

# Development and Use of a Project Management Database System

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# History

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- UW Survey Center began as a small shop
  - Fewer staff
  - Smaller project workload
  - Easier to manage and track outcomes
  
- Grew over time
  - Taking on more work
  - Increasing project complexity
  - Adding staff
  - Increasing management complexity

# Management Team Goals

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- Improve staff communication
- Strengthen collaborative effort between departments
- Document project requirements
  - Centralized data store
- Ability to track and review project timelines
- Gather data and report on full life-cycle of a project
  
- Project Doc Survey
  - First attempt to meet these goals

# Project Doc Survey - Functionality

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- Centralized database
- Track project data
- Main focus
  - Collect initial project requirements
  - Gathered at the start of a project
- Programming team expanded on the use of Project records
  - Added data elements to serve as configuration settings for automated processes for CATI and DE projects



# Project Doc Survey - Limitations

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- Programmed as a web survey
  - One data element entered per screen
  - Challenging to view, edit, and comprehend the data
  - Inconvenient to update
- Didn't gather full life-cycle data of a project
- Data structure unable to model growing project complexities
  - Multi-modal
  - Waves
- Necessary for some projects because of the automation settings
  - Inconsistently used for other projects



# Management Team Goals

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- Gather data and report on full life-cycle of a project
  
- Project Management Database (PMDB)



# PMDB System Requirements

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- Manage and track projects
  - Through full life-cycle from proposal to post-production and completion
  - Real-time view into current project activities
  - Historical view into activity of all projects
- View staff assignments
  - Within multiple teams
- Centralized data repository
  - Single reference-point for all projects for all staff
- Integrate automation systems from the Project Doc Survey
  - Manage configuration through a single portal

# System Requirements

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- Record project meta-data
  - Reports
  - Data dashboards
- Available for management team
  - Analyze trends
  - Evaluate current and anticipate future workload
  - Explore potential process improvements
  - Examine impact on business processes
  - Adapt to changing requirements
- Incorporate additional functionality over time
  - Integrate all project-related data





# Project Management Database (PMDB)

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- Custom web application
  - Visual Studio
  - C#, JavaScript, HTML, ASP.NET
  - MySQL database
  - Web browser to access the program

# PMDB Security Features

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- Web Application hosted on our local intranet
- User-authentication tools from the University
  - Limited to users within our group
- PMDB application security layer
  - Manages users and their roles
  - Enable/disable features based on user-role
- Database best-practices prevent SQL-injection attacks



### Client

- Name
- Contact information
- Institution



### Proposal

- Estimated development start
- Estimated field start
- Modes
- Sample size



### Project

- Assigned Project Directors
- Assigned Programmers
- Development start date



### Project Instrument

- Mode
- Assigned Staff
- Milestone dates
- Automated process fields



## Client

- Name
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# Client Setup

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## Client Setup

Search Name:  🔍

**Name:**

**Institution:**  +

**Department:**  +

**College:**  +

**Phone:**

**Address 1:**

**Address 2:**

**City/State/Zip:**

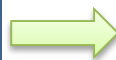
**Email:**

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## Client

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## Proposal

- Estimated development start
- Estimated field start
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# Proposal Data

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- Each project starts as a proposal
- Shaped through discussions/negotiations between management team and the client
- Basic outline of expectations
  - Focus
  - Timeline
  - Scope
- Management team gathers and enters Proposal data

# Proposal Setup

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## Proposal Setup

Select Proposal:

### General Information

Name: <input type="text" value="BRFSS 2015"/>	Status: <input type="text" value="Approved"/>
Proposal Date: <input type="text" value="11/12/2014"/>	Funding Likelihood: <input type="text" value="High"/>
Client: <input type="text" value="WISCONSIN DEPARTMENT OF HEALTH SERVICES"/>	Funding Status: <input type="text" value="Funded"/>
Client Institution: <input type="text" value="Department of Health Services"/>	Funding Notification Date: <input type="text" value="11/12/2014"/>
Client Department: <input type="text" value="Office of Health Information"/>	Modes: <input type="text" value="SATI"/>
Client College: <input type="text" value=""/>	<input type="text" value=""/>
Client Phone: <input type="text" value="608/261/1234"/>	<input type="text" value=""/>
Client Email: <input type="text" value="brf@wisc.edu"/>	<input type="text" value=""/>
Client Address 1: <input type="text" value="1000 University Avenue, 10th"/>	Estimated Development Start: <input type="text" value=""/>
Client Address 2: <input type="text" value="Madison, WI"/>	Estimated Field Start: <input type="text" value="1/1/2015"/>
Client City/State/Zip: <input type="text" value="Madison"/> <input type="text" value="WI"/> <input type="text" value="53701"/>	Sample Size: <input type="text" value="5500"/>
	Targeted Completes: <input type="text" value="2500"/>
	Length (minutes): <input type="text" value="2516"/>
	Length (pages): <input type="text" value=""/>

### Approve Proposal

### Approved Project Details

Project Number:

Project Name:

Project Status:

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# Proposal Approval

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- A proposal is ready to be approved when
  - Negotiations completed
  - Received funding
- Approve the proposal in the PMDB
  - By a member of the management team
  - Creates a new project record
    - Copying some proposal data into the new project
      - Allows us to run comparisons on the original proposal data against the actual project implementation data

# Proposal Approval

UWSC Project Management Database Logout

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### Proposal Setup

Select Proposal:

### General Information

Name: <input type="text" value="BRFSS 2015"/>	Status: <input type="text" value="Approved"/>
Proposal Date: <input type="text" value="11/12/2014"/>	Funding Likelihood: <input type="text" value="High"/>
Client: <input type="text" value="Wisc State"/>	Funding Status: <input type="text" value="Funded"/>
Client Institution: <input type="text" value="WI Department of Health Services"/>	Funding Notification Date: <input type="text" value="11/12/2014"/>
Client Department: <input type="text" value="Office of Health Information"/>	Modes: <input type="text" value="CATI"/>
Client College: <input type="text"/>	<input type="text"/>
Client Phone: <input type="text" value="608.263.7600"/>	<input type="text"/>
Client Email: <input type="text" value="anna.thompson@dhhs.wisconsin.gov"/>	<input type="text"/>
Client Address 1: <input type="text" value="1 W. Wilson Street 101"/>	Estimated Development Start: <input type="text"/>
Client Address 2: <input type="text" value="100 N. State Street"/>	Estimated Field Start: <input type="text" value="1/1/2015"/>
Client City/State/Zip: <input type="text" value="Madison"/> <input type="text" value="WI"/> <input type="text" value="53701"/>	Sample Size: <input type="text" value="5500"/>
	Targeted Completes: <input type="text" value="2500"/>
	Length (minutes): <input type="text" value="2516"/>
	Length (pages): <input type="text"/>

### Approve Proposal

### Approved Project Details

Project Number: <input type="text" value="P1084"/>
Project Name: <input type="text" value="BRFSS 2015"/>
Project Status: <input type="text" value="Pending"/>

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### Client

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### Proposal

- Estimated development start
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- Modes
- Sample size



### Project

- Assigned Project Directors
- Assigned Programmers
- Development start date

# Project Setup

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## Project Setup

Select Project:

### General Information

Project Number: <input type="text" value="1084"/>	Status: <input type="text" value="Pending"/>				
Name: <input type="text" value="BRFSS 2015"/>	<input type="checkbox"/> Dates Tentative?				
Grouping Identifier: <input type="text"/>	Development Start: <input type="text" value="11/1/2014"/> <input type="button" value="📅"/>				
Path: <input type="text"/>	IRB Approval: <input type="text"/> <input type="button" value="📅"/>				
Description: <input type="text"/>	<input type="checkbox"/> Ongoing?				
Keywords: <input type="text"/>	<input type="checkbox"/> Multiple Waves?				
Add PD: <input type="text"/> <input type="button" value="🔍"/> <input type="button" value="➕"/>	<input type="checkbox"/> Requires Tracing?				
<table border="1"><thead><tr><th>Project Director</th><th>Responsibility</th></tr></thead><tbody><tr><td><input type="text"/></td><td><input type="text"/></td></tr></tbody></table>	Project Director	Responsibility	<input type="text"/>	<input type="text"/>	Exp Sample Size: <input type="text" value="2500"/>
Project Director	Responsibility				
<input type="text"/>	<input type="text"/>				
Add Programmer: <input type="text"/> <input type="button" value="🔍"/> <input type="button" value="➕"/>	Expected Completes: <input type="text" value="2500"/>				
<table border="1"><thead><tr><th>Programmer</th><th>Responsibility</th></tr></thead><tbody><tr><td><input type="text"/></td><td><input type="text"/></td></tr></tbody></table>	Programmer	Responsibility	<input type="text"/>	<input type="text"/>	Exp Length (min): <input type="text" value="2516"/>
Programmer	Responsibility				
<input type="text"/>	<input type="text"/>				
	Exp Length (page): <input type="text"/>				
	Add Delivery Format: <input type="text"/> <input type="button" value="➕"/>				
	Delivery Format: <input type="text"/>				
	Client: <input type="text"/>				
	Client Institution: <input type="text"/>				
	Client Department: <input type="text"/>				
	Client College: <input type="text"/>				
	Client Phone: <input type="text"/>				
	Client Email: <input type="text"/>				
	Client Address 1: <input type="text"/>				
	Client Address 2: <input type="text"/>				
	Client City/State/Zip: <input type="text" value="Madison"/> <input type="text" value="WI"/> <input type="text" value="53701"/>				

Notes:



# Project Instrument Data

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- A single project can
  - Have multiple waves
  - Be multi-modal
- Project Instrument records
  - One-to-many relationship between Project and Instruments
  - Fundamental change to previous system
  - More accurately models data relationship of complex surveys



# Project Setup - Instruments

### Instruments

Add Instrument:  +

Mode	PROJECTS Pnum	Name	Programming Start	Delivery Due	
CATI	p1084_05	BRFS 2015 May	10/6/2014	6/15/2015	<span style="color: red;">✕</span>
CATI	p1084_03	BRFS 2015 March	10/6/2014	4/15/2015	<span style="color: red;">✕</span>
CATI	p1084_04	BRFS 2015 April	11/1/2014	4/15/2015	<span style="color: red;">✕</span>
CATI	p1084pre	p1084pre BRFS 2015 pretest	12/12/2014	12/31/2014	<span style="color: red;">✕</span>

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### Client

- Name
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### Proposal

- Estimated development start
- Estimated field start
- Modes
- Sample size



### Project

- Assigned Project Directors
- Assigned Programmers
- Development start date



### Project Instrument

- Mode
- Assigned Staff
- Milestone dates
- Automated process fields

# Project Instrument

**CATI Instrument**

Mode: CATI

Instrument Name: BRF5 2015 May

Active?

Instrument PNUM: p1084\_05

Server Address:

Database Name:

CMS Study Name:

Database Password:

Access Data Source:

Trace Directory UNC:

Add Coding: [dropdown] +

Coding: [list]

Add PD: [input] +

Project Director	Responsibility
[input]	[input]

Add Programmer: [input] +

Programmer	Responsibility
[input]	[input]

Add Shift Leader: [input] +

Shift Leader	Responsibility
[input]	[input]

Add Iv Supervisor: [input] +

Interviewer Supervisor	Responsibility
[input]	[input]

Add Language: [dropdown] +

Language: [list]

Instrument Notes:

Targeted Completes: 240

Briefing: BRF5 2015

Delivery Format: Text

Programming Start: 10/6/2014

Debugging Start: 11/10/2014

Receive Sample: 4/2/2015

Field Start: 5/1/2015

Data Delivery Start: 6/13/2015

Data Delivery Due: 6/15/2015

Dates Tentative?

