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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April, 2015

IBUC Conference

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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**

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This Presentation

Mixed Mode:

1. Study design considerations
   - Data collection protocol and sample delivery
2. Instrument development considerations
3. Technical system considerations

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Design -- Data Collection Protocol

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

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Instrument Development Considerations

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

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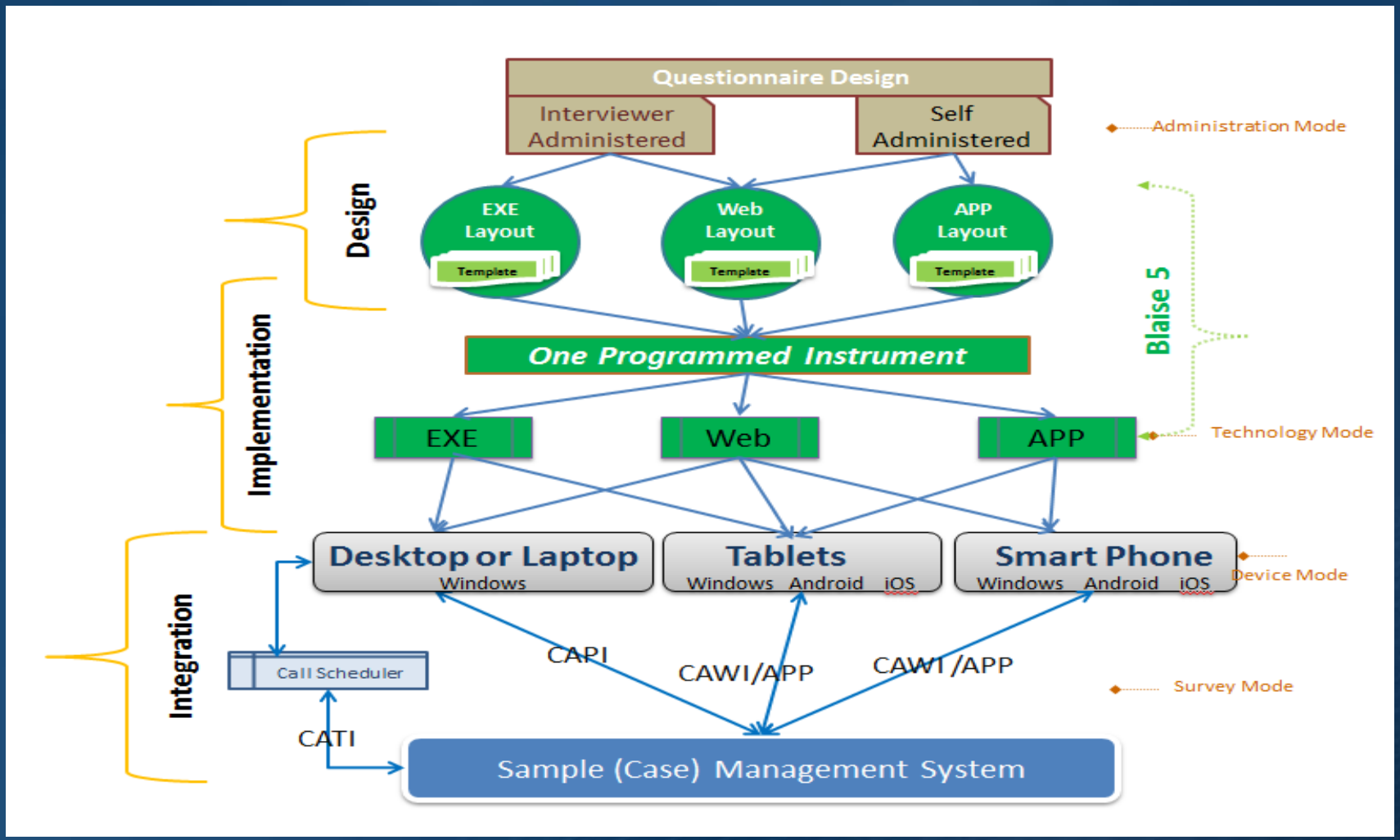
Multi-Mode Questionnaires and IT



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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?

