

User Pre-Release Notes

for RADNET rRIS

Build 1.03

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1. Purpose

This document describes some of the new features and changes implemented in rRIS as of the end of Sprint 3. This pre-release version of rRIS is referred to as Build 1.03.

Only features which can be visually demonstrated to the user will be outlined in this document.

2. Intended Audience

This document is created by the rRIS Development team for the RADNET RIS management team.

3. Installing/Accessing the Application

The client installer for rRIS is still in the early development stages. For now, users can access the system by remoting to the rRIS test server in Baltimore as follows:

1. Start Remote Desktop Connection and specify IP 10.120.0.152
2. Username: TestRIS
3. Password: rRIS1234
4. Double click the rRIS icon on the desktop or go to Start→All Programs→rRIS
5. Login User: terry
6. Login Password: ris

If you experience difficulties accessing the application, please do not hesitate to contact Spencer MacDougall with the PEI RIS Development Team.

4. New Features and Enhancements

Login Screen

There has been a basic login screen developed which accepts a username and password. The system can be configured to validate the user with Windows Authentication or simply use the user credentials stored in the rRIS database.



Figure 4.1 – Login Screen

GUI Framework

MainShell is the visual hub display of the GUI. It consists of an application menu, menu bar, toolbar, status bar, and tab control.

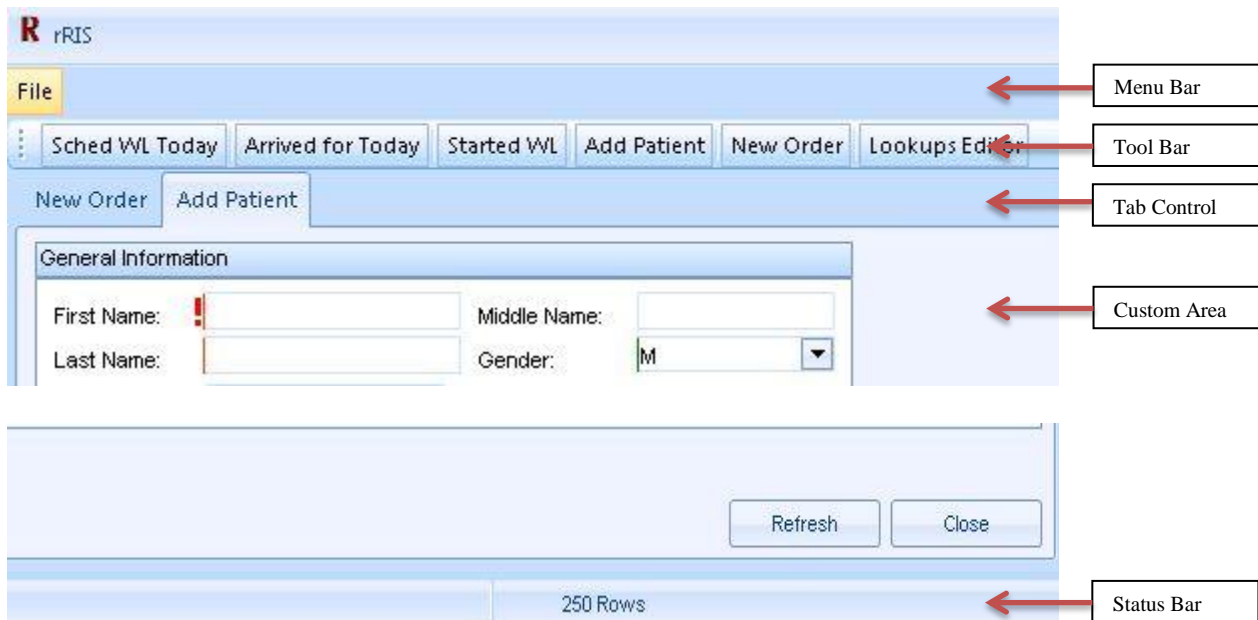


Figure 4.2 – GUI Framework

The user has the ability to navigate the application by clicking on the buttons in the menu bar such as “Add Patient”, “New Order”, or “Started Worklist”. The application has the can open multiple copies of content area forms such as “Edit Patient” but is configured to only open one copy of each worklist.

