

UICRAD Teaching File Collection

How to Create a New Case

Step-by-Step Tutorial

Abstract

The UIC COM Department of Radiology (aka UICRAD) uses RSNA Medical Imaging Resource Center (MIRC) software to create, index, and store teaching files. Our MIRC Site features three "services" delivering these functions. The MIRC Storage Service serves to index and store cases on our server. You can search our database as well as databases of other institutions using the [MIRC Query Service](#). Finally, the MIRC Author Service serves to create new cases (aka MIRC documents).

This page presents a shorthand guide for creating and editing MIRC documents using the MIRC Author Service.

Prerequisites

To use the MIRC Author Service, you must have an account on the storage service where you will create documents. See your MIRC site administrator, who will create an account with user and author roles. Your account will consist of a username and password which you will use to access the author service.

Creating a New Document

To create a new document, launch your browser and go the MIRC site's [query page](#). Make sure the **UIC Radiology** storage service is highlighted (A) and click the **Author Service** button on the right side of the window (B).

The screenshot displays the MIRC Query interface. At the top, the 'MIRC' logo is on the left, and 'UIC Radiology Medical Imaging Resource Center' is on the right. In the top right corner, there are links for 'Version T21g', 'Help', 'MIRC Home', 'MIRC News', 'MIRC Forum', and 'Documentation'. Below the header, a dropdown menu labeled 'MIRC Query' (with a red arrow 'A' pointing to it) is open, showing a list of storage services: 'UIC Radiology', 'The RSNA MIRC Site', 'UICRADClinical', 'The RSNA InteractEd MIRC Storage Service', 'The Public MIRC Storage Service', 'Casimage Teaching File', and 'The Indiana University MIRC Site'. To the right of the dropdown is a 'Page size' dropdown set to '10' and a 'Select All' button. Below the dropdown is a 'Submit Query' button and three checkboxes: 'Display as unknowns', 'Case navigator', and 'Randomize results'. In the center, there are tabs for 'Basic', 'Document', 'Content', 'Clinical', 'Image', and 'Patient'. Below the tabs are input fields for 'Free Text Query:', 'Title:', 'Author:', 'Abstract:', and 'Keywords:'. To the right of these fields is a vertical menu with buttons for 'RadLex', 'Author Service' (with a red arrow 'B' pointing to it), 'Submit Service', 'Admin Service', and 'Login'. At the bottom right, there is a 'Powered by TOMCAT' logo. The footer contains navigation links: 'Home', 'Schedules', 'Teaching File', 'Residents' Corner', 'hospital.uic.edu', 'Search', 'Contact Info | Maps | Directions | Weather', and 'Visit Chicago'.

 The storage service will display a dialog for you to enter your name and password.

The author service will then display a page welcoming you. Enter your name, affiliation, and contact information as you wish to see it appear in the document. This information is remembered by the author service and filled in for you each time you create a new document.


Select the template you wish to use to create the new document by clicking the down arrow on the selection box and choosing one of the items in the menu. Several templates covering all the standard display modes are provided. Your MIRC site administrator may have created additional templates.

Click the **Submit Request** button.

The author service will display a page containing boxes in which you can enter content for the document. See [note 4](#) below for instructions on creating paragraphs and lists easily.

If you wish your document to be private, or if you wish to restrict access to it, see the section on "[Creating Private Documents](#)".

Fill in as much information in the boxes as you want and then click the **Submit Document** button at the bottom of the form. The author service will display a new window informing you of its success in storing the document or any errors it encountered in attempting to do so.

 If the author service indicates that the document had an error, see [note 2](#) below.

If the author service indicates that the document was received successfully, when you close the "Success" window the document you just created will be opened for you and you can continue to work on it. Once the document has been created, you can add images, captions, and new content, as well as edit existing content.

Editing an Existing Document

To edit an existing document, first view the document by finding it with a query on the [query page](#) and then clicking on the title of the document in the query results.

If the document is displayed in page mode, scroll to the bottom and click the **Edit this Document** link. If the document is displayed with tabs, the **Edit this Document** link is in the **Document** tab.

The author service will open a new window and display the document in a template form similar to the one in which the document was originally created, allowing you to add, delete, or alter the contents.

