General Survey System (GSS):

A Mobile Technologies System for Collecting and Managing Study Data

Data Capture Technology Forum
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Today's Presentation

- GSS Overview
- Technologies
- Point of Purchase Study (Vietnam)
- Lessons Learned and Next Steps

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GSS Software Development Features

PC based development software (IDE):

- Questionnaire programming ('Designer')

- Language support

- System configuration and setup – at data collection site(s)

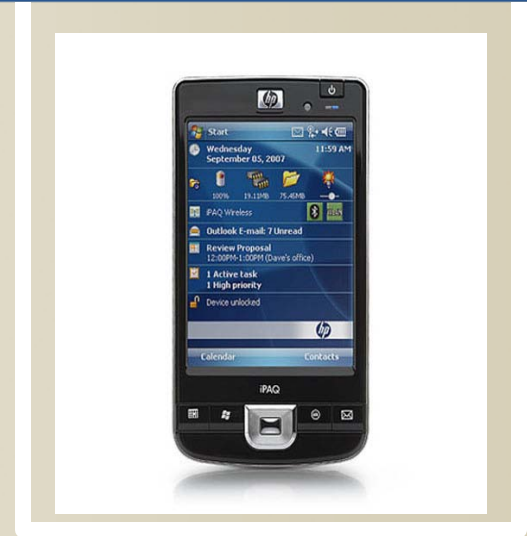- Data File construction for use in Analysis

Handheld Equipment

- **HP iPAQ**—handheld computer, windows Mobile, SQL CE

- **SD card**—inserted into the iPAQ, stores data externally

- **GPS Receiver**—inserts into the iPAQ and used during enumeration

GSS Use

Highly Mobile Data Capture system

• Household doorway screening and interviewing

• Vendor listing and vendor surveys

• Intercept surveys

• Hospitals surveys

• Inventories

WHO, Bangladesh

Survey System Implementation Steps

1. Questionnaire Design and Programming

2. Data Management (Transfer and Aggregation)

3. Data Processing

GSS Developer's Tools (IDE) Main Menu

File   Survey   Up   Down   Next   GoTo   Copy   Add   Delete   Save   Refresh   Preview   Cancel

Gats Designer Tool Version: 1.3.3522.13210

Seq #	Quest ID
00010.0	Start
00020.0	Consent1
00030.0	Consent2
00040.0	Consent3
00050.0	Consent4
00060.0	Consent5
00070.0	Consent6
00080.0	IntLang
00090.0	A00
00100.0	A01
00110.0	A02a
00120.0	A02b
00130.0	A03
00140.0	ValidateAge
00150.0	A03a
00160.0	A04
00170.0	A05
00180.0	A05a
00190.0	A06a
00200.0	A06b
00210.0	A06c
00220.0	A06d
00230.0	A06e
00240.0	A06f

Question Properties   Ver.: 2009 08 27 011   C:\Gats_Folders\Survey_DBs\GATS_Survey1.mdb   Help

Sequence #   **160**   Question ID   **A04**   Roster #   **0**

Question Type   **LIST**   Next Question   **A05**   Roster Col.   **0**

Answer Set   **EDUCATION**   Low Range [   ]   Loop Start [   ]

High Range [   ]   Loop End [   ]   Loop GoTo [   ]

Question Help Text [   ]

Question Text   Help

Language 0   English

What is the highest level of education you have completed?

[SELECT ONLY ONE CATEGORY]

Language 1   **MANDARIN**

您的最高学历是什么？

[仅仅选择一个类别]

Answer Texts   **EDUCATION**   Help

Seq.	Code	Text
1	1	NO FORMAL SCHOOLING
2	2	LESS THAN PRIMARY SCHOOL COMPLETED
3	3	PRIMARY SCHOOL COMPLETED
4	4	LESS THAN SECONDARY SCHOOL COMPLETE
5	5	SECONDARY SCHOOL COMPLETED
6	6	HIGH SCHOOL COMPLETED/TECHNICAL SECO
7	7	COLLEGE/UNIVERSITY COMPLETED

Seq.	Code	Text
1	1	文盲半文盲
2	2	小学未毕业
3	3	小学毕业
4	4	初中未毕业
5	5	初中毕业
6	6	高中/中专
7	7	大专及本科

Special Instructions   Help

TextFSize=(08,10);

Skip or Compute Logic   Help

Survey: Vietnam Point of Purchase (VPOP)

- Purpose: Collect point of purchase sales baseline data for countries that have signed the WHO Framework Convention on Tobacco Control. Pilot in Vietnam.

- Collaboration between RTI, JHU School of Global Public Health, Hanoi Medical University, Vietnam General Statistical Office

- Key info/Research questions:
  - **Density of Sales, pricing, where and how much is being sold, industry presence, advertising**

VPOP Technology Advancements

Relied on Technology:

GPS
- -Field staff area 'locator' during counting and listing
- -Recorded vendor location

Enumeration and Selection
- -Counting and listing of Vendors

- -Dynamic selection for purchases

Hanoi Medical University

GPS

- System outputs Coordinates such as
  21 02.69' N 105 48.36' E

- For use in maps and analysis

+21° 2' 41.40", +105° 48' 21.60"
maps.google.com

Lessons Learned

- Hardware choice is effective for this kind of survey
  - Good battery life
  - Works well in mobile environments
  - Well received by interviewing staff

- Visual Development Environment needed: Developers Software components was updated to IDE

- Software system is robust and can be taught to interviewers in a few days training

- Data File generation important for reporting and analysis Imports directly into SAS, SPSS, MS Access, etc

Next Steps

- **Look to emerging platforms**
    - Smart phones
        - Google Android
        - Apple
    - Cell based data transmission
    - Port to tablet based net books

- **More Data Management and processing capability**
    - Validations and QC reporting
    - Monitoring reports
    - Documentation