Worklist Framework

A framework has been developed that will allow the creation of worklists specifying status, double-click action, columns to display, and filter criteria. For example, clicking on the “Started Worklist” button in the Tool Bar will open up a worklist where the Status Code is equal to Started. This status is specified during the creation of the worklist. In the next build, this framework will be enhanced to accept one or more statuses.

last_name	first_name	scheduled_...	status_code	scheduled_modality_code	accession_number
Molyneaux	Kevin	1/9/2009 8:...	Started	CR2	7276467683
testabcaa	Kevin	1/9/2009 1:...	Started	CR2	6658276457
Espinozaaa...	Colby621	1/15/2009 1...	Started	CR1	4325585719
Duarteaaaaa...	April	1/21/2009 9...	Started	CR1	7322586137

Figure 4.3 – Started Worklist

The user has the ability to specify filter criteria to quickly query the worklist. For example, with minimal clicks the “Started Worklist” can be filtered to show only studies for the CR1 modality, with the scheduled start date greater than 10/12/2010, and sorted by the scheduled start date.

last_name	first_name	scheduled_start_date	status_code	scheduled_modality_code	accession_number
Guzman	Christi	10/23/2010 10:08:22 AM	Started	CR1	6116282588
Hart	Lori79	10/26/2010 12:18:26 AM	Started	CR1	1425336486
Blanchard	Eugene7	10/31/2010 10:14:30 AM	Started	CR1	3125671336
Owen	Bill831	11/11/2010 8:00:26 PM	Started	CR1	7624311434
Galloway	Kenneth471	11/21/2010 6:42:34 PM	Started	CR1	9251618925
Barrett	Clayton	12/7/2010 9:46:43 AM	Started	CR1	9966568277
Pierce	Sheryl97	12/9/2010 11:13:41 PM	Started	CR1	1437815542
Wilcox		12/23/2010 12:57:58 AM	Started	CR1	3383715377
Mcgrath	Tonia9	12/26/2010 8:15:09 PM	Started	CR1	7738279825
Monroe	Brian414	12/29/2010 3:04:49 AM	Started	CR1	1772475528

Figure 4.4 – Started Worklist with filter criteria

In future builds, the user and RIS administrators will have the ability to save and reuse these filters at a worklist level.

Patient Search

The application has a patient search screen, which can be launched by clicking on the search button. If there is search criteria in the search criteria text box (at the top of the screen) the parameters are parsed intelligently and placed in the appropriate sections on the patient search screen which is displayed and the search is automatically executed.

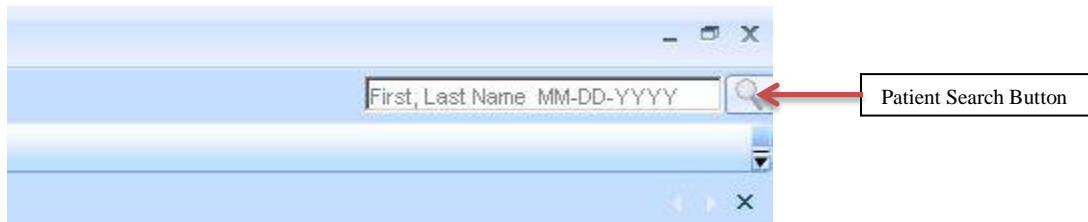


Figure 4.5 – Patient Search button on Menu Bar

Using the patient search on the menu bar, the user can quickly search for a patient by specifying a first and last names followed by a date of birth. In the future, this quick search will be configurable to specify other criteria like MRN.