Make whatever changes you wish and then click the **Submit Document** button at the bottom.

Adding Images

To add images to a document, you must have opened the document for editing (i.e., the **Add Image** button does not appear in the template when you open it for editing for the first time).

You must also have a supported image on your computer. See [note 5](#) below for a definition of supported images.

Exporting Images from PACS

There are several ways to export images from PACS. Using the [Radiology PACS Web Viewer](#) (GE PathSpeed Web System) allows you to access PACS from any computer with Internet access. First, you need to connect to the Viewer.

Connecting to the Radiology PACS Web Viewer

There are two alternative ways to connect to the Viewer depending on where you access the Web from.


- A. You are working on the Intranet (i.e., using your remote profile with [netid](#) on a campus [WinStation](#))


Go to www.hospital.uic.edu → **Clinical Departments** menu → "[Radiology PACS Web Viewer](#)" item → Click the **Connect to PathSpeed Web** button. Follow prompts and enter your PACS username and password in ALL CAPS (Note: these are not your UIC netid and password).

B. You are working on the Internet (i.e., at home)

Go to www.hospital.uic.edu → Click the **UIMCC Applications** icon to enter the [MetaFrame XP Applications](#) window → Enter your UIC netid and password → Click the **Fulldesktop** icon. Once you are at your Full Remote Desktop, open a new Web browser window and follow steps in the Scenario A.

[MetaFrame XP Applications:](#)

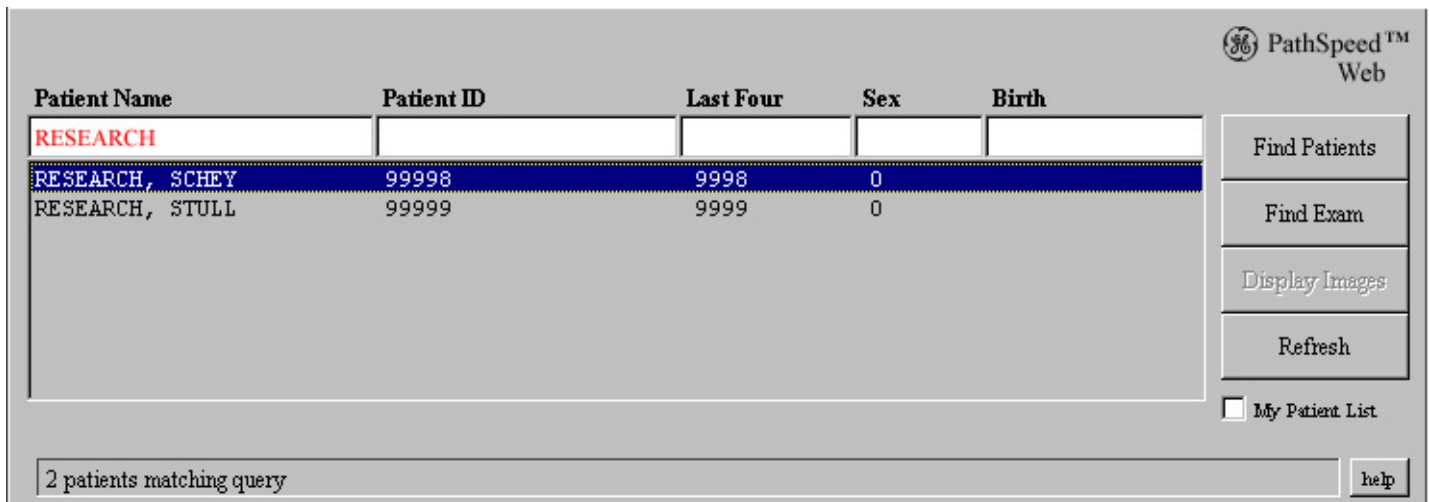
 [Review FAQs](#) about the Full Remote Desktop

 [Review System Requirements](#)

Finding the Right Patient. Displaying the Right Image

After you successfully log into the PathSpeed Web system, the browser displays an empty patient list.

