Co-Designing a Data Collection App with Potential Respondents

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Motivation

• Smartphone apps are increasingly used to collect survey data
  • Smartphone usage has become widespread
  • Apps provide a way to deliver frequent, short surveys over time (i.e., modular design)

• Some sample members may prefer using an app to respond
  • But this requires designing an app that respondents are motivated to download and find easy to use
  • What features should it have? If modules are used, what is their optimal length and timing?
Participatory design workshops

• Goal: to engage potential respondents to Survey of Doctorate Recipients (SDR) in development of an app, particularly for modular survey delivery
• Selected recent doctoral recipients who participated in a previous NCSES survey
  • Sample equally balanced by sex, race/ethnicity, age, and PhD field
• Participants were asked to participate in a 90-minute workshop via Zoom
  • 3 parts:
    • 1: Moderated focus group to solicit reactions about the idea of using a survey app
    • 2: Design session in small groups using Google Jamboard
    • 3: Debriefing
• Three workshops conducted from Feb-May 2021
  • 19 participants in total
Google Jamboard tasks

Please use the tools (pens, shapes, text boxes) in the Jamboard to draw on the smartphone to sketch out how you would want the home screen of the app to look.

Try to show how some of its important features could be displayed.

Please comment here
Survey app discussion

• Participants generally liked the idea of using a survey app
• But they expressed clear expectations:
  • user-friendly
  • multi-purposed
  • secure

Needs to make answering survey questions easier...
Example: voice input

Not for one-time use...
Example: use to answer “small” and “easy” surveys over time

Should be packaged with other useful features...
Example: link to my NSF dashboard
Modular design discussion

• Most participants liked modular approach
• Expectation: flexibility in schedule (timing and pace) of modules
• No consensus about the optimal length of modules, but participants seemed to lean toward short surveys (“few minutes long”) with related questions

Want to move at my own pace – no preset schedule for modules

Helpful, not-too-frequent notifications when there are modules to complete

• Some preferred a single survey format with option to save progress
Sketches of app landing page

WELCOME
Purpose of the survey
Complete survey
Welcome video & why this survey matters
Theme 1 enter
Expected time to complete
Due date for theme
Theme 2 enter
Expected time to complete
Due date for theme

Survey Sponsor Info
Instructions
Clickable List of Modules
Include the Length in terms of Questions AND Time
Start/Restart SURVEY
Submit Survey
Data Privacy Button

Main Menu
Surveys in progress
> Survey 1
  > Module 1 complete?
    % progress
  > Module 2
  > Module 3
Surveys Available
Past Survey Results
Rewards

Video
Modules
Data Privacy
Modules
Sketches of app ending page

Thank you for completing this module
Preliminary Survey Results
Proceed to next module
Return to Home
Claim your reward!
Are you interested in more surveys like this?

Thank you.
You have completed part 1 of 3 of the survey

Thank you!
You completed survey in 3 sittings in 23 minutes.
We will follow up with you by...

Survey Outcomes
Survey Demographics

Clickable List of Modules with checkmarks
Submit Module
Button to Historical Responses

Results
Other suggested features

<table>
<thead>
<tr>
<th>Theme</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accessibility</td>
<td>Ability to change font size</td>
</tr>
<tr>
<td>User experience</td>
<td>Well-designed <strong>user guide/tutorial</strong></td>
</tr>
<tr>
<td>Information on modules</td>
<td>An <strong>estimated time range</strong> for each module; clearly describe the <strong>number of questions</strong> contained in each module</td>
</tr>
<tr>
<td>Results</td>
<td><strong>Personalized results</strong> – e.g., how your responses have changed over time; how you compare to other respondents</td>
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<tr>
<td>Extra features</td>
<td><strong>Customizable reminders</strong>; Ability to give <strong>feedback or comments</strong> on the app if there are concerns or questions</td>
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Discussion

• Vibrant discussion in workshop
  • Participatory design can engage potential respondents in design process
  • Easy to use “sticky notes” in Google Jamboard

• Respondents appeared motivated to use survey app if it saves effort over time
  • App worth pursuing given its potential benefits (rapid data collection, reduced survey burden)

• Different ways of implementing modular design, needs experimentation

• Next steps
  • Design and build an app prototype
  • Conduct field test of the app with debriefing interviews

Thank you!
Questions?
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