Developing a Mobile-Optimized Web Instrument for the Consumer Expenditure Diary Survey

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Background

■ Exploring various technology possibilities:

▶ **March 2010**
Data Capture Technology Forum (Gemini Conference Team)

▶ **March 2011**
Data Capture Technologies and Financial Software for Collecting Consumer Expenditure Data Report (Westat)

▶ **October 2012**
Evaluation of Financial Application Software (BRPD)

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Advantages and Motivations for Using a Mobile Device

- Increase in smartphone ownership
  (> 50% of adults in the U.S.)

- Convenience and portability

- Individual vs. Household

- Reduced recall through real-time reporting

- Direct data entry by respondents

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Challenges
of Using a Mobile Device

- Small real estate (Maximizing button and text sizes)
- Different devices and operating systems (including different versions within the same brand)
- Different browsers (stock browsers vs. downloaded browsers)
- Different screen settings (e.g. size, portrait vs. landscape)
- Different keyboards and scrolling wheels
- Different user skill levels

Mobile Optimized Web Option vs. Mobile App

Pros

- Doesn't require programming in multiple languages
- Doesn't require user to download
- Doesn't require updates
- More secure

Cons

- Allows access via personal computer, which may not properly display a mobile-optimized page
- Requires an internet connection which affects access and speed
- Appearance varies across browsers and devices based on individual versions and settings

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Wish List Based on the Evaluation of Existing Apps

- A smartphone app should be used in conjunction with a Web diary or a paper diary.

- Reminders to enter expenses

- Include "smart" features in the Description field to ease respondent burden (e.g. spell-check, auto-suggest, speech-to-text)

Wish List Based on the Evaluation of Existing Apps

- Camera to photograph receipt/record with ability to parse the text to automatically pull out at least some of the information

- Barcode scanner

- Categories to match the paper diary

- Date of Purchase (an easy way for participants to enter in the date of purchase)

- User-friendly "Help" system
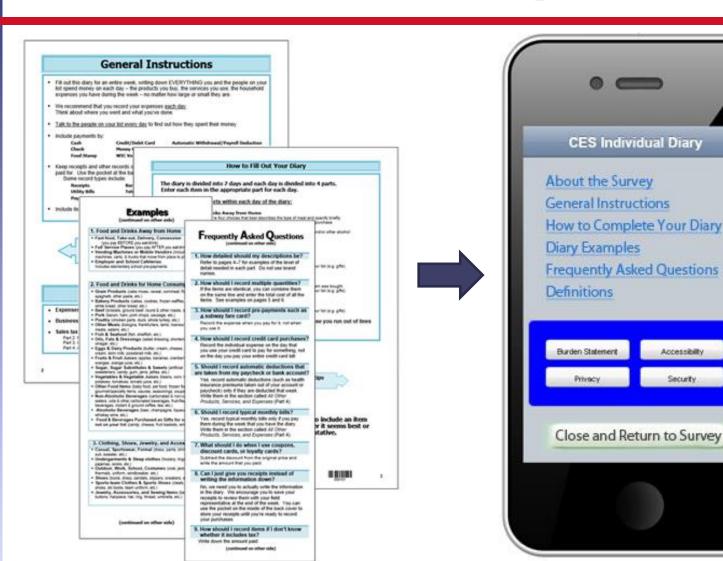
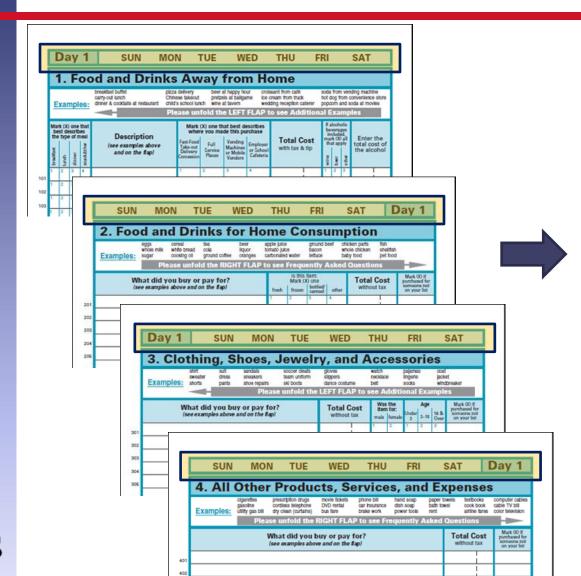# The Design (Flowchart)