1. Enter the appropriate information or partial information into any or all of the query fields.



Patient Name	Patient ID	Last Four	Sex	Birth
RESEARCH				
RESEARCH, SCHEY	99998	9998	0	
RESEARCH, STULL	99999	9999	0	

2 patients matching query

Patient Name - The patient's full name (Last, First, MI)

Patient ID - The unique identification for the Patient

Last Four - The last four digits of the Patient ID

Sex - Patient gender

Birth - Patient date of birth



For example, entering "SM" in the **Patient Name** field will show all patients with a name beginning in SM, such as Smith. The % character is a wild card. So, if you enter "S%TH", both Smith and Southern would be matches. The **Last Four** field only supports exact matching, so four characters have to be entered to generate a match.

2. Click the **Find Patients** button or press **Enter** on the keyboard.


3. Click the desired patient from the list to highlight the name.

4. Click on the **Find Exam** button.

The Patient list is replaced by an Exam list, with the patient name and ID at the top. Exams are listed in reverse-chronological order.

5. Click the desired Exam to highlight it.

6. Highlight the desired Exam.

 **Note:** If the **Online** status of the exam is **N**, which indicates the exam is not online, the **Display Image** button changes to **Fetch Exam**. When you click on the **Fetch Exam** button, the exam is brought online.

7. Click the **Display Images** button.


GE PathSpeed™ Web

Patient: RESEARCH, SCHEY ID: 99998

Procedure	Mdl	Study Time	Img	Online
RESEARCH	OT	2003-7-16 12:10:32	27	N
RESEARCH	OT	2003-7-3 20:1:24	16	N
RESEARCH	OT	2003-6-23 15:40:1	47	Y
RESEARCH	OT	2003-6-19 15:40:1	41	N
RESEARCH	OT	2003-6-19 15:40:1	1	Y
RESEARCH	OT	2003-6-19 15:40:1	32	N
RESEARCH	OT	2003-6-18 13:26:4	4	N

My Patient List


7 exams found for this patient | ctrl-click to select multiple exams for comparison

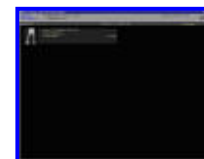
 A new browser window is opened. By default, most exams come up in **Series view**. Figure shows the user interface of the browser window.

Exam Display - Microsoft Internet Explorer

Exam List Patient Name: RESEARCH, SCHEY
Close Window Patient ID: 99998

RESEARCH 2003.06.23 15:40:01.000

 Series3 - TEACHING FILE, PEDS
Browse Thumbnails
Display Images 47 images



click on thumbnail to display full-size image

 Click the **Display Images** link to view the images for a particular series. Figure shows the user interface of the browser window.

Exam Display - Microsoft Internet Explorer

Exam List Patient Name: RESEARCH, SCHEY Patient ID: 99998 Images for reference only

RESEARCH 2003.06.23 15:40:01.000 View Report

1x1 1x2 2x2 2x3 3x3 Prop Reset Info

Series 3 - TEACHING FILE, PEDS

Se: 3 Im: 1 RESEARCH, SCHEY UIC Study Date: 2003.06.23 Study Time: 15:40:01.000 MRN: 99998 DOB: Sex: O

Se: 3 Im: 2 RESEARCH, SCHEY UIC Study Date: 2003.06.23 Study Time: 15:40:01.000 MRN: 99998 DOB: Sex: O

Se: 3 Im: 3 RESEARCH, SCHEY UIC Study Date: 2003.06.23 Study Time: 15:40:01.000 MRN: 99998 DOB: Sex: O

Se: 3 Im: 4 RESEARCH, SCHEY UIC Study Date: 2003.06.23 Study Time: 15:40:01.000 MRN: 99998 DOB: Sex: O

Se: 3 Im: 5 RESEARCH, SCHEY UIC Study Date: 2003.06.23 Study Time: 15:40:01.000 MRN: 99998 DOB: Sex: O

Se: 3 Im: 6 RESEARCH, SCHEY UIC Study Date: 2003.06.23 Study Time: 15:40:01.000 MRN: 99998 DOB: Sex: O

To put an image in [1-up display mode](#) , double-click the mouse on the image while in any image tool other than Manual Cine.

