Window Painter Training

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Contents

Introduction to Window Painter

Overview

The RadPlus Window Painter is a powerful tool you can use to create and modify (i.e., paint) data entry windows used in RadPlus. You can paint windows for procedure-related activities, scheduling, patient registration and encounters. This allows for extensive site tailoring of windows to accommodate workflow and user interface for each individual system.

For example, you can:

- Modify any window within RadPlus to collect only the data you need.
- Add, delete or re-position fields within the window.
- Change the font, color, size, and alignment of windows and fields.
- Specify whether a particular field is required.
- Rearrange existing tabs or create new ones.
- Add buttons that call specific window items or other menus.
- Rename prompts using hospital-specific terminology.
- Create "tips" buttons that describe how to handle specific situation or provide guidance during daily operations.

The RadPlus Window Painter allows for the customization of windows without requiring additional programming code and without impacting the ability of a site to receive software updates. All site-specific windows are preserved whenever software updates are performed.

NOTE: It is possible that a new field will be introduced to the RadPlus database that will become a required element on a certain window class. If that occurs, it will be necessary to add this element to your custom windows of that class.

The RadPlus Window Painter is a WYSIWYG (what you see is what you get) tool. As changes are made to a painted window, you see the change take effect. A mouse is required for use with the RadPlus Window Painter.

NOTE: The RadPlus Window Painter tool is available within the RadPlus application. PowerBuilder also has a Window Painter tool that is used by Dynamic programmers for modifications. The instructions in this section pertain only to the RadPlus Window Painter. Throughout this section, the term "Window Painter" refers to the RadPlus Window Painter.

IMPORTANT! To use the Window Painter, you must set your screen resolution to 800 x 600 pixels. If set higher, users with lower resolution will experience display problems.

Objectives

After completing this manual, you will be able to:

- Understand the different components of a window.
- Use the available window painting objects to create and customize windows.
- Compile and accept a customized window.
- Link a customized window to an activity.
- Use the other Window Painter features, such as exporting/importing windows, copying objects from one window to another, and find the management reports associated to window painting.

Preview of Topics

This manual contains the following topics:

- Window Painter Basics
- Compiling and Accepting Windows
- Other Window Painter Features
- Window Painter Supporting Tools
- Message Board
- Glossary of Terms

The **Window Painter Basics** section will introduce the knowledge base that is necessary to use the RadPlus Window Painter Training manual. This includes which windows are customizable, basic terms, editing an existing custom window, and the Window Painter's User Interface.

The **Working with Painter Objects** section will list and describe the objects that can be painted into a window. This includes tab forms, datawindows, action buttons, application user objects (AUOs), pop-up windows, to name a few. In addition, RadPlus Window Painter has a tool called Object List that will assist the user in selecting or deselecting the objects.

The **Compiling and Accepting Windows** section will instruct the user the necessary steps to incorporate the customized window into RadPlus. You will learn how to compile a window, link a window, test and accept a painted window.

The **Other Window Painter Features** section will list other helpful tools when working with Window Painter. This includes System Settings associated with Window Painter, Actions List descriptions, Management Reports associated with Window Painter, Exporting/Importing a window, and copying painted objects from one window to another.

The **Window Painter Supporting Tools** section will describe the additional tools that control what can be painted onto different types of windows and how painted fields are displayed.

The **Message Board** section is dedicated to helping resolve messages that may be encountered while Window Painting. It lists the messages (i.e. informational or error) and how to resolve them.

Finally the **Glossary of Terms** section provides useful terms and their definitions.

NOTE: Only sites that have successfully completed Window Painter Training are authorized to have access to Window Painter. If after training and access is denied to use Window Painter, please contact Dynamic to enable the System Settings.

Window Painter Basics

Introduction

This section provides some basic information about windows and the Window Painter, and you will need to understand them before you begin using the Window Painter.

Objectives

After completing this section, you will be able to:

- Determine the windows that can be customized.
- Understand the basic terminology that is necessary to use window painting.
- Know how to use the Window Painter Toolbar and Toolbox.
- Copy an existing window and save it as a customized window. This window will be used in the remaining exercises throughout this manual.

Customizable Windows

Windows, also called form sequences, are the visual component of a windows-based application. Users interact with an application by entering data, performing inquiries, etc., by working within windows. Windows are containers for other types of graphical controls, such as buttons, icons, and application user objects.

Some windows in RadPlus are customizable using the Window Painter, and others are not. In general, windows for entering and editing patient and procedure data, including registration, orders, procedure-related activities and scheduling, are paintable.

Specifically, the following list provides the activities that have windows that can be customizable:

Addendum Entry/Edit

Arrival Edit

Billing Entry/Edit

Cancel Appointment

Inquiry (Patient/Procedure)

Inquiry (Patient/Procedure) – For Menu

Inquiry (Report)

Inquiry (Report) – For Menu

New Arrival

Order Edit

Procedure Add/Cancel/Change

Procedure Begin and Procedure Begin (Bar-coded)

Procedure Complete and Procedure Complete (Bar-coded)

Procedure Edit

Procedure End and Procedure End (Bar-coded)

Read Films

Report Approval

Report Approval (Any Queue)

Report Entry/Edit

Reschedule/Edit Appointment

Schedule Appointment

Schedule Patient

Transport (Cancel/Change)

Transport Request and Transport Request (Bar-coded)

On the other hand, windows for dictionaries, selection of patients/procedures, task/set-up functions, and system messages are not paintable.

Terminology

Before continuing with Window Painter, you should familiarize yourself with the following terms by reviewing their definitions:

Basics

Check Box: Check box is an object that consists of square selection buttons, which can be selected (i.e., checked) to indicate a Yes response or cleared to indicate a No response. Examples of check box fields are the Pregnant, IV, and Oxygen check boxes included on the standard Arrival screen. A default value must be set for each check box object. Fields that can have either a Yes or No value generally have a check box variant so that they can be painted as check boxes. (See *Figure 1* on page 10.)

Column or Data Field: A field from a table in the RadPlus database. In the Window Painter, columns from a table are painted on windows as part of a datawindow. Columns can be added or deleted via the Datawindow Properties pop-up window. (See *Figure 1* on page 10.)

Command Button: a button that executes commands displayed on the button.

Control: Any graphical object displayed on windows in applications. Examples include columns (i.e., data fields), buttons, check boxes, application user objects, etc.

Ellipsis: If "…" is selected, another dialog box will open. (See *Figure 2* on page 10.)

Focus (input focus): the ability (location of the cursor) to receive user input through a mouse or keyboard actions. Focus could also mean the active window, which normally has the title bar in blue or the Windows standard color. (See *Figure 2* on page 10.)

Object: a data item that is a self-contained module.

Radio Option Buttons: a group of choices from which you may only select one. Radio buttons are circles that appear solid when selected. Clicking an option button selects it, and clicking a selected option button deselects it.

Sizing Handle: A square handle that appears at each corner and along the sides of a rectangle that surrounds a selected object, which is used to re-size the object.

Text / Label: a made-up name used to identify an object. (See *Figure 1* on page 10.)

Variant: A variant controls the behavior of a field on a painted window. Examples of variants include the lookup styles available for a field (i.e., pop-up versus drop-down), restrictions on responses that can be entered in a field (e.g., technologists only, radiologists only, etc.), and protection attributes (e.g., when a field is or is not editable). Variants are created in the Data Dictionary by Dynamic's programmers. In the Window Painter, users can choose from available variants on the Field Properties window.

Tab Sequence (Order): Refers to the order that the user's focus moves through a painted tab form as they press the Tab key. Each tab form has its own tab order. Also, datawindows on a tab form have their own tab order.

Buttons

Action Button: Action Button is an object that is used to trigger an action on the window such as saving the entry, closing the window, or displaying a new window. Examples of Action Buttons include the Add, Next, Previous and OK buttons which appear on many procedure-related windows in the standard version of RadPlus. (See *Figure 2* on page 10.)

Application User Object: A type of PowerBuilder object consisting of a complex chunk of application code that has been packaged for consistent use in RadPlus. An example of an AUO is the RTF Text Entry fields used for entering diagnostic text. (See *Figure 1* and *Figure 2* on page 10.)

Boxes

Group Box: The Group Box is an object that consists of a border and a text/label. Group boxes are used to group other objects, such as buttons. (See *Figure 2* on page 10.)

Rectangle: Refers to a square-shaped paintable object that can be painted to help group objects together. This object does not include a text/label.

Windows and Forms

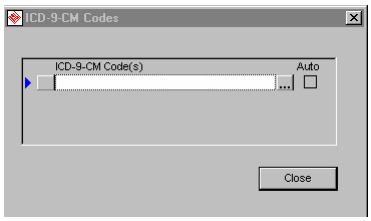
Dialog Box: A form on the screen providing information and asking questions.

Window Class: A category linked to each RadPlus painted window that determines several characteristics about the window, such as what objects can be painted and which columns/fields are required.

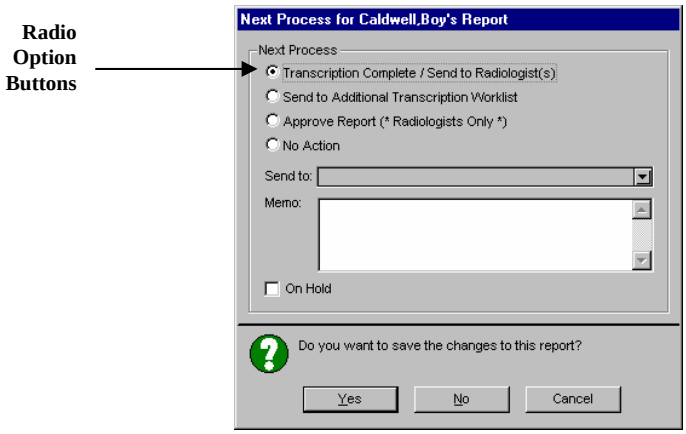
Datawindow: A type of PowerBuilder object used to edit or display data from the database. Datawindows consist of columns (i.e., data fields) and expressions from a specific table. Datawindows are used extensively throughout RadPlus. For example, in the RadPlus Window Painter, multiple datawindows can be painted onto a single window, allowing data from different tables to be collected on the same window. (See *Figure 1* on page 10.)

Tab Form: A form used to paint tab pages on a window. A window can consist of one or more tab forms. An example of a tab form/page is the Notes tab that appears in all dictionaries. (See *Figure 1* on page 10.)

Pop-Up Window: A window or dialog box that is activated by some action on the screen, such as pressing a button. In the Window Painter, pop-ups are a type of paintable form. An example of a pop-up window is the Next Process window.



Next Process Window: In RadPlus, a Next Process pop-up window is a workflow tool that appears after a predefined event (such as transcription result entry) so that users can select how to proceed (such as whether to send it to a Radiologist for signout).



Next Process Window

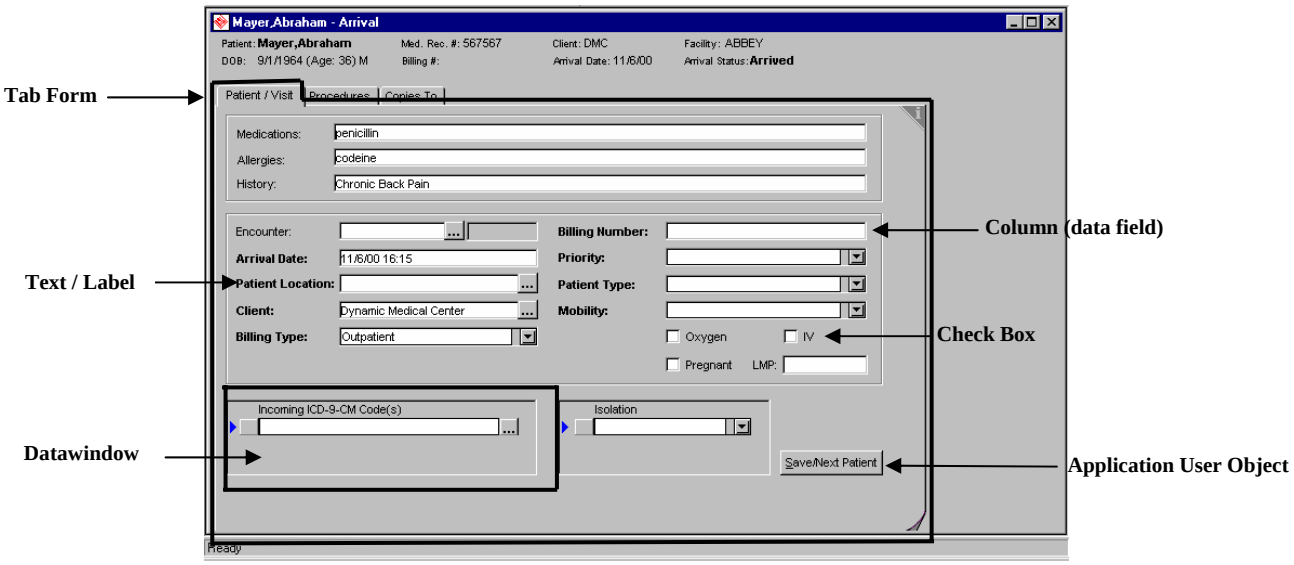


Figure 1

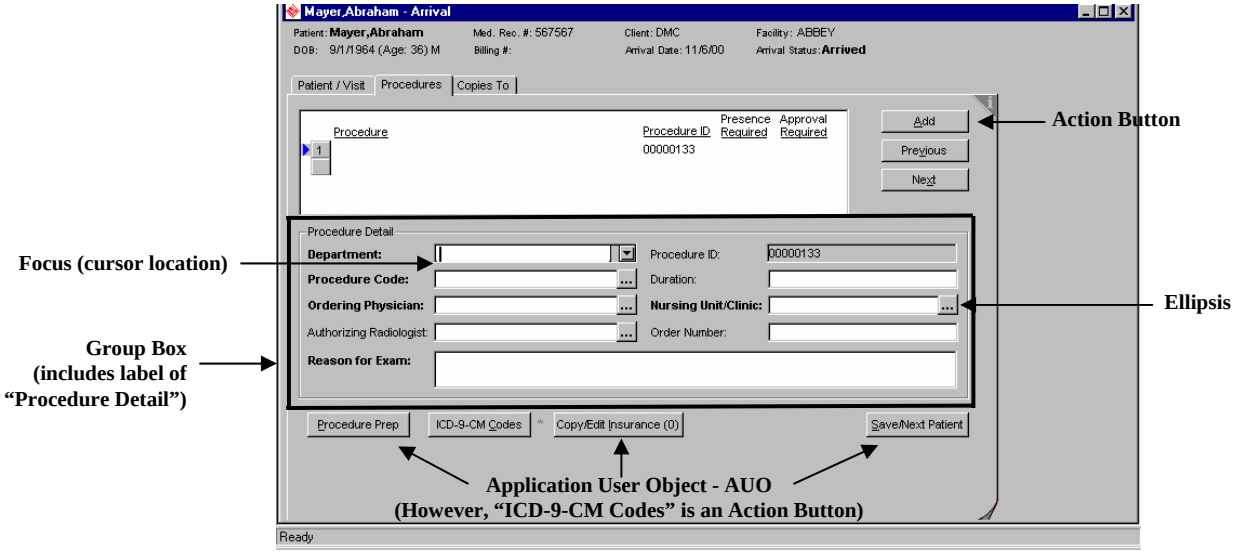


Figure 2

Determining the Window to Modify

Window painting can involve making a couple of changes onto an existing window. To do so, determine the window to modify, copy the existing window and make the customization on the copied version.

To determine the window's name:

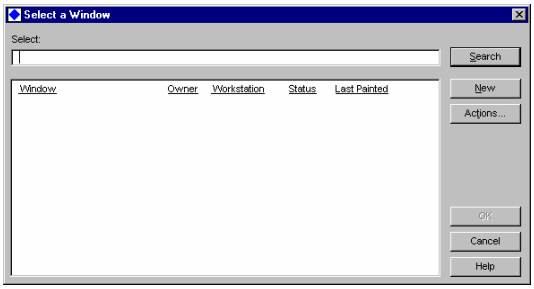
1) In RadPlus, go into the window to be modified. For example, if modifying the window used to modify arrival patients/procedures, click on Arrival Edit from the Procedures icon.
2) In the text menu bar, select Help, About.
3) At the bottom of the About screen, note the name displayed as the "Form Sequence."

NOTE: If the "Form Sequence" field lists "N/A", then the window is not customizable.

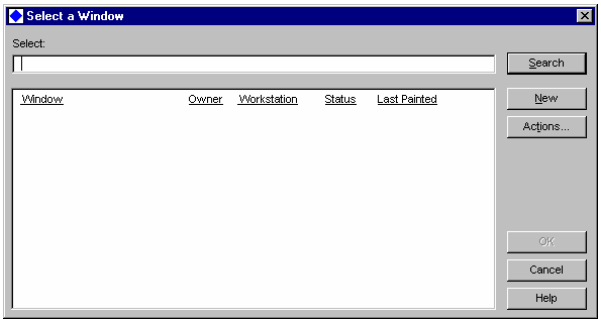
Creating a New Window

To create a new window:

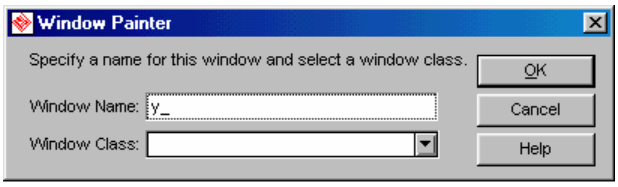
1) Press the **Setup** icon on the RadPlus Application Manager.
2) Double-click on the Dynamic Customizer folder.
3) Double-click on the Window Painting folder.
4) Double-click on the Window Painter item. The Select a Window window appears.



5) Press the **Setup** icon on the RadPlus Application Manager.
6) Double-click on the Dynamic Customizer folder.
7) Double-click on the Window Painting folder.
8) Double-click on the Window Painter item. The Select a Window window appears.



9) Press **New** on the Select a Window window. The Window Painter window appears.



10) Enter the following information on this window:

Window Name. Enter a name for this window using up to 29 characters. Be sure to use the standard RadPlus naming conventions.

TIP! If this is a site-specific window, RadPlus will automatically offer to attach a **y_** prefix to the window name.

Window Class. Enter the window class of the new window you are creating. The window class determines what types of objects can be painted on a window and what information is required. See "Window Class Dictionary" on page 85 for more information.

After you create a new window, review and make any necessary modifications to the window properties. For more information, see "Window Properties" on page 13.

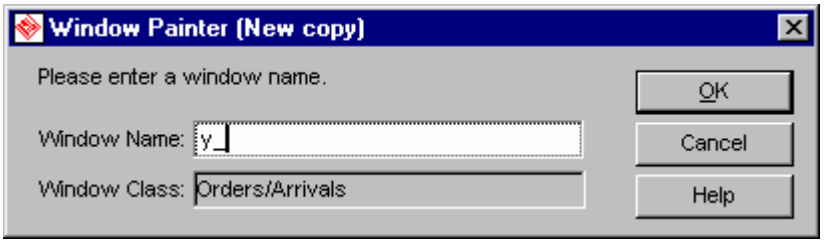
Copying an Existing Window

To copy an existing window:

1) Press the **Setup** icon on the RadPlus Application Manager.
2) Double-click on the Dynamic Customizer folder.
3) Double-click on the Window Painting folder.
4) Double-click on the Window Painter item. The Select a Window window appears.
5) In Window Painter, enter the name of the window you want to copy in the Select field on the Select a Window window. In keeping with RadPlus naming conventions, windows use name prefixes corresponding to their use in the application (e.g., if searching for a site-specific window, you would enter **y_[partial window name]** in the Select field. You would enter a **m_[partial window name]** for a standard RadPlus window.)
6) Press **Search**. The name of the window appears. If more than one Window Name appears, click on the one you want to copy.
7) Press the **Actions** button and select the **Copy From Live** option. Press **OK**.

8) The Window Painter window appears with the window class already completed. Enter a name for this window using up to 29 characters. Be sure to use the standard RadPlus naming conventions.

TIP! If this is a site-specific window, RadPlus will automatically offer



to attach a **y_** prefix to the window name.

NOTE: When copying a window, the Window Class field cannot be edited.

Editing an Existing Custom Window

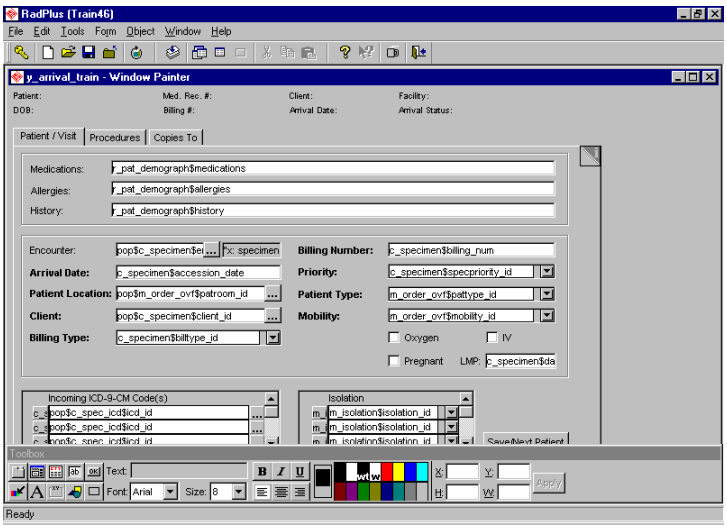
To edit an existing custom window:

1) Press the **Setup** icon on the RadPlus Application Manager.
2) Double-click on the Dynamic Customizer folder.
3) Double-click on the Window Painting folder.
4) Double-click on the Window Painter item. The Select a Window window appears.
5) Enter the name of the window you want to edit in the Select field and press **Search**. Once the window appears on the window, press **OK**.