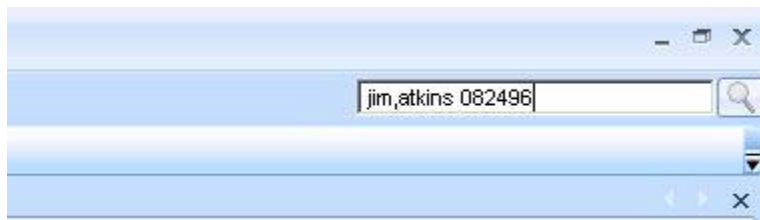


Figure 4.6 – Patient Search with search criteria

By selecting the search button, the user will be brought to the search screen and shown the returned results.

Patient Search

Search Criteria

First Name: jim Birth Date: 08-24-1996

Last Name: atkins

☐ Sounds Like

MRN:

Search Reset

First Name	Last Name	Middle Name	Birth Date	MRN	Issuer	Gender	Address	City	State	Phone
Jimmy	Atkins	35029	08-24-1996	688653	RIS	F	49 White Nobel Way	Indianapolis	Missouri	640-6742973

Figure 4.7 – Patient Search Screen displaying search results

The Patient Search screen will allow the user to specify First Name, Last Name, Birth Date, and/or MRN as criteria. When querying the patient data table, the system will use a “Starts With” approach. For example, searching for First Name equals “jim” and last name equals “a” will return the following list of patients:

Patient Search

Search Criteria

First Name: jim Birth Date:

Last Name: a

☐ Sounds Like

MRN:

Search Reset

First Name	Last Name	Middle Name	Birth Date	MRN	Issuer	Gender	Address	City	State	Phone
Jimmy29	Acosta	68490	11-02-1955	815289	RIS	M	91 Cowley Freeway	Detroit	Kentucky	580-5446045
Jim4	Aguilar	54827	06-13-1958	824429	RIS	U	637 Rocky Fabien Freeway	Hialeah	New Hampshire	857-3247472
Jim3	Aguirre		10-25-2007	735176	RIS	M	35 White Nobel Boulevard	San Diego	Iowa	946-459-8345
Jim764	Alexander	72019	07-20-1984	610645	RIS	U	57 North Old Way	Corpus Christi	North Carolina	061-684-2198
Jimmy35	Allison	98554	06-17-1983	796062	RIS	F	437 Green Fabien St.	Newark	Vermont	466095-2384
Jimmy000	Alvarez	60788	01-05-1971	313216	RIS	F	721 East Green Cowley Road	Anaheim	Tennessee	1042980920
Jim73	Andersen	65094	04-11-1967	957089	RIS	F	281 Second Road	Richmond	Rhode Island	071-732-2767
Jimmie233	Andrade	48980	11-08-1966	537852	RIS	U	713 West Green First Blvd.	Columbus	Washington	873-890-5706
Jimmy7	Andrews	11830	04-17-1990	762401	RIS	M	50 Green Clarendon Freeway	Buffalo	Kansas	429-9742711
Jimmy11	Archer	06772	09-07-1969	278481	RIS	F	41 Green Old Street	Jacksonville	Texas	117227-3442
Jimmy9	Arellano	86869	12-11-1987	537178	RIS	F	822 Rocky Hague Way	Newark	Arkansas	729-5561179
Jim	Atkins	81622	05-02-2006	102982	RIS	U	486 Green Second Road	Jersey	Kentucky	311895-2148
Jim58	Atkins	09103	02-19-1956	594654	RIS	M	567 First Parkway	Portland	South Dakota	965-1958122
Jimmy	Atkins	35029	08-24-1996	688653	RIS	F	49 White Nobel Way	Indianapolis	Missouri	640-6742973


Figure 4.8 – Specifying Search Criteria

Patient Search supports a “Sounds Like” function. This is especially helpful if the user is having difficulties with the spelling of the patient’s name. For example, searching for First Name equals “jim” and last name equals “atkin” with the Sounds Like feature enabled will return the following list of patients:

Patient Search

Search Criteria

First Name: Birth Date:

Last Name: 

☒ Sounds Like

MRN:

	First Name	Last Name	Middle Name	Birth Date	MRN	Issuer	Gender	Address	City	State	Phone
➔	Jane0	Adkins	05225	01-02-1962	535144	RIS	U	606 White Hague Parkway	Rochester	Montana	821-101-8939
	Jeanne	Adkins	52221	07-26-2000	144368	RIS	M	33 South New Way	Louisville	North Carolina	359-298-0340
	Jaime92	Atkins	28894	09-12-1961	175284	RIS	U	539 Oak Blvd.	Denver	California	953239-8807
	Jane466	Atkins	89334	02-06-1980	347186	RIS	F	42 First St.	Memphis	North Dakota	5220991933
	Jeanne	Atkins	34447	01-22-1979	379656	RIS	F	235 Rocky Fabien St.	Miami	Alaska	387-7150348
	Jenna33	Atkins	03170	05-21-1956	515706	RIS	U				
	Jim	Atkins	81622	05-02-2006	102982	RIS	U	486 Green Second Road	Jersey	Kentucky	311895-2148
	Jim58	Atkins	09103	02-19-1956	594654	RIS	M	567 First Parkway	Portland	South Dakota	965-1958122
	Jimmy	Atkins	35029	08-24-1996	688653	RIS	F	49 White Nobel Way	Indianapolis	Missouri	640-6742973
	Joann856	Atkins	20278	09-01-1975	399147	RIS	M	104 Oak Way	Omaha	Nebraska	1181153933
	Johnnie2	Atkinson	20983	07-09-1958	647504	RIS	M	94 Nobel Blvd.	Shreveport	Michigan	6974179767
	Johnnie8	Atkinson	59977	01-12-1974	323527	RIS	M	92 Green Nobel Road	Little Rock	Rhode Island	170-131-5839
	Jon95	Atkinson	40944	08-11-1961	232761	RIS	U	27 Old Street	Bakersfield	Illinois	397994-7363

Figure 4.9 – Specifying Search Criteria using Sounds Like

Custom Area Framework

There is a need for the ris system administrators to respond to the changing needs of the business and to make modifications to enhance operations. This level of customization will be accomplished through two editors:

1. The Data Model Editor, which will define which fields, their type, if they are required, validation rules, calculated fields in the model and default values.
2. The User View, which will define which control displays a piece of data and how it will look on the screen.

The Custom Area can be accessed by right-clicking on a custom form and selecting “Edit View”.

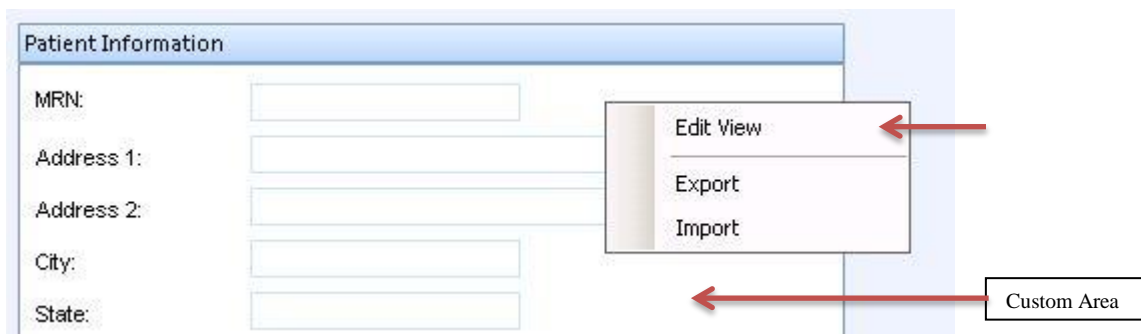


Figure 4.10 – Editing Custom Area

Editing a custom area will be based on the permission of the user and is typically a function of the RIS Administrator. The User View or Dynamic Form Editor allows the administrator to make modifications to the user screens of the application without having to affect the product source code. Here are some of the typical functions that will be performed with this editor:

1. Change the layout of the form such as tab order, field size, font size and color.
2. Add new controls such as Text Boxes and Check Boxes and map them accordingly to the proper field in the dataset.
3. Apply permissions to selected controls.
4. Apply business logic via default values, calculated fields, and specifying required fields.