Accept Cancel



# Project Instrument



### CATI Instrument


#### Sample

Source: Client Target Population: WI adults on landlines

Description: WI landline RDD

Initial Sample Size: 2348

Add Sample:  Date:   

Sample	Date	Action
2348	4/30/2014	

Frame: Random Digit Dial

Age Screen Used  
 Gender Screen Used  
 Racial Screen Used  
 Education Screen Used  
 Knowledge Screen Used  
 Other Screen Used


Other Screen:


#### Incentive

Type:  When Given:

Amount Given:

#### CATI Details

Instrument Path:  

Audio Directory:  

Audio Directory UNC:

Advanced Contact by Phone?  
 Advanced Contact by Email?  
 Advanced Contact by Letter?  
 Advanced Contact by Other?

Adv Email Signature:

Adv Letterhead:

Letter Signature:

Other Description:

Whiteboard Info:

Auto-Scheduled?  
 Active Auto?

Expected Minutes:  27

Days Contact to Interview:  0

Maximum Calls:  15

Message Protocol:  1st MAD contact.

Interview Recorded:  Entire Interview

Use Hang-Up/Callback Strategy?

Callback Protocol:

Intro:  Verbatim

Accept Cancel

# Project Checklist

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- Tool to document a thorough list of all possible requirements for a project
- Ability to attach a note to each item
- Filled in before or during a project kickoff meeting
  - Project Directors and Programmers

# Project Checklist

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## Project Checklist

Select Project:

**P1023: BRFSS Asthma 2014 Follow-Up**

Estimated Development Start:	03/29/2014	
Scheduled Field Start:	03/29/2014	
Scheduled Field End:	03/29/2015	
Expected Sample Size:	5200	
Expected Completes:	520	
Exp Length (min):	16	
Exp Length (page):		

**Staff**

Programmers:	Angie Smith	
Project Directors:	Angie Smith	
Field Staff:		
Client:	Wisconsin	
Client Institution:	Wisconsin Department of Health Services	

**Background and Overview**

How did UWSC come to do this project?		
Has the client worked with other survey organizations in the past?	<input type="checkbox"/>	
Is this a pilot project?	<input type="checkbox"/>	
Future expectations for this		

Accept Cancel

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# Project Checklist

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## Project Checklist

Select Project:

P1023: BRFSS Asthma 2014 Follow-Up

Future expectations for this project or this client?

Budget Concerns

### Hardware

Laptops

Tablets

Phones

Other

### Software

Monocle

Case Report

AirWatch

Screeener

Path Finder

CAPI Timesheet

Other

### Mail Database

What data should be tracked in the mail database?

What mailings will be tracked

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# Project Checklist

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## Project Checklist

Select Project:

P1023: BRFSS Asthma 2014 Follow-Up

What mailings will be tracked in the mail database?	<input type="text"/>	<input type="text"/>
Will any of the mailings need to be sent multiple times?	<input type="checkbox"/>	<input type="text"/>
Will sample be imported into the mail database more than once?	<input type="checkbox"/>	<input type="text"/>
Will any of the mailings contain multiple components, which should be tracked separately?	<input type="checkbox"/>	<input type="text"/>
<b>Development</b>		
Date instrument development begins	<input type="text"/>	<input type="text"/>
Expected pretest field period dates	<input type="text"/>	<input type="text"/>
ACASI?	<input type="checkbox"/>	<input type="text"/>
Experiments?	<input type="checkbox"/>	<input type="text"/>
Interviewing children?	<input type="checkbox"/>	<input type="text"/>
Bio-Markers?	<input type="checkbox"/>	<input type="text"/>
Who will work on debugging?	<input type="text"/>	<input type="text"/>
Will we use the lab server for debugging?	<input type="checkbox"/>	<input type="text"/>
How exhaustive will the debugging be?	<input type="text"/>	<input type="text"/>
Does our standard front-end need to be customized?	<input type="checkbox"/>	<input type="text"/>

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# Project Checklist

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## Project Checklist

Select Project:

P1023: BRFSS Asthma 2014 Follow-Up

debugging per:

Does our standard front-end need to be customized?	<input type="checkbox"/>	<input type="text"/>
Are there unique selection criteria for the front-end?	<input type="checkbox"/>	<input type="text"/>
Are we selecting multiple respondents per unit (household, business, etc.)?	<input type="checkbox"/>	<input type="text"/>
Is this stand-alone data collection or will the data collected here be used in future waves of data collection?	<input type="text"/>	<input type="text"/>
Will we use rosters or macros?	<input type="text"/>	<input type="text"/>
Are there sections of the instrument that require special consideration?	<input type="checkbox"/>	<input type="text"/>
Will all data collection take place within the CASES instrument?	<input type="checkbox"/>	<input type="text"/>
Will we be recording these interviews?	<input type="checkbox"/>	<input type="text"/>
Special privacy or security needs?	<input type="text"/>	<input type="text"/>

**Sample**

Source of sample	<input type="text"/>	<input type="text"/>
Timing of sample	<input type="text"/>	<input type="text"/>
Quotas?	<input type="checkbox"/>	<input type="text"/>

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# Project Checklist

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## Project Checklist

Select Project:

P1023: BRFSS Asthma 2014 Follow-Up

### Pretest

Will there be a pretest?

Time for instrument revisions between pretest and production

Plan to use and deliver pretest data?

### Interviewer Training

Date and time

Staff and client roles in training

### Production Field Period

QC plans

Who is monitoring initial data collection efforts?

Will there be continuous QC throughout the field period?

Interim data delivery

Interaction with other modes or stages

### Post-Production

Final data delivery

Format of final data delivery

Adding variable and value

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# Project Gantt Chart

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- Graphic representation of each project's status over time
- Uses milestone dates
- Reviewed and modified as they approach, as needed
- Changes should prompt an email and initiate a discussion/negotiation with the other team members
- Once the activity has begun, that date is assumed to be accurate and will be used for summary reporting



# Project Gantt Chart

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### Project Gantt Chart

Start Date: 5/6/2015   Project:    Show Proposals  
Mode:  Staff: Schlapper, Chris   Show Projects  
Assigned:  No PDs  No Programmers

[Change to Week View](#)

	May 2015																																		
	Week 18							Week 19							Week 20							Week 21							Week 22						
	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6			
p1034 - Mappi...																																			
P9989_capi - CAPI...																																			
P9989_mail - Mail ...																																			
P9989_web - Recr...																																			
P1097_mail - Mail Database - Mail (field)																																			
P1097_CAPI - CAPI Interview - CAPI (field)																																			
P9629 - 2015 and 2016 - Coding (development)																																			
p9629 - 2015 - CAPI (debug)																																			

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# Project Gantt Chart

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- Recommended use
  - Filter by staff to view your own projects
  - Review upcoming dates
  - Communicate questions or concerns with colleagues
  - Modify dates as they approach, as needed
    - Email colleagues with any changes
    - Discuss, review, and adjust subsequent dates, if needed

# PMDB - Current Status

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- Live and in-use
  - Tracks all proposals and projects
  - Provides management team with proposal reports
  - Project Checklist
  - Project FAQ
    - Read-only summary of a project
  - Project Gantt Chart
  - Replaced configuration controls for the automated systems
  - Use to collect CAPI QC
    - Summary reports



# Challenges

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- Need for flexibility in design and implementation
  - Management data now being systematically tracked
  - Uncover additional data requirements
  - Evolving features and implementation
- Balancing
  - Ease-of-use
  - Amount of useful data
    - Avoid overwhelming the data-collection process
- Staff
  - New responsibility
  - Timelines continuously evolve

# Future Plans

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- Implement data dashboard
  - Customizable by user
- Additional reports to compare a proposal's anticipated timeline with the actual project's timeline
- Build Task program
  - Associate a custom task with a project
  - Available for all affiliated staff to review and edit

# Future Plans

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- Create a single entry point for QC for all modes
  - CAPI notes review
  - CATI QC and monitoring tools
  - M&DE Verification tool
- Automate timesheets and recording billable time by project
- Implement a data warehouse to centralize the display and reporting on current and historical outcomes for all projects



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# Thank you!

For copies of this presentation or more information, please  
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