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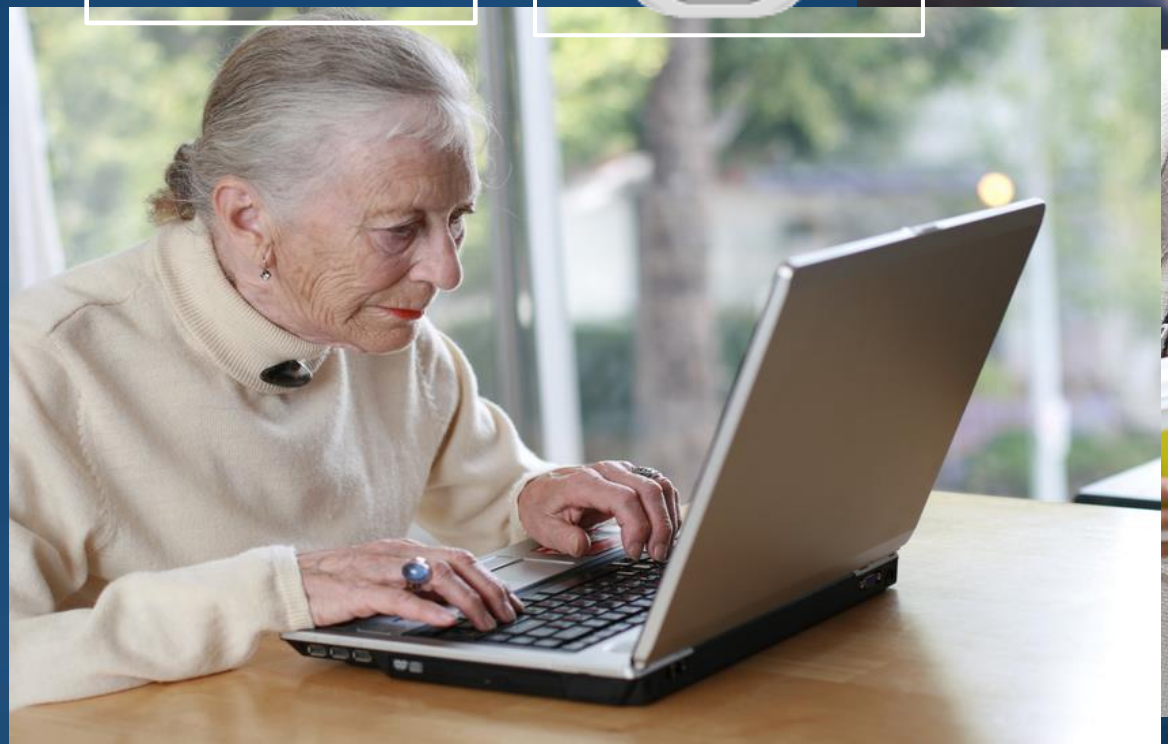
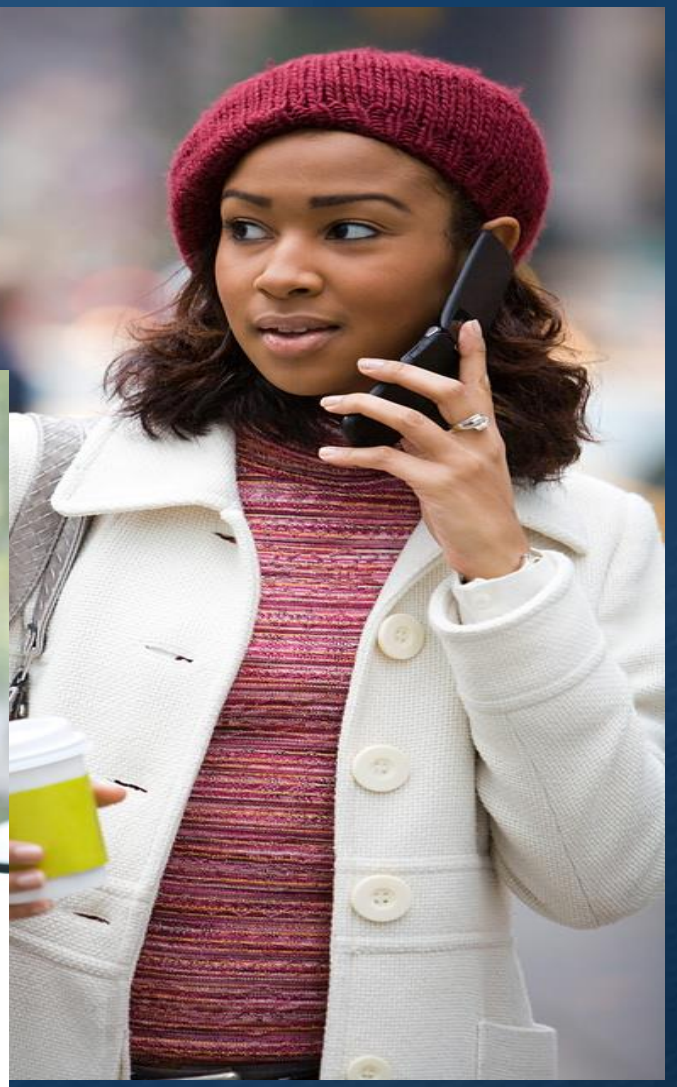
BYOD – Bring Your Own Device





