Blaise On A Window 8 Tablet
The Caribbean Netherlands Implementation

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Introduction

- This presentation is about a small survey that was very recently conducted by Statistics Netherlands on three small islands in the Carribean, 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

- They are 3 islands in the Caribbean that are part of the Netherlands
- They are municipalities with the Netherlands
- 22000 inhabitants
- Statistics Netherlands produces statistics
- Office in Bonaire
- All paper forms

- Saba
- St. Eustatius
- Bonaire

800 km
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 Papiamento
- 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...
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
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
    - Prefered 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...