IMPORTANT! Site-specific windows must use the **y** prefix.

Window Properties

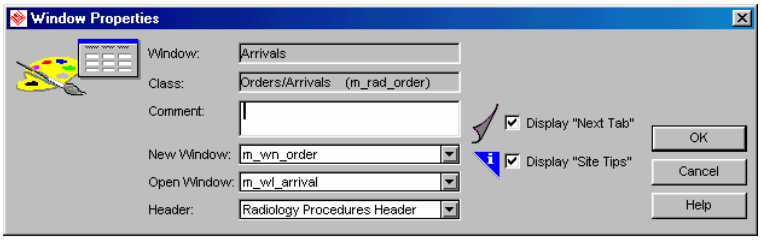
The following illustration shows an example of a window in Window Painter.



Use the Window Properties window to set certain characteristics for the window, such as whether to display the Next Tab and Site Tip icons on a window.

To access Window Properties:

1) Press  on the toolbar (or select Tools, Window Properties from the text menu bar). The Window Properties window appears.



2) The following properties can be set on this window:

Comment. A free-text comment about this window which only appears on this window.

New Window. The New Window that will be used if a user selects New from this window.

Open Window. The Open Window that will be used if a user selects Open from this window.

Header. The header to display on procedure windows.

Display "Next Tab." Select this check box to display the "Next Tab" button at the bottom, right corner of all tab forms painted on the window. Clicking the bottom, right corner of the tab form will display the next tab form.

TIP! Also, pressing F5 in RadPlus (not in Window Painter) will prompt you to the next tab.

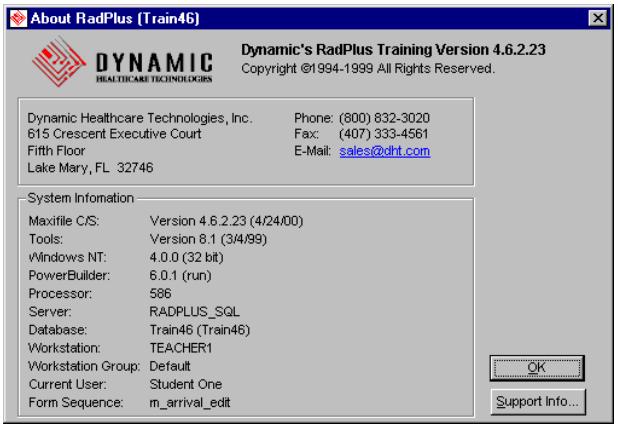
Display "Site Tips." Select this check box to display the Site Tips button at the top, right corner of all tab forms painted on the window. Site Tips are entered individually for each tab form via the Form Properties window. For more information on creating Site Tips, refer to the section on Tab Forms on page 25.

3) Press **OK**.

Exercise 1

Determine how to find a form sequence name.

1) Press the **Procedures** icon on the RadPlus Application Manager.
2) Double-click the Arrival Edit activity.
3) In the Patient Name field, type the patient's name from your class handout. Press the Enter key.
4) Select the patient's name and press **OK**.
5) Select a procedure and press **OK**. This will open the Arrival Edit window.
6) In the text menu bar, click Help, About. The following window will be displayed:
7) Note the form name listed as the Form Sequence.
8) Press **OK**.



9) Exit the Arrival Edit screen without saving changes.

Exercise 2

Copy an existing window to create a new painted window.

1) Press the **Setup** icon on the RadPlus Application Manager.
2) Double-click on the Dynamic Customizer folder.
3) Double-click on the Window Painting folder.
4) Double-click on the Window Painter item. The Select a Window window will appear.
5) In the Select field, type m_arrival.
6) Select the window m_arrival_edit.
7) Press the **Actions** button, select the **Copy from Live** option
8) Press **OK**.
9) At the Window Name field, following the offered "y_" enter **arrival_train_<your initials>**. For example, **y_arrival_train_ier** will be the window name. The Window Class field displays a default value based on the window you copied and cannot be edited. The Window Painter window appears.

10) Press **OK**.

11) Press **Continue Saving**. These messages will be described in another section of this manual.

12) Save the window by pressing the **Save** icon.

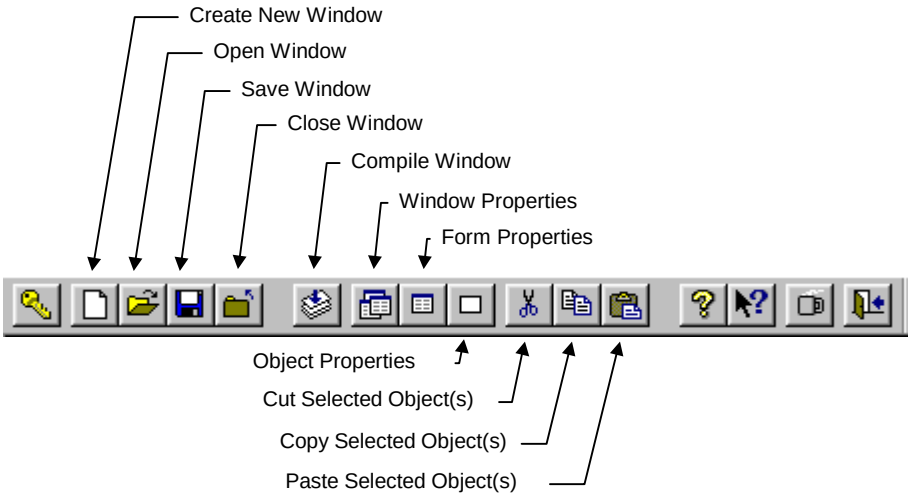
Window Painter User Interface

The Window Painter user interface includes a toolbar, toolbox, and other features for aligning and sizing objects. The following paragraphs describe each of those features.

TIP! The Window Painter does not include an Undo feature. We recommend saving your window frequently. Therefore, if you make a mistake, exit the window without saving the changes. After opening the window again in Window Painter, it will open to the window with the last saved changes.

Window Painter Toolbar

The Window Painter Toolbar appears at the top of the Window Painter window. This toolbar includes both standard RadPlus buttons, as well as buttons for Window Painter functions. Window Painter buttons are highlighted below.



Window Painter Toolbox

The Window Painter Toolbox appears at the bottom of the window and includes many painting and formatting functions. The toolbox can be hidden during painting by pressing  at the lower, left corner of the toolbox. To redisplay the toolbox, press  . You can also move the toolbox to a different location by positioning the cursor in the toolbox title bar, and then click and drag it to a new location.

Toolbox Object Buttons

You can use the buttons on the left side of the toolbox to:

 Paint a tab form

 Paint a pop-up window

 Paint a datawindow

 Paint data fields. Since you will be adding data fields through datawindows, this icon will rarely be used.

 Paint a button

 Hide the toolbar

 Paint text/label

 Paint a group box

 Paint an Application User Object (AUO)

 Paint a datawindow rectangle

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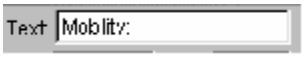
Toolbox Text Formatting Tools

The toolbox lets you modify painted text or text associated with painted objects, such as the text/label on a group box. To modify text, select the text or object with text. The text fields in the toolbox adjust to show the attributes of that text. As you make each modification, the changes are applied immediately.

Use the following toolbox fields and buttons to modify text/label.



Modify the wording

Modify the font - Arial or Times New Roman

Modify the size (6 – 48)

 Bold text. RadPlus displays required fields in bold text.

 Italicize text

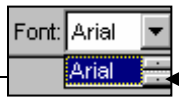
 Underline text

 Left justify text

 Center justify text

 Right justify text

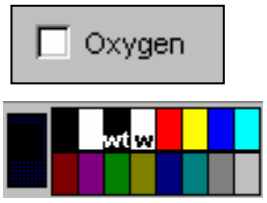
NOTE: Making a change to Font or Size will result in a very small scroll box consisting of an up arrow and down arrow. Push the appropriate arrow to change the Font.



TIP! To move the label on a check box object, use the left justify or right justify icons. For example, the following check box is right justified.

Toolbox Color Options

The toolbox includes a color palette, shown below, which you can use to change the text and background color of fields.



Changing colors is useful when you want to show that a field is disabled or display-only. To change the color of a field, select the field. Then, click on the color you want as the text color and press the right-click on the color you want as the background color.

In most cases, you should use the default Windows text and background colors set for your computer. To select the Windows text color, click the color wt (Windows Text) from the toolbox palette. To select the Windows background color, right-click the color w (Windows) from the toolbox palette.

Toolbox Position, Height, and Width Tools

You can use the toolbox to change the position of an object or to change its height and width. This is especially useful when a painted object extends beyond the viewing area and you want to adjust its height or width so that the entire area can be viewed.

The following toolbox fields are used to adjust an object's position, height, and width:

Changes an object's starting position on the X axis (i.e., the horizontal position).

Changes an object's starting position on the Y axis (i.e., the vertical position).

Change an object's height in pixels.

Changes an object's width in pixels.

Press **Apply** to accept the changes.

Selecting, Moving, and Resizing Objects

In window painting, the mouse is used to select objects, move objects to new locations, and resize objects.

To select objects, there are a few methods:

- To select one object, click on it.

- To select more than one object, click on the first object and while holding down the Ctrl key, and then click the additional objects you wish to select.
- Another option for selecting multiple objects is to "lasso" them. Hold down the Shift key and then click and drag a "lasso" around the objects you want to select. If there are numerous objects in the "lasso" area, it may take a few seconds before all the objects are selected.

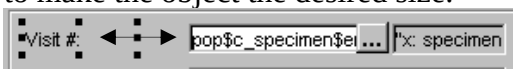
  NOTE: Make sure there are no objects selected when you initially press the Shift key. To deselect any objects, click outside the tab form. Also, since the lasso does not necessarily have to be dragged around the objects, it can be dragged through the center of the objects.

To move objects:

- To move a selected object or group of objects, click and drag the objects.
- For more exact movement, you can use the arrow keys on your keyboard to move selected object(s) one pixel at a time.

To resize objects, there are a few methods:

- Hold down the shift key and use the directional arrow keys on your keyboard to resize the object. Although this will resize the object, it will not change the font size.
- Objects can also be resized by changing their height and width, as described above in "Toolbox Position, Height, and Width Tools" section on page 18.
- Select the object; position the cursor on any of the sizing handles that appear around the selected object. When the cursor appears as a double-headed arrow, drag the handles to make the object the desired size.



Right-Click Features

When an object is selected, depending on the object, right-clicking an object may provide access to the following functions:

Properties

Delete

Cut

Copy

Paste

Align

Size

Space

When two fields (i.e., columns) are selected, right-clicking allows you to align or size the fields in relation to one another.

When three or more fields are selected, right-clicking provides a spacing feature to align the spacing between the objects.

The formatting features are typically used to put the finishing touches on a painted window, ensuring that all fields are lined up and spaced in a consistent way. This also works for *non-column* objects of all types.

To align two or more fields:

1) Select the fields you want to align. The first field you select should be the one that is aligned in the desired position for all fields.
2) Right-click (or click on the Object from the text menu bar) and select Align.
3) Select one of the four Alignment options: Top, Left, Right, Bottom. All of the fields will be aligned as specified with the first field selected.

To size two or more fields:

1) Select the fields you want to resize. The first field you select should be the one that is the desired size for all fields.
2) Right-click (or click on the Object from the text menu bar) and select Size.
3) Select one of the two resizing options: Height (make all fields the same height) or Width (make all fields the same width). All of the fields will be resized as specified to match the first field selected.

To space three or more fields:

To space fields, there must be at least three fields selected. This is because the spacing applied to the fields will be based on the spacing that exists between the first two fields selected. It is imperative that these fields are selected in the correct order, with the distance between field #1 and field #2 determining the spacing.

1) Select the fields you want to space. The first two fields you select should be the ones that have the desired spacing for all fields.

2) Right-click (or click on the Object from the text menu bar) and select Space.

3) Select one of the two spacing options: Across (apply the same spacing horizontally between items) or Down (apply the same spacing vertically between items). All of the fields will be repositioned as specified to match the spacing between the first two fields selected.

When only the tab form is selected, right-clicking allows you to perform the following activities for the form:

Properties

Delete (the tab form)

Pop-up Windows

Tab Order

Object List

For more information about each of these features, see Working with Painter Objects section on page 25.

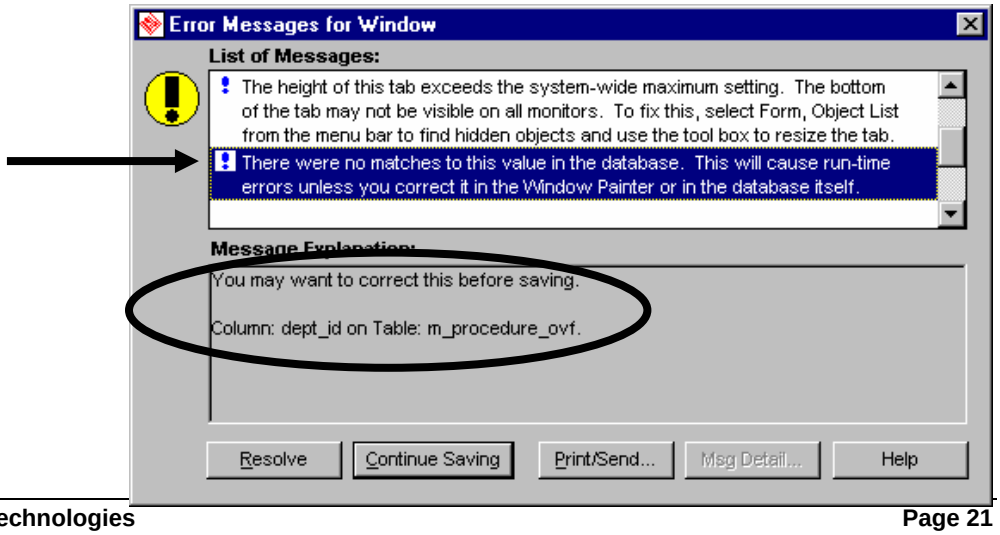
Saving a Window

After saving a window, you will usually receive a message advising of any issues that may cause problems if not resolved properly.

There are two windows that you should be reviewing when determining how to resolve the error – List of Messages window and the Message Explanation window. Selecting the message in the List of Message window will display a description of the error in the Message Explanation window.

For example, after receiving the error message below, the List of Messages indicates the following:

There were no matches to this value in the database. This will cause run-time errors unless you correct it in the Window Painter or in the database itself.



In the Message Explanation window, it directs you to the field that is causing the message:

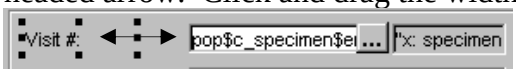
Column: dept_id on Table: m_procedure_ovf.

Therefore, press the Resolve button in order to correct the errors for the appropriate field. For more information on error messages, such as how to resolve certain errors, refer to the "Message Board" section on page 89.

Exercise 3

Use the toolbar and toolbox options to modify objects on your painted window.

1) Press the **Setup** icon on the RadPlus Application Manager.
2) Double-click on the Dynamic Customizer folder.
3) Double-click on the Window Painting folder.
4) Double-click on the Window Painter item. The Select a Window window appears.
5) Select y_arrival_train_(your initials), the window you created in Exercise 1, and press **OK**. The Window Painter window appears.
6) Select the Encounter text/label object.
7) In the Text field of the toolbox, change the text from "**Encounter:"** to "**Visit #:"**.
8) Adjust the width of the **Visit #** label to fit the new text. Click the Visit label object and move the cursor over the right sizing handle, until the cursor appears as a double-headed arrow. Click and drag the width to fit the label.



9) Select the Priority label, hold down the Ctrl key, and click the Priority column object (c_specimen$specpriority_id). Move these two objects beneath the Billing Type. Deselect these objects by clicking outside the tab form.
10) Select the Patient Location label, hold down the Ctrl key, and click the Patient Location column object (pop$m_order_ovf$patroom_id). Move these two objects to where the Priority objects were, beneath the Billing Number.
11) Move the Priority objects (text/label and column) to where the Patient Location objects were, beneath the Arrival Date. Deselect these objects by clicking outside the tab form.
12) Click the Priority column object (not the label) and on the toolbox, reduce the width from 186 to 184 pixels. Press **Apply**. Deselect this object by clicking outside the tab form.

13) Hold down the Ctrl key and click the following label objects: Billing Type, Client, Priority, Arrival Date, and Visit #.

14) Right-click, and select Size, Width.

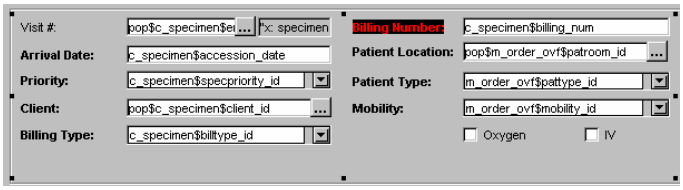
TIP! For more instructions on selecting multiple fields, see "Selecting, Moving, and Resizing Objects" section on page 18.

15) With the objects still selected, right-click and select Align, Right. All the text objects should now be right aligned with the Billing Type.

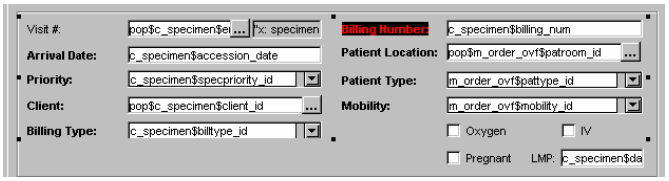
16) Select the Billing Number label and change the text color to red by clicking the red color box on the toolbox.

17) With the Billing Number label still selected, change the background color by right-clicking any color on the toolbox.

18) Select the Visit datawindow until the sizing handles appear surrounding the datawindow object as displayed below.



19) Move the cursor over the bottom sizing handle until the cursor appears as a double-headed arrow. Resize the datawindow object to display the Pregnant and LMP fields as displayed below.



20) Verify the following text/label objects are located at pixel 316 of the X axis: Billing Number, Patient Location, Patient Type, and Mobility.

21) Save and close the window. Press **Continue Saving** if the system prompts for a tab sequence change or datawindow protection.

Review

A window, also known as a form sequence, can contain the following objects: check box, column (data) field, command button, radio option buttons, text/label, action button, application user object, group box, rectangle, dialog box, datawindow, tab form, pop-up window, or next process window.

In general, only the following windows can be customized: entering/editing patient and procedure windows, including registration, orders, procedure-related activities and scheduling.

There are three methods to paint a window: creating a new window, copying an existing window, or editing an existing custom window.

The following properties can be set on a window: comments, new window, open window, header, display next tab, and display Site Tips.

Window Painter includes various tools to create and modify objects. A user can use the Window Painter Toolbar, Toolbox, the text menu bar, or right-click the object to modify an object's properties.

Working with Painter Objects

Introduction

This topic explains the various objects you can paint in the Window Painter, including tab forms, datawindows, application user objects, pop-up windows, rectangles and group boxes. This section also describes how to use Next Process controls to tailor workflow within painted windows.

Objectives

After completing this section, you will be able to:

- Understand the different objects that can be painted on a window, such as tab forms, datawindows, action buttons, grouping and labeling objects, application user objects, pop-up windows and Next Process pop-up window.
- Learn how to format a window with a proper tab sequence (order).
- Modify the properties of the various objects.
- Determine how to use the Object List tool.
- Know the difference between a pop-up window and Next Process pop-up window.

Tab Forms

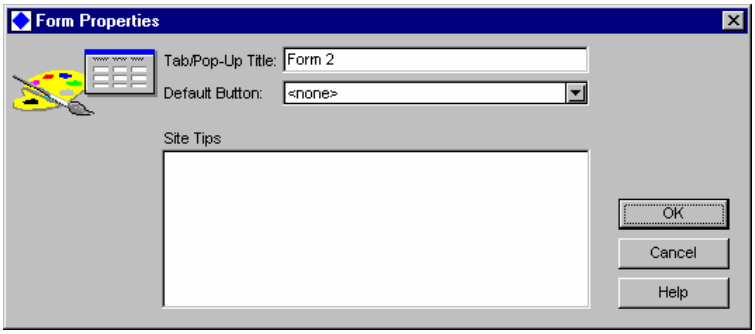
A tab form is one of two types of "forms" where objects are painted. The other type of a painted form, a pop-up window, is described later in this section.

Each painted window consists of one or more tab forms. Examples of tab forms in the standard version of RadPlus are the Patient/Visit and Procedures tabs on the Arrival Procedures window. A new painted window includes one blank tab form, but additional tab forms can be painted.

To paint a tab form on a window:

1) Press (Tab Form) on the toolbox (or select Form, New, Tab Form from the text menu bar). The new tab form appears as the top-most tab on the painter window.

2) Right-click and select Properties (or select Form, Properties from the menu text menu bar or press from the toolbar). The Form Properties window appears.



3) Enter the following information:

Tab/Pop-Up Title. Enter a title to appear on the tabbed portion of the tab form. The number of characters in the title will control the width of the tab itself on the window (or it will have the width of 1.) When there are multiple tab forms on a window, this title will identify the form when it is hidden behind other tab forms. On a pop-up window, this title will appear in the title bar and therefore is not as limited in length.

Default Button. After you have painted objects on the tab form, use this field to specify a button that will be selected by default when a user presses the Enter key. Often, a **Save** or **OK** button is the default.

Site Tips. Enter any site-specific tips that should appear for this tab form when a user presses the Site Tips button ( ) at the top, right corner of a tab page. The Site Tips button is enabled via Window Properties. Refer to "Window Properties" on page 13 for more information about enabling Site Tips.

4) Press **OK**.

To adjust the bottom and right sides of a tab form, select the tab form (a sizing handle appears at the right side), hold down the Shift key, and use the arrow keys to adjust the sides in and out.

