss
    - Be persistent

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Challenges with Multi-Year Usability Projects

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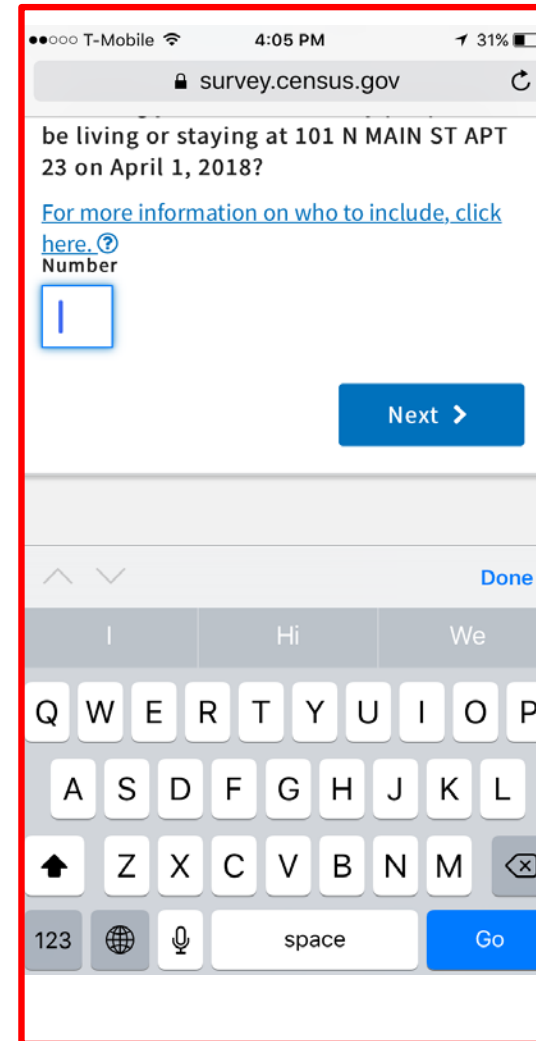U.S. CENSUS BUREAU
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Challenges

- **Technology changes**
  - "Specs" give the questions and responses, but nothing on design
  - Changing survey platforms may support different "default" settings

Keypad is covering entry field

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Challenges

- Staff changes
  - Issues we had identified in earlier years come up again

Number keypad should pop open for any response field that requires a number

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Challenges

- Requirements change
  - Language needs evolve
  - Security expands

Challenges

- URLs take respondents to English landing page - language toggle buried & far from primary task
- Respondents' browsers or devices detect English text and offer machine translation instead of our pretested translations
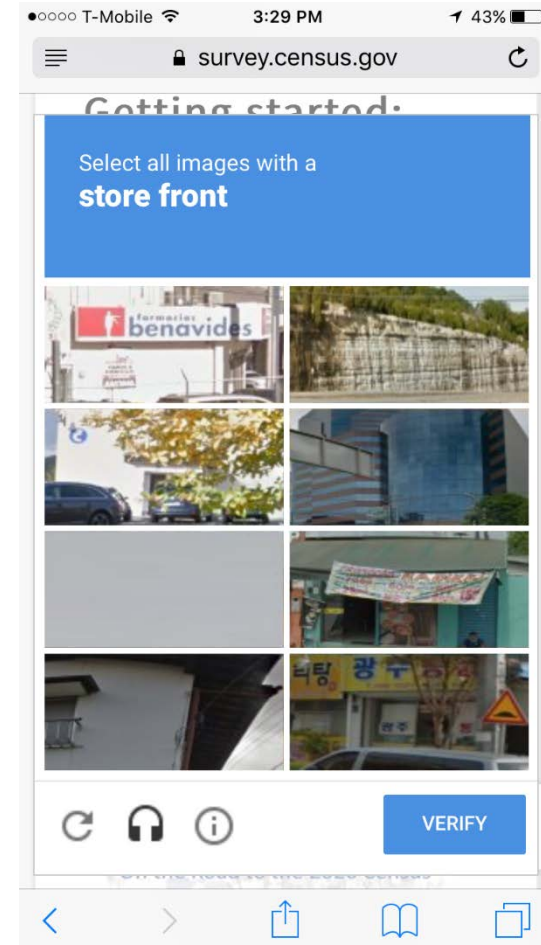
Challenges: Multiple Languages

- URLs we tested were challenging for respondents with Limited English Proficiency (LEP)
- Unfamiliar English words, easy to transpose letters

  – URL in English: https://survey.census.gov/censustest

  – URL in Spanish: https://encuesta.censo.gob/pruebadelcenso

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Challenges: New Security Requirements

- Security requirements grow as technology evolves throughout the decade
  - User interface may not be ideal for the participant
  - Must be implemented
    - CAPTCHA (a security procedure to prevent attacks by bots)
    - Users struggle
    - Could cause break-offs but we can't make changes

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Planning for Alternative Ways to Incorporate Usability into a Production Life Cycle

- When all else fails and you cannot get usability testing input prior to when the survey is fielded…
    - Conduct expert reviews
    - Run internal staff on "Dry Runs"
    - Consider usability testing while survey is live in field
    - Plan for usability testing after survey is fielded (extend the window for the site for a week or two)
    - Take a long term approach across release cycles and add user feedback when you can

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Summary

- Iterate within and across field periods
  - Good documentation of what the issues and proposed solutions
  - Communicate
  - Follow Up

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