When done viewing the image that way, double-click the image again to restore the display to the previous up count mode



Working With an Image

Before saving the image to the hard drive you may need to manipulate it to get the best results.

How to remove personal identifying information from the image display. Click the **Information** button . If there are images displayed, the frame is redrawn with [overlay information not displayed](#). Clicking this button again turns the overlay display on once again.

Image Tools

Through the image display ActiveX component, images can be manipulated using a variety of image tools.

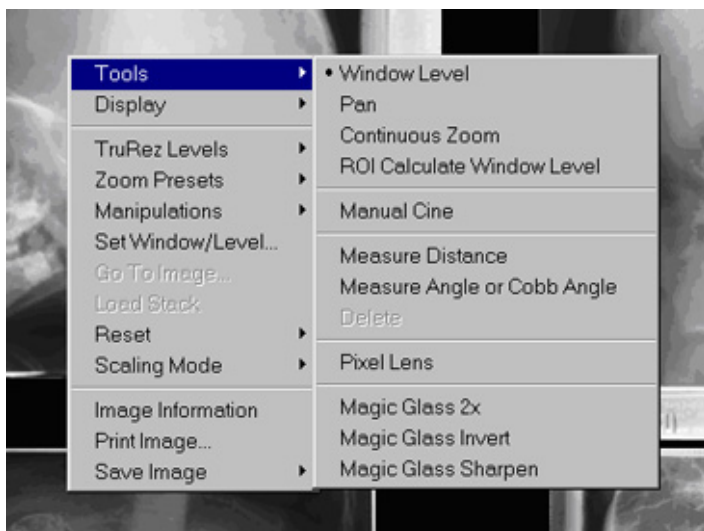
When you place your cursor over an image, the cursor shape will change to the icon for the currently selected tool. When you initially

display an image, the default image tool is the Window Level tool:



Select an Image Tool

1. Place your cursor over an image display (not a thumbnail).
2. Right-click on the image display. A pop-up window appears.
3. Click **Tools**.
4. Then click any of the image tool options displayed in the right-hand menu screen. Note that the currently selected image tool has a small dot next to the option name.



Pan / Scroll Tool

To select the Pan tool, place your cursor over an image and right-click. Select **Tools** and **Pan**. The cursor shape for the **Pan** tool is:



If an image has been zoomed, hold down the left mouse button to move the image within the viewing area.

If the image has not been zoomed, the pan tool has no effect.

When in pan mode, you can switch to Continuous Zoom mode by holding down the **Shift** key.

Continuous Zoom Tool

To select the **Continuous Zoom** tool, place your cursor over an image and right-click. Select **Tools** and **Continuous Zoom**. The cursor shape for the Continuous Zoom tool is:



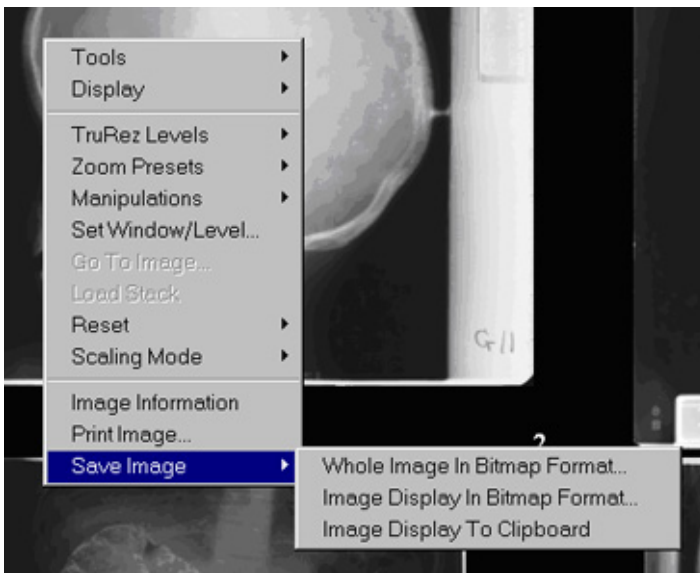
To use the **Continuous Zoom** tool, place the cursor over the image. Hold the left mouse button down and move the mouse up to increase the zoom and move the mouse down to decrease the zoom. When in zoom mode, you can switch to **pan / scroll mode** by holding down the **Shift** key. You can switch back to zoom by releasing the **Shift** key. Fixed zoom factors can also be selected using **Zoom Presets**.

