Specification Workbook

Part A - What Works Well? What Should Change? Assess Your Current System's Strengths

During the *Discovery Process*, you have an opportunity to think about the strengths (and weaknesses) of your current data system and identify the specific needs that the new one will address. What features are critical, which could you do without? Are any missing? Does the system function reliably, even when lots of people are using it? Is it capable of sharing data with other agency systems?

Finding answers to these questions may require effort, but the process will help assure that your new system has all needed features and that it functions well. You may want to talk with current users, partners in other agencies about how your system will interact with theirs, and whether you definition of certain common data fields are consistent with theirs. You should also discuss aspects of the system with your agency's IT staff.

With input from others, address the questions below. Your answers will help you identify gaps in your current system, and considerations for developing a new one.

Requirements	Rating Completely, Partially, or Not Enough	What Is Needed to Address in NEW System? What to Add, Remove, Fix
Completeness		
Does your system offer all required functions and features?	Partially	Need decision-support tools Assessment Status Report
Does your system generate all required NRS/WIOA tables?	Not Enough	Update NRS Tables for WIOA
Features to Provide Usability, Data Quality or Impactful Data Use	Partially	Need better participant lookup function
Reliability		
Does system operate consistently and reliably, even under load?	Partially	Sometimes get errors when running custom reports, formatting gets messed up.
Does system provide sufficiently fast response time, even under load?	Completely	
Does system appropriately enforce agency's business rules?	Partially	Must change rules to accommodate WIOA periods of performance.
Does system provide sufficient data validation checks and alerts?	Partially	Could use some alerts to remind instructors to update attendance.

Requirements	Rating Completely, Partially, or Not Enough	What Is Needed to Address in NEW System? What to Add, Remove, Fix
Compatibility		
Will system function within agency's prescribed operating environment? Operating systems? Databases?	Completely	
Does system meet agency's security/privacy requirements?	Partially	Need to comply with new password change requirements.
Is system capable of receiving and sharing interagency data, as needed for data matching and other needs?	Partially	Currently requires a data transfer and matching. Should be able to access employment records at labor - on demand.
Vendor Considerations		
Is agency ownership of data assured? Can data be easily exported for use in another system?	Completely	
Is continuity of service assured, should vendor cease operations?	Completely	
Does vendor take appropriate steps to secure state and participant data?	Completely	Per signed agreement, and data management plan submitted by vendor
Can changes in the system be made to address changes in state policies/procedures, if necessary?		
Is vendor/developer responsive and helpful?		
Cost		
Is cost/budget sufficient to meet maintenance and support needs	Partially	Need to increase funding by 5%

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Part B - Report Mockups

Report mockups provide a visual prototype upon which developers can base your systems outputs. Creating them helps you think through the kinds of reports that will be useful, and enables you to test ideas about how best to present information.

Create a mockup below that illustrates the content and format of a report you would like to see in your new data system. In mocking-up the report consider its purpose and the information required. What kind of layout will help your key audience get needed information quickly and effectively?

The mockup below specifies the design for a report to be used by program administrators and teachers to manage and schedule assessments.

Student Assessment Needs

Decatur Shores Adult Education Program

January 31 2017

Id	Student Name	Entry Date	Last Assessed	EFL	Instructor	Notes
000-00-0000	Rufus T. Crane	10/22/2016	10/25/2016	ABE Basic	Glenn Basic	
000-01-0001	Carolyn Ruud	5/1/2016	9/25/2016	ABE Intermediate	Abe Grabel	30 days overdue
000-02-0002	Glavine Rausch	1/20/2017	never	unknown	Prarie Sutherland	Needs Pretest
000-03-0003	Patti Campbell	11/11/2016	11/11/2016	ASE High	Lucious Grey	Approaching Test Date

Assessment Needs Summary
Needed Immediately
Next 30 Days

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Part C - Use Cases

Use Cases describe tasks that individuals will be able to complete using the data system. In the far left column, enter a user role (intake specialist, program administrator, instructor, state staff member, etc.). In the next column, list a use with which the data system will assist. In the third column, enter the steps a user in that role will go through to complete the task -- with the help of the system. You will often have multiple rows for each user role, each describing a different task. We will fill in the last two columns when describing the actual functions that the system will provide to complete these tasks (see Part D - System Functions).