To view the options for a tab form by right-clicking:

1) Click on the tab form so that no other object is selected. A sizing handle can be seen on the right side of the tab form.
2) When the tab form is selected, right-clicking allows you to perform the following activities for the form:

   Properties

   Delete (the tab form)

   Pop-up Windows

   Tab Order

   Object List

To rearrange the tab forms on a window:

1) Position the cursor over the tab until the cursor appears as cross hairs.
2) Click and drag the tab to the desired position. The cursor will change to an image of a hand, pointing to the position that the tab will be relocated to.

Tab Sequence (Order)

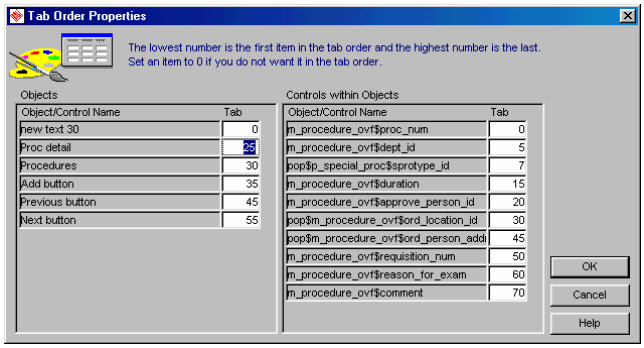
As new objects are added to a painted window, they are assigned a default tab sequence (order). The tab sequence refers to the order in which a user's focus moves through a painted tab form or pop-up window as they press the Tab key. The tab sequence is automatically assigned in increments of 10, starting with 10. You can keep a field out of the tab sequence by assigning it a tab order of 0. This is useful for display-only fields and infrequently used buttons, since you may not want the cursor to stop at those objects.

Each tab form or pop-up window has its own tab sequence. The tab order typically needs to be adjusted when:

- New fields are painted.
- Painted fields are rearranged.
- When you want to keep a field or button out of the tab order.

To change the tab sequence (order):

1) With the Window Painter open for the desired window, go to the form that needs the tab order changed.
2) Select Form, Tab Order from the text menu bar (or, with the tab form selected, right-click and select Tab Order). The Tab Order Properties window appears.



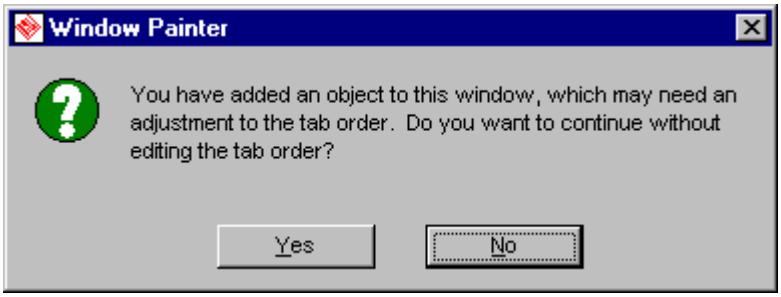
3) The Objects side of this window (i.e., the left side) displays the tab order of datawindows and buttons on this form. Adjust the tab order of objects as needed.

4) To adjust the tab order of fields within a datawindow, select the tab order assigned to the datawindow (i.e. in the above example, to access the fields associated with the procedure detail datawindow, you would select the tab order of 25). The Controls Within Objects side of this window (i.e., the right side) changes to display the tab order of fields within that datawindow. Adjust the tab order of those fields as needed.

   NOTE: The tab sequence usually moves from left to right or from top to bottom

5) Press **OK** when finished adjusting the tab sequence.

If you make any changes to a tab form that affects the tab order, such as painting a new field or datawindow, and you do **not** adjust the tab order, the following warning appears when you attempt to exit from the tab form.



Press **Yes** if you would like to continue to another tab form or **No** if you would like to stay on the current tab form and make edits to its tab sequence.

Exercise 4

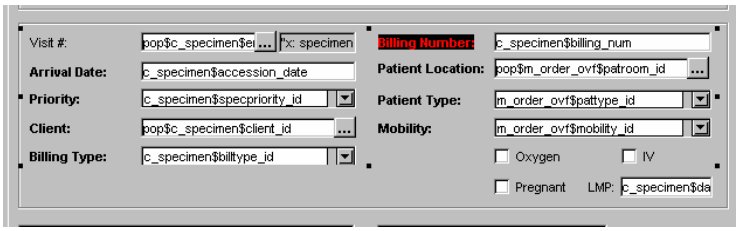
Rearrange some fields on your painted window, adjust the tab order, add a new tab form, and create Site Tips.

1) Press the **Setup** icon on the RadPlus Application Manager.
2) Double-click on the Dynamic Customizer folder.
3) Double-click on the Window Painting folder.

4) Double-click on the Window Painter item. The Select a Window window appears.

5) Select y_arrival_train_(your initials), the window you created in Exercise 2, and press **OK**. The Window Painter window appears.

6) Click the datawindow that contains the visit information as displayed below.



7) Right-click and select Properties. Since the tab sequence needs to be updated in this datawindow, note the datawindow's name is "visit."

8) Press **Cancel**.

9) In the text menu bar, Select Form, Tab Order. The Tab Order Properties window appears.

10) In the objects (left) column, select the Patient Object tab field (i.e. "50") and change to 0. The tab sequence of all the fields painted on that datawindow appear in the right column.

11) Adjust the tab order for the fields in the right column (medications, allergies, and history) to reflect 0. A tab order of 0 keeps a field out of the sequence (i.e. when the user clicks the Tab key, the cursor will not stop in these fields.)

12) In the left column, select the Visit Object tab field (i.e. "60"). This is the datawindow that was found in Steps 6 and 7 of this exercise. The tab order of all the fields contained in this datawindow appear in the right column.

13) Since the Patient Location and Priority columns were switched in a previous exercise, the tab sequences should be modified. The Patient Location column should be sequenced after the Arrival Date, so adjust the tab sequence to 20 for column pop$m_order_ovf$patroom_id.

14) The Priority column should be sequenced after the Patient Location, so adjust the tab sequence to 30 for column c_specimen$specpriority_id.

    NOTE: Since the Pregnant datawindow and Visit datawindow are two separate objects, the tab sequence can not "bounce" from one datawindow to the other and then back to the first datawindow.

15) Press **OK**.

16) Press (New Tab Form) on the toolbox. The new tab form appears as the top-most tab on the painter window.

17) Select Form, Properties. The Form Properties window appears.

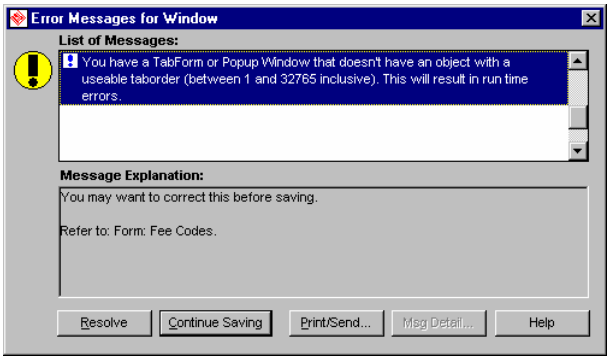
18) At the Tab/Popup Title field, type Fee Codes**.**

19) In the Site Tips field, enter "This form is used to display entering information on a tab form versus entering data on a popup window."

20) Press **OK**.

21) Save the window.

22) Scroll down the Error Messages for Window until the following message is displayed.



23) Since the next exercise will include adding objects to this tab form, press **Continue Saving**.

Datawindows

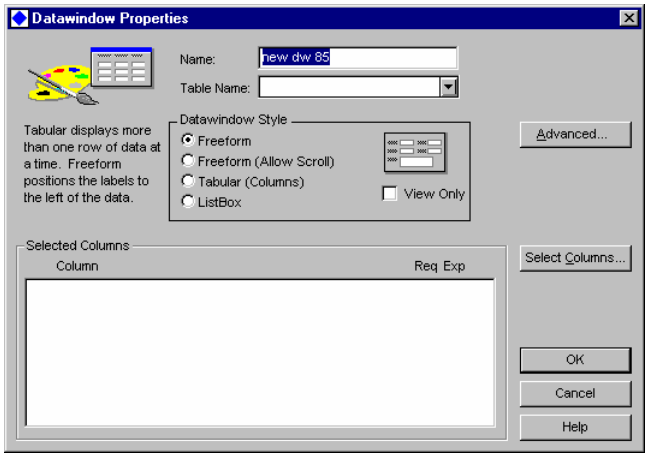
Like PowerBuilder, the RadPlus Window Painter uses the datawindow object type to display information from the RadPlus database and to allow data entry. Each group of fields painted on RadPlus windows represents a datawindow. Usually, each painted datawindow displays information from one specific table in the RadPlus database. Both the Arrive Procedure's Procedure List display and Procedure Details group are examples of datawindows in the standard version of RadPlus.

To paint a new datawindow:

1) Press (Datawindow) on the toolbox (or select Object, New, Datawindow from the text menu bar). The cursor changes to a hand.

2) Move the cursor to where you want to paint the datawindow and click the location.

3) With the datawindow still selected, right-click and select Properties (or select Object, Properties from the text menu bar or press  from the toolbar). The Datawindow Properties window appears.



4) Enter the following information:

Name. Delete the default name that appears and enter a meaningful name for this datawindow. For example, if you are painting a datawindow that references the additional physicians' table, name it addphys. The name makes it easier to identify the datawindow during activities such as adjusting the tab order.

Table Name. Select the table from which you want to display information in this datawindow or for which you want to allow data entry. Once a table has been selected and saved, it cannot be changed – the datawindow will have to be deleted and a new one can be created using the correct table.

Datawindow Style. Select the style to use for this datawindow. Often, a default style is selected for you based on the table selected. See "Datawindow Styles" below for more information.

Advanced button. Press this button to access additional tab form properties. See "Advanced Datawindow Properties" below for more information.

Select Columns button. Press this button to select the columns (i.e., data fields) from the table to include on this datawindow. See "Selecting Datawindow Columns" on page 34 for more information.

Selected Columns. This area displays all the columns selected for this datawindow. Required fields are identified by the **Y** in the Req column. Painted expressions are identified by the **Y** in the Expr column. For tabular datawindows, header columns are designated as such.

5) Press **OK**.

Datawindow Styles

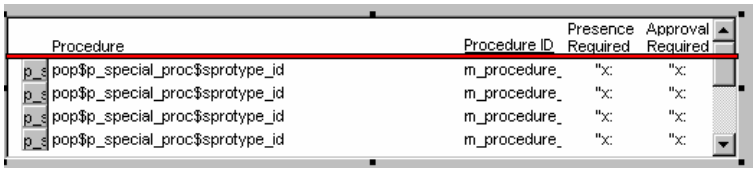
There are four available datawindow styles:

Freeform. Allows placement of fields in a datawindow in any location.

Freeform (Allow Scroll). Same as Freeform, but also allows scrolling through a list of values in one column for the purposes of viewing the different sets of data associated with those values. This type of datawindow often includes a **Next** button.

Tabular (Columns). Used for multi-instance fields, such as fee codes, where several fields may be entered for each row. When you select a Tabular datawindow, a red bar appears showing the separation between the header and detail section. Use the red bar to adjust the space available for field labels.

Red bar which separates the header from the detail section

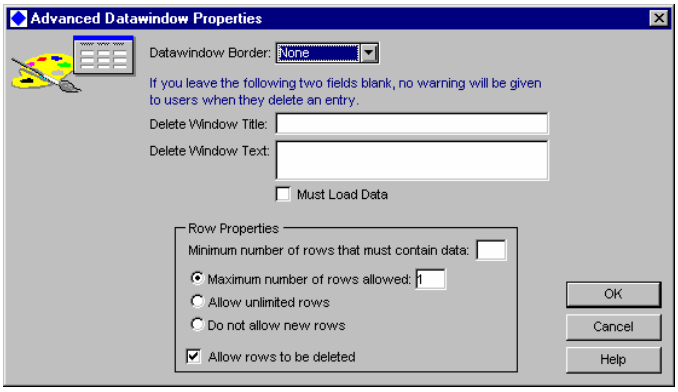


ListBox. A display-only list of entries from which you can select an item for further processing.

In addition to the four selectable datawindow styles, the View Only check box appears selected for any datawindow that is not editable. To make a datawindow display-only (or non-editable), check the View Only check box.

Advanced Datawindow Properties

Use the Advanced Datawindow Properties window to add a border to the datawindow, customize the warning that appears when a user deletes a row, and to set minimum and maximum row requirements for multi-instance fields. The Advanced Datawindow Properties window is shown below.



Enter the following information on this window:

Datawindow Border. To paint a border around the datawindow, select *Box* or *3D Lowered*. Otherwise, select *None*. Tabular datawindows have a *3D Lowered* border, by default.

Delete Window Title/Text. If you want a message to display on the window when a user deletes a row from this table/datawindow, complete these fields. Enter the title to appear on the delete message window and the message to display. It might be appropriate to display a deletion warning message for some items but not for others.

Must Load Data check box. This is for use by Dynamic personnel only or upon the advice of Dynamic personnel. Select this check box to demand that the data in this datawindow be loaded even if the datawindow is not on the first tab page or is never accessed. If this check box is not selected and the data is not loaded, then checking for "required" fields will not occur.

Row Properties.

- **Minimum number of rows that must contain data.** Enter the minimum number of rows that must contain data. If you enter a **1** in this field, the row will be required to have data.
- Select one of the three available options regarding the maximum number of rows.

  Maximum number of rows allowed. To limit the maximum number of rows that may be completed, select and then specify the maximum number of rows.

  Allow unlimited rows. To allow an unlimited number of rows.

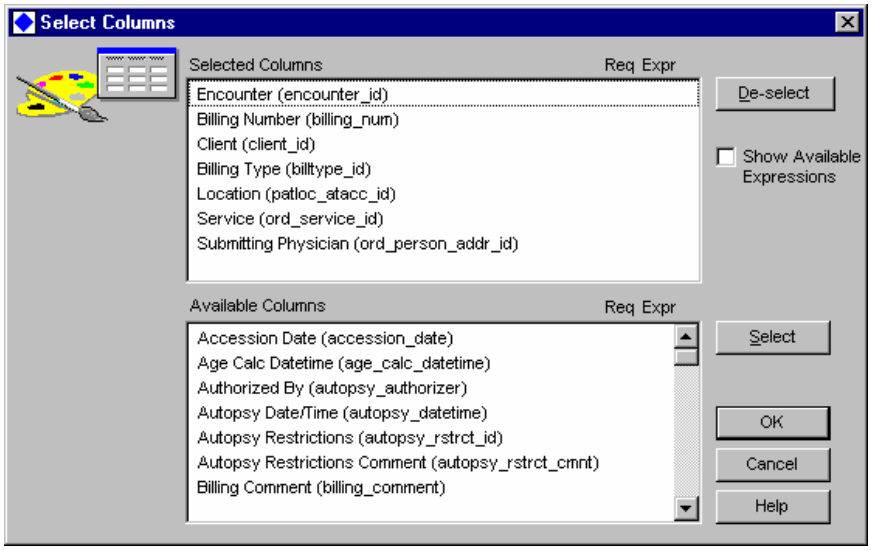
  Do not allow new rows. To prevent new rows from being added through this window.

- **Allow rows to be deleted check box.** Select this box if rows can be deleted through this window. Otherwise, clear this box.

Press **OK** to return to the Datawindow Properties window. Press **OK** again to exit the Datawindow Properties window.

Selecting Datawindow Columns

Use the Select Columns window to paint fields and expressions on your datawindow or to remove them from the datawindow. To modify the columns, select a datawindow, right-click, click Properties, and press the **Select Columns** button. The available fields and expressions are determined by the table associated with the datawindow.



Selected Columns. Displays all fields and expressions that have been painted on this datawindow. To remove a field or expression from the datawindow, highlight it and press **Deselect** (or double-click the object). The field is removed from Selected Columns and is moved to Available Columns.

Available Columns. Displays all fields and expressions that are available to be painted on this datawindow, but have not yet been painted. To add a field or expression to a datawindow, highlight it and press **Select** (or double-click the object). The field is then displayed in the Selected Columns window. Do this for every field you want to add to the datawindow. Try to paint fields on a datawindow in the same order as you want to see them displayed.

NOTE: You can also move fields from the Available Columns field to the Selected Columns field and vice-versa by selecting the columns and dragging them to the new field or by double-clicking.

Show Available Expressions check box. To display all available expressions for this datawindow, select this check box. Further information about painting expressions on datawindows is covered under the "Expressions" section of this manual on page 87.

When finished adding and removing columns, press **OK**.

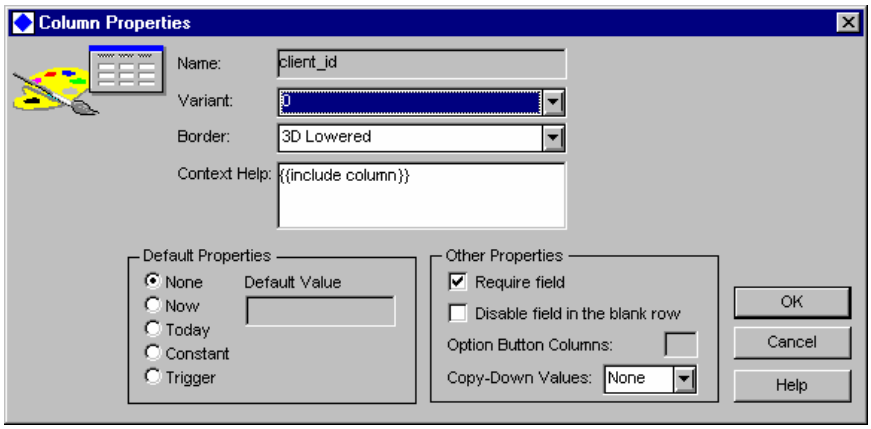
NOTE: Each field painted on a datawindow also has its own set of properties. For more information, see "Column Properties" below.

Column Properties

Each field in a datawindow has a unique set of properties that control such features as:

- A drop-down list, lookup field, or combo box.
- A border around the object.
- Customized online help.
- Required.
- Disabled in a row if a prior field is not completed.
- A default value.

To view the properties of a column, select the object on the tab form, right-click and click Properties. The Column Properties window is shown below.



Enter the following information on this window:

Variant. Select one of the available variants for this field. Variants control such features as lookup style (e.g., pop-up or drop-down), display format or special validation. The variants available will vary, depending on how the column is defined in the data dictionary by Dynamic staff. For more information, see the "Variants" section on page 87.

Border. To put a border around the field, select *3D Lowered*, *3D Raised*, *Box*, or *Shadow*. Otherwise, select *None*.

Context Help. To use the standard online help provided with RadPlus for this field, press the Enter key to accept the default response. Otherwise, enter some site-specific text that you want to use for this field within this datawindow. To return to the standard online help, enter *{{include column}}*. You can also leave *{{include*

column}} but enter site specific context help before or after it.

Default Properties. Select a default value for this field.

- None.
- Now. This includes today's date and time.
- Today. This includes today's date.
- Constant. If Constant is selected, the Default Value field is enabled so that you can enter the desired default. The Default Value must be contained in the corresponding field of the database table. For example, if setting a default value for the Priority (as displayed below), the default value must be contained in the spec_priority_id field of the c_specimen table.

TIP! For more information on how to display the data in a table, refer to the SQL or Data Manipulation Grid sections of the RadPlus InfoMaker Manual.

- Trigger. This is only used by Dynamic staff in standard windows.

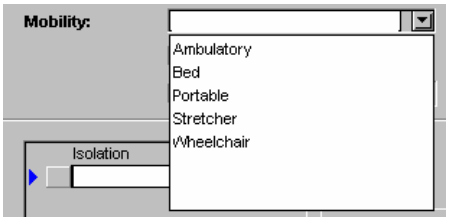
Other Properties.

- **Require field.** Select this check box if this field is required. For some fields, this box is already selected and cannot be cleared.

  NOTE: In the standard version of RadPlus, required fields in Procedure and Report windows are indicated by bolding the label text. However, if customizing a window to have a field required, it is recommended that you bold the label/text object. This will create a uniform convention for required fields.

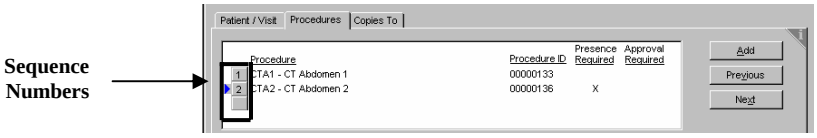
  TIP! There is a System Setting related to required fields. Refer to page 75 for more information.

- **Disable field in the blank row.** For multi-instance fields (i.e., tabular datawindows), select this check box if you want this field to be disabled in a row if the first field/column in the row has no value.
- **Option Button Columns**. For fields that use option buttons, indicate how many columns to use to display the available choices. This feature is also commonly referred to as "radio buttons".
- **DDDW Width (Drop Down Data Windows)**. For fields that use a drop down list.



- **Copy-Down Values.** Use this field to specify what kind of default a field in a multi-instance row should have.
  - **None.** No default
  - **First.** Copy the default from the same field in the very first row
  - **Last.** Copy the default from the same field in the previous row).
  - **Bump.** The default will be one value higher than the same field in the previous row.

    TIP! Sequence numbers should always be set to **Bump**.



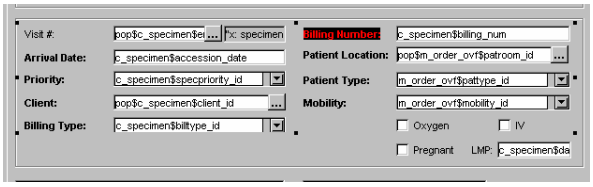
When you are finished setting column properties, press **OK**.

Modifying a Datawindow

The datawindow can be modified after properly selecting the datawindow object.

