Defining Business Requirements

GTC East – September 2007

Lab Exercises

This page intentionally left blank

Lab #1: New Report Requirement

Requirement Provided:

"The new Management report must show all of the information collected for all sites within a given timeframe. The user should be able to see the report for a monthly, quarterly or yearly time interval. If no data exists for a particular site in the time period, still show the site with all zeros. Sites should not see any other site's data."

Exercise:

List at least 3 problems with the requirement statement:

1.

2.

3.

4.

5.

List what is known, rephrasing it into unambiguous, measurable statements.

1.
2.
3.
4.
5.

List at least 5 questions that could elicit more information from the users or technical staff:

1.
2.
3.
4.
5.

Lab #2: Automating a Manual Process

Requirement Provided:

The client paper admission application form has been targeted for automation into an electronic case management system. This system will permit counselors or data entry operators to directly record client information as a part of the initial client intake interview.

The information gathered on the 6-page form is needed throughout the case management process, and it is expected that the automation of this application form will significantly reduce errors and improve the efficiency of the overall process.

The admission application has a small number of required pieces of information needed to establish a valid application. The remainder of the form is considered optional at the time an application is filed, but more of the elements become required as a client's case progresses from status to status. The automated version of the form should not allow a user to move a client into a status is data required for that status is missing.

The input and update of the application data must be possible from any location. Management is open to reviewing alternative solutions (e.g., laptops or PDAs that synchronize their electronic applications when the user returns to the home office; Web-based data entry; etc.).

All data must be secured from inappropriate or unauthorized use.

Exercise: (Complete the following, as best you can, using the information provided).

List what is known, rephrasing it into unambiguous, measurable statements.

1.

2.

3.

4.

5.

List the target users:

1.

2.

3.

4.

5.

List assumptions that you are making (to be verified in discussions with the users)

1.

2.

3.

4.

5.

List at least 5 questions that could elicit more information from the users or technical staff:

1.

2.

3.

4.

5.

This page intentionally left blank

Lab #3: Comparing Business Requirements to the Business Flow

This lab builds upon the items presented in Lab #2. For the purposes of this lab, all the relevant information is contained within this description – you are not expected to refer back to Lab #2 for any additional information.

Requirement Provided:

The client paper admission application form has been targeted for automation into an electronic case management system. This system will permit the Intake Team to directly record client information as a part of the initial client intake interview.

The admission application has a small number of required pieces of information needed to establish a valid application. The remainder of the form is considered optional at the time an application is initially filed, but more of the elements become required as a client's case progresses from status to status. The automated version of the form should not allow a user to move a client into a status if data required for that status is missing.

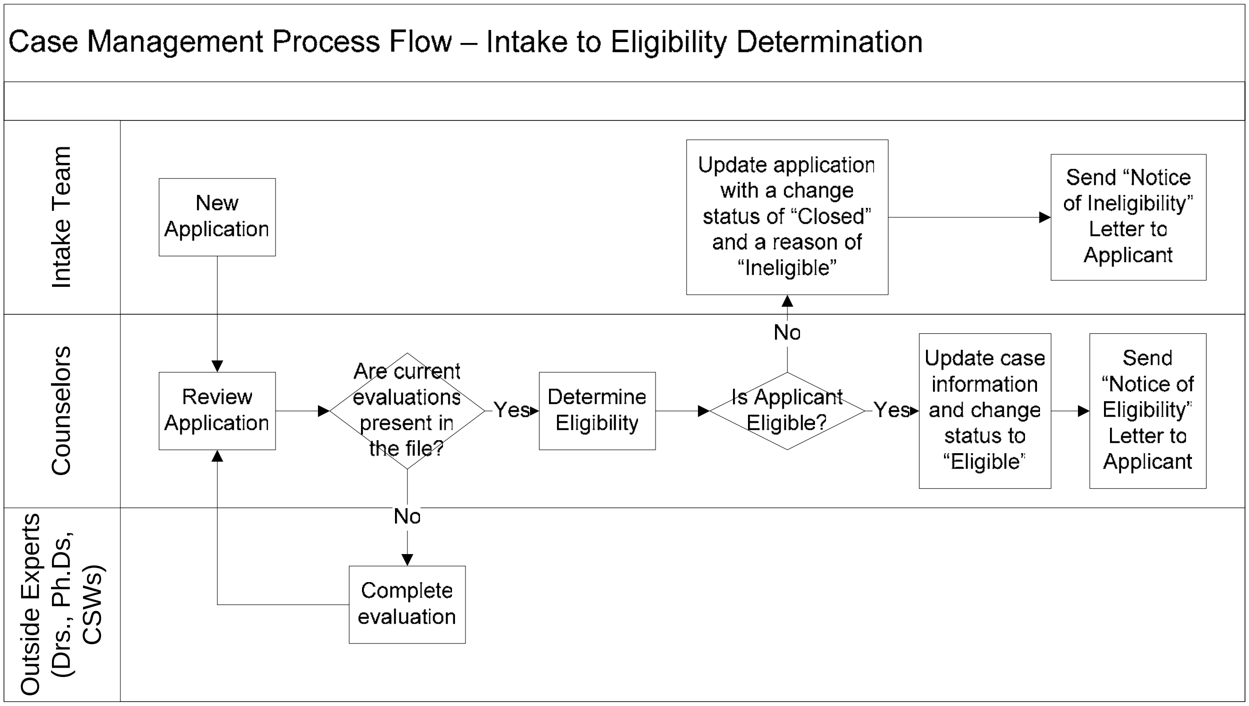
Once the intake portion of the form is completed, the assigned counselor will review the application and supporting materials and determine the eligibility of the client.

