



INSTITUTE FOR SOCIAL RESEARCH • SURVEY RESEARCH CENTER
SURVEY RESEARCH OPERATIONS
UNIVERSITY OF MICHIGAN

Developing and Managing Mixed Mode Surveys

Technical and Methodological Challenges

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Context – Mixed Modes of Collection

“One of the most important challenges to survey researchers is deciding which data collection method or mix of methods is optimal...”

de Leeuw, E. 2005. “To Mix or Not to Mix Data Collection Modes in Surveys.” *Journal of Official Statistics*. Vol. 21. No.2:233-255

This Presentation

Mixed Mode:

1. Study design considerations

- Data collection protocol and sample delivery

2. Instrument development considerations

3. Technical system considerations

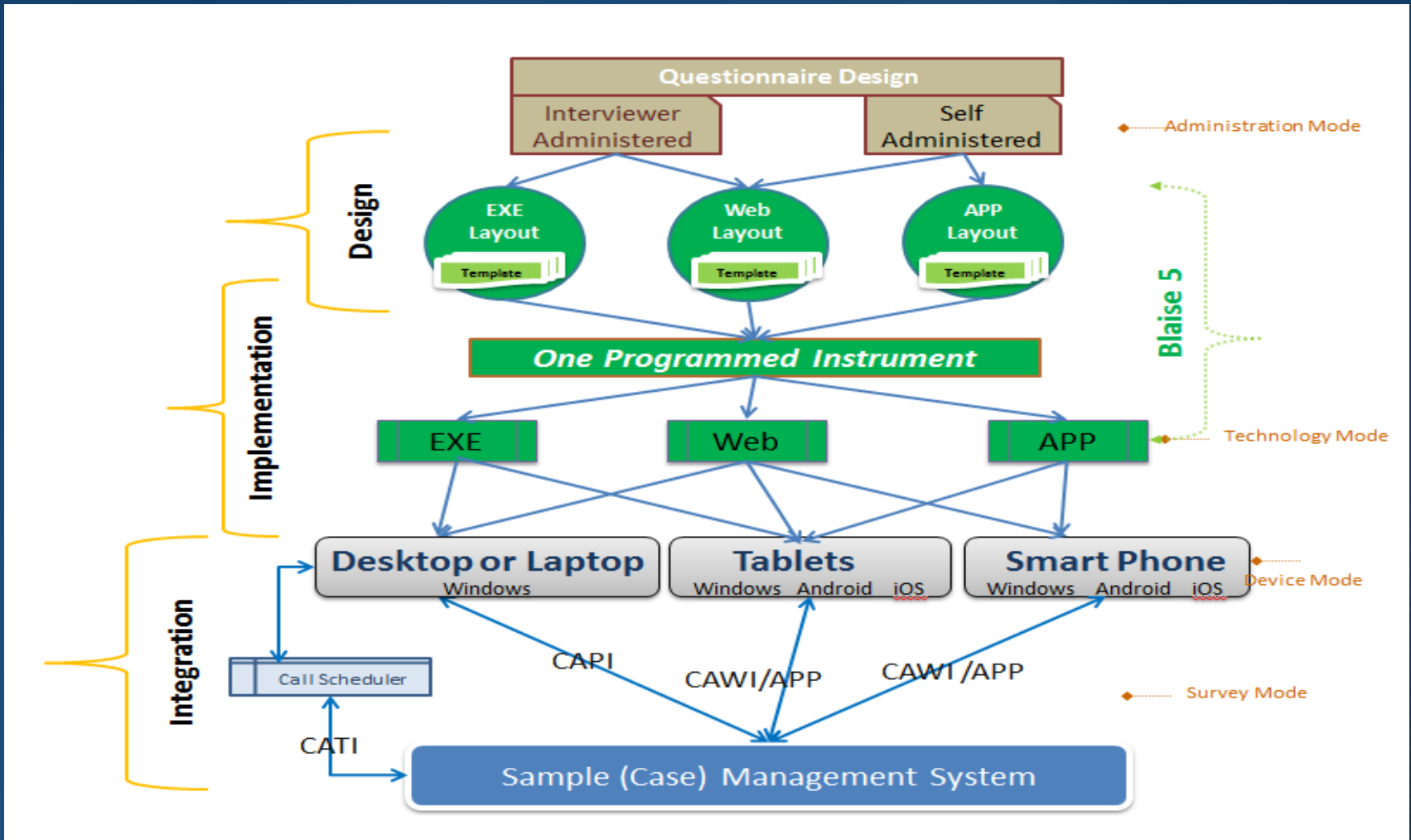
Design -- Data Collection Protocol