To select a datawindow object and modify the properties:

1) Select the datawindow without clicking object contained inside the datawindow (i.e. click somewhere inside the datawindow's grey area.)
2) The sizing handles will appear as shown below.

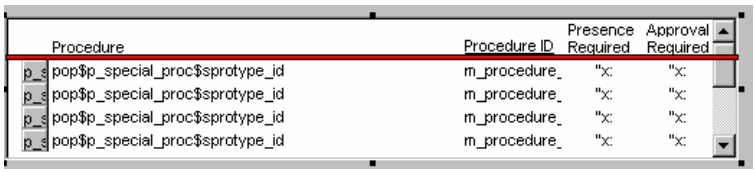


3) Right-click and select Properties.
4) Make the appropriate modifications.
5) Press **OK**.

Although many things can be modified on a datawindow, the table name cannot be changed. Therefore, in order to modify the table name, a new datawindow must be created and the appropriate table name should be selected.

TIP! If the window has the datawindow style properties of tabular, then to modify the properties, select the datawindow until a red bar appears near the top of the datawindow and the sizing handles are shown. This red bar separates the header from the detail section of the table. Right-click and select Properties.

Red bar which separates the header from the detail section



Exercise 5

Paint a datawindow with a border and paint four fields in that datawindow.

1) Press the **Setup** icon on the RadPlus Application Manager.
2) Double-click on the Dynamic Customizer folder.
3) Double-click on the Window Painting folder.
4) Double-click on the Window Painter item. The Select a Window window appears.
5) Select y_arrival_train_(your initials), the window you created in Exercise 2, and press **OK**. The Window Painter window appears.
6) Make certain the Fee Code tab form is visible. If not, click on the tab (where it displays “Fee Codes”)to display the entire tab form.
7) Press  (New Datawindow) on the toolbox. The cursor changes to a hand.
8) Position the cursor on the Fee Code tab form where you want to paste the new datawindow, and click on the form.
9) With the datawindow object still selected, right-click and select Properties to access the Datawindow Properties window.
10) At the Name field, enter Fee Codes**.**
11) At the Table Name field, select Fee Code (c_spec_feecode).
12) For Datawindow Style, the default value of *Tabular* will be used.
13) Press **Advanced…** The Advanced Datawindow Properties window appears.

14) At the "Minimum Number of rows that must contain data" field, enter **1**.

15) Press **OK**. The Datawindow Properties window reappears.

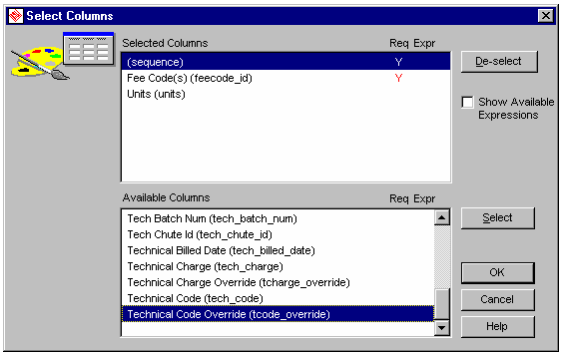
16) Press **Select Columns**. The Select Columns window appears.

17) In the Available Column window, double-click the following fields to populate the Selected Columns window:

(sequence)

Fee Code(s)(feecode-id)

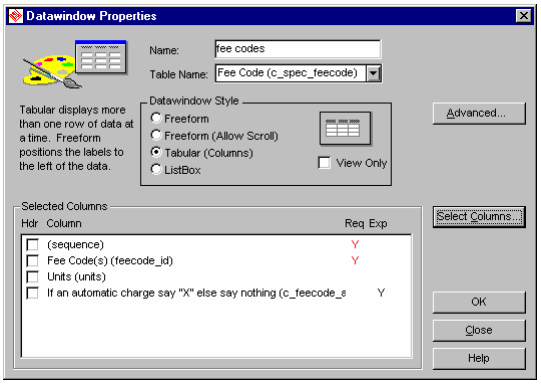
Units (units)



18) Check the Show Available Expressions check box.

19) In the Available Columns window, double-click "If an automatic charge say "x" else say nothing." This should now be added in the Selected Columns (top) window.

20) Press **OK**. The Datawindows Properties window appears.



21) Verify the selected objects are displayed in the Selected Columns window.

22) Press **OK** to exit the Datawindow Properties window.

23) Use the toolbox to adjust the width of the c_spec_feecode$units object to 50 pixels.

24) Press **Apply** on the toolbox.

25) Select the "x:feecode_auto_x" object, right-click, select Properties and change the border type to Box.

26) Press **OK**.

27) Change the width to 30 pixels and press **Apply**.

28) Move the "x:feecode_auto_x" object next to the Units column object.

29) Select the datawindow. You will see the red bar after selecting it properly.

30) Resize the datawindow using the right sizing handle.

31) Save the window.

32) Press **Yes** to bypass the message of "You have added an object to this window, which may need an adjustment to the tab order. Do you want to continue without editing the tab order?"

Action Buttons

RadPlus painted windows make use of two types of buttons: action buttons and application user object (AUO) buttons.

Action buttons are used to open or close a pop-up window, or to cause an action in a datawindow, such as scrolling to the next or previous row. Examples of action buttons in the standard version of RadPlus include **Add**, **Next** and **Previous**.

Application user objects will be described later in this section.

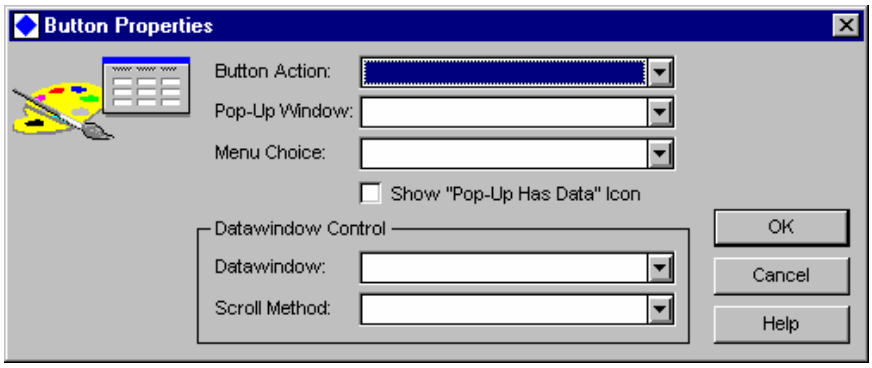
To paint an action button:

1) Press  on the toolbox (or select Object, New, Button from the text menu bar).

2) The cursor changes to a hand.

3) Move the cursor to the location where you want to paint the button and click on the window.

4) With the button still selected, right-click and select Properties (or select Object, Properties from the text menu bar). The Button Properties window appears.



5) Enter the following information:

Button Action. Specify how this button will function by selecting one of the following:

Run Menu Item

Open Popup Form

Scroll Datawindow

Add Datawindow Row

Delete Datawindow Row

Pop-Up Window. Select which pop-up window you want to appear when the button you are creating is pressed. You can select any pop-up window that has been defined for this window.

NOTE: Only enabled if *Open Popup Form* was selected as the Button Action. For more information about pop-up windows, see "Pop-Up Windows" section on page 52.

Menu Choice. Enter the menu item you want to run when this button is pressed. Press Alt+DownArrow to view the available menu items. Specify how this button will function by selecting one of the following:

NOTE: Only enabled if *Run Menu Item* was selected as the Button Action.

Add Datawindow Row

Align Icons Of Minimized Applications

Cascade Windows Of Running Applications

Clear

Close This Application Item

Copy

Cut

Delete Datawindow Row

Delete This Entity

Exit RadPlus

Hide/Show Toolbar

Layer Windows

Log Application Events

Log Tool Events

Lookup

Minimize All Applications

Move Current Row Down

Move Current Row Up

New

Open

Paste

Print

Printer Setup

Quick Fill

Restore All Windows

Save

Search

Show Application About Box

Show Context-Sensitive Help

Show Debugger Log

Show Help Contents Page

Show Window Help

Switch Activities

Switch To Next Form

Switch To Prior Form

Switch To The Application Manager

Switch To Prior Form

Switch To The Application Manager

Tile Windows Horizontally

Tile Windows Vertically

Undo Last Change

Zoom

Show "Popup Has Data" Icon check box. Select this check box to display, at runtime, an asterisk (*) next to a button if that popup window contains data.

Datawindow Control. Select the datawindow and scroll method.

NOTE: Only enabled if *Scroll Datawindow*, *Add Datawindow Row*, or *Delete Datawindow Row* was selected as the Button Action.

Datawindow. Select any datawindow contained in this window.

Scroll Method. Choose any of the following methods: top, bottom, next, or previous.

NOTE: Scroll Method is enabled only if *Scroll Datawindow* was selected as the Button Action.

6) Press **OK**.

7) The text field on the toolbox shows the default name that will appear on the painted button. Adjust the text on the toolbox, if necessary.

Access Keys

Painted buttons should always include an "access key" or otherwise known as an accelerator (hot) key. An access key lets users "press" the button using the keyboard instead of the mouse.

An access key is a combination of the Alt key and an underlined letter in the object's name. By holding down the Alt key, and then typing the underlined letter, users press the appropriate button. For example, to press the **Add** button on the Arrive Procedures window in the standard version of RadPlus, press Alt+A.

NOTE: A letter must be used as an access key only once per tab form.

To paint an access key:

1) Select the button. The text field on the toolbox displays the button's name.

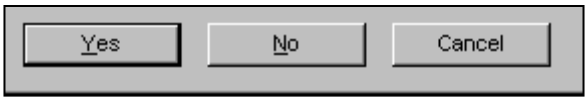
2) Insert an ampersand character (&) immediately before the letter you want to be the access key. For example, the text for the **Add** and **Next** buttons would look like this: **&Add** and **Ne&xt**, respectively. As soon as you add the ampersand character, the access key appears with an underline on the painted button.

   TIP! Access keys can also be used in naming the tab form. Therefore, when in the tab form's properties, follow Step 2 when entering the Tab/Pop-Up Title field.

Default Button for Tab Form or Pop-up Window

For each tab form or pop-up window, one button painted on the form can be designated as the default button. The default button is the only button on the form that appears with a drop shadow. If you press the Enter key while on that form, the default button is automatically pressed.

A default button is specified either on the Tab Form Properties or Pop-Up Window Properties window. The default must be a standard button; it cannot be an Application User Object "button". In the example below, Yes is the default button.



Exercise 6

Change the access key to the **Ne<u>x</u>t** button on your painted window and new buttons.

1) With the Window Painter open for your painted window, go to the Procedures Tab and select the **Ne<u>x</u>t** button. The text-related fields on the toolbox show the text attributes of that button.
2) At the Text field on the toolbox, make the letter **N** the access key for this button by inserting an ampersand (&) before the letter N and removing the ampersand prior the letter X. That is, type &Next. Notice the letter **N** on the painted button is now underlined.
3) Press  on the toolbar to paint a new button.
4) Click the cursor beneath the Next button in order to insert the new button.
5) With the button selected, right-click and select P<u>r</u>operties.
6) For the Button Action, select *Scroll Datawindow*.
7) At the Datawindow field, select the *Procedures on Form Procedures* datawindow.
8) At the Scroll method, select *Bottom*.
9) Press **OK**.
10) On the toolbox, change the button's text to <u>L</u>ast. Create the access key by inserting an ampersand (&) before the letter L.
11) Since a new button on this tab form was added, check the tab sequence for this form.

    HINT: click Fo<u>r</u>m, <u>T</u>ab Order. For more information on modifying the tab sequence, refer to page 27
12) Select all of the following buttons: Add, Previous, Next and Last.
13) Right-click and select Spac<u>e</u>, <u>D</u>own. This will adjust the spacing between the buttons.
14) Right-click and select <u>A</u>lign, <u>L</u>eft. This will align the spacing on the left sides of the objects.
15) Click the Fee Codes tab.
16) Press  on the toolbar to paint a new button.
17) Click the cursor anywhere on the tab form to place the button.

18) Right-click and select Properties.

19) Select *Open Popup Form* as the Button Action.

20) Select *ICD-9-CM Codes* as the Pop-Up Window.

21) Press **OK**.

22) On the toolbox, change the button's text to display ICD9 Codes. You will type "ICD9 &Codes" in order to use the letter C as an accelerator key.

23) Save your changes.

Object List

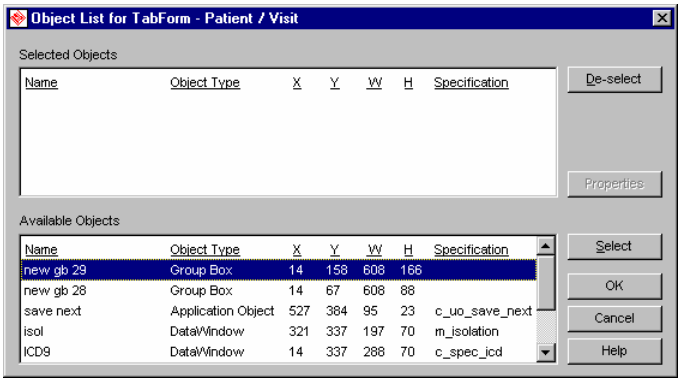
At times, it may be difficult to select an object(s) on a window. The Object List lets you view a summary of the information for all objects painted on a form, and then view and edit the properties for any of those objects. This function will allow the user to select a single or multiple objects.

NOTE: the Object List will only display the objects of a single tab form.

To select an object using Object List:

1) Deselect all objects by clicking outside the tab form. If this is not done, any objects selected on the tab form when you open the Objects List are already selected.

2) In the text menu bar, click Form, Object List.



3) The available objects and its object type are listed in the Available Objects (bottom) window. The Object List displays the following information for each object:

Name

Object Type

Horizontal (X) and vertical (Y) starting position of the object on the form

Width and height of the object

Specification information (i.e., table name)

NOTE: This is why we recommend using logical naming conventions when creating objects. Without using a logical name (i.e. using the default name), it will be difficult to determine which object should be selected.

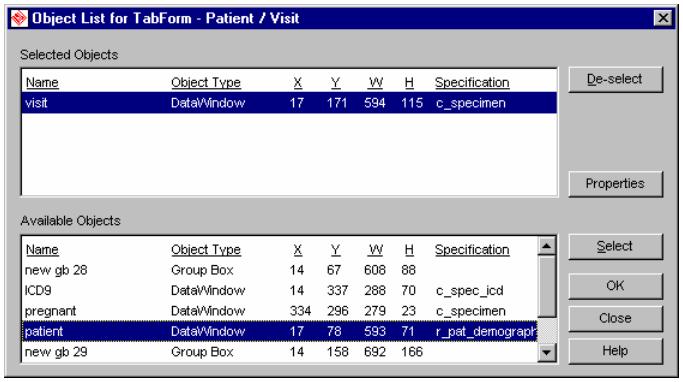
4) There are 2 methods in selecting the objects in order to populate the Selected Object (top) window. One is to double-click the object in the Available Object window. The other way is to highlight the object and press **Select**.

5) To view and edit a selected object's properties, after it is in the Selected Objects portion of the screen, click Properties. The Properties window for that object appears.

6) Modify the object's properties as needed, and then press **OK**.

To deselect an object using Object List:

1) In the text menu bar, click Form, Object List.



2) In the Selected Object window, highlight the object to be deselected.

3) Press the **De-select** button.

4) Press **OK**.

Grouping and Labeling Painted Objects

The Window Painter includes three types of painted objects that visually identifies or organizes other painted objects. These are:

- Group Boxes
- Rectangles
- Text/Label

Each is described in the following paragraphs.

Group Boxes

A "Group Box" consists of a chiseled (i.e., 3D) border with a text/label. You can place a group box around one or more datawindows or buttons. When using a group box in or around a

datawindow, the datawindow border prints on top. Therefore, you need to adjust the height and width of the group box to ensure that all borders are visible

To paint a group box:

1) Press  on the toolbox (or select Object, New, Group Box from the text menu bar).
2) The cursor changes to a hand. Position the cursor where you want to insert the new group box, and click and drag the group box around the objects you want to group. Adjust the height and width so that all borders are visible.
3) At the Text field on the toolbox, enter a label for the group box if desired. Adjust other text attributes (font, style, or alignment) as needed.

   NOTE: A Group Box is not required to have text.

Rectangles

A "Rectangle" consists of a plain border without any text. It is used to group fields and expressions within one datawindow.

To paint a rectangle:

1) Press  on the toolbox (or select Object, New, Rectangle from the text menu bar).
2) The cursor changes to a hand. Position the cursor within a datawindow where you want to insert the rectangle and drag the rectangle around the fields and expressions you want to group. When you are painting a rectangle, it appears to cover the fields, but the fields will display on top after you deselect the rectangle.
4) Use the toolbox to adjust the rectangle's border color if necessary.

Text/Label

A text/label object consists of just a label for an object. Most painted fields already include text labels. However, additional text objects can be added as needed.

To paint a text/label object:

1) Press  on the toolbox (or select Object, New, Label/Text from the text menu bar).
2) The cursor changes to a hand. Position the cursor where you want to insert the text/label and click on the form.
3) Use the toolbox to enter the text for the label and to adjust the text attributes as needed.

Exercise 7

Use the Object List to modify a group box and create a text/label object.

1) Click the Patient / Visit tab.
2) On the text menu bar, click Form, Object List.
3) In the Available Object window, double-click the "new gb 28" group box.
4) Press **OK**.
5) In the toolbox, name the group box *Miscellaneous* and display it in a different color.
6) Select the Isolation datawindow. Remember, to verify that you selected the tabular datawindow properly, a red bar will display in the datawindow.
7) Right-click and select Properties.
8) Press **Advanced…** and change the value at the Datawindow Border field from *3D Lowered* to *Box*.
9) Press **OK** to return to the Datawindow Properties.
10) Press **OK** to return to the tab form.
11) Select the Fee Codes tab.
12) Select the New Text  icon from the toolbox. The cursor changes to a hand. Position the cursor where you want to insert the text/label and click on the tab form.
13) Use the toolbox to enter the text "Fee Codes is a Required Field."
14) Resize the text/label object appropriately.
15) Change the font color.
16) Bold the font.
17) Save the window changes.

Application User Object Buttons

An application user object (AUO) is a complex body of application code that has been packaged for consistent use in the RadPlus Window Painter. AUOs save users time by eliminating the need to paint every control included in the AUO.

Although they appear much like buttons, Application User Object (AUO) buttons can provide more complex functionality than action buttons can.

For example, AUO objects are used to paint the "Patient History" button in the Scheduling window and the "Procedure Prep" button in the Arrival window.

Another example of an AUO is the RTF (rich text format) Text Entry AUO that is used for entering diagnostic text throughout

RadPlus for sites that use Visual Writer as the RadPlus text editor. This AUO combines data entry, a toolbar, command buttons, and text field selection in one paintable object.

Some AUOs include a "wizard" which you can use to modify the standard AUO for a particular window. For example, when using the Patient History AUO in Scheduling Patient History, you will be allowed to determine what type of inquiry will be referenced (procedure or report) and the windows that will be used. Each AUO will have its own set of controls and options that allow you to customize its behavior.

The following lists a portion of the AUO objects available based on the window and window class used.

- Orders/Arrivals (m_rad_order class)
  - Edit The Encounter Of An Order
  - Multiple Insurance Edit
  - Pops Up Procedures Prep Window
  - Print Appointment Letter For Procedures
  - Save/Next Patient Button
  - Text Entry For Radplus (Visual Writer Or MS Word)
- Report Entry/Edit (m_rad_report class)
  - Button For Frame Call To Edit Arrival Data
  - Displays Infomaker Report For Patient, Arrival Or Report
  - MS Word Based Text Field Editor
  - Next Process – Radio Buttons (Radplus)
  - Text Entry (VW Or MSWord Switcher) – Radplus
  - Worklist – Hold And Comment Fields
  - Worklist – Send To Person
- Appoinments (s_appt class)
  - Availability Display
  - Button To Show Patient History
  - Display The Date For The Availability Search
  - Edit The Encounter Of An Order
  - Multiple Insurance Edit
  - Pass Start Date To The Availability Display
  - Patient Question (For Radplus And Scheduling)
  - Print Appointment Letter For Procedures
  - Question Instructions

Save/Next Patient Button

Serial Appointment Information

Report Inquiry (m_rad_inquiry class)

Display Pacslink Images

Displays Infomaker Report For Patient, Arrival Or Report

MS Word Based Text Field Editor

New Search Button To Trigger File-Open

Next Button For Report Queue Form Sequences

Patient History Viewer For Summary And Detail Viewer

Previous Button For Report Queue Form Sequences

Report Queue Navigator Popup Button

Text Entry (VW Or MS Word Switcher) – Radplus

Procedure Complete (m_proc_complete class)

Cancel All Procedures

Complete All Procedures

Run An Executable Program

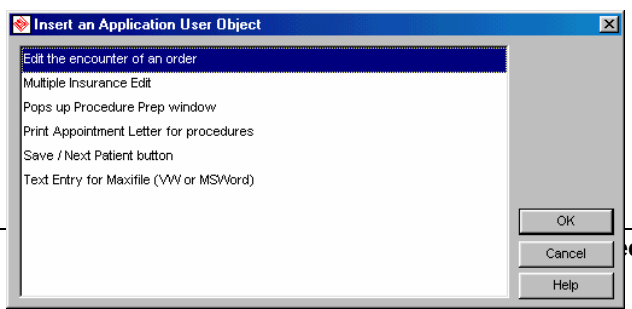
Save/Next Patient Button

To print a report displaying the available AUOs for a window class:

1) While in Window Painter, click Tools, Paintable Objects Report. This report displays all the application user objects as well as the buttons and tables/columns that can be used for the associated window.