An example could include a request to add an email field to the Patient Information custom area. Currently, the user must assume there is already a field in the ris database that will store an email at the patient level. In future releases, the ability to add custom fields separate from the ris core data model will exist. The following screen shots will illustrate adding a new Text Box and mapping it to the Patient table.

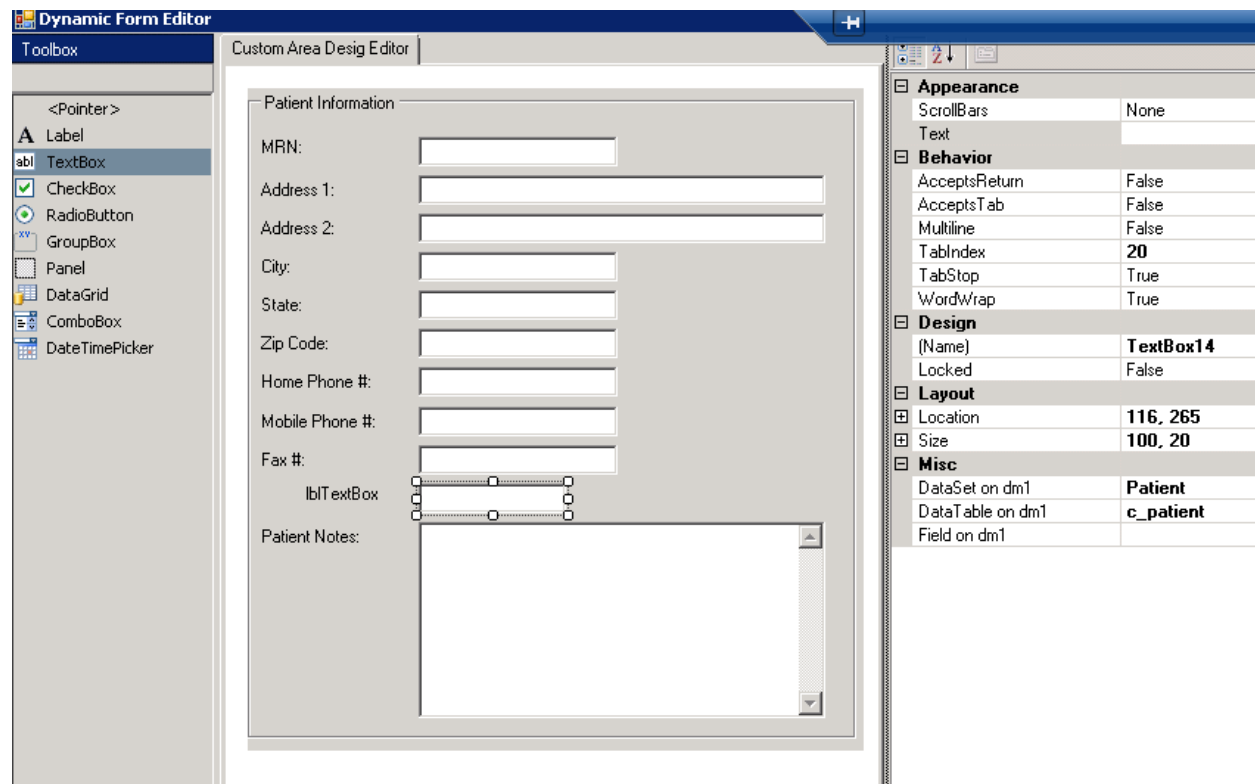


Figure 4.11 – Adding a Text Box to a Custom Area

By simply dragging a TextBox control from the Toolbox and placing it in the desired location on the custom area, the ris creates a new control with a corresponding label in the editor screen. To complete the control's configuration the user will complete the following:

1. Map the DataSet to Patient
2. Map the DataTable to c_patient
3. Map the Field to primary email address
4. Size the Text Box accordingly
5. Change the text of the label and align it
6. Adjust the TabIndex property
7. Save the changes

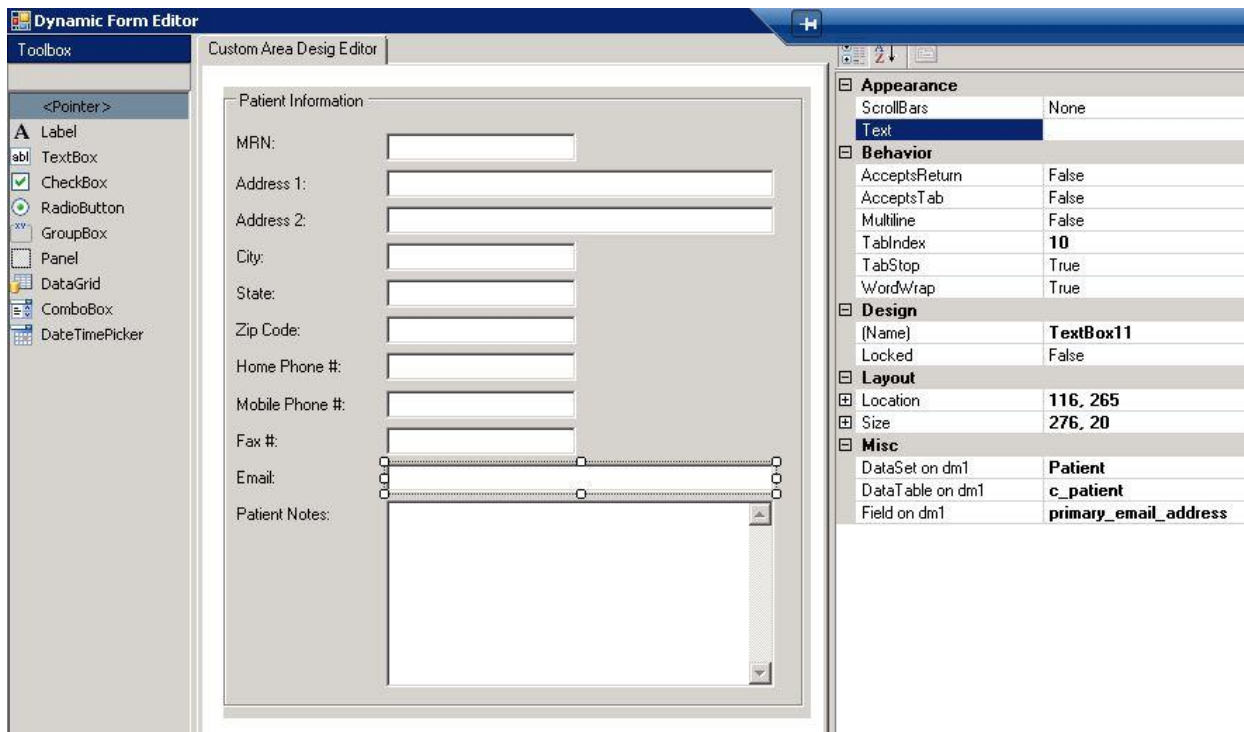


Figure 4.11 – Configuring a Text Box

Once the user has saved changes to the custom area, the system will display these changes in a preview mode so they can first be tested. Once validated, the user has the ability to publish the changes to the database so they are distributed to all ris users. The user also has the option to revert the changes.