In the spaces below, create a few cases for a particular user role.

Role	Uses (Tasks)	Steps User Will Complete Using System	System Functions Required	Function Grouping
Intake Specialist	Manage entry of student intake information. Including: 1) Entry of intake information 2) Update of intake information 3) Removal of intake information with approval from Program Admin.	Find Existing Participant	Find Existing Participant	Participant Intake Entry Page
		Enter Participant Information	Enter Participant Information	Participant Intake Entry Page
		Save Participant Information	Save Participant Information	Participant Intake Entry Page
		Delete Participant Information	Delete Participant Information	Participant Intake Entry Page
Program Admin	Assure the accuracy and integrity of student intake information. 1) Approve removal and changes in core student intake information - like id number, name. 2) Monitor timely entry of information by Intake Specialists and Instructors. 3) Track consistency and accuracy by running exception reports.	Approve change in participant name or student id	Approve change in participant name or student id	Participant Intake Entry Page
		Approve removal of intake information, if entered erroneously	Approve removal of intake information, if entered erroneously	Participant Intake Entry Page
		Run activity report	Run activity report	Reports
		Run data entry consistency report	Run data entry consistency report	Reports

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Part D - System Functions

Functions built into a system provide a means for users to complete tasks described in their Use Cases (see Part C). These functions may stand alone, or be used in combination with others on data entry or other pages to provide a complete set of tools for system users. Consider which tools are needed to support records management for student intake, enrollment, assessment, and other activities. Identify which ones would logically be grouped together on a particular data entry page. It is helpful to be specific. Enter information about function groups (e.g. entry pages) and specific functions they provide in the spaces below. Base your function descriptions on tasks specified in the Use Cases you created on the Part C tab of this workbook. When done, enter the functions that apply to each Use Case in the last two columns in the prior tab, Part C - Use Cases.

System Page/Screen Where would a user find this function?	**Description** Describe the task(s) these functions address	**Functions** List and describe each function	**Considerations** Format, Validation, etc.	**Roles** Who uses the function?
Participant Entry Page	Provides fields for entering student contact, demographic and basic educational background information, as shown in prototype.	**Find Existing Participant** Lookup record for student by id number or name.		Intake Specialist
		Enter Participant Information Enter Information for student in format defined by data dictionary.		Intake Specialist
		Save Participant Information Validate information and save in database.		Intake Specialist
		Delete Participant Information Remove information for student from database		Intake Specialist
		Approve Change in participant name or student id		Program Admin
		Approve Removal Approve removal of intake information, if entered erroneously		Program Admin
Reports	Provides collection of reports, accessible for individuals in particular roles. Items are selectable from a menu.	**Program Intake - Status Report** Run activity report to track intake counts and missing information		Program Admin
		Data Entry - Alerts Run data entry consistency report - comparing number of entries and key metrics year over year		Program Admin

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Part E - Inputs and Data Shares

Data needed to generate NRS, program, and state reports may come from a variety of sources, and there may be a lot of it. To specify the kinds of data needed, start by identifying specific entities (nouns) about which data will be acquired and managed. Program participants may be one entity, programs, classes, assessments and outcomes are others. From these entities, you can begin to build a data dictionary to describe the characteristics of all data items that the system will need to manage.

In the spaces below, list and describe the entities for which your system will need to manage information.