To paint an AUO:

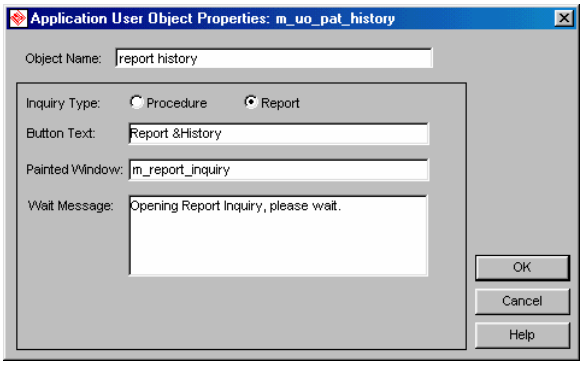
1) Press  on the toolbox (or select Object, New, Application Object in the text menu bar.)
2) The cursor changes to a hand. Position the cursor next to the ICD9 Codes button, and click to place the AUO on the form.
3) With the AUO still selected, right-click and select Properties. The Insert an Application User Object window



appears.

4) Select the AUO you want to paint and press **OK**. The AUO is painted on the window.

5) With the AUO still selected, right-click and select Properties again. The AUO Properties Window appears. If there is a "wizard" for this AUO, the fields for completing the "wizard" are displayed at the bottom of this window. An example of the Properties Window for the Patient History AUO is shown below.



6) At the Object Name field, enter a short name that describes this AUO.

7) Complete the "wizard" fields (if applicable).

8) Press **OK**.

TIP! It is sometimes necessary to define an action for an AUO button. Go into the button's properties to determine the requirement. After you paint the AUO button, use the wizard associated with the button to specify the text/label for the button and an access key.

To paint an access key for an AUO button:

1) Select the button.

2) Right-click and select Properties.

3) At the "Enter the text to use as the name of this button" field, insert an ampersand (&) character immediately before the letter you want to be the access key.

4) Press **OK**.

Exercise 8

Paint an AUO and an access key for the AUO object.

1) With the Window Painter open, click the Fee Code tab.

2) Press the AUO icon  on the toolbox and click the location on the form where the button should appear.

3) Right-click the object and select Properties.
4) Select Edit the Encounter of an Order.
5) Press **OK**.
6) Right-click the object and select Properties.
7) List the Object Name as "encounter."
8) Rename the button and create an access key by entering "Edit Registration" in the following field, "To override the standard button text for this command button, enter the desired label text below."

   HINT: to create an access key (accelerator character), precede the alpha character with the ampersand key "&". For more information on access keys, refer to page 43.

9) Press **OK**.
10) Resequence the datawindows on your tab to take into account your new AUO.

    HINT: click Form, Tab Order. For more information on modifying the tab sequence, refer to page 27

11) Save the window.

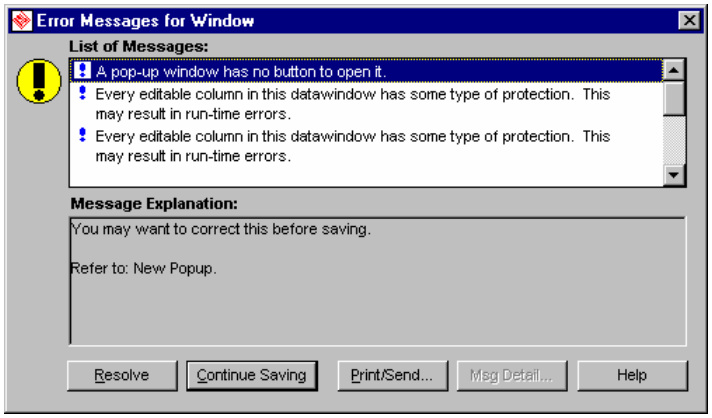
Pop-Up Windows

A pop-up window is the second type of Window Painter form on which objects can be painted. (The first type, tab forms, are described in "Tab Forms" on page 25.) RadPlus uses pop-up windows to display or edit data that is not required every time a window is used.

Examples of pop-up windows in the standard version of RadPlus include the Edit Insurance window, which can be accessed via a button during Arrive Procedure, and the Next Process window which appears automatically after Result Entry/Edit (Transcription).

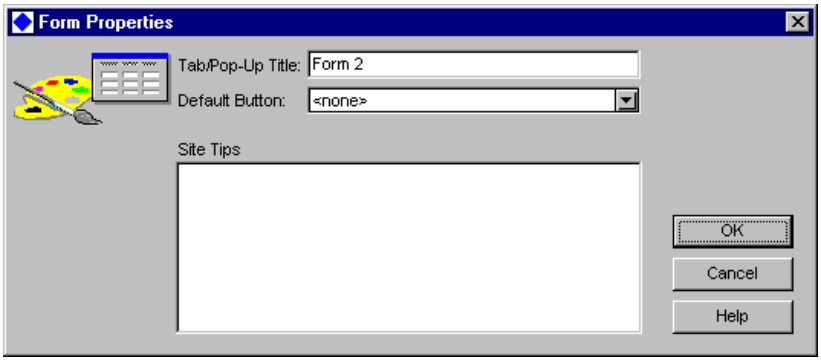
During data entry, a pop-up window can be accessed via a button painted on the window, or it can be set to appear automatically (e.g., a Next Process pop-up).

If you paint a pop-up window and do not paint a button to access the pop-up window, a warning will appear. Ignore this warning if the pop-up window is set to appear automatically (as with AUOs), such as in the Report Entry/Edit activity.



To paint a new pop-up window:

1) Press  on the toolbox (or select Form, New, Popup Window from the text menu bar). The Form Properties window appears.



2) Enter the following information:

   Tab/Pop-Up Title. Enter a title to identify this pop-up window. It will appear on the pop-up window's title bar.

   Default Button. This is the button that will be clicked when a user presses the Enter key. Often, a **Save** or **OK** button is the default. Since you haven't created the button on the pop-up yet, you will have to return to the Form's Properties to update the Default Button.

   Site Tips. These do not apply to pop-up windows. Leave this field blank.

3) Press **OK**. A blank pop-up window appears in the Window Painter as the top-most window.

Although creating a pop-up window is very simple, the entire process of incorporating this pop-up onto the tab form requires a number of steps. Exercise 9 will detail the steps. However, Figure 3 displays the basic, high-level steps involved.

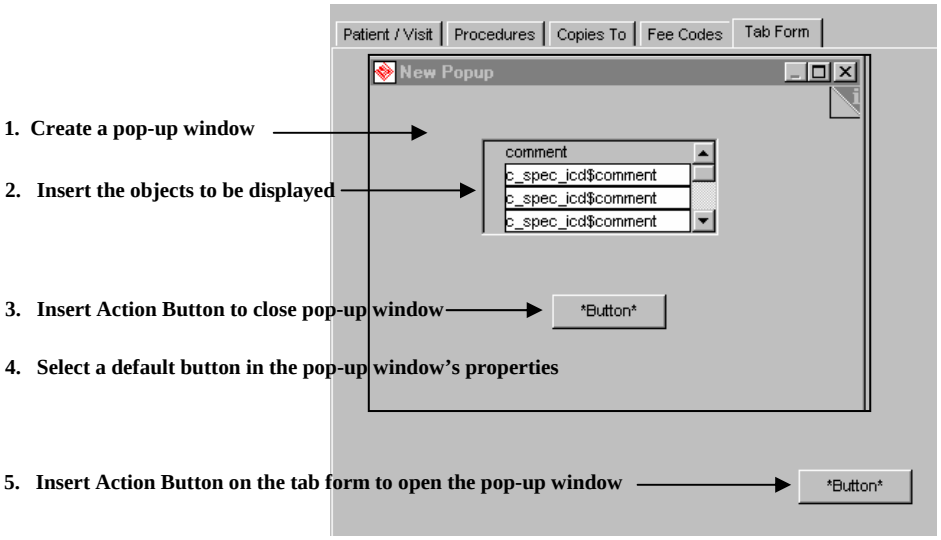


Figure 3

Exercise 9

Paint a pop-up window with a datawindow and make it accessible from a button on a tab form.

1) Click Fee Codes tab and then press  on the toolbox to paint a new pop-up window. The Form Properties window appears.
2) At the Tab/Pop-Up Title field, enter *Fee Codes*.

   NOTE: Since you haven't made a button for this pop-up form yet, there is not any default button available for selection.
3) Press **OK**.
4) Paint a datawindow for the fee codes table on the pop-up window.
5) Right-click the datawindow object and select Properties.
6) Enter feecodepopup as the object name and select Fee Code (c_spec_feecode) as the table name.
7) Use the tabular style.
8) Press **Select Columns** and select the following fields:

   Sequence

   fee code id

   service date

   units.

9) Verify these fields are listed in the Selected Column window.

10) Press **OK**.

11) Press **OK** to exit the Datawindow Properties window.

12) Resize the width of the column object for Service Date to 75 pixels. Press **Apply**.

13) Resize the width of the column object for the Units to 25 pixels. Press **Apply**.

14) Move the Units column and text/label objects to be next to the Service Date objects.

15) Size the datawindow appropriately within the pop-up window.

16) Size the pop-up window.

17) Press  on the toolbox to paint a button and click on the pop-up window to insert the button.

18) Right-click the button object and select Properties.

19) At the Button Action field, select *Close This Pop-up Form*.

20) Press **OK**.

21) With the button selected, change the text on the toolbox so that the button will read **Close**. Don't forget the access key.

22) Press  from the toolbar to access Form Properties.

23) At the Default Button field, select **Close**. You may have "***Button*"** instead of Close if the button is still selected.

NOTE: Now that a button was made, it is now available as the Default Button.

24) Press **OK**.

25) Press  at the top, right of the pop-up window to close that window. A message appears to let you know that changes have been made which could affect the tab order on the pop-up window.

26) Press **Yes** to continue.

27) Go to your Fee Codes tab.

28) Press  to paint a button and click on the pop-up window to insert the button.

29) Right-click the object and select Properties.

30) At the Button Action field, select **Open Popup Form**.

31) At the Pop-Up Window field, select **Fee Codes**.

32) Press **OK**.

33) Change the button text to **Open Fee Codes.**

34) Re-size the button.

35) Align the bottom of the three buttons.

36) Check the tab order of the form.

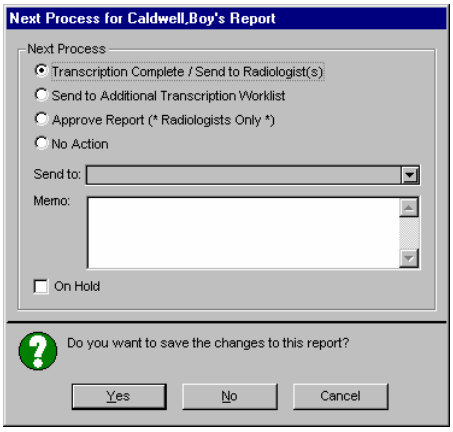
37) Save the changes.

Next Process Pop-Up Windows and Button Set Dictionary

The Next Process window is a special form of pop-up window. It does not require a button to open it, as it is opened automatically when the user saves changes using the associated window.

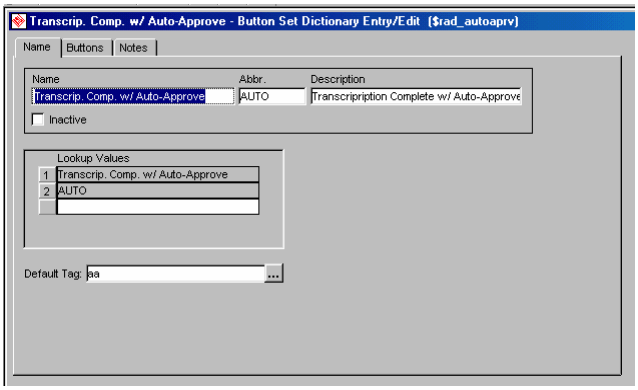
The painted objects on Next Process windows are all application user objects. One of the AUOs, the **Next Process - Radio Buttons** AUO, has a "wizard" which lets you choose from several button sets so that the options presented are applicable for the painted window.

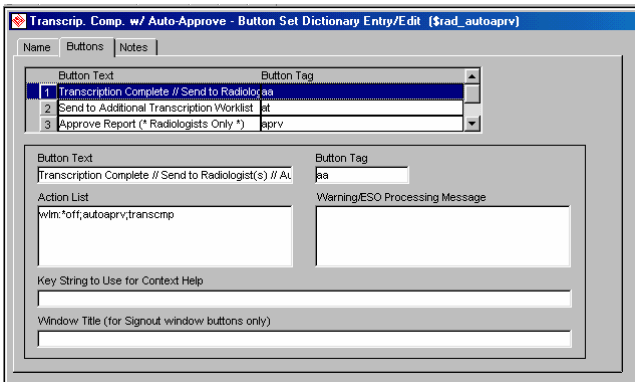
The following example is the Next Process button displayed after saving a report in Report Entry/Edit:



The radio button selections for each Next Process are defined in the Button Set Dictionary. While a number of options are distributed for use in the standard RadPlus application, it may be necessary or desirable for a site to customize a Next Process button set. The actions used by this dictionary are under Dynamic control and will not be covered in this course or in this manual. However, the user does have the ability to make some minor changes.

The following Next Process Button Set Dictionary examples are for the "Transcription Complete with Radiologist Auto-Approve Option" dictionary record.





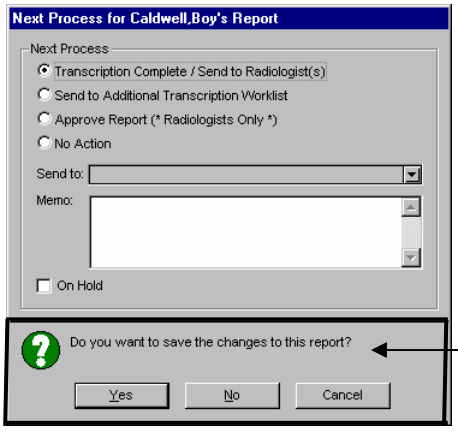
The following modification types may be made:

Delete certain button set choices

Re-sequence the remaining choices

Set a different default button.

When painting a Next Process button in Window Painter, the bottom portion is not visible. However, it will be added when viewing in RadPlus (outside the Window Painter).



Bottom portion of Next Process button is not visible while in Window Painter

To Delete a Button Set Choice

To Delete a Button Set choice:

Identify the Button Set Dictionary currently in use in the window by going that pop-up window and right-clicking on the radio buttons to determine the Button Set name.

1) Access the Button Set Dictionary and highlight the record to be modified.
2) Press the **Copy From** button.
3) In the Name tab, update the name, abbreviation, and description as appropriate. It is suggested you prefix the new name with your site name or abbreviation to make it easier to find later. Example: if your institution is named General Radiology Center, prefix the existing name with GRC.
4) In the Buttons tab, highlight the un-desired entry (i.e., if you wish to eliminate the second radio button, highlight entry number two).
5) Right-click and select Delete Row (or select Edit in the text menu bar and click Delete Row.)
6) You should always remember to Save your changes.
7) Return to the custom window and switch your new button set for the one currently in use on the Next Process Pop-up window. You can do this by selecting Form, Pop-up Windows, and then Next Process.
8) Right-click on the text next to the radio buttons and select Properties.
9) In the Button Set field, replace the existing button set with your new, custom button set.

Re-sequence Existing Button Set Choices

To re-sequence the existing Button Set choices:

1) Access the Button Set Dictionary and highlight the record to be modified.
2) Press the **Copy From** button.
3) In the Name tab, update the name, abbreviation, and description as appropriate. It is suggested you prefix the new name with your site name or abbreviation to make it easier to find later. Example: if your institution is named General Radiology Center, prefix the existing name with GRC.
4) Click and hold down on the sequence number for the Button Set Option that is to be moved. The cursor will change to two horizontal lines with up and down arrows.
5) Drag the number to the desired position.
6) Make sure you save your changes at this point.

7) Now you will want to replace the existing Button Set if this button set is not in place already. Return to the custom window and switch your new button set for the one currently in use on the Next Process Pop-up window. You can do this by selecting Form, Pop-up Windows, and then Next Process.

10) Right-click on the text next to the radio buttons and select Properties.

11) In the Button Set field, replace the existing button set with your new, custom button set.

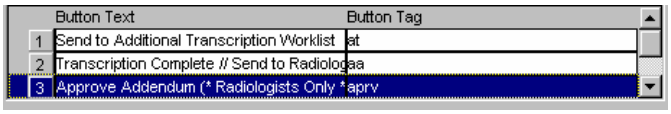
Changing the Default Button Set

There are two different ways to change the default button on a button set. This change may be done in the Button Set Dictionary which will make the change for all windows which reference that Button Set. Alternately, it may be done in the window itself, making the change for just that one window.

To change the Default Button choice for every time this Button Set if used:

1) As required, create a custom Button Set Dictionary, following steps in the Delete a Button Set Choices instruction (above).

2) On the Buttons tab, make note of the Button Tag assigned to the choice that is desired to be the default.



3) Return to the Name tab and click on the ellipsis "…"of the Default Tag field. Choose the desired Button Tag by selecting the tag abbreviation you made note of on the previous step.

4) Make sure you save your changes.

5) If this button set is not already in place on your window, replace the existing Button Set as described above in the Delete a Button Set Choice instructions.

To change the Default Button choice for the Button Set on just one Window:

If you would like to change the Default Button choice for just one Window, access the customized window within the RadPlus Window Painter. If the window is not customized, you can duplicate and modify the standard window according to the earlier instructions.

1) From the text menu bar, select Form, Pop-up Windows.
2) Select Next Process.
3) Right-click on the text next to the Radio Buttons
4) Select Properties.
5) In the field titled Default Button Tag or Number, enter the sequence number of the choice desired to be the button default.
6) Press **OK**.
7) Close the Next Process Pop-up Window.
8) Make sure to save your changes.

Exercise 10

Create a Custom Button Set.

1) Press the Dictionaries icon in RadPlus
2) Access the Button Set Dictionary.
3) Press **Search** and select the Button Set named "Transcrip. Comp. w/ Auto-Approve".
4) Press **Copy From.**
5) In the Dictionary Status window, click **Yes** to continue creating a button set.
6) Suffix your initials onto the Name, Abbr, and Description.
7) Go to the Buttons tab.
8) Select *Approve Report (*Radiologists Only*).*
9) Right-click the entry and select Delete Row.
10) Select *Send to Additional Transcription Worklist* as the new default button by going to the Name tab and into the Default Tag field.
11) Re-sequence the choices by clicking the sequence number "2" and dragging it to the first row.
12) Save.

Exercise 11

Paint a Next Process pop-up window and paint several AUOs on it. Although the previous exercises used the window named "y_arrival_train_(your inititals)", this exercise will include copying the Report Edit/Entry window.

1) Press the **Setup** icon on the RadPlus Application Manager.
2) Double-click on the Dynamic Customizer folder.
3) Double-click on the Window Painting folder.

4) Double-click on the Window Painter item. The Select a Window window will appear.
5) In the Select field, type "m_report_edit" and press the Enter key.
6) Select "m_report_edit."
7) Press on **Actions** and then **Copy from Live**.
8) Press **OK**.
9) Name it "y_report_edit_(your initials)". Press **OK**.
10) In the text menu bar, click on Form, Pop-Up Windows, and then click on Next Process.
11) Select the radio options text.
12) Right-click the object and select Properties.
13) In the Button Set field, select your new Next Process Button Set that was created in Exercise 10.
14) Ensure the "Popup Next Process Window" field is set to "Yes".
15) Press **OK**.
16) If necessary, resize the AUO to fit the pop-up window.
17) Position the pop-up window in the center of the screen.
18) Save.

Review

This chapter detailed the properties of various objects. Some objects (such as tab forms, datawindows, and action buttons) can be viewed by right-clicking the object and selecting Properties. Other objects (such as grouping and labeling objects) can have the visible text modified by using the Window Painter Toolbox.

Tab forms are used to contain the objects that will be displayed on the window. However, tab sequence (order) is the order of the fields when the user presses the Tab key.

In a datawindow's properties, there are three areas that can be modified. First, the datawindow style can be changed; though we recommend keeping the default. Second, the Advanced Datawindow Properties allows the user to change the border, any delete information, and row properties (such as minimum and maximum number of rows.) Finally, the Select Columns provides the user with the available columns and expressions that can be painted on the datawindow.

The two styles of buttons in Window Painter are Action Buttons and Application User Objects (AUOs). Action buttons can be used to open or close a pop-up window, or to provide a scrolling method to the end user. AUOs are buttons that have programming code

packaged with the button. AUOs cannot be used as default buttons.

Object List tool can be used to select one or more objects. This tool can be used in times when it is difficult to select an object.

Two additional types of forms are the pop-up window and Next Process window. Pop-up windows can be used to save "real estate" space by placing a button on the tab form that will open up the additional form (pop-up window). Next Process pop-up window (such as used in the Report Entry/Edit window) is automatically displayed upon exiting the window. Unlike the normal pop-up windows, Next Process window does not need a button to open up the form.

Compiling and Accepting Windows

Introduction

Windows consist of database information, which is compiled through the RadPlus application into PowerBuilder objects. When painted changes are filed, the database is updated. When you are ready to test your painted window, it must first be compiled to create an object in the client software. Finally, accepting a window is required so that the user has access to the customized window.

NOTE: To compile and accept windows, you must run RadPlus using the PowerBuilder application (i.e. entering RadPlus through PowerBuilder's "running man") rather than through a desktop shortcut running the executable.

Objectives

After completing this section, you will be able to:

- Compile a window to place into comptest.pbl.
- Link a customized window to a RadPlus activity.
- Test a window for usability and functionality.
- Accept a painted window for all users to access.

Compiling Windows

Once you have completed your changes to the window, save the window and compile the changes.