Technical System Considerations

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

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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

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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

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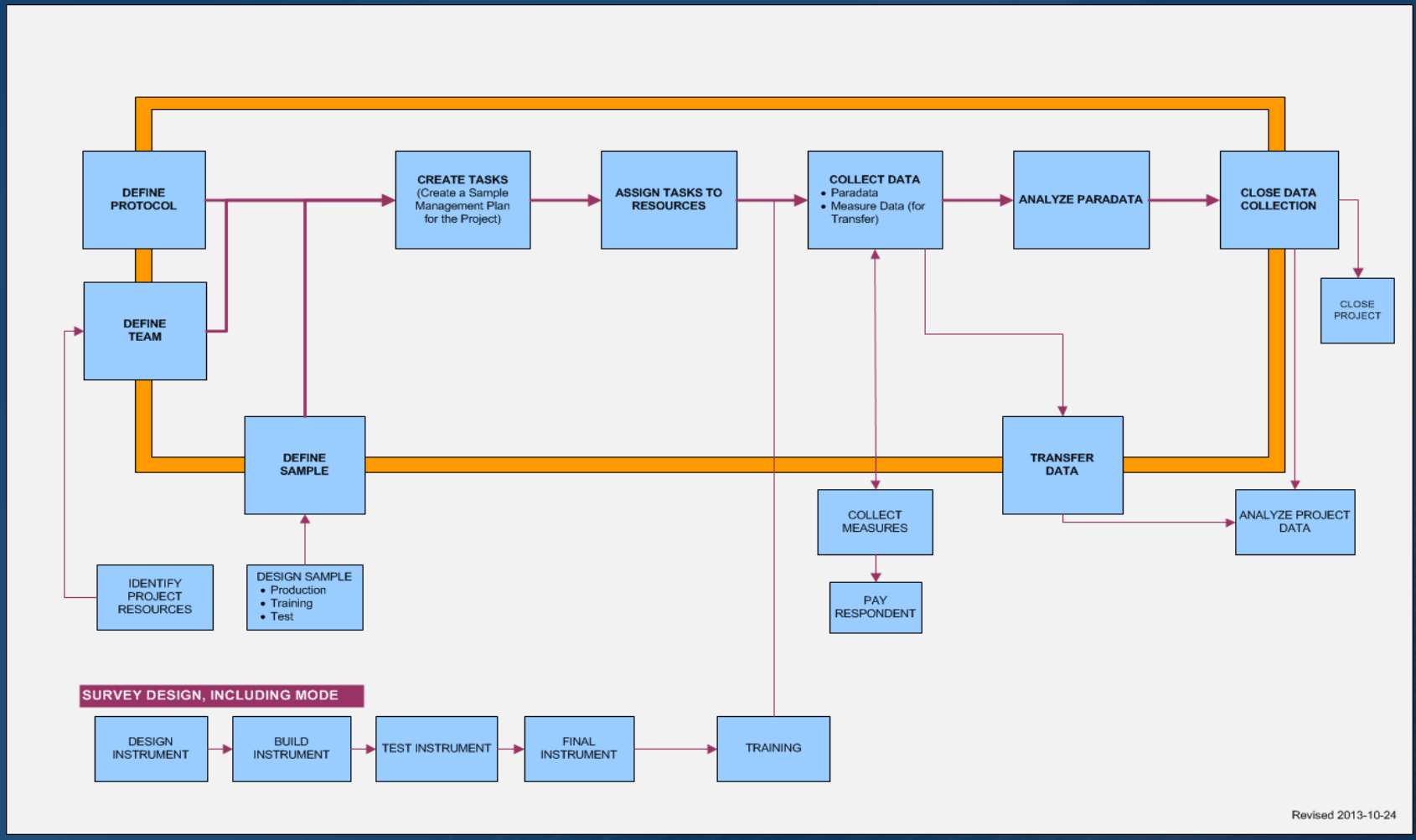
Mixed Mode PROCESS DIAGRAM