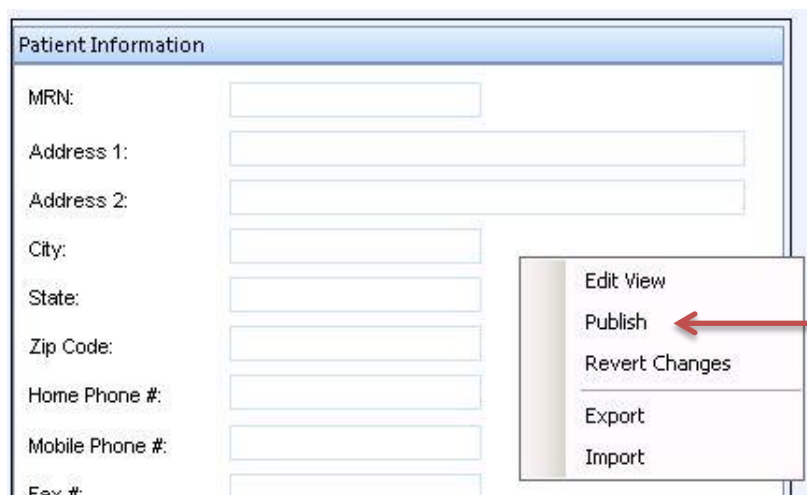


Figure 4.11 – Publishing Custom Area modifications

Adding a Patient

There is a framework in place for adding patients. Keep in mind that this is still in the early stages of development. By clicking on the “Add Patient” button, the user is presented with the Add Patient content area which as discussed previously is customizable. When adding the patient, the user can easily identify any required fields by the red line and exclamation mark on the left of the control. The system will prevent the user from committing the data until all required fields are filled in.

The screenshot displays the 'Add Patient' form with two tabs: 'Add Patient' and 'Add Patient *'. The 'Add Patient' tab is active. The form is divided into two sections: 'General Information' and 'Patient Information'.

General Information:

- First Name: [Red exclamation mark icon] [Text box]
- Middle Name: [Text box]
- Last Name: [Red exclamation mark icon] [Text box]
- Gender: [Dropdown menu with 'M' selected]
- Birth Date: [Red exclamation mark icon] [Text box with calendar icon]

Patient Information:

- MRN: [Text box]
- Address 1: [Text box]
- Address 2: [Text box]
- City: [Text box]
- State: [Text box]
- Zip Code: [Text box]
- Home Phone: [Text box]
- Mobile Phone: [Text box]
- Fax #: [Text box]
- Email: [Text box]
- Patient Notes: [Text area]

An error message dialog box titled 'MainApp: Add Patient' is overlaid on the form. It contains the following text:


- First Name: Is Required
- Last Name: Is Required
- Birth Date: Is Required

The dialog box has an 'OK' button.

Figure 4.12 – Required Fields

Add Patient Add Patient (Carter, Jeff) *

General Information

First Name: Middle Name:
Last Name: Gender: ▼
Birth Date: 

Patient Information


MRN:
Address 1:
Address 2:
City:
State:
Zip Code:
Home Phone #:
Mobile Phone #:
Fax #:
Email:
Patient Notes: 

Figure 4.13 – Add Patient Form

Lookup Table Editor

The Generic Lookup Table Editor allows the user to edit cached lookup tables. It presents a list of lookups taken from the database. The user can edit a lookup by choosing an entry in the list and either double-clicking or pressing enter. The framework has been built in such a way that specialized editors can be added and launched on double-click instead of the standard grid, in this way the user will always visit the same place in the application to edit lookups, and there will be more consistency of look and feel.

The editor can be accessed by clicking on the “Lookups Editor” button on the application’s Tool Bar. Here, the user is presented with the current list of lookup tables. This list will grow as the product matures. If for example the application requires a new status, it can be added here in the lookup table editor and then submitted to the database. The example below illustrates adding a “Confirmed” status to the status lookup table.