To compile a painted window:

1) Enter RadPlus through PowerBuilder's "running man." Press **OK** on the PowerBuilder-based Start Up information message, "The following are warnings based on you running from within the PowerBuilder development environment."
2) Press the **Setup** icon.
3) Double-click on the Dynamic Customizer folder.
4) Double-click on the Window Painting folder.

5) Double-click on the Window Painter item. The Select a Window window appears.

6) Open the window you want to compile.

7) Press  on the toolbar (or select Tools, Compile Window from the text menu bar).

8) Once the compilation is complete, a **Compiled Successfully** information message appears. Depending on your network configuration, the compilation step can take at least five to ten minutes.

9) Press **OK**.

During compilation, the data in the database is extracted and converted to PowerBuilder objects (datawindows and windows). The new PowerBuilder objects are placed in a predefined testing library (COMPTEST.PBL and/or COMPTEMP.PBL) which is determined by the cocommon.ini file on the Central File Repository. Also, a number of status messages will display during compilation: "Pass" messages, "Saving Source Code", and then finally "Purging Old Files."

After compilation, you end up with a usable version of the new or changed window that is only located on your workstation and does not affect any other users.

NOTE: RadPlus also includes an item for compiling multiple windows at the same time. The Compile Multiple Windows item is located in the Window Painting folder under the **Setup** icon.

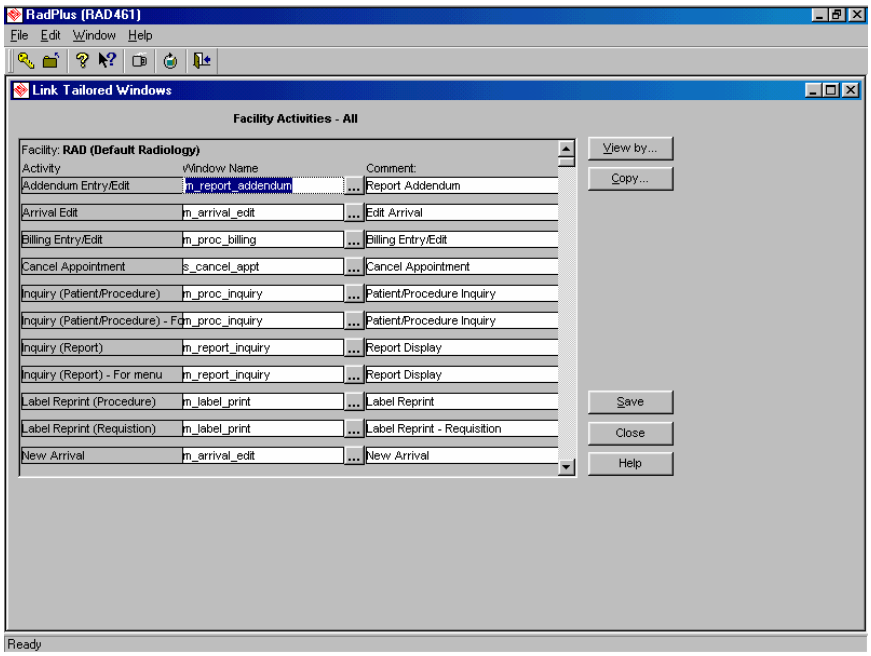
In addition, if you choose not to compile your window immediately after editing it, you can compile the window later by accessing the window on the Window Painter's Select a Window window, pressing **Actions** and then selecting Compile. See "Actions List" on page 76 for more information.

Link Tailored Windows

IMPORTANT! After linking the new painted window, you must exit RadPlus and sign on again to get access to the new version of the window in your local memory.

After you compile a painted window, you need to associate the window with a facility and activity. This allows you to test the new window in your local copy of RadPlus. If you have made modifications to a customized window that is already in use at your site, this association has already been made and does not need to be changed. For new windows, you make this association using the Link Tailored Windows item, which is found under the **Setup** icon, Dynamic Customizer, Window Painting folder.

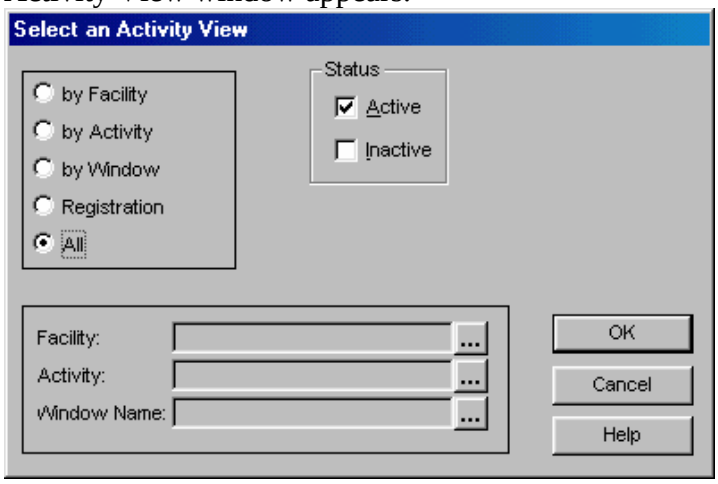
The Link Tailored Windows item, shown below, provides a matrix of all facilities and procedure-related activities.



At each of these intersections, a painted window can be linked to a procedure activity. For example, a site may use one painted window to arrive procedures at one facility and a different window to arrive procedures at a different facility, since the two facilities may have different mandatory field requirements.

NOTE: there is only one link per system for the registration windows (patient registration and encounter entry/edit) which is done through the System Settings.

You can press **View by…** to change how you view information on Link Tailored Windows window. When you do so, the Select an Activity View window appears.



In the previous example, the view is set to display activities for "All", but you could change the view so that you could view the New Arrival window in use for each of your facilities, or so that registration activities are displayed instead.

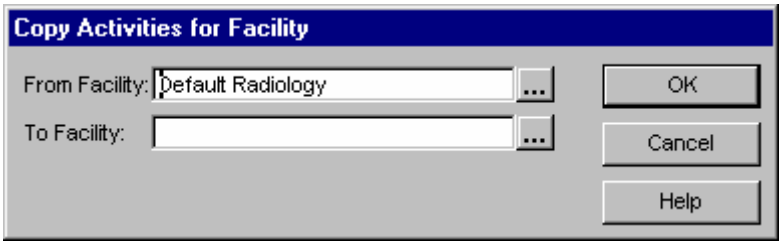
IMPORTANT! Only one user at a time can enter Link Tailored Windows. In addition, it is important to determine the appropriate time

to modify the Link Tailored Windows since someone may use the window being changed.

For example, at the Default Radiology Facility, you switch the Addendum Entry/Edit window (m_report_addendum) to a new customized window (y_report_addendum_edit) in Link Tailored Windows. A few minutes later, a transcriptionist at the Default Radiology Facility enters RadPlus and selects the Addendum Entry/Edit window. The user's machine will attempt to locate the y_report_addendum_edit window. However, the customized window is only on your workstation, since compiling only stores the window on your computer. Therefore, determining a time when no one will use the respective window while Linking Tailored Windows will minimize down time for the users.

To copy the windows from one facility to another facility:

1) Press the **Setup** icon on the RadPlus Application Manager.
2) Double-click on the Dynamic Customizer folder.
3) Double-click on the Window Painting folder.
4) Double-click on Link Tailored Windows.
5) Press the **Copy** button.
6) Determine what windows you would like to copy from "From Facility" and where you would like to copy them to "To Facility." Click the ellipsis "…" if necessary to browse the facilities that are available.



7) Press **OK**.

To printout the available windows for each facility:

1) Press the **Setup** icon on the RadPlus Application Manager.
2) Double-click on the Dynamic Customizer folder.
3) Double-click on the Window Painting folder.
4) Double-click on the report called "Procedure/Activity Matrix." This report will display all the activities and their associated windows.

Testing

After linking the new painted window, or compiling a new version of an existing window, there are a couple of things that you must remember:

Exit RadPlus and sign on again to get access to the new version of the window in your local memory.

Enter RadPlus through PowerBuilder's "running man."

Use the workstation that was utilized when painting and compiling the window.

The painted window can then be tested for whichever activity it is linked to. When testing windows, consider the following:

Are you conserving window real estate to maximize the resources?

Does the window have a simple and clear appearance for users?

Are the accelerator (access) keys unique and functioning?

Are the objects visible and appearing as they should?

Are the column objects wide enough to display the longest record from the database?

Are the pop-up windows displaying properly?

Is the tab sequence (order) appropriate for the user?

Are all the required objects working properly and are their respective text/labels bolded?

Are the defaults displaying properly?

When testing a customized window for a particular facility, verify that your record in the Person Dictionary has the facility (filter) that you are testing for. For example, if you are only associated with the Dynamic Medical Center in the Person Dictionary's Facility Filter (under the name tab), then you will not be able to test a window that you linked to the General Medical Facility.

Certain attributes of the window that may have been edited will not show up in testing:

New context help

Site Tips

Turning on page "flips"

Changed open/new boxes

These changes will take effect when the window is accepted.

Accepting Painted Windows

After you test a compiled window in your local copy of RadPlus, you need to "accept" the window in order to make it available to other users. Accepting a window is a two-step process.

The first step in accepting a compiled window involves adding the compiled window objects to the master copy of RadPlus.

To accept window objects:

1) Press the **Setup** icon.
2) Double-click on the Dynamic Customizer folder.
3) Double-click on the Window Painting folder.
4) Double-click on the Window Painter item. The Select a Window window appears.
5) Select the compiled window you want to accept. This window should have a status of "testing."
6) Press **Actions**. The Actions window appears. See "Actions List" on page 76 for more information on this window.
7) Select Accept and press **OK**. An "Accepting Edit Version" information message will display, "Window Compilation Accepted" after the acceptance is completed. Depending on your network configuration, this step can take at least five to ten minutes.

   NOTE: To accept multiple windows at the same time, use the Accept Multiple Windows item, which is located in the Window Painting folder under the **Setup** icon. This item can save you time if you have created or modified several site-specific windows.

After accepting the window(s), the following occurs:

On your local computer (client workstation), the compiled window objects are removed from the COMPTEST.PBL and/or COMPLOCAL.PBL and placed in the CMPLOCAL.PBL in the "userpbl" folder.

On the central file repository (server), the window objects are stored on the COMP_Y.PBL.

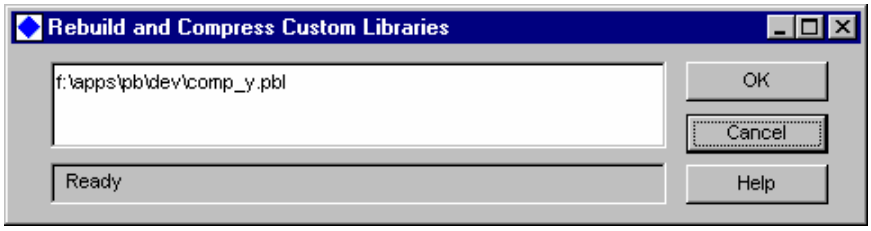
The second step in accepting a compiled window involves creating a new version of the site-tailored windows distribution library (COMP_Y.PBD) in the master copy of RadPlus from the updated COMP_Y.PBL file. This is accomplished through the Rebuild Custom Window Library item found under the Window Painting folder and is essential for users using the RadPlus desktop icon to get the changes. This step must be done through PowerBuilder's "running man."

To run the Rebuild Custom Window Library item:

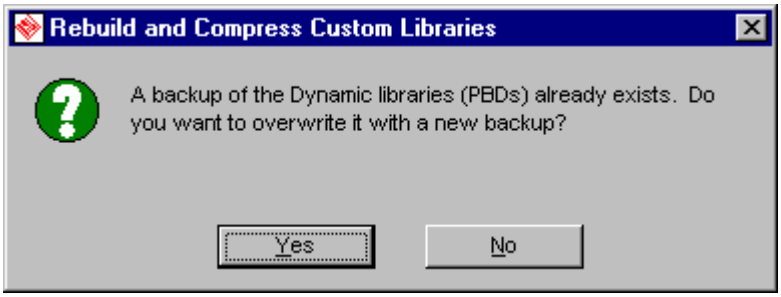
1) Enter RadPlus through PowerBuilder's "running man."
2) Press **OK** on the PowerBuilder-based Start Up information message, "The following are warnings based on you

running from within the PowerBuilder development environment."

3) Press the **Setup** icon.
4) Double-click on the Dynamic Customizer folder.
5) Double-click on the Window Painting folder
6) Double-click on the Rebuild Custom Window Library item. The Rebuild and Compress Custom Libraries window appears with the appropriate PBL displayed.

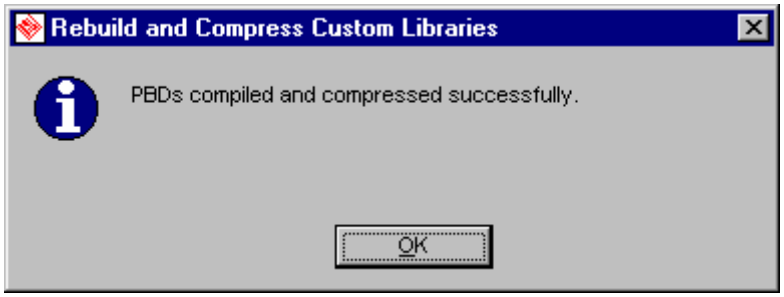


7) Press **OK**.
8) A message will appear prompting, "A backup of the 'Dynamic libraries (PBDs) already exists. Do you want to overwrite it with a new backup." Press **Yes**.



NOTE: This message will not be received the initial attempt at rebuilding and compressing a custom library since there is not a backup to overwrite.

9) RadPlus copies the system custom windows library (pbl) to a local workspace and then generates a pbd file from it. It then makes compressed versions of the two files and all four are copied back to the central file repository. Depending on your network configuration, the rebuilding/compressing step can take at least five minutes.
10) Press OK after receiving the "Rebuild and Compress Custom Libraries" information message, "PBDs compiled and compressed successfully."



To see the results of these changes, other RadPlus users need to re-localize RadPlus by signing out and then signing back in again. On your local client workstation, the windows will be removed from the COMPLOCAL.PBL to the COMP_Y.PBL after receiving the updates from localizing RadPlus.

Exercise 12

Compile the changes, link the tailored window, test the modifications, accept the changes, and rebuild the custom library.

1) Save changes to your painted window.
2) Exit RadPlus.
3) *Compile the changes.* Enter RadPlus through PowerBuilder's "running man. Press **OK** on the PowerBuilder-based Start Up information message, "The following are warnings based on you running from within the PowerBuilder development environment."
4) Press the **Setup** icon.
5) Double-click on the Dynamic Customizer folder.
6) Double-click on the Window Painting folder.
7) Double-click on the Window Painter item. The Select a Window window appears.
8) Open the window you want to compile.
8) Press  on the toolbar (or select Tools, Compile Window from the text menu bar). The window is compiled.
9) Once the compilation is complete, a **Compiled Successfully** information message appears. Depending on your network configuration, the compilation step can take at least five to ten minutes.

   NOTE: If you receive any messages other than Compiled OK, please refer to the "Message Board" section on page 89.

10) Exit Window Painter.
11) *Link the tailored window.* Under Setup icon, Dynamic Customizer folder, Window Painting folder, click Link

Tailored Windows. Only one user at a time can access this tool.

NOTE: Follow the trainer's instruction on the facility's window you will be changing. The Arrival Edit window will be modified, but only one window can be changed for this activity per facility. In order to accommodate everyone in class, you must be certain that your record (User ID) in the Person Dictionary has the facility (filter) that you are testing for. For example, USER10 is only associated with the Dynamic Medical Center in the Person Dictionary's Facility Filter (under the name tab), then USER10 will not be able to test a window that was linked to the General Medical Facility.

12) In Link Tailored Windows, scroll down to your associated facility, find *Arrival Edit*.

13) Change the window name to the painted window you customized by clicking the ellipsis "…" and selecting your window. Only windows that have been compiled are available.

14) Press **OK**.

15) Press **Save**. Exit Link Tailored Windows.

16) *Test the modifications.* Using the class handout, arrive a patient in RadPlus through Arrive Procedures using the facility that you were assigned to by the trainer.

17) After arriving the patient, you will click Arrival Edit to modify the procedure you arrived in Step 16.

18) Test the window using the recommendations detailed in the "Testing" section on page 66.

NOTE: If any modifications are needed, return to Window Painter to make the corrections, compile (through PowerBuilder), re-localize RadPlus, and test.

19) *Accept the changes.* Accept the window(s) by going to the **Setup** icon, Dynamic Customizer folder, Window Painting folder, and double-click on Accepting Multiple Windows.

20) In the Available Window (on the right side), select each window(s) and press **Add**.

21) Press **Accept** and **OK**. An "Accepting Edit Version" information message will display, "Window Compilation Accepted" after the acceptance is completed. Depending on your network configuration, this step can take at least five to ten minutes.

22) *Rebuild the custom library*. Double-click on the Rebuild Custom Window Library item. The Rebuild and Compress Custom Libraries window appears with the appropriate PBL displayed.

23) Press **OK**.

24) A message will appear prompting, "A backup of the 'Dynamic libraries (PBDs) already exists. Do you want to overwrite it with a new backup." Press **Yes**. Depending on your network configuration, the rebuilding/compressing step can take at least five minutes.

25) Press OK after receiving the "Rebuild and Compress Custom Libraries" information message, "PBDs compiled and compressed successfully."

26) Exit RadPlus, which will return you to PowerBuilder since you entered RadPlus via the "running man."

27) *Localize RadPlus*. Enter RadPlus using the executable from your desktop icon. This re-localizes RadPlus onto your local client workstation. The windows will be removed from the COMPLOCAL.PBL to the COMP_Y.PBL after receiving the updates from localizing RadPlus.

Review

The basic, high-level steps involved in customizing a window are as follows:

1) Modify the window.
2) Save the window.
3) Compile by entering RadPlus through PowerBuilder.
   - Window is placed in testing library - comptest.pbl and/or comptemp.pbl on the client's workstation under the Userpbl folder.
   - Window becomes a PBL.
   - Window is only found on your workstation and will not impact other users.
4) Re-localize RadPlus on your workstation.
5) Link Tailored Windows.
6) Test the window on your workstation - you must enter RadPlus via PowerBuilder .
7) Repeat Steps 1, 2, 3, and 5 as needed.
8) Accept the compiled window to make available to other users.
   - On your local workstation (client), the window is moved from the COMPTEST.PBL and/or COMPTEMP.PBL to the CMPLOCAL.PBL.

- On the central file repository (server), the window objects are stored on the COMP_Y.PBL. The window is now added to the master copy of RadPlus.
- Window is still in PBL file format.

9) Rebuild Custom Window Library.
   - Converts the PBL to a PBD so that normal installations of RadPlus can access the window. Normal installations are client workstations that have RadPlus installed, but not PowerBuilder.

10) Localize RadPlus on client workstations.
   - Users will have to re-localize their workstations to see the customized windows.
   - After re-localizing the workstation that the window modifications were made on, the files are removed from the CMPLOCAL.PBL.
   - After accepting the updates, the client workstations will have the customized window in the COMP_Y.PBL

Other Window Painter Features

Introduction

This section will list other helpful tools when working with Window Painter. This includes System Settings associated with Window Painter, Actions List descriptions, Management Reports associated with Window Painter, Exporting/Importing a window, and copying painted objects from one window to another.

Objectives

After completing this section, you will be able to:

- Understand which System Settings impact the functionality of Window Painting.
- Determine when to use other options available in the Actions List.
- Know what is available in the existing Management Reports to display Window Painter information.
- Export a window from the Test version of RadPlus and import the window into Live.
- Copy painted objects from one window to another window.

System Settings

There are System Settings that are associated to Window Painter. The following information will help you on determining how to configure some windows.

Registration Category

In the Registration Category of System Settings, there are six registration windows that are associated to Window Painter:

- Select Encounter Datawindow (r_dw_patient_encounters). Enter the name of the datawindow to be used in the application user object on the Encounter window used to select an encounter. This window is not customizable.
- Patient Registration Window (m_register_radiology). Enter the name of the Patient Registration window. (Standard is m_register_radiology).

- Encounter Window (m_encounter_multi_ins). Enter the name of the Encounter window.
- Select Patient Window Datawindow (r_dl_patient). Enter the name of the datawindow to be used to display patients on the Select Patient window. This window is not customizable.
- Patient Detail Window (r_wd_patient). Enter the window used to display patient details on the Select Patient window. This window is not customizable.
- Automatic Encounter Generation. This modifies the encounter generation. Since this is a Dynamic System Setting, please contact Dynamic if you need to have this system setting modified and we will be glad to make the necessary changes. Here are the options available for this setting:

  Enter Y(es) to have the system automatically add an encounter to each new arrival with the procedure number defaulting into the Encounter Number field. If this is set to Y, encounters cannot be manually entered by the user.

  Enter C(lient) to have the system automatically generate encounters based on the arrival's client as determined by an associated question in the Client dictionary. If this is set to C, then automatic encounter generation will vary from arrival to arrival based upon the client.

  Enter N(o) to not allow the system to automatically generate encounters.