- Types of contact and modes
- Sequence of modes
- Switching modes
- Propensity models & responsive design
- Staffing and resource management

Instrument Development Considerations

- Questionnaire design issues
 - Visual Layout
- Multiple devices
- Technical implementation

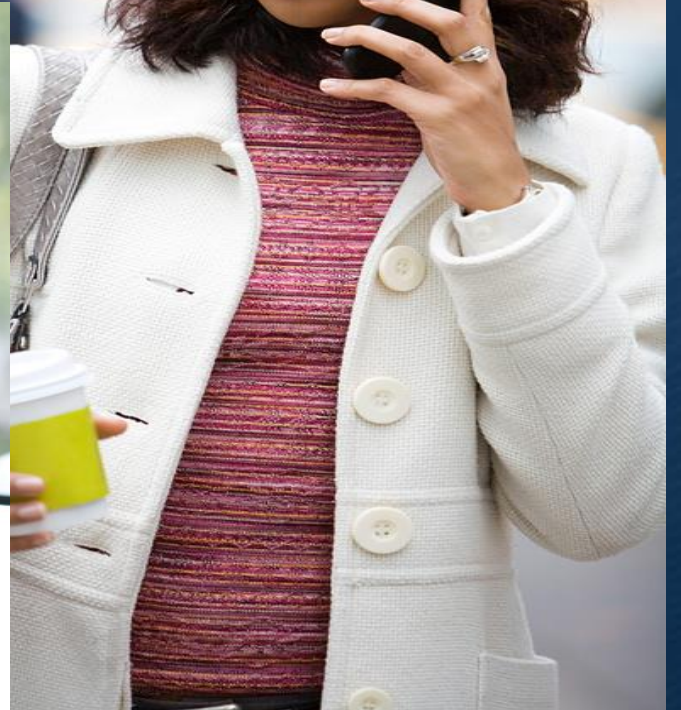
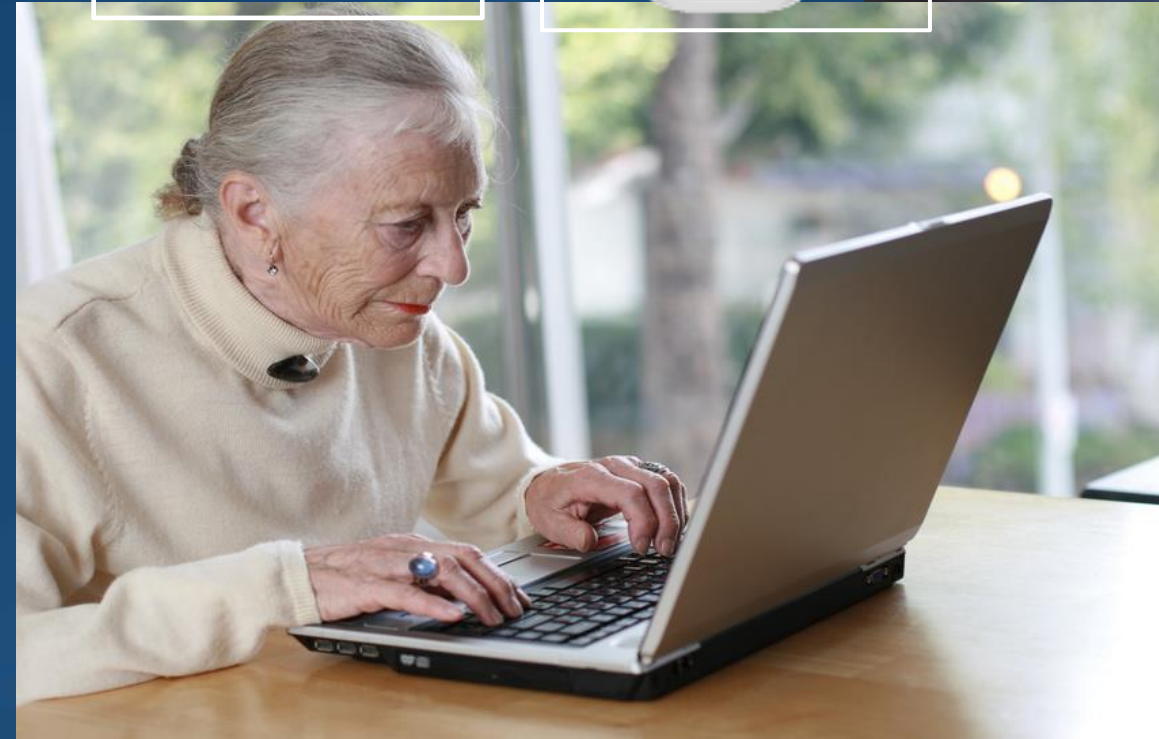
Multi-Mode Questionnaires and IT