TruRez and Zoom Settings

Software automatically determines these settings to ensure an optimal image display. To maintain a sharp image display, these settings are automatically adjusted as you manipulate the image with the **Magic Glass** or **Continuous Zoom** tools.

Save Image Options

The Save Image options are available to save a displayed image to a bitmap (*.bmp) file or to the clipboard. To select a **Save Image** option, place your cursor over an image and right-click. Select **Save Image** and one of the following options.



Whole Image In Bitmap Format

Selecting this option brings up a standard save dialog to choose the folder and file name to save the image to. This option saves the entire image, even portions that may not be displayed, to a bitmap (*.bmp) using the currently applied display options. Any overlay information or measurement lines currently displayed on the image are not saved. Any overlay graphics that came with the image are saved if they were displayed when this option was selected.



 Use this option if you need to save the entire image.

Image Display In Bitmap Format

Selecting this option brings up a standard save dialog to choose the folder and file name to save the image to. This option saves only the portion of the image that is displayed to a bitmap (*.bmp) using the currently applied display options. Any overlay information or measurement lines currently displayed on the image are also saved. Any overlay graphics that came with the image are saved if they were displayed when this option was selected.

 This option may be handy if you need to save only a portion of the image (e.g., a zoomed ROI). To do so, first manipulate the image using the **Tools** or **Manipulations** submenus, then save.



 Make sure you remove overlay information (using the **Information button:** ) before you save the image.

Image Display To Clipboard

This is the same as the Image Display In Bitmap Format option, except that the output goes to the clipboard instead of a file and does not bring up a dialog. This option saves only the portion of the image that is displayed to a bitmap (*.bmp) using the currently applied display options. Any overlay information or measurement lines currently displayed on the image are also saved. Any overlay graphics that came with the image are saved if they were displayed when this option was selected.

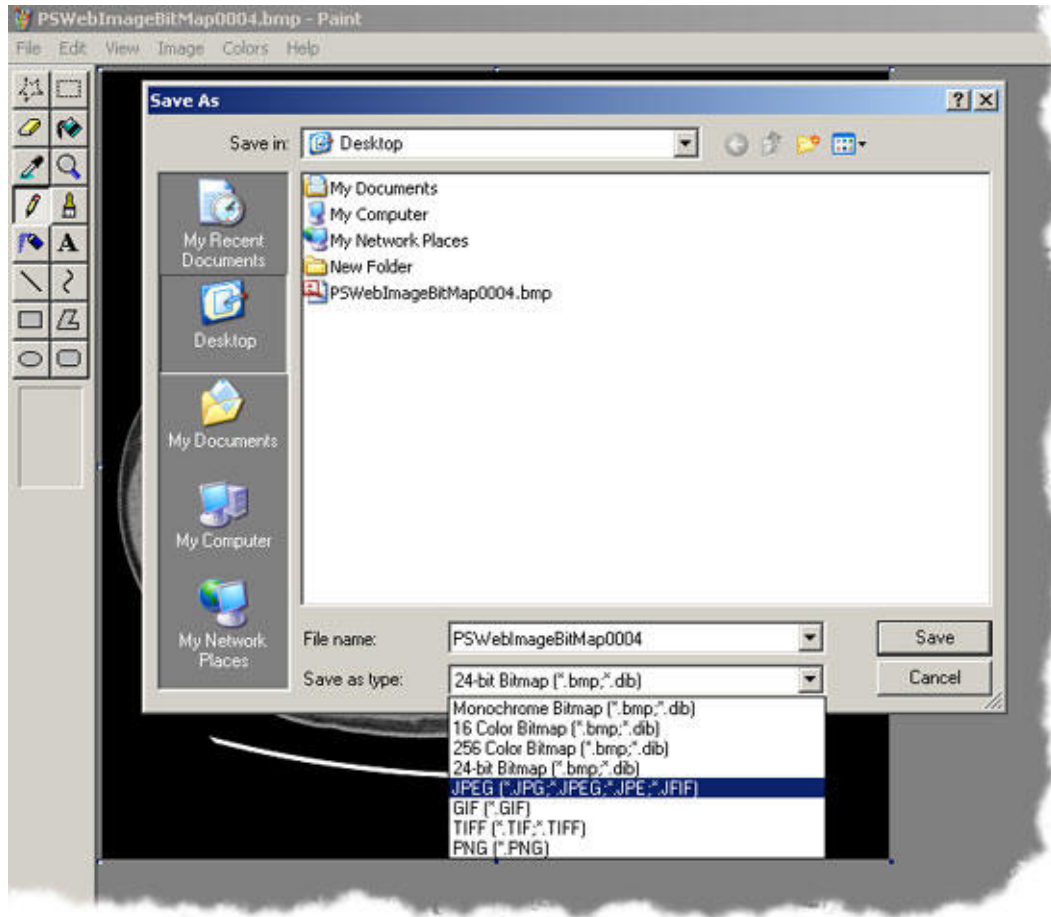
 This option may be useful if you paste image data directly into a new file in an image editor, e.g., Adobe Photoshop.