RadPlus Category

In the RadPlus Category of System Settings, there is a setting for required fields:

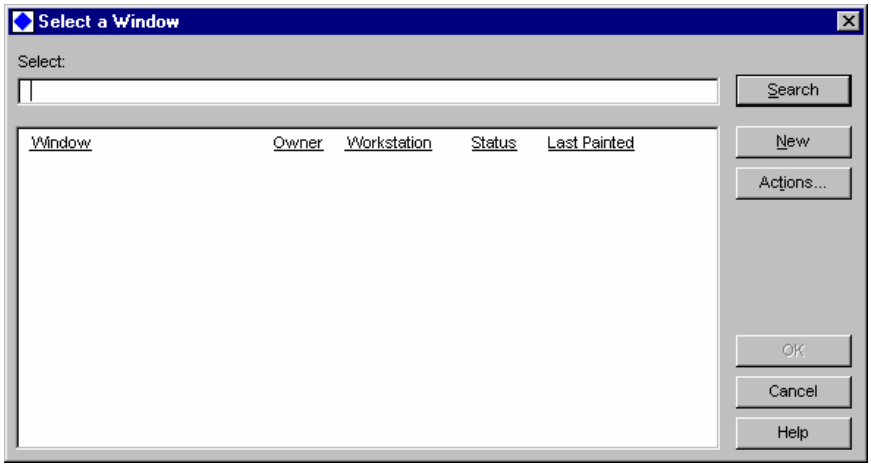
- Fields Required For All Orders (ord_person_addr_id, ord_location_id).

Actions List

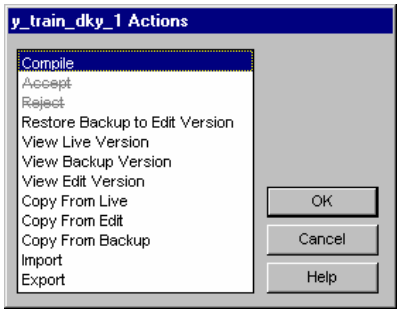
You can perform a number of actions on a window directly from the Select a Window window that appears when you access the Window Painting item. The Actions list shows you a list of actions that you are currently able to perform on a selected window. Any items on this list that are striked-through and grayed out are not currently available for the window you selected.

To access the Actions list:

1) Press the **Setup** icon.
2) Double-click on the Dynamic Customizer folder.
3) Double-click on the Window Painting folder.
4) Double-click on the Window Painter item. The Select a Window window appears.



6) In the Select field, enter the name of the window you want to perform an action on and press **Search**.
7) Once the window appears on the window, press **Actions**.
8) The following Actions window appears listing all of the actions you can currently perform on the window you selected. Those items that are striked-through and grayed out (in this case, Accept and Reject) are not currently available for this window.



The following actions can be performed from this window:

Compile. See "Compiling Windows" on page 63 for more information on this action.

Accept. See "Accepting Painted Windows" on page 67 for more information on this action.

Reject. Select this action if you do not want to accept the edit (compiled but not accepted) version of this window. This will restore the window to the Live version (the copy of the window on which the last Accept was performed).

Restore Backup to Edit Version. Select this action to delete any existing edit version of this window and to copy the backup to the edit version. To restore the backup completely, compile and then accept the window.

View Live Version. Select this action to view the Live version of this window. This is the version that users currently see when running the RadPlus application. You will not be able to edit, compile, or save the window. You will be able to copy from the window to paste into other windows.

View Backup Version. Select this action to view the backup version of this window. You will not be able to edit, compile, or save the window. You will be able to copy from the window to paste into other windows.

View Edit Version. Select this action to view the edit version of this window. You will not be able to edit, compile, or save the window. You will be able to copy from the window to paste into other windows.

Copy From Live. Select this action to access the Live version of this window and then save it under a new name.

Copy From Edit. Select this action to access the edit version of this window and then save it under a new name.

Copy From Backup. Select this action to access the backup version of this window and then save it under a new name.

Import. See "Exporting and Importing Painted Windows" on page 79 for more information on this action.

Export. See "Exporting and Importing Painted Windows" on page 79 for more information on this action.

Window Painter Management Reports

Several Window Painter management reports are available. Each is summarized below.

Report Name	Description	Location of Report
AUO Window Search	Provides a list of all painted windows that include a specified Application User Object (AUO).	**Setup** icon Dynamic Customizer folder Window Painting folder Window Search Options folder
Columns Window Search	Provides a list of all painted windows that include a specified field.	**Setup** icon Dynamic Customizer folder Window Painting folder Window Search Options folder
Paintable Objects	Displays the application	**Setup** icon

Report	user objects, buttons, and tables/columns that you can paint on a window. To display this report, you must be in Window Painter of the respective window.	Dynamic Customizer folder Window Painting folder Window Painter Tools (text menu bar) Paintable Objects Report
Procedure/Activity Matrix	Provides a list of the specific windows assigned to each activity for each facility.	**Setup** icon Dynamic Customizer folder Window Painting folder
Tables Window Search	Provides a list of all painted windows that include a datawindow that references a specified table.	**Setup** icon Dynamic Customizer folder Window Painting folder Window Search Options folder
Text Window Search	Provides a list of all painted windows that include a specified text string. This is useful when you need to globally replace a text label that has changed.	**Setup** icon Dynamic Customizer folder Window Painting folder Window Search Options folder

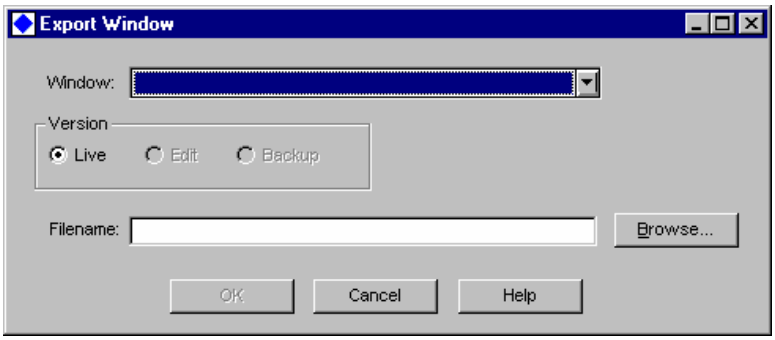
Exporting and Importing Painted Windows

After you have tested and accepted a painted window, you can export it to other applications. For most sites, a painted window is first added to the **Test** version of the RadPlus application, and then exported to the **Live** version.

To export a painted window from the Test version of RadPlus:

NOTE: window must be compiled prior to exporting.

1) Press the **Setup** icon on the RadPlus Application Manager of the Test version.
2) Double-click on the Window Painting folder.
3) Double-click on the Export Window item. The following window appears.



TIP! You can also access the Export Window function by accessing the window you want to export on the Select a Window window that appears when you select the Window Painting item, pressing **Actions**,

and then selecting Export. See "Actions List" on page 76 for more information.

4) Select the painted window you want to export.

5) The Version option selected will be **Live**. Do not edit this.

NOTE: Up to three versions of a window can exist at one time: the Live version that is currently in use; a version that is currently being edited; and a Backup version that was in use prior to the current Live version. These options let you export the Edit or Backup version if necessary.

6) At the Filename field, a default directory and filename appears. The system will create a *.DTO file in C:\PB\TEMP. The default file name is derived from the first 8 characters of the window name, excluding the **y_** prefix. You should edit the default to a unique 8 character filename that most accurately describes the window.

7) Repeat this process as many times as necessary until *.DTO files have been created for all of the windows you want to export.

8) Sign off of the Test system.

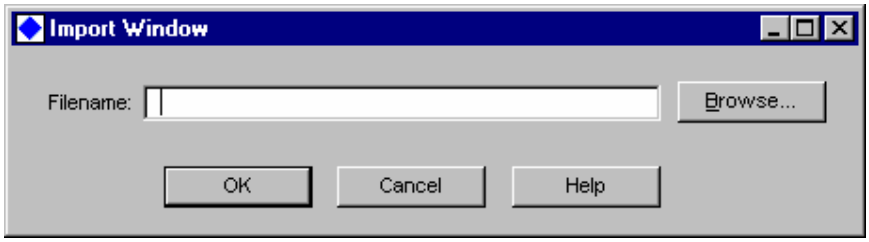
To import a painted window into the Live version of RadPlus:

1) Sign on to the Live version of RadPlus.

2) Press the **Setup** icon on the RadPlus Application Manager.

3) Double-click on the Window Painting folder.

4) Double-click on the Import Window item. The following window appears.



TIP! You can also access the Import Window function by accessing the window you want to import on the Select a Window window that appears when you select the Window Painting item, pressing **Actions**, and then selecting Export. See "Actions List" on page 76 for more information.

5) At the Filename field, select the .DTO files you want to import.

- Entering *.DTO will import all files with the .DTO extension.

- To import a specific .DTO file from C:\PB\TEMP, select **Browse**. After you find the .DTO file you want to import, press **Open**.

6) Press **OK**.

7) Once imported, each window needs to be compiled, linked, tested, and accepted. For instructions, see "Compiling Windows" on page 63 and "Accepting Painted Windows" on page 67.

   NOTE: If you have imported numerous windows, you may want to use the Compile Multiple Windows and Accept Multiple Windows items to compile and accept multiple windows at a time.

8) After the import is complete, delete the .DTO files from C:\PB\TEMP.

Copying Painted Objects from One Window to Another

The Window Painter lets you copy painted objects from one window and paste them onto another window. To have two windows open for copying and pasting, there must be two sessions of the Window Painter running.

To copy from one window while another window is already open:

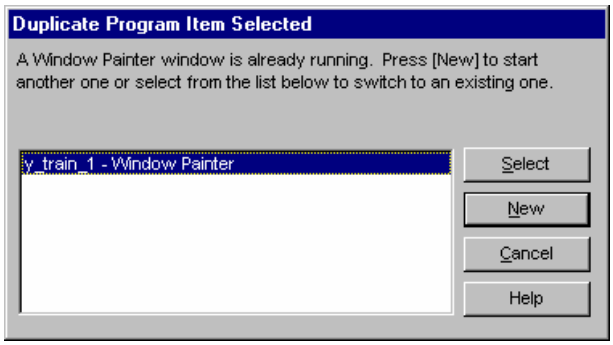
1) Press  on the toolbar to access the RadPlus Application Manager.

2) Press the **Setup** icon.

3) Double-click on the Dynamic Customizer folder.

4) Double-click on the Window Painting folder.

5) Double-click on the Window Painter item. The Duplicate Program Item Selected window appears.



6) Press **New** to start a new session of the Window Painter. The Select a Window window appears.

7) Select the window from which you want to copy objects and press the **Actions** button.

8) Select one of the available view options to open the window. The Window Painter window appears for the new window.

9) Select the object(s) you want to copy and press  on the toolbar.

   NOTE: There are restrictions against copying some items. A warning will appear if an object cannot be copied.

10) Select Window from the menu bar, and then select the window into which you want to paste objects.

11) Press  on the toolbar to paste the object(s) onto the window.

12) Return to the window you copied from and close it by pressing  in the top, right-hand corner of the window.

Review

There are a few System Settings that are associated with Window Painter and they are located in the Registration and RadPlus categories.

In Window Painter, the Actions List provides various options when window painting:

- Compile
- Accept
- Reject
- Restore Backup to Edit Version
- View Live Version
- View Backup Version
- View Edit Version
- Copy From Live
- Copy from Edit
- Copy from Backup
- Import
- Export

There are several management reports associated to Window Painter:

- AUO Window Search
- Columns Window Search
- Paintable Objects Report
- Procedure/Activity Matrix
- Tables Window Search
- Text Window Search

Dynamic recommends creating a customized window in your Test version of RadPlus. Therefore, in order to incorporate the window to your live version of RadPlus, the painted window must be compiled, exported from the Test version using a .DTO file, and then imported into the Live version. After imported into the Live version, each window needs to be compiled, linked, tested, and accepted.

Window Painter Supporting Tools

Introduction

The Window Painter is supported by several additional tools that control what can be painted on different types of windows and how painted fields are displayed.

All of these related tools are maintained by Dynamic programming staff and are unavailable to edit by users of the Window Painter. This section describes those tools and their relationship to the Window Painter.

Objectives

After completing this section, you will be able to:

- Understand the purpose of the Window Class.
- Print a report to display the available objects within a window class.
- Understand the Window Painter features that are controlled by the Window Class dictionary.

Window Class Dictionary

The Window Class dictionary serves as the rule set for each type of paintable window. It controls such things as how the window title bar appears and what fields are and are not available to be painted.

Each painted window is assigned to a window class when the window is created. If you create a new window by copying it from an existing window, the new window will have the same window class as the window from which it was copied. Once assigned, you cannot change the window class of a window. Examples of window classes include Orders/Arrivals and RadPlus Report Approval.

To view which window class is linked to a window:

1) While in Window Painter of the respective window, select Tools, Window Properties.
2) It is displayed in the Class field.

To print a report displaying the available objects for a window class:

1) In the text menu bar of Window Painter, click Tools, Paintable Objects Report.
2) This report displays all the application user objects as well as the buttons and tables/columns that can be used for the associated window.

General window parameters controlled by the window class are:

The title bar that displays when the window is open.

The title bar that displays when the window is loading.

The File menu commands available for this window class.

The primary data table for the window.

For example, in the Arrival Procedure activity, the c_specimen table (used as the arrival table) is the primary data table for the window. The primary data table determines what a user can and cannot edit via this window. If the primary data table is the c_specimen (arrival) table, a user can edit arrival and procedure information, but cannot edit the patient demographic information. Conversely, if the primary data table is the r_pat_demograph table, a user can edit patient information but not the arrival information. For most paintable windows, the primary data table is the c_specimen (arrival) table.

The following paragraphs provide more information about Window Painter features controlled by the Window Class dictionary.

New/Open Windows

The window class determines what objects are available as "New" and "Open" windows for this window type. A New window allows a user to add a new row/entry to a system table, such as in the Order Procedure window. An Open window, also known as a Select window, allows a user to open an existing row/entry, such as in the Order Edit window.

RadPlus provides a standard New window and Open window for procedures. These standard windows cannot be customized via the Window Painter.

Required Fields

The window class determines what datawindows (i.e., tables) and fields must be painted on a window of that class. For example, the Orders/Arrivals class requires painting of the procedure table.

Forbidden Fields

The window class also determines what datawindows and fields cannot be painted on a window of that class. For example, the Orders/Arrivals class forbids the painting of amendment information.

Application User Objects

The window class determines what application user objects (AUOs) are available for painting on windows. When a user paints an AUO on a window, the list of available AUOs is limited to those marked as available for the window class.

Variants

A variant controls the behavior of a field on a painted window. Examples of variants include the lookup styles available for a field (i.e., pop-up versus drop-down), restrictions on responses that can be entered in a field (e.g., technologists only, radiologists only, etc.), and protection attributes (e.g., when a field is or is not editable). Variants are created in the Data Dictionary by Dynamic's programmers. In the Window Painter, users can choose from available variants on the Field Properties window.

Expressions

Expressions are small bits of application code used by the Window Painter. There are two kinds of expressions - the paintable expression and the protect expression. Expressions are created by programmers and are unavailable to edit by users.

The **paintable expression** can be painted as part of a datawindow. Examples of paintable expressions include the fee codes Credit, Billed, and Auto fields in the Billing activity. Those expressions allow one of four values (T, P, X or nothing) to be displayed in the field, depending on the current billing status.

T - Technical charges are available for billing

P - Professional charges are available for billing

X - both types of charges are available for billing

nothing - no charges are available for billing

To add a paintable expression to a datawindow:

1) Select the datawindow for which you want to add a paintable expression, right-click and select Properties.

2) Press **Select Columns**.
3) Select the Show Available Expressions check box. You can identify the expressions by the **Y** in the Expr column in the list of Selected and Available Fields/Expressions.
4) In the Available Columns/Expressions field, select each expression you want to paint and press **Select**.
5) Press **OK** to return to the Datawindow Properties window.
6) Press **OK** again to return to the Window Painter.

The **protect expression** is not painted directly onto windows, but is used in controlling how paintable data fields display in windows. For example, in the Billing activity, the fee code Detail fields become non-editable once the fee code has been billed. This characteristic is controlled by the variant assigned to those fields, which in turn references a protect expression that logically defines when to prevent edits to the fields.

Lists

Lists are used to represent static choices in painted windows. Lists are displayed as either a drop-down field or an option button. Examples of lists include the gender choices available in Patient Registration, and the activity options found in Availability Template Dictionary. As with protect expressions, the list choices available for a field are associated with a variant, which is created by the Dynamic programmers and unavailable to edit by users. Users can control which variant a painted field is assigned to via the Field Properties window.

Review

The Window Class Dictionary serves as the rule set for each type of paintable window. It controls such things as how the window title bar appears and what fields are and are not available to be customized.

The Paintable Objects Report displays the available objects for a window class and can be found in the text menu bar of Window Painter, by clicking Tools, Paintable Objects Report.

The following Window Painter features are controlled by the Window Class Dictionary:

New/Open Windows

Required Fields

Forbidden Fields

Application User Objects

Variants

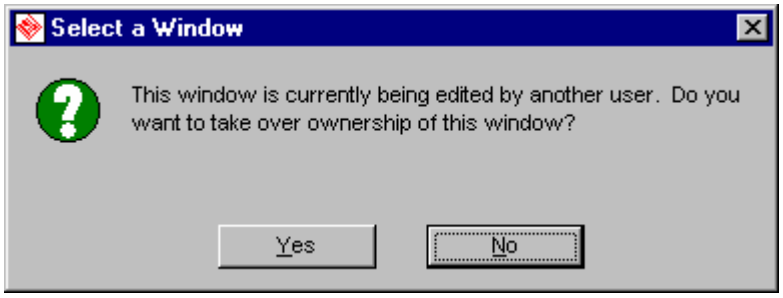
Expressions

Message Board

Introduction

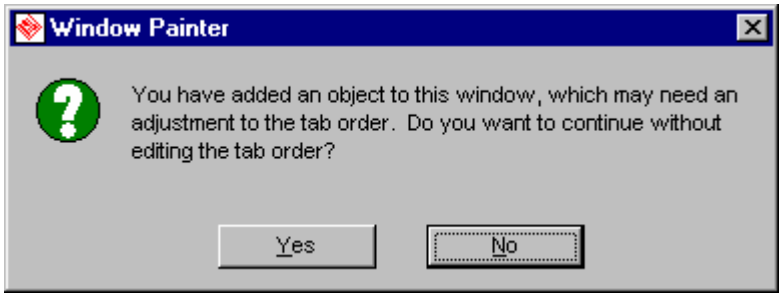
This section is dedicated to helping you resolve messages that may be encountered while Window Painting.

Messages



Message: This window is currently being edited by another user. Do you want to take over ownership of this window?

Resolution: If RadPlus abnormally terminated, you will receive this message after re-entering RadPlus. Press **Yes**.

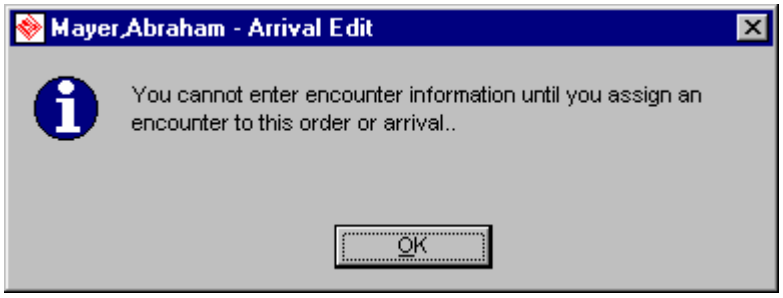


Message: You have added an object to this window, which may need an adjustment to the tab order. Do you want to continue without editing the tab order?

Resolution: If you make any changes to a tab form that affects the tab order, such as painting a new field or datawindow, and you do **not** adjust the tab order, you have the following options to exit from the tab form.

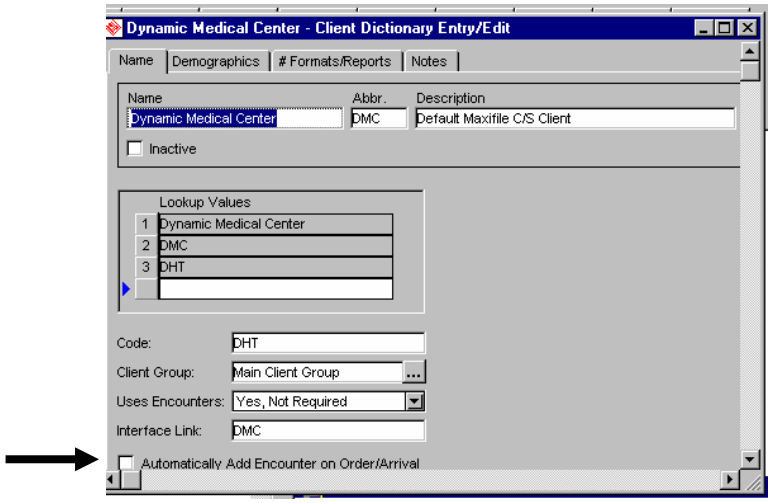
- Press **Yes** if you would like to continue to another tab form.
- Press **No** if you would like stay on the current tab form and make edits to its tab sequence.

Information Messages



Message: You cannot enter encounter information until you assign an encounter to this order or arrival.

Resolution: If you were testing the Copy/Edit Insurance AUO, this error will be displayed. To correct this message, modify the client dictionary. Edit the box "Automatically Add Encounter on Order / Arrival." This should be used for outpatient centers (or any site that doesn't have ADT.)



Message: Error: (object)'s parent, (table name) not in form sequence.

Resolution: The parent table is not contained in the window. You will need to add a pop-up form (without any action or AUO buttons). Paint a datawindow that will include the aforementioned table (in this example, include the p_special_proc table). Also, since the main tab form will not have a button to open the pop-up, press **Resolve** to bypass the following message, "You have a Tab Form or Popup Window that doesn't have an object with a useable taborder. This will result in run time errors."

Message: The selected activity is invalid for procedures at the (site specific) Facility.