Questionnaire Design Issues

- Adapting questions from CAPI/CATI to mixed mode
 - Interviewer instructions
 - Help text/definitions
 - Optional text (usually in parenthesis)
 - Volunteered response options (e.g. DK/RF)
 - Grids
- Navigation
 - Gate questions (i.e. critical questions that fill future questions)
 - Backups
 - Skips/Refusals
- How does it affect data quality?

BYOD – Bring Your Own Device



Technical System Considerations

- Information management
- System requirements and solutions
- *Michigan Survey Management System*
 - Integrated sample & survey management
 - Tailoring capacity
 - Paradata

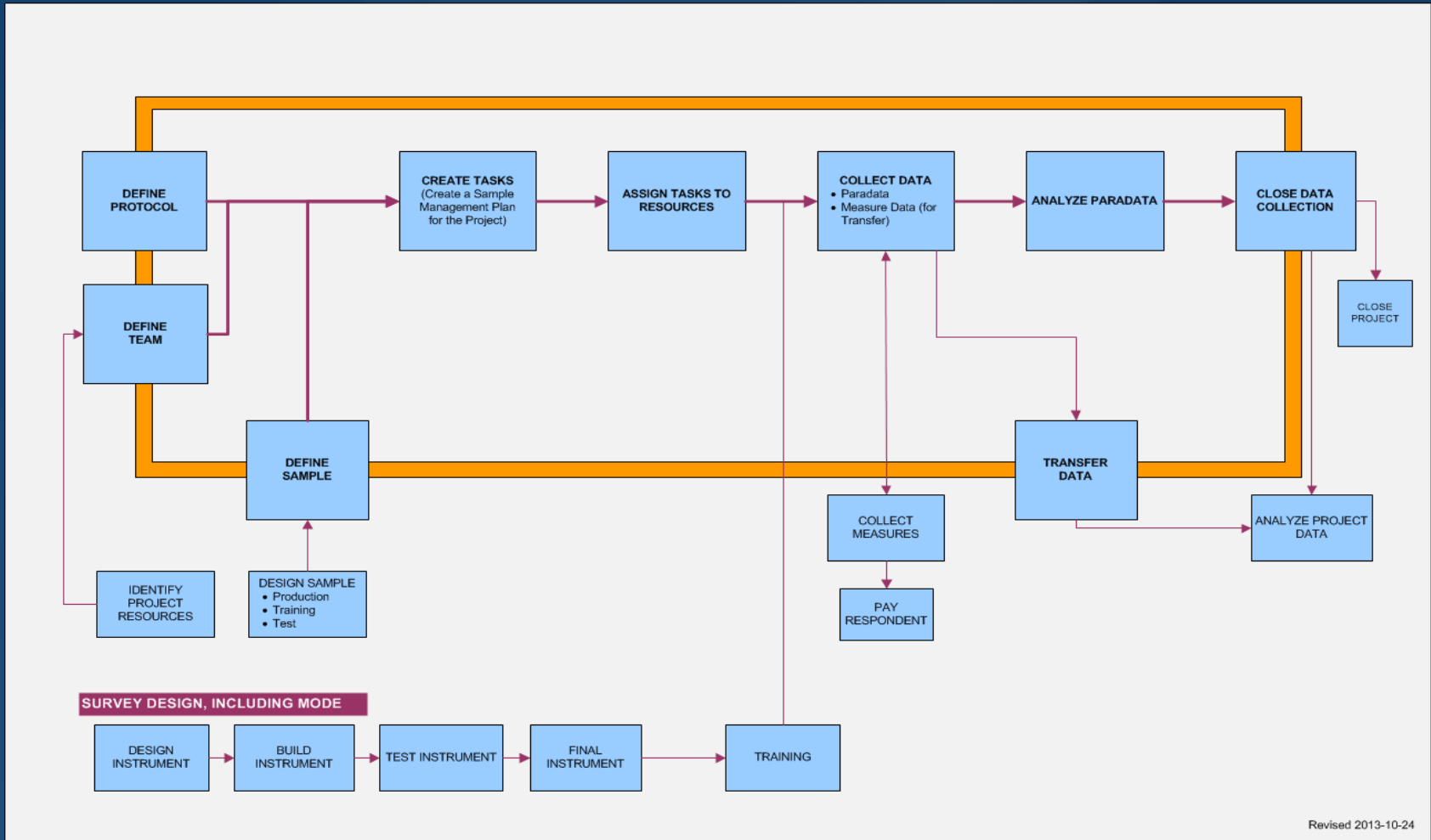
System Requirements

- Support mixed- and multi-mode protocols in one project
- Automate the protocol so that it can be repeated and applied consistently
- Integrate survey management and sample management in one system
- Reflect survey management process
- Reduce project implementation effort and duration
- Minimize application recompiles and deployments

Solutions

1. System of interrelated applications and services
2. System architecture reflects business objects
3. Task-level structure throughout system
 - Automated rules sets that can be applied to important process steps, e.g. task rules
4. Project implementation through configuration
5. Project-level configuration allows best balance of customization and standardization

