

Blaise On A Window 8 Tablet

The Caribbean Netherlands Implementation

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**Statistics
Netherlands**

Introduction

- This presentation is about a small survey that was very recently conducted by Statistics Netherlands on three small islands in the Caribbean, using tablet computers that run Microsoft Windows 8
- The presentation describes how we implemented the survey and what we did in Blaise to make this possible

Caribbean Netherlands

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Introduction

- Decision was made to experiment using Windows 8 tablets for part of the interviews
- Hardware DELL Latitude ST2 tablets with an Intel Atom processor, all running Windows 8 Pro 32bit
- Wide screen: 16 by 9
- During interviewing: no keyboard and no mouse
- Operated by using the fingers or by using a stylus



Introduction

- The survey is completely handled by local staff
- No investment in data communication for the interviewers
 - All done securely using USB sticks at CN Stats office
- It is a pilot...but the data must be secure and will be used
 - So a failure is not allowed...
- The paper forms are entered by local staff
 - Using the same datamodel in CADI mode
 - All data is entered, also the off-route data
 - A special layout set that mimics the pages of the paper questionnaire is used
 - Data is entered using the virtual SN environment

The Survey

- The survey used on the tablet is called the 'Omnibus survey'
- It is a survey about many different topics like work and education, the living situation, transport, internet usage, appliances, health and so on
- It has 4 languages: English, Dutch, Spanish and Papiamentu
- The interview takes about half an hour
- Person sample from a registry, 1200 persons
 - Sample frame is expected to contain errors

The interface: Landscape or Portrait?

- The screen is wide and not too high in landscape mode and it is high and wide enough in portrait mode
- The on-screen keyboard is rather large
 - In landscape mode it can potentially cover questions on the formpane
 - In portrait mode this problem does not exist
- Unclear what the preferred mode of operation is
 - Two sets of screens: a set for portrait mode and a set for landscape mode
 - Done by defining two layout sets in the mode library

Minimize use of keyboard

- Adapted menu file
- A button panel containing buttons for the most used options plus the numeric keys

Next/previous field

The numeric keys zero through nine, the decimal key and the backspace key

Remark, RF, DK

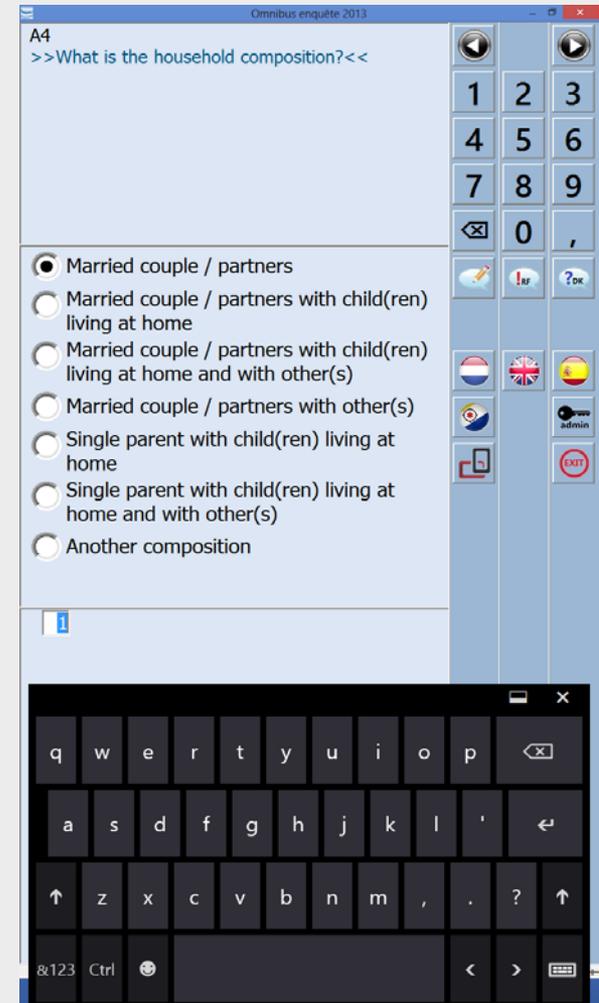
4 language buttons

Admin parallel, switch mode, exit



Implementing the questionnaire

- The challenge was in making it 'look nice' and making it easy to operate on the tablet
- To avoid on-screen keyboard problems there is only one question on each page of the DEP
- Portrait mode examples...