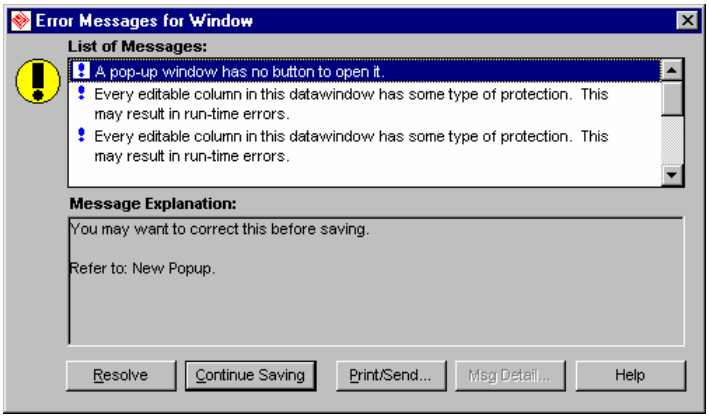
Resolution: This message will be displayed if a window is not associated properly in Link Tailored Windows. In RadPlus, press **Setup** icon, Dynamic Customizer folder, Window Painting folder, Link Tailored Windows. Scroll down to the facility mentioned in the message. Find the activity that prompted the error. For example, if this error was displayed after clicking the Report Entry/Edit activity, the window associated with this activity needs to be changed in Link Tailored Windows for that facility.

Message: Error. Can't find variant for (object).

Resolution: This message will be displayed if an object's variant is no longer available. In Window Painter, find any field that is referencing the aforementioned object. Since the message is referencing c_d_person (i.e. Person Dictionary), check any fields in the window that would use this column object. For example, look for Ordering Physicians, Authorizing Radiologist, etc.

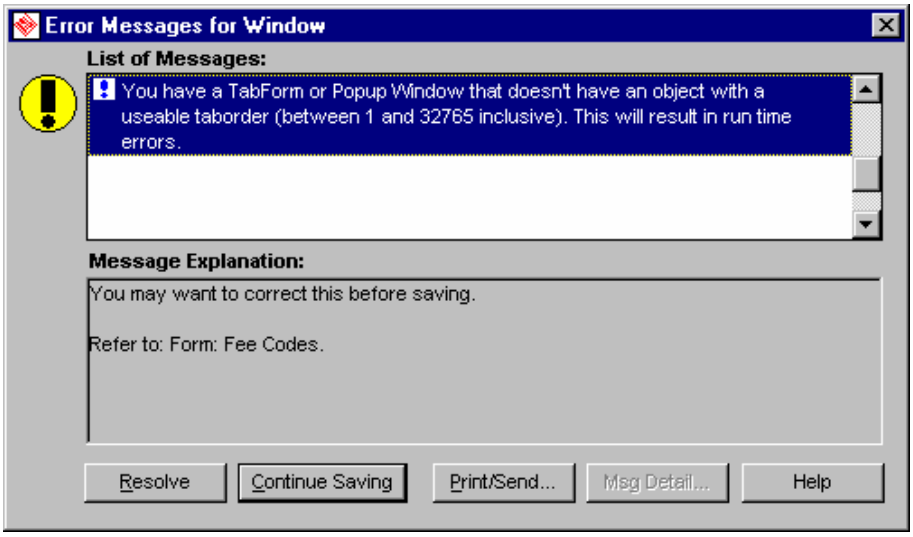
Double-click the appropriate column object to view its properties. If the variant is “popup,” then select “scheduling popup” in the dropdown list

Error Messages for Window



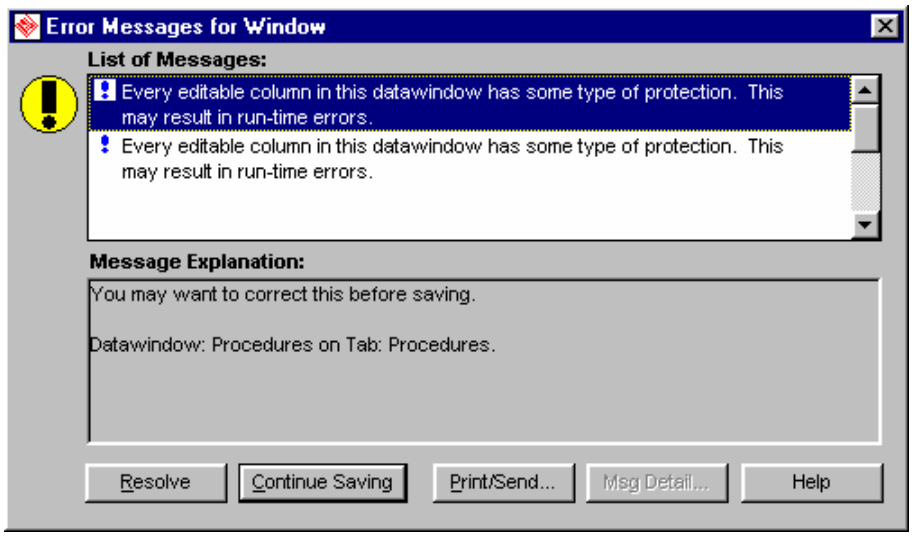
Message: A pop-up window has no button to open it.

Resolution: After attempting to save the window, this message is displayed. If the pop-up window is not a Next Process button, press the **Resolve** button and go to the tab form to build an action button. For more information on creating action buttons, refer to “Action Buttons” section on page 40. If the pop-up window is a Next Process button, the pop-up will automatically be displayed upon exiting the window. Therefore a button is not needed. Press **Continue Saving**.



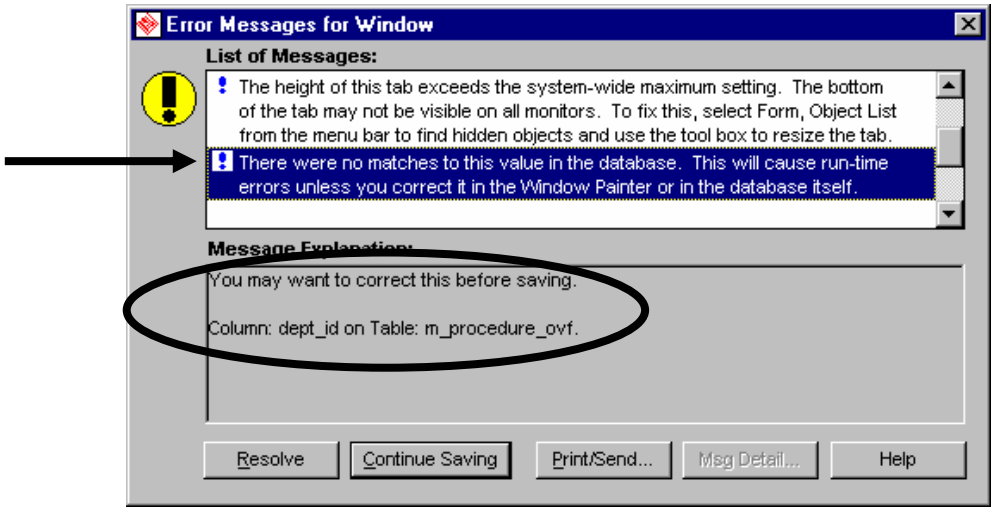
Message: You have a TabForm or Popup Window that doesn’t have an object with a useable taborder. This will result in run time errors.

Resolution: After attempting to save the window, this message is displayed. You have created a form (a tab form or pop-up window) without any objects inserted on the form. Press **Resolve** and return to the form mentioned in the Message Explanation. Either delete the form or paint objects into the form.



Message: Every editable column in this datawindow has some type of protection. This may result in run-time errors.

Resolution: After attempting to save the window, this message is displayed. This is a normal message and can be bypassed by pressing **Continue Saving**. However, make certain that there are not any additional messages by scrolling through all the messages.



Message: There were no matches to this value in the database. This will cause run-time errors unless you correct it in the Window Painter or in the database itself.

Resolution: After attempting to save the window, this message is displayed. It indicates that the information in the Default Value of an object's properties does not match a record in the database. In the Message Explanation window, it directs you to the field that is causing the message:

Column: dept_id on Table: m_procedure_ovf.

Therefore, press the Resolve button in order to correct the errors for the appropriate field. Select the object, right-click and select **Properties**. In the Default Value, enter exactly as it is listed in the database. If this is not known, consult your database administrator to run a query in PowerBuilder.

Glossary of Terms

Access Key	A keyboard shortcut for accessing an object on a window. The underlined letter in the object label represents the access key. For example, on the **Add** button, the letter **A** is the access key. To use the access key to select an object, a user holds down the Alt key and then types the access key. In this example, typing Alt+A will invoke (i.e., press) the **Add** button. In the Window Painter, all buttons are painted with access keys. To paint an access key, put an ampersand (&) character in the button's text/label, immediately prior to the letter you want to be the access key. For AUO buttons, the access key and button label are set up via the AUO Properties window.
Action Button	Action Button is an object that is used to trigger an action on the window such as saving the entry, closing the window, or displaying a new window. Examples of Action Buttons include the Add, Next, Previous and OK buttons which appear on many procedure-related windows in the standard version of RadPlus.
Agent	A process that performs a specific function within RadPlus. Examples include the Fax Agent, Interface Agent, and Distributed Process Agent(s).
Application	A general term for a software product, such as Microsoft Word or Lotus 1-2-3. More specifically to RadPlus, a distinct set of PowerBuilder objects designed to run together. Applications consist of different types of objects, such as windows, reports, and functions, organized into libraries. A RadPlus site's system will include two applications: one for live and one for test.
Application User Object (AUO)	A type of PowerBuilder object consisting of a complex chunk of application code that has been packaged for consistent use in RadPlus. An example of an AUO is the RTF Text Entry fields used for entering diagnostic text. This group of fields, along with associated formatting and command buttons, is required in many

	items in RadPlus, and the AUO lets you quickly paint the necessary subset of those fields onto any window. Some AUOs are available for painting using the Window Painter. Many of those include a "wizard" which you can use to modify the standard AUO for a particular window. For example, the wizard available for the patient history bridge in Scheduling allows you to define access of either patient/procedure Inquiry or Results Inquiry. It also allows you to name the button and define the Inquiry window that will be accessed.
Check Box	Check box is an object that consists of square selection buttons, which can be selected (i.e., checked) to indicate a Yes response or cleared to indicate a No response. Examples of check box fields are the Pregnant, IV, and Oxygen check boxes included on the standard Arrival screen. A default value must be set for each check box object. Fields that can have either a Yes or No value generally have a check box variant so that they can be painted as check boxes.
Client/Server	A type of computer system characterized by distribution of processing across more than one computer, and connectivity using a network. Client/server systems generally also include a relational database management system (RDBMS) and a graphical user interface.
Column	A field from a table in the RadPlus database. In the Window Painter, columns from a table are painted on windows as part of a datawindow. Columns can be added or deleted via the Datawindow Properties pop-up window.
Compile	The process of creating PowerBuilder objects from a painted window. Painted windows must be compiled before they can be tested or used in the RadPlus application.
Compound Key	A primary key that consists of two or more columns. Provides a unique identifier for rows in a multi-instance table. For example, each exam associated with an arrival requires a compound key to uniquely identify it. The primary key for the m_procedure_ovf table consists of the specimen_id column (i.e., specimen_id) plus the exam's **inst** (i.e., instance) column. The **inst** column reflects the order in which the exam or procedure was entered for the arrival, such as first, second, or third. If a user changes the sequence in which the procedure is displayed within the arrival within RadPlus, the **inst** value does not change.
Context Help	Refers to the type of online help that appears when a user views help on a specific object or field. The user sees the context help by pressing Shift+F1 or the **Help** button on a dialog box. Context help

	can be customized in the Window Painter via the field properties dialog box.
Control	Any graphical object displayed on windows in applications. Examples include columns (i.e., data fields), buttons, check boxes, application user objects, etc.
Copy Down	For rows in a tabular datawindow, "copy down" is a method of determining a default value for a field based on the value defined for the same field on a previous row. There are four copy down options available: • First (copies the default from the same field in the first row of the datawindow) • Last (copies the default from the same field in the previous row of the datawindow) • Bump (inserts a default that is one value higher than the value in the same field on the previous row) • None (no default appears)
Data Field	In the Patient Report Painter, a data field is the painted element on the window. Each data field consists of a number between two bar characters (e.g., |1|). In the Window Painter, a data field refers to a column or expression that is available to be painted as part of a datawindow.
Datawindow	A type of PowerBuilder object used to edit or display data from the database. Datawindows consist of columns (i.e., data fields) and expressions from a specific table. Datawindows are used extensively throughout RadPlus. For example, in the RadPlus Window Painter, multiple datawindows can be painted onto a single window, allowing data from different tables to be collected on the same window.
Default Value	During order entry, the default value is a response that appears at a field automatically. This feature saves users time by providing the most common response to a field. In the Window Painter, a default value can be set up for all fields. Examples of defaults include **Today** and **Now** (for a date/time fields) or a **Constant**. For **Constant** types of defaults, the user painting the field must specify the value of that constant. Note that if a field requires a response from one of the RadPlus dictionaries, and you define a **Constant** default for the field, the value you enter as the default must match a valid entry in the corresponding dictionary.

Denormalize	A method of storing the same database information in more than one place in a relational database.
Dialog box	A window in which the application presents several alternatives or asks for more information. An example is the Properties dialog box, which is available for many types of paintable objects.
Export	Part of a method for moving RadPlus system objects, including painted reports and windows, from system to system using DOS files. An object is exported from one system and imported to the other.
Expression	In the Patient Report Painter, an expression is an SQL statement that can be used to display data in different ways on a report. For example, you could use an expression to print a header with one description for a particular facility, and a different description for a different facility. In the Window Painter, expressions are small bits of application code set up by Dynamic. "Paintable" expressions can be painted as part of a datawindow. These allow data to be displayed in different ways, depending on criteria set up as part of the expression. "Protect" expressions control how painted fields display on windows, such as whether or not a field is editable under certain circumstances. In InfoMaker, expressions are used to combine fields, display fields differently in different situations, and in many other ways.
Freeform	A type of datawindow that displays data in a non-tabular format. Only one row of data is displayed at a time. Fields can be painted at any location in a freeform datawindow.
Folder	A RadPlus term for a set of items grouped together in the Application Manager. Folders can be created and edited by sites using options in the Folders and Items folder under the **Setup** icon.
Footer	An area of a report that displays at the bottom of every page, except the last page. In the Patient Report Painter, there are two footers: a last page footer and a footer for all but the last footer. In InfoMaker, the footer usually displays the site name and page information.
Form	An object on top of which other objects can be painted in the Window Painter. Two types of forms are available: Tab Forms and Pop-Up Windows.
Form Sequence	See Window.

Global Function	A type of PowerBuilder object that takes input and processes it in a standard way. Some global functions used in RadPlus include one for standard patient name display and one for determining the medical record number associated with an arrival.
Graphical User Interface	A means of interacting with a computer application that is based on visual representations of objects, such as buttons and icons.
Group Box	The Group Box is an object that consists of a border and a text/label. Group boxes are used to group other objects, such as buttons.
GUI	See Graphical User Interface.
Header	1) In the Window Painter, the application user object that resides on the window, above the tab forms, to display patient/procedure data on arrival windows in RadPlus. The header is selected in the Window Properties dialog box and its display format is based on a System Settings default value. The standard header display area on painted windows is a datawindow created in InfoMaker. 2) In the Patient Report Painter, the section of a report template that displays at the top of all pages in the report, except the first. 3) In InfoMaker, an area of a report that will display once per page of report information.
Import	The process used to convert source files to PowerBuilder and/or database objects. Part of a method for moving RadPlus system objects, including painted reports and windows, from system to system using DOS files.
Inheritance	The ability to specify properties of one object and then copy it to create additional objects, where changes to the original object will automatically be applied to all objects created from it. Used in RadPlus windows and also in the utility for specifying RadPlus database export rules.
Instance	A column in a multi-instance table which reflects the order in which the item was entered, such as first, second, or third. The **inst** (i.e., instance) column is part of the compound primary key for multi-instance tables. For example, the ICD-9 code entered for a procedure would have an **inst** value of **1** while the second ICD-9 code entered would have an **inst** value of **2**. If a user edits the ICD-9 codes such that the sequence in which the codes are displayed changes, the original **inst** value associated with the ICD-9 does not change.

Item	Refers to a RadPlus term for anything that can be launched from the Application Manager. Items include procedure-related activities such as Complete Procedure, dictionaries, management reports, and tasks such as the Billing Chute Manager.
Join	A link between two tables based on a column they have in common; usually an id or primary key field. A relational database requires that a join be specified each time you need to obtain information from more than one table in the database. Joins are based on the existing relationships between tables.
Key	A unique identifier for each entry or row in a table in a relational database. Keys can consist of a single column, often labeled the id column, or multiple columns.
Label	The text that identifies a painted data field in the Window or Patient Report Painter or in InfoMaker.
Library	See PowerBuilder Library.
Library List	A hierarchical list of libraries that make up a PowerBuilder application, which is a necessary component of a working application. The Library list identifies the order that libraries will be searched for a specific object by the application.
Localize	The process of loading the RadPlus application software from the master copy (located on the CFR on the network) to a client PC for use by that client. Localization is always required before using RadPlus on a client PC after a software upgrade or site-specification modification to the application. Localization occurs when a user starts RadPlus from a desktop shortcut.
Menu	A general term for a Windows object that allows sets of choices, displayed in a pull-down list, to be offered to a user within a window.
Modal	A type of window or dialog box in which only certain actions are available to the user. A user must always close any modal window open in the RadPlus application before doing anything else in the application.
Network	A means of connecting multiple computers together to share data or applications. Networks are a key component of client/server systems. Networks can differ by their physical structure (e.g., Ethernet, Token Ring) and their operating software (e.g., Novell Netware, Windows NT).

Next Process Window

In RadPlus, a Next Process pop-up window is a workflow tool that appears after a predefined event (such as transcription result entry) so that users can select how to proceed (such as whether to send it to a Radiologist for signout).

Next Tab

The object at the lower-right corner of a painted tab form that users can press to move to the subsequent tab form. The Next Tab icons are enabled or disabled for a window by selecting a check box in the Window Properties dialog box in the Window Painter.

Object

Refers to a general term for the programmed components of an application. In the Window Painter, the following are a few objects that can be painted:

- Check box
- Datawindow
- Column or data field
- Forms: tab form or pop-up window
- Box: group box or rectangle
- Text/Label
- Buttons: action or Application User Objects (AUO)

In PowerBuilder, objects include some of the above as well as additional types such as structures, functions and menus.

Option Buttons

An object that can be painted on a window. Option buttons consist of a group of round selection buttons from which a user may select one choice. An example of option buttons are the report distribution options which appear on the Next Process pop-up window after you enter transcription. An option button on a painted window must have a default selection specified.

In the Window Painter, option buttons can be available as a variant for paintable fields consisting of choices.

Outer Join

A type of join that consists of an inner table and an outer table. The outer join tells the system that you want all items in the inner table, regardless of whether or not they have associated rows in the outer table. In an SQL query, an outer join is represented by an asterisk (*) on the inner side of the equal sign representing the join. For example, to find all exams and their associated ordering physicians (when present), regardless of whether there was an ordering physician associated with the exam, the following outer join statement would be used:

M_procedure_ovf.ord_doctor_id *= c_d_person.id

PBD	PowerBuilder distribution libraries. The runtime version of a PowerBuilder library of objects used as part of an application. In this form, the objects have been optimized to run efficiently and cannot be modified directly.
PBL	See PowerBuilder Library.
Painter	Also called Customizer. The term used in RadPlus for system tailoring tools. Also used in PowerBuilder for its object modification components.
Pop-Up	A window or dialog box that is activated by some action on the screen, such as pressing a button. In the Window Painter, pop-ups are a type of paintable form. An example of a pop-up window is the Next Process window.
PowerBuilder Library	In PowerBuilder, a means of grouping related application objects. Libraries are the building blocks of PowerBuilder applications. While a system is in development, modifications are made to the uncompiled version of the libraries (these have a *.PBL extension). When an application is released to users, its *.PBL libraries are compiled into PowerBuilder Distribution libraries (these have a *.PBD extension). Users running stand-alone RadPlus applications (without PowerBuilder) utilize the *.PBD libraries. Users running RadPlus through PowerBuilder utilize the *.PBL libraries.
Query	A statement that asks a question of the database. Queries are created using either SQL (Structured Query Language) or graphically using InfoMaker. Queries can be saved on their own, as part of InfoMaker reports, or created ad hoc using PowerBuilder's Database Administrator.
RDBMS	Relational Database Management System. A vendor-specific implementation of a relational database model, such as Sybase SQL Server, Oracle, and DB2.
Rectangle	Refers to a square-shaped paintable object that can be painted to help group objects together. This object does not include a text/label.
Relational Database	A data management model which represents data as a collection of one or more tables. (See also RDBMS.)
Report	A general term for printable output based on information in the database. Management reports can be created in InfoMaker and

	Patient Reports are generated by templates created using the Patient Report Painter.
Report Painter	The RadPlus tool for creating templates for reporting patients' procedure results.
Report Template	A standard format for a patient diagnostic report created in using the Patient Report Painter. Report templates are created by placing data fields and other display items into a Rich Text Format control that is part of the Report Template dictionary.
Result Set	The data fields available to be painted on a Patient Report template or some InfoMaker reports, based on the stored procedure associated with that report.
Rich Text Format (RTF)	A Windows standard text entry method that includes many formatting options, such as font size and type, indentation, bolding, underlining, etc. Rich Text Format is used in RadPlus for diagnostic text entry. Also, the report templates used in the Patient Report Painter are created in an RTF format.
Row	An instance in a relational database table. For example, in the encounter table, each patient visit (or encounter) is a separate row; a patient with two encounters would have two rows. Every row in a table is identified by a unique key.
RTF	See Rich Text Format.
SQL	Structured Query Language. This is the standard format for asking a question of a relational database. SQL queries are used in InfoMaker reports and throughout RadPlus to display data. SQL queries can also be written as needed using PowerBuilder's Database Administrator.
Script	Bits of SQL