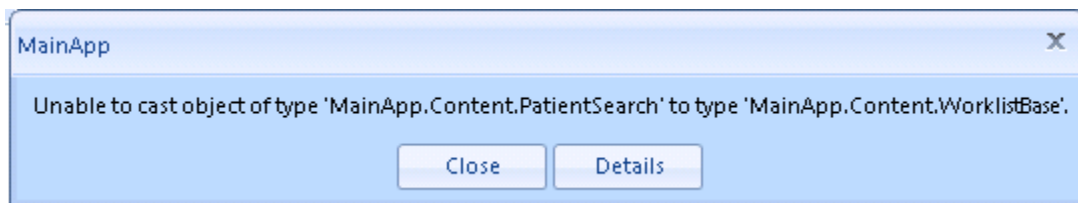
Add Patient Patient Search Lookup Tables - Status *				
AddressDescription	status code	active flag	display order	description
BillingCode	Contains: ▼	Contains: ▼	Equal: ▼	Contains: ▼
BodyPart	Approved	Y	1	
EmploymentStatus	Arrived	Y	2	
ExamPriority	Dictated	Y	3	
Gender	Exam Done	Y	4	
Laterality	Scheduled	Y	5	
MaritalStatus	Signed	Y	6	
Modality	Started	Y	7	
Organization	Transcribed	Y	8	
PersonResource	Confirmed	Y	9	
ProcedureCode	* Click here to add a new row			
ProcedureModifier				
ReadingPriority				
ReportTemplateCDA				
ResourceType				
ScanType				
Status				
StudentStatus				
SystemConfig				
UserDetail				

Figure 4.14 – Add a new row to the Status lookup table

5. Known Limitations

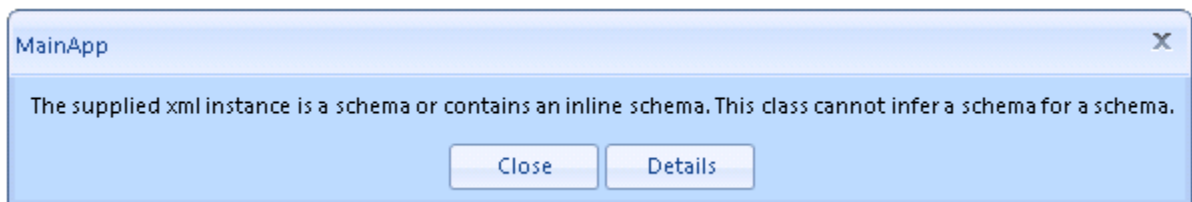
As rRIS is in the early development stages, there will be some known limitations to consider with pre-releases. Build 1.03 has the following limitations:

1. The user will receive an error if he or she performs a quick patient search while the main patient search screen is open.



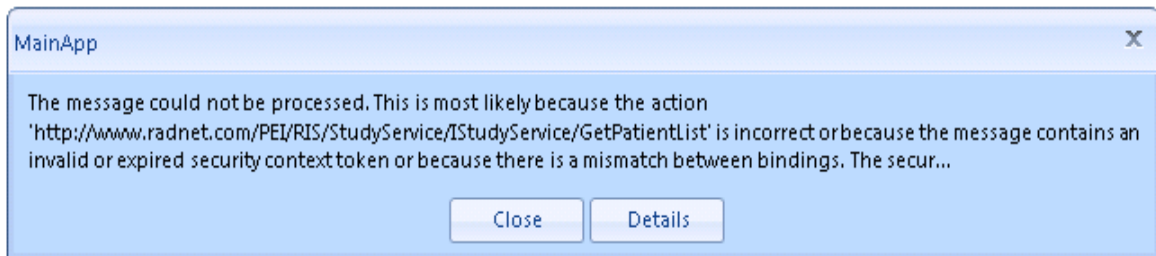
This issue has been noted and resolved in Sprint 4. The user can simply select “Close” and proceed to use the application.

2. Cannot double-click on a selected row on the patient search results grid. This should bring up the Edit Patient screen but instead the following error occurs:



This issue has also been noted and resolved in Sprint 4. The user can simply select “Close” and will be prompted to restart the application.

3. There is an error that occurs on the Baltimore ris server that the development team does not experience in-house. If the user tries to use the ris after an extended time of inactivity, he or she may receive the following error:



This issue has been logged and is currently being reviewed by the development team.