Login Screen

Login credentials

Required security information

Post Login Screen

Home/Summary Screen

Information/Help Screen

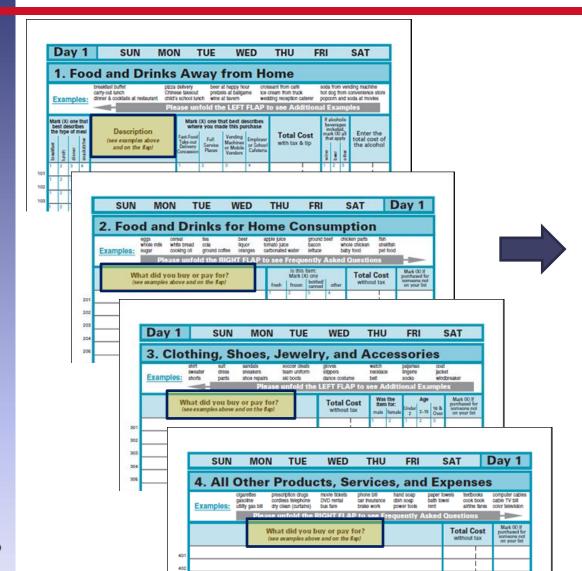# Expense Entry Screen
Date

Expense Entry Screen
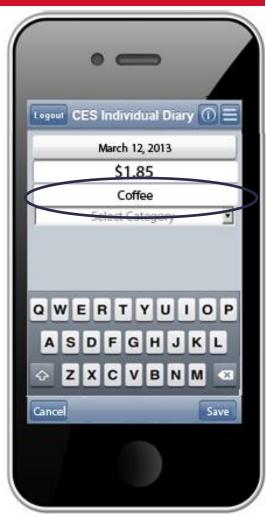## Cost

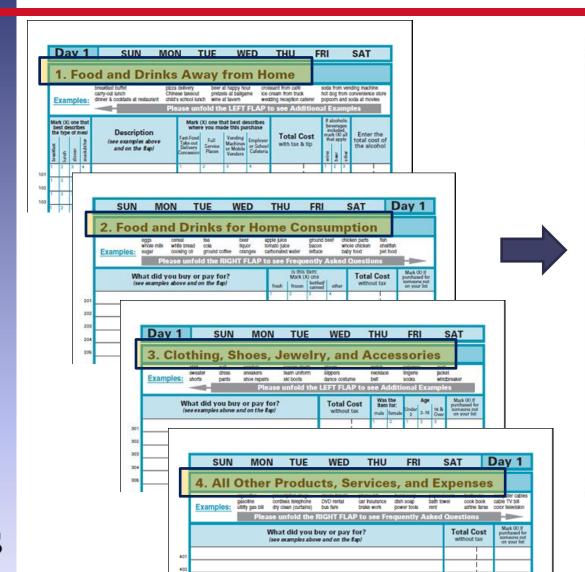# Expense Entry Screen
Description
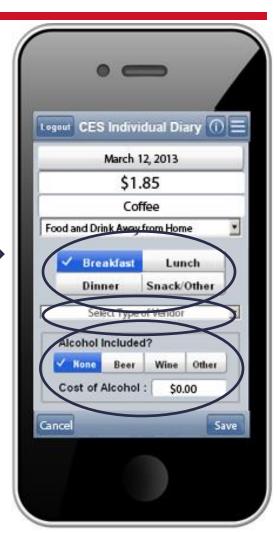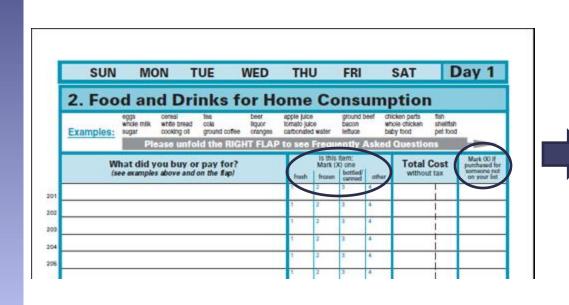
Expense Entry Screen
Category