Implementing the questionnaire

- Landscape examples...

A4
>>What is the household composition?<<

Married couple / partners
 Married couple / partners with child(ren) living at home
 Married couple / partners with child(ren) living at home and with other(s)
 Married couple / partners with other(s)

The screenshot shows a mobile application window titled 'Omnibus enquête 2013'. The main content area displays a question 'A4 >>What is the household composition?<<' with four radio button options. A virtual numeric keypad is visible on the right side of the screen, and a full QWERTY keyboard is overlaid at the bottom. The interface is designed for a landscape-oriented device.

Implementing the questionnaire

- Two layout sections, one for each mode
- A grid that only fits one fieldpane
- Some 10+ infopane definitions have been defined
 - They differ for instance in height and in the number of columns in the answer list
- A very handy but not very well know layout option is used:
layout instructions based on user defined types

```
LAYOUT Interviewing_1 {portrait mode}
```

```
  AT TInteger2  INFOPANE InfoPaneWithInputLine
```

```
  AT TGebLand  INFOPANE InfoPaneWithAnswerList2Columns
```

- Was used extensively to get to the right layout

Implementing the questionnaire

- 272 pages in portrait mode plus 272 pages in landscape mode, 4 languages = 2176 pages
- Each page needed to be inspected to make sure that the right choices were made in the layout sections
- Too much work in dynamic routing mode
- Easy solution: switch to the editing toggle set
 - Navigate without entering data
 - All pages are visited
- Spanish texts were the longest
- Page with text fill were inspected with data

Security on tablet

- A username and password
- Limited user rights. Enough to run the surveys; not enough to make changes to the Windows registry
- The USB-port and the SD-card reader are both disabled
- Wireless internet disabled
- USB/SD-card is allowed for the administrator when he makes a change in the Windows registry
- Once installed the access to the mass-storage devices is handled by a shell application

Installation

- Handled by staff on Bonaire following a short recipe:
 - Enable the USB-port for mass-storage devices
 - Plug in the USB stick with the installation package
 - Run the “Setup[Omnibus2013].msi”
 - Enter a password to decrypt the sample file
- The installation automatically closes the USB/SD device

The Omnibus shell

- A small Maniplus shell program was developed
 - For interviewer: to start the questionnaire with the correct sample case using a 4 digit person number
 - For the administrator: to export the data securely using USB stick
- The shell detects the landscape/portrait mode and start the data entry session using the correct layout set

Omnibus survey 2013 - Start interview

Person number: 3787

Respondent

Name: Spaargaren
First names: Esmeralda Esmeé
Gender: Female
Date of birth: 11-3-1941
Street: Sabadeco Terrace
Number: 66 G-2
Neighbourhood: Sabadeco
Island: Bonaire

1 2 3
4 5 6
7 8 9
⌫ 0 ⌫

Nederlands
 English

Questionnaire Administration Close

The Omnibus shell

- In administrator mode
 - Press the export button. This opens the USB-port
 - Insert the USB-key. This is detected by the application
 - The cases on the tablet are extracted and added to an encrypted zip-file on the USB-key.
- The encrypted zip-file can be uploaded to SN



Blaise on a Touch Screen

- Blaise is touch screen aware as long as it is automatically handled by Windows
 - A gesture that is recognized will be translated to something that could also have been done by a mouse.
 - Because of this, many Windows controls like a menu and a radio button can be operated by tapping with the finger on the screen.
- Not all gestures can be translated to a mouse action
 - Such gestures are recognized by Windows but they do not influence how the DEP behaves.

Blaise on a Touch Screen

- A small change is made to the DEP.
 - The 'left swipe' has been implemented as 'go to next page' and
 - The 'right swipe' has been implemented as 'go to previous page'.
 - In theory there is room for the support of more gestures (like paging in a lookup).
- Would be nice to have: auto detect of the orientation of the tablet by the DEP and to automatically choose an appropriate layout set when the orientation changes.

Evaluation

- Is currently being carried out. Initial results:
 - Interviewers like the tablet
 - Some initial hardware issues with the DELL
 - Preferred mode: landscape
 - Many used the stylus but some also the fingers
 - Swiping was used
 - All questionnaire languages were used
 - Much better data quality in the Blaise part of the survey compared to the paper forms
 - But that was expected and confirms again all findings from the last 25 years...