Mixed Mode PROCESS DIAGRAM

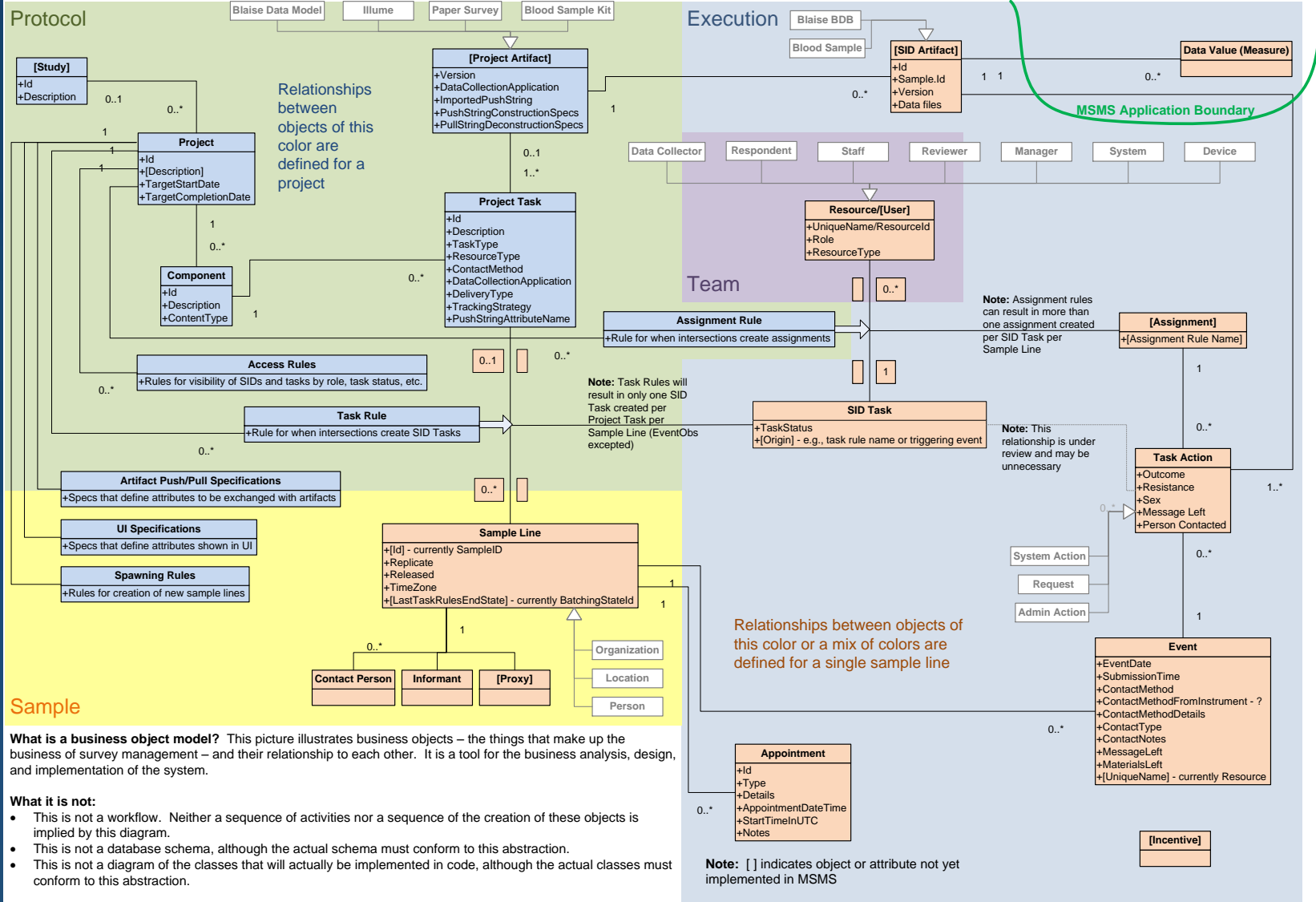


Revised 2013-10-24

Michigan Survey Management System (MSMS)

- Moved from a sample-based framework to a task-based framework
 - Sample level information can be shared with multiple users without conflict
- Tasks move; sample information remains ubiquitous to the necessary users
 - Task can be thought of mode or mode switch
 - Tasks all exist within the same management system

MSMS Business Object Model



Sample

What is a business object model? This picture illustrates business objects – the things that make up the business of survey management – and their relationship to each other. It is a tool for the business analysis, design, and implementation of the system.

What it is not:

- This is not a workflow. Neither a sequence of activities nor a sequence of the creation of these objects is implied by this diagram.
- This is not a database schema, although the actual schema must conform to this abstraction.
- This is not a diagram of the classes that will actually be implemented in code, although the actual classes must conform to this abstraction.