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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

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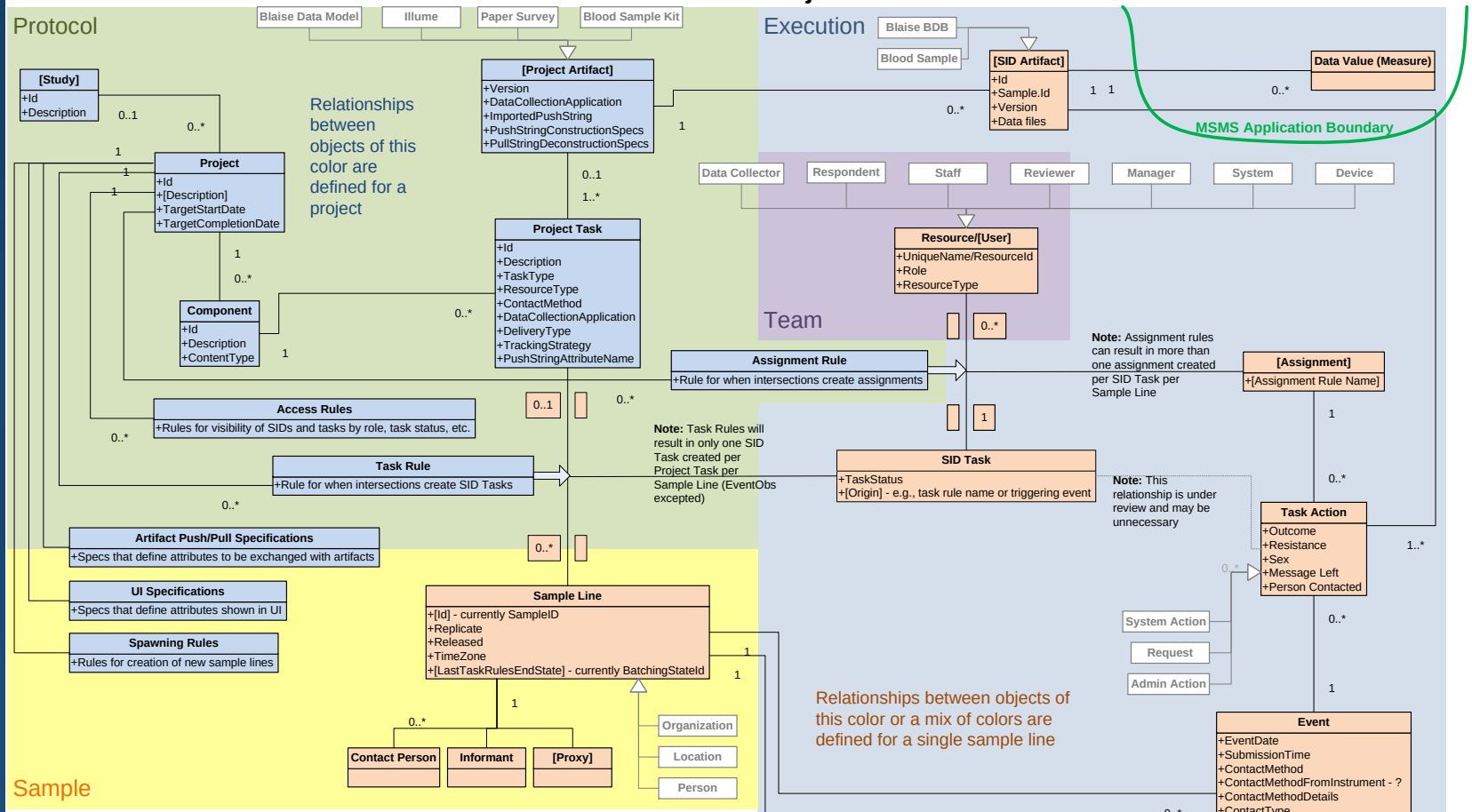
MSMS Business Object Model



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

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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