Converting Your Image Into JPEG Format

Because the MIRC Author Service does not support the BMP format you need to convert the BMP images you saved from the PACS Web system into JPEG's. This is easy to do both in your Remote Profile (on a UIC WinStation) and on your Remote Desktop (from

home).

Double-click the BMP image, and it opens in MS Paint. Go to **File** menu → **Save As** → In the **Save as type** drop down menu, choose "JPEG File Interchange Format" → Change the destination folder if you need to and click the **Save** button. An additional benefit of using MS Paint is that you can do some basic picture editing (type labels, draw lines, erase portions of the image, insert boxes, etc.).



Now back to the MIRC Author Service...

Inserting Images Into Your Document

Click the **Add Image** button wherever it appears in the body of the document.

The author service will display a small window allowing you to browse to the image you wish to add to the document.

Find the image file and click the **Submit** button. The browser will send the image to the server, where the author service will enter it into the document. The image will not be visible in the editor until you click the browser's **Refresh** button.

Creating Private and Public Documents

If your template allows it, you can define who has access to your document.

Look for the **Read access**, **Update access**, and **Export access** fields. Each field controls access of a specific type.

If a field is blank, no access of that type is permitted to anyone except the owner of the document.

If a field contains an asterisk anywhere within it, access of that type is granted to all users.

If a field contains a list of roles, access of that type is granted only to authenticated users assigned one or more of the roles in the list.

Thus, to make a document private, blank each field; to make a document public, place an asterisk in each field.

Notes from John Perry

These are a few additional comments that may be of help:

1. If you wish to name the file containing the MIRCdocument, enter a name in the **Document name** box in the template before you submit it. You might want to name the document file if you plan to export it in the future. If you don't name it, the author service will call it "MIRCdocument". There is no harm in leaving the field blank.
2. One scenario in which the author service might encounter an error during submission occurs when you enter an HTML element incorrectly, producing a document that is not well-formed. Such a document will not parse, and the author service will display the error message from the parser. Sometimes the message is quite explicit, but other times it is a bit cryptic. If you get an error which says something about a tag or element not being closed properly, look carefully at any elements you have entered, make the corrections, and resubmit the document.
3. While you are editing an existing document, if you enter a lot of text into a box and want a larger box, click the **Submit Document** button and then refresh the editor window by clicking the browser's **Refresh** button. The author service will resize the text boxes. Be sure to click the **Submit Document** button first or any changes you have made since the last submission will be lost.
4. When entering text in a text box, if you separate text lines by a blank line, the author service will generate separate paragraphs for you. If you start a new line with a "-" character, the author service will generate a bullet list for you. If you start a new line with a "#" character, the author service will generate a numbered list for you.
5. The author service currently supports JPEG, GIF, PNG, and DICOM images. It requires that a DICOM image have a SOP Class UID identifying it as one of the types it knows. The author service knows about all the common types of DICOM images and many uncommon ones.

Any comments or suggestions for improvement are appreciated.

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