




Patient Demographics Functions Specifications

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1.0 Purpose

The purpose of this document is to describe the specifications developed for the patient demographics functions. The specifications include not only the data collection of patient medical history, but also the ability to search and find patient medical history information. The patient demographics will be used to track and store ClearView image and analysis data.

2.0 General Requirements

Where appropriate, logic should be contained in try/catch blocks and any exceptions should be logged using the standard logging mechanisms.

3.0 Definitions

Try/catch blocks	A flow control handling mechanism that allows the capture of exceptions that occur during the execution of a block of code.
EPIC Central	A SaaS based application that will be used amongst other things to archive data collected by the ClearView systems.

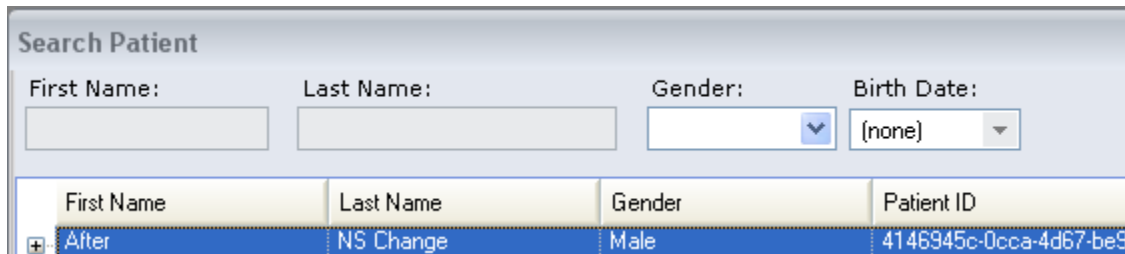
4.0 Specifications

Requirement #4.1: Users must be able to search for a patient in the system. All new patient entry must begin with the search screen. This is to ensure that the specific patient being entered does not already exist.

Specification: The Manage Patient button is the only method to access the Patient Demographics. The first action is to open a Search Patient dialog box in order to determine if the patient already exists in the database.

Requirement #4.2: To search a patient, the user is prompted to enter at a minimum the patient's first or last name. Additionally, search can be conducted by the patient's birth date and gender in order to narrow the search results.

Specification: The Search Patient dialog allows the user to enter at least a portion of the first name, last name, birth date, and/or gender of the patient.



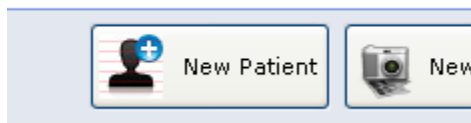
First Name	Last Name	Gender	Patient ID
After	NS Change	Male	4146945c-0cca-4d67-be9

Requirement #4.3: The system displays zero or more results for the search criteria entered.

Specification: After clicking the Find button, the database returns all results that meet the search specifications. If no results are found, the search display grid will remain blank.

Requirement #4.4: If the appropriate patient is not found, then the user is presented with the ability to create a new patient profile.

Specification: Once the search results are returned, the Add Patient button is available in the Search Patient dialog box. The Add Patient button opens the Demographic window for data entry of patient information.



Requirement #4.5: If the patient is found, then the user is able to view the patient demographics information, capture a new scan for the patient selected, or enter a new patient profile.


Specification: Once the search results are returned with patients that meet the search criteria, users may select a specific patient listed and have the options to view the Patient Demographics information, Capture a new scan for the patient selected.

Requirement #4.6: All fields should be audited. An audit trail should be kept for each data point, consisting of the following tracking points:

- ID of the user that performed the change.
- Date and time of the change down to the minute.
- The before and after values.
- The name of the data point.

Specification: When a patient record is either created or edited the information is captured and audited in the persistence layer. This prevents people from changing the data before it is saved to the system.

The audited data is captured and placed into a database table called 'AuditInfo'. The table consists of the following structure:

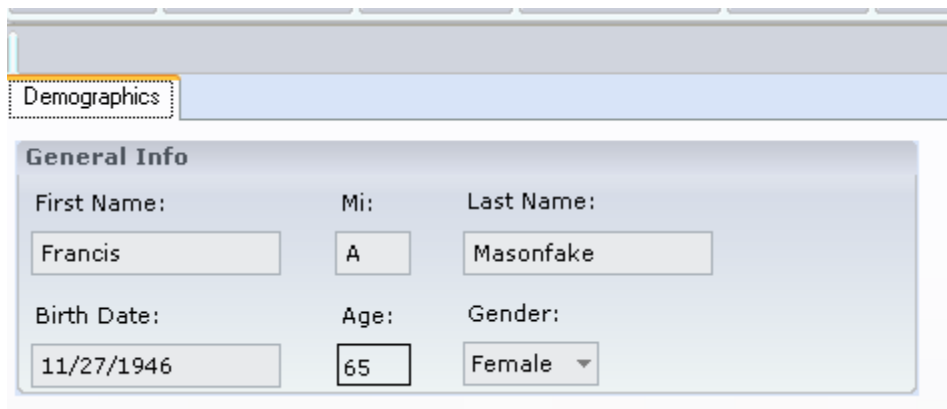
AuditInfo	
	AuditInfoId
	ActionPerformed
	PatientId
	TableName
	ColumnName
	OldValue
	NewValue
	CreatedBy
	CreatedOn

An example of the captured data is below; no data can be added or changed on the patient record without an audit trail being created.