Entity	What's Included
Individuals	Personal Identifiers, Contact Information, Demographics for students and prospective students
Period of Performance	Period of Performance Dates and identifier for individuals
Hours	Record of Individuals' contact records for a specified period
Outcomes	Record of Individual employment or educational outcome
Assessment	Record of individual pre/post test scores
Assessment Type	Information about Assessment, name, scoring, and so on

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Part F - Data Dictionary

The data dictionary provides detailed information about system entities you identified in Part E - Inputs & Data Shares and the elements that characterize them. Its contents will help your system developer or vendor understand the characteristics of each element, how it should be stored, how to check it for accuracy, and information about how it may be used. If you are sharing or receiving data from another agency, you can use the data dictionary to verify that your data definitions match.

In the spaces below, list and describe elements associated with each entity identified in Part E - Inputs & Data Shares (previous tab), and provide details about its format, validation collection, use, and sharing.

Entity Entity to which element applies	**Data Item**	**Format** Format used to store element	**Validation** Applicable Data Checks	**How Acquired** How data get into database	**How Used** How element is used	**Sharing** Whether/how element is shared
Student	ssn	Numeric 999-99-9999	validate format, digits only	Hand entered at intake	Linkage with external data systems	Linkage
			must be unique			
	student_id	Numeric 999999999	digits only, unique	Automatically generated	Linkage within Adult Education Data System Tables	Linkage
	name	Character 30	validate alphanum, length	Hand entered at intake	Information	none
		validate alphanum, length				
	DOB	Date MM/DD/YYYY	validate ranges, format	Hand entered at intake	Age verification	none
			validate Age > 16 years		Reporting	
	ethnicity	Coded 1-6	Validate range	Hand entered at intake	Reporting	none
		(1 white, 2 black, 3… etc.)				

Entity Entity to which element applies	Data Item	Format Format used to store element	Validation Applicable Data Checks	How Acquired How data get into database	How Used How element is used	Sharing Whether/how element is shared
Attendance	student_id	Numeric 999999999	digits only, unique	linkage	linkage	
	class_id	Numeric 9999	digits only	linkage	linkage	
	from_date	Date MM/DD/YYYY	date, must be post-enrollment, pre-separation. No overlap with other attendance date entries.	Hand entered	reporting, assessment date tracking	
	to_date	Date MM/DD/YYYY	date, must be post-enrollment, pre-separation, post from_date. No overlap with other attendance date entries.	Hand entered	reporting, assessment date tracking	
	contact_hours	Numeric 999	range (0-160 hours), cannot exceed number of class contact hours	Hand entered, default to total class contact hours.	reporting	

Entity Entity to which element applies	Data Item	Format Format used to store element	Validation Applicable Data Checks	How Acquired How data get into database	How Used How element is used	Sharing Whether/how element is shared
Assessment	student_id	Numeric 999999999	digits only, unique	linkage	linkage	
	assessment_date	Date MM/DD/YYYY	date, must be post-enrollment, pre-separation, post most recent assessment date.	Hand entered	reporting, assessment date tracking	
	instrument_code	Numeric 99999	must be valid code for existing instrument	Automatic lookup	linkage	
	raw_score	Numeric 9999	range (min-max) for particular instrument.	Hand entered	reporting, assessment date tracking	
	efl	Numeric 999	must be valid efl code, matching record in the efl table	Automatic lookup	linkage	
	notes	text	open text	Hand entered by assessor or instructor	case management	program staff only
Assessment	student_id	Numeric 999999999	digits only, unique	linkage	linkage	
	achievement_date	Date MM/DD/YYYY	date, must be post-enrollment, pre-separation, post most recent assessment date.	Hand entered	reporting, assessment date tracking	
	achievement_type	enum ACADEMIC_PROGRESS EMPLOYMENT_GAIN EMPLOYMENT_RETENTION ACADEMIC_CREDENTIAL	must be valid achievement type	User selected	reporting, analysis	
	achievement_id	Alphanumeric			linkage to external data source	
	notes	text	open text	Hand entered by assessor or instructor	case management	program staff only