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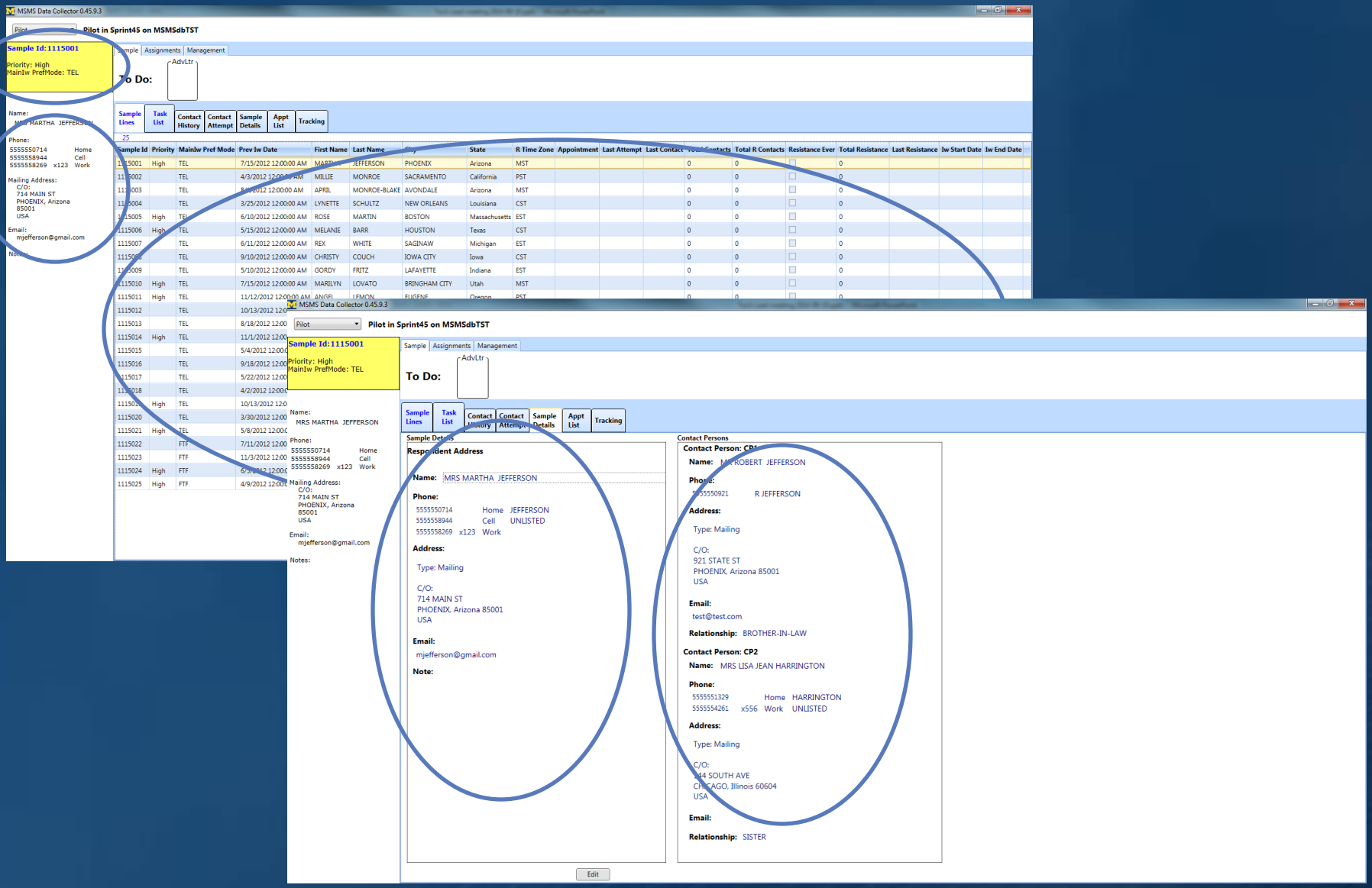

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Tailored Protocols

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	SampleLineIsReleased	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 TaskIsFinalized					goto Done

We have a 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

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	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	SampleLineIsReleased	Invite						
C2	[SendAdvEmail] ElapsedTimeSinceStatusWasSet [Done] [5.0:0:0]							
C3	[ConductSAQ] TaskIsNotStarted							
C4	[ConductSAQ] TaskIsStarted							
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] TaskIsOutstanding							
C10	[SendAdvEmail] ElapsedTimeSinceStatusWasSet [Done] [10.0:0:0]							
C11	C9 AND C10			CATI	CATI			
C12	[SendThankYouEmail] TaskIsFinalized					Done		
C13	[ConductCATI] TaskStatusIsEqualTo [Done]						ThankYouEmail	
C14	[ConductCATI] TaskStatusIsEqualTo [Cancelled]						Done	
C15	[ConductCATI] ElapsedTimeSinceStatusWasSet [Authorized] [5.0:0:0]						Done	

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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)

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Questions or Discussion

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