AuditInfoId	ActionPerformed	PatientId	TableName	ColumnName	OldValue	NewValue	CreatedBy	CreatedOn
112	Field Detail	0	Person	Guid		16573f30-2361-...	administrator	2/22/2012 1:31:56 AM
113	Field Detail	0	Person	FirstName		Encryption	administrator	2/22/2012 1:31:56 AM
114	Field Detail	0	Person	LastName		Test5	administrator	2/22/2012 1:31:56 AM
115	Field Detail	0	Person	MiddleInitial		T	administrator	2/22/2012 1:31:56 AM
116	Person Entity Created, ID: 459	0	Person	NULL	NULL	NULL	administrator	2/22/2012 1:31:56 AM
117	Field Detail	0	Patient	PersonId		459	administrator	2/22/2012 1:31:56 AM
118	Field Detail	0	Patient	Dobview		4/23/1945 12:0...	administrator	2/22/2012 1:31:56 AM
119	Field Detail	0	Patient	Dob		System.Byte[]	administrator	2/22/2012 1:31:56 AM
120	Field Detail	0	Patient	GenderTypeId		1	administrator	2/22/2012 1:31:56 AM

Requirement #4.7: After a search, if the patient is found, then the user is able to view the patient demographics information, capture a new scan for the patient selected, or enter a new patient profile.

Specification: By selecting a user that was returned in the results set and pressing the View Patient button, the demographic information can be viewed and edited.



Demographics

General Info

First Name: Francis Mi: A Last Name: Masonfake

Birth Date: 11/27/1946 Age: 65 Gender: Female

Any changes made to the patient record are audited.

Requirement #4.8: The demographics collected will consist of the following points, the table below represents the name of the data, a validation if any and the requirement of the field to complete data entry:

Field Name	Validation	Required
First Name	None	Yes
Last Name	None	Yes
Middle Initial	None	No
Birthdate	Valid date in format mm/dd/yyyy	Yes
Gender	Either Male or Female	Yes

Specification: The patient data is stored in two tables, Person and Patient. A number of the fields used are either encrypted or hashed for security purposes.

The validations specified in the requirement have been implemented; the form cannot be saved until the validations are all satisfied.

The patients' is calculated for display.

Requirement #4.9: The user can either cancel out of the process (Cancel) or they can save the information (Save).

Specification: When creating or editing a patient, the user can either click the save icon at the top of the application to save the changes, or they can click the X in the upper right corner of the window. If the user attempts to close the window before saving (and data has been changed) they will be prompted with a warning.

Requirement #4.10: All data will be saved on the local system located at the client location. This includes all information contained on the patient intake form and the unique identifier generated based upon the patients name, date of birth and gender.

Specification: All data for the application is stored in a local Microsoft SQL Server 2005 (or later) database.

Requirement #4.11: A user can add to or update any of the existing patient's information in requirement 4.8.

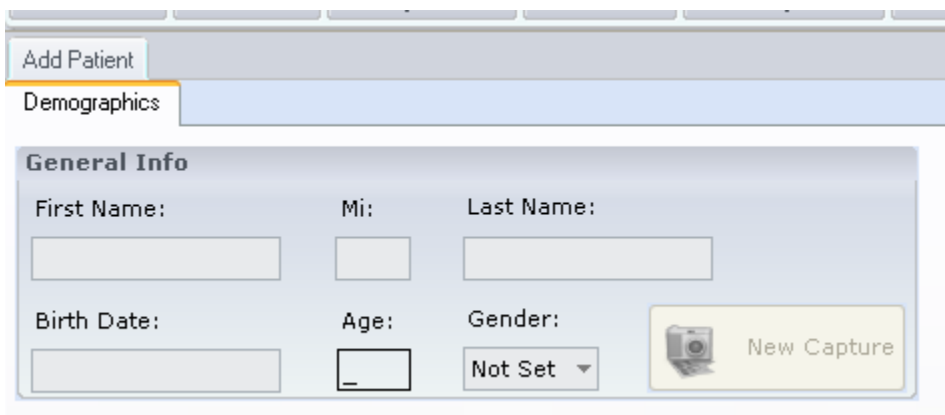
Specification: All displayed fields (with the exception of the calculated age value) can be edited by the user. All edits are subject to the validations that have been configured for the field.

Requirement #4.12: The ClearView system must upload any new patients that are added to the system.

Specification: The ClearView system will make a call to the Synchronization service to add a patient on EPIC Central when the patient is added to the local ClearView system. The synchronizer process guarantees that the data will make it to EPIC Central.

Requirement #4.13: The user should be able to go directly to the scanning functionality once a new patient has been saved.

Specification: A new button was added to the Add Patient process that will allow the operator to go directly to the scan process from the add patient process.



Add Patient

Demographics

General Info

First Name: Mi: Last Name:

Birth Date: Age: Gender:

 New Capture



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The button will remain inactive until the new patient is successfully saved to the database. The button will be enabled when an existing patient is loaded.



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Document Revision History

Version Number:	Description of Change:	Date:	Updated by:
000	Introduction	5/24/11	A. Mason
001	Added audit trail requirement. Removed outdated demographic requirements	3/5/12	A. Mason
002	Added the specifications for the ability to upload patient demographic information to EPIC Central. Added the specification for allowing the user to go directly from the Add Patient screen to the scanning process.	7/18/12	A. Mason