Revised 2012-11-26

Tailoring to Projects

- Configuration allows each project to use and show the attributes appropriate to its protocol
- Protocols can leverage and improve upon what has worked without affecting other projects

MSMS Data Collector 0.45.9.3

Pilot in Sprint45 on MSMSbtST

Sample Id: 1115001
 Priority: High
 Mainlv PrefMode: TEL

To Do:

Sample Lines	Task	Contact History	Contact Attempt	Sample Details	Appt List	Tracking
1115001	TEL			7/15/2012 12:00:00 AM	MARLENE JEFFERSON	PHOENIX Arizona MST
1115002	TEL			4/3/2012 12:00:00 AM	MILLIE MONROE	SACRAMENTO California PST
1115003	TEL			3/16/2012 12:00:00 AM	APRIL MONROE-BLAK	AVONDALE Arizona MST
1115004	TEL			3/25/2012 12:00:00 AM	LYNETTE SCHULTZ	NEW ORLEANS Louisiana CST
1115005	TEL			6/10/2012 12:00:00 AM	ROSE MARTIN	BOSTON Massachusetts EST
1115006	TEL			5/15/2012 12:00:00 AM	MELANIE BARR	HOUSTON Texas CST
1115007	TEL			6/11/2012 12:00:00 AM	REX WHITE	SAGINAW Michigan EST
1115008	TEL			9/10/2012 12:00:00 AM	CHRISTY COUCH	IOWA CITY Iowa CST
1115009	TEL			5/10/2012 12:00:00 AM	GORDY FRITZ	LAFAYETTE Indiana EST
1115010	TEL			7/15/2012 12:00:00 AM	MARILYN LOVATO	BRINGHAM CITY Utah MST
1115011	TEL			11/12/2012 12:00:00 AM	ANGIE JEFFERSON	FLORISSANT Oregon PST
1115012	TEL			10/13/2012 12:00:00 AM	MRS MARLENE JEFFERSON	PHOENIX Arizona MST

Pilot in Sprint45 on MSMSbtST

Sample Id: 1115001
 Priority: High
 Mainlv PrefMode: TEL

To Do:

Sample Lines	Task	Contact History	Contact Attempt	Sample Details	Appt List	Tracking
1115013	TEL			8/18/2012 12:00:00 AM	MRS MARLENE JEFFERSON	PHOENIX Arizona MST
1115014	TEL			11/1/2012 12:00:00 AM	MRS MARLENE JEFFERSON	PHOENIX Arizona MST
1115015	TEL			5/4/2012 12:00:00 AM	MRS MARLENE JEFFERSON	PHOENIX Arizona MST
1115016	TEL			9/18/2012 12:00:00 AM	MRS MARLENE JEFFERSON	PHOENIX Arizona MST
1115017	TEL			5/22/2012 12:00:00 AM	MRS MARLENE JEFFERSON	PHOENIX Arizona MST
1115018	TEL			4/2/2012 12:00:00 AM	MRS MARLENE JEFFERSON	PHOENIX Arizona MST
1115019	TEL			10/13/2012 12:00:00 AM	MRS MARLENE JEFFERSON	PHOENIX Arizona MST
1115020	TEL			3/30/2012 12:00:00 AM	MRS MARLENE JEFFERSON	PHOENIX Arizona MST
1115021	TEL			5/8/2012 12:00:00 AM	MRS MARLENE JEFFERSON	PHOENIX Arizona MST
1115022	FTF			7/11/2012 12:00:00 AM	MRS MARLENE JEFFERSON	PHOENIX Arizona MST
1115023	FTF			11/3/2012 12:00:00 AM	MRS MARLENE JEFFERSON	PHOENIX Arizona MST
1115024	FTF			6/29/2012 12:00:00 AM	MRS MARLENE JEFFERSON	PHOENIX Arizona MST
1115025	FTF			4/9/2012 12:00:00 AM	MRS MARLENE JEFFERSON	PHOENIX Arizona MST

Name: MRS MARLENE JEFFERSON

Phone: 555550714 Home JEFFERSON
 555558944 Cell UNLISTED
 555558269 x123 Work

Address: Type: Mailing
 C/O:
 714 MAIN ST
 PHOENIX, Arizona 85001
 USA

Email: mjjefferson@gmail.com

Note:

Contact Person: CP1

Name: MR ROBERT JEFFERSON

Phone: 555550921 R JEFFERSON

Address: Type: Mailing
 C/O:
 921 STATE ST
 PHOENIX, Arizona 85001
 USA

Email: test@test.com

Relationship: BROTHER-IN-LAW

Contact Person: CP2

Name: MRS LISA JEAN HARRINGTON

Phone: 555551329 Home HARRINGTON
 555554261 x556 Work UNLISTED

Address: Type: Mailing
 C/O:
 144 SOUTH AVE
 CHICAGO, Illinois 60604
 USA

Email:

Relationship: SISTER

Tailored Protocols

We have adopted a standardized language for defining rules sets, such as task rules

	States >	Start	Done	PreSurvey	Survey	PostSurvey
	Actions >		A10 - [CancelOutstandingSampleLineTasks]	A1 - [CreateSampleLineTask SendAdvLetter]	A2 - [CreateSampleLineTask MainIw]	A3 - [CreateSampleLineTask RecordFinalObs]
	Conditions v					
C1	SampleLinesReleased	goto PreSurvey				
C2	SendAdvLtr TaskStatusIsEqualTo Done			goto Survey		
C3	SendAdvLtr TaskStatusIsEqualTo Cancelled			goto Done		
C4	ConductMainIw TaskStatusIsEqualTo Done				goto PostSurvey	
C5	ConductMainIw TaskStatusIsEqualTo Cancelled				goto Done	
C6	RecordFinalObs TasksFinalized					goto Done

We have created a very simple table format for defining other parts of the protocol for import into MSMS

Id	Description	ComponentId	TaskTypeId	DeliveryTypeId	ContactMethodId	ProjectArtifactId	DataCollectionApplicationId	Order
SendAdvLetter	Send Advance Letter	AdvLtr	Outbound	Distributed	Mail		NotApplicable	1
ConductMainIw	Conduct Main IW	MainIw	Outbound	Distributed	Phone	Main	NotApplicable	2
RecordFinalObs	Record Final Obs	FinalObs	Admin	Distributed	Admin	Obs	NotApplicable	3

States	Start	Invite	ReminderNotStarted	ReminderStarted	ThankYouEmail	CATI	Done
Actions:		A1 - CreateSampleLineTask [SendAdvEmail] A2 - CreateSampleLineTask [ConductSAQ]	A3 - CreateSampleLineTask [SendReminderNotStarted]	A4 - CreateSampleLineTask [SendReminderStarted]	A5 - CreateSampleLineTask [SendThankYouEmail]	A6 - CreateSampleLineTask [ConductCATI]	

Id	Condition Parameters [Param1]<Tag Name>[param2][...]	Go To					
C1	SampleLinesReleased	Invite					
C2	[SendAdvEmail] ElapsedTimeSinceStatusWasSet [Done] [5.0:0:0]						
C3	[ConductSAQ] TasksNotStarted						
C4	[ConductSAQ] TasksStarted						
C5	C2 AND C3		ReminderNotStarted				
C6	C2 AND C4		ReminderStarted				
C7	[ConductSAQ] TaskStatusIsEqualTo [Done]		ThankYouEmail	ThankYouEmail	ThankYouEmail		
C8	[ConductSAQ] TaskStatusIsEqualTo [Cancelled]		Done	Done	Done		
C9	[ConductSAQ] TasksOutstanding						
C10	[SendAdvEmail] ElapsedTimeSinceStatusWasSet [Done] [10.0:0:0]						
C11	C9 AND C10		CATI	CATI			
C12	[SendThankYouEmail] TasksFinalized				Done		
C13	[ConductCATI] TaskStatusIsEqualTo [Done]					ThankYouEmail	
C14	[ConductCATI] TaskStatusIsEqualTo [Cancelled]					Done	
C15	[ConductCATI] ElapsedTimeSinceStatusWasSet [Authorized] [5.0:0:0]					Done	

Technical Systems, Mixed Modes and Paradata

Process data, paradata, can inform decisions and guide the trade-offs during the data collection.

1. Survey data collection (measures)
2. Survey management systems (sample; paradata)
3. Survey data collection reporting (data for analysis of trends or simple counts)

Questions or Discussion

Contact Information

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