Expense Entry Screen
Food and Drink Away from Home

Expense Entry Screen
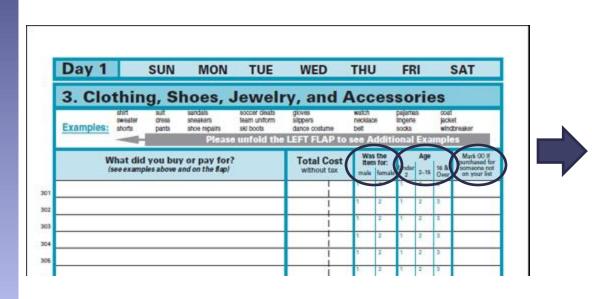## Food and Drink for Home Consumption
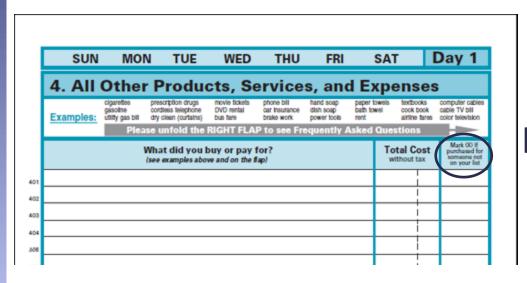
Expense Entry Screen
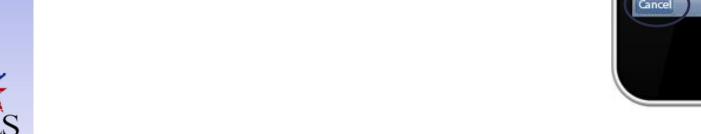## Clothing, Shoes, Jewelry, & Accessories

Expense Entry Screen
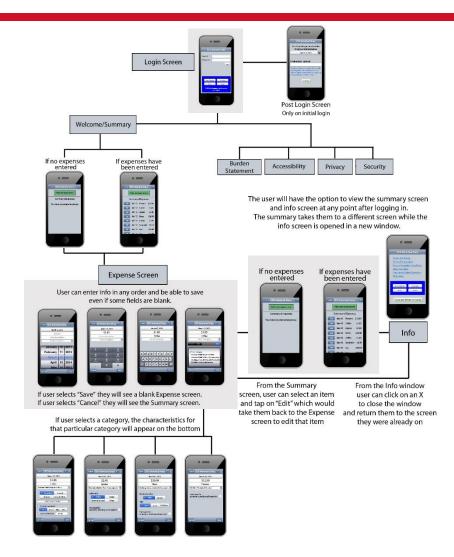## All Other Products & Services

The Design (Flowchart)

Summary

- **Selecting the technology**
  - ▶ Data needs
    - – Accuracy (real time reporting, individual vs. household, direct data entry)
  - ▶ Respondent needs
    - – User-friendly (convenience, individual vs. household)

- **Designing the instrument**
  - ▶ Data needs
    - – Accuracy (categories, clear fields, keyboards, help)
  - ▶ Respondent needs
    - – User-friendly (categories, clear fields, keyboards, help, option to provide receipts)

Contact Information

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