Please note: Some counselors are required to have a supervisor review and approve the eligibility determination. The automated system must allow for a setting at the individual user level that enforces this rule.

Ineligible applications are returned to the Intake Team for a status change and preparation of the Notice of Ineligibility Letter. The automated system should notify the Intake Team when Ineligibility Determinations have been made so that the applicant can be informed promptly.

Eligible applications are updated to a status of Eligible, and the counselor prepares and signs the Notice of Eligibility Letter.
Please note: For certain counselors, a supervisor signature may be required on the Notice of Eligibility letter. The system must allow for a setting at the individual user level that enforces this rule.

Business Flow Provided:



Exercise #1:

Based on your review of the business requirements and the process flow diagram, what requirement(s) is not addressed in the process flow?

(Hint: What group(s) of users is not represented in the diagram?)

1.

2.

3.

4.

5.

Exercise 2:

What portion(s) of the process flow diagram is not described in the written requirements?

(Hint: When first defining requirements, it is easy to follow the predictable path through a process and forget to capture what should happen when the forward progress through the process is stopped for some reason.)

1.

2.

3.

List at least 5 questions that could elicit more information from the users or technical staff:

1.

2.

3.

4.

5.

This page intentionally left blank

Lab #4: Distributed Databases to be Centralized

Requirement Provided:

Background
Five summers ago, an enterprising college student created an MS Access application for tracking attendance at state-sponsored information seminars. This application was distributed to each field office and training site used by the agency.

Each of these site locations sends a data file to the central office. These files are loaded to the central office database and statewide counts are produced in reports.

There is a basic user manual that was created for the field locations and the central office functionality. It consists of screen prints, workflow, and sample reports supported by some narrative. There is no data model or technical architecture documentation.

Requirements
The new system will replace all of these separate distributed databases with a web-based application running against an Oracle database.

Current data from all sites needs to be migrated to the new central database. Preliminary analysis work has discovered that about 30% of the distributed sites have made changes to their version of the Access tool. They have created additional screens for collecting data beyond the requirements of Central Office. Many have created additional reports as well. Consequently, there is significant resistance to this pending change from these locations.

To address this situation, the Executive Steering Committee has agreed to support a gap analysis comparing the data collected by the original system to the data now being collected in the extended versions used in the field. Implicit to this agreement is the understanding that only those data items that are useful to all will be incorporated into the new centralized system.

Data Dictionary Provided:

There are 3 core tables used in the central office Access system:

Table Name	Description
SEMINARS	This table stores the list of seminars that could be offered. It is referenced when an event is being scheduled.
LOCATIONS	This table stores the possible locations for a seminar. It is referenced when an event is being scheduled.
PEOPLE	This table stores the name and contact information for any person associated with the seminar. In the central office system, this table contains all seminar attendees and instructors.

The customized enhancements made to the central system are described below as extensions on the existing central office tables and/or rules, as follows:

Central Office		Field System #1		Field System #2	
Database	**Comments**	**Database**	**Comments**	**Database**	**Comments**
SEMINARS		SEMINARS		SEMINARS	
Seminar_ID	Unique ID	Seminar_ID		Seminar_ID	
Seminar_Title	Title of the Seminar	Seminar_Title		Seminar_Title	
Duration	Choice of ½-day or full-day	Duration		Duration	
LOCATIONS		LOCATIONS		LOCATIONS	
Location_ID	Unique ID	Location_ID		Location_ID	
Name	Location Name	Name		Name	
Address	Street Address	Address		Address	
City	City	City		City	
State	State	State		State	
Zip	Zip Code	Zip		Zip	
Phone	10-digit	Phone		Phone	
Fax	10-digit	Fax		Fax	
		Driving Directions	Text field that is included in a confirmation letter to each attendee	Contact	Point person at the location
PEOPLE		PEOPLE		PEOPLE	
Person_ID	Unique ID	Person_ID		Person_ID	
Fname	First Name	Fname		Fname	
Lname	Last Name	Lname		Lname	
Address	Street Address	Address		Address	
City	City	City		City	
State	State	State		State	
Zip	Zip Code	Zip		Zip	
Phone	10-digit	Phone		Phone	
Fax	10-digit	Fax		Fax	
Type	Choice of Attendee or Instructor	Type	Added Type of 'Staff'	Type	
		Employment Date	Only used for "Staff" type	Cell Phone	10-digit
		Termination Date	Only used for "Staff" type	e-mail	e-mail address
		Salary	Only used for "Staff" type		
		Fee	Only used for "Instructor" type		

Exercise: Gap Analysis (Complete the following, as best you can, using the information provided).

What are the new data items (fields) that have been identified as a result of the gap analysis?

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

What are the new business rules (conditions) that have been revealed by the gap analysis?

1.

2.

3.

4.

5.

List the target users:

1.

2.

3.

4.

5.

List at least 5 questions that could elicit more information from the users or technical staff:

1.

2.

3.

4.

5.

This page intentionally left blank

Lab #5: Tracing impact of change to a requirement

Requirement Provided:

<u>Background</u>

Quality surveys of inpatient hospital processes noted number of prescription errors were due to illegible handwritten orders and transcription errors. In response, the hospitals are moving forward with the creation of a medication order tool that will be integrated with the existing patient management system. The purpose of this system will be limited in scope to effectively removing the pen from the physician's hand and producing the paper order to the pharmacy using the computer and laser printer.

The project has made it through the requirements definition phase, use cases have been written, screens are being prototyped, and test planning has started. These related documentation elements are tracked in a Requirements Matrix that maps every requirement to one or more use cases. Each use case breaks down into one or more test plans for validating that the requirement(s) have been satisfied. The following table illustrates the requirements matrix at the time prototyping begins:

<u>Original Requirements, mapped to Use Cases and Test Plans</u>

Requirements	Use Cases	Test Plans
1. Permit an authorized user to enter a new medication. 2. Medication order must include the following minimum data items: Start Date Stop Date Drug Name Dose Frequency Purpose 3. Start Date must be greater than or equal to today's date 4. Stop Date must be greater than Start Date	100 – Add a Medication	100.1 – Create a new medication order, without error conditions 100.2 – Create a new medication order, omitting required data. 100.3 – Create a new medication order, entering incorrect Start and Stop Dates
5. Permit an authorized user to **renew** an existing medication 6. Calculate the default renewal Start Date as the Stop Date plus one day.	101 – Renew a Medication	101.1 – Create a medication order renewal, without error conditions 101.2 – Create a medication order renewal, omitting required data.

Requirements	Use Cases	Test Plans
7. Permit an authorized user to **discontinue** an existing medication. 8. A discontinued order must include: Discontinue Date Discontinue Reason 9. Discontinue Date should default to today's date. 10. Discontinue Date must be greater than the Start Date.	102 – Discontinue a Medication	102.1 – Discontinue an existing medication order, without error conditions. 102.2 - Discontinue an existing medication order, omitting required data.
11. Print the medication order for the hospital pharmacy	103 – Print Pharmacy Medication Order	103.1 – Issue the print command for the Pharmacy Medication Order, without error conditions. 103.2 – Issue the print command for the Pharmacy Medication Order with no medications ordered.

Exercise: Traceability and change control

During the prototyping meetings, it was pointed out that in addition to inpatient medication orders, there is also a need to prepare legible and accurate paper prescriptions for outpatients to take to a private pharmacy (e.g., CVS, RiteAid).

A new requirement to produce outpatient prescriptions has been added to the scope of the project. The impact of this new requirement must be analyzed against the already defined requirements, use cases and test plans.

> Outpatient prescriptions have additional required data fields:
> Number of Refills
> Dispense as written (DAW)
> Maximum Daily Dose
>
> Outpatient prescriptions must be printed onto Dept. of Health serialized prescription paper, available in pads or in stationary for laser printer output.

List the areas that the new business requirement for outpatient prescriptions may affect (e.g., requirements list, use cases, screens, database, rules, test plans?)

1. New or changed Requirements?

2. New or changed Use Cases?

3. New or changed Test Plans?

4. Other areas affected?

What business rules (conditions) must be added to support the new requirement for outpatient prescription writing?

1.

2.

3.

List additional questions that could elicit more information from the users or technical staff:

1.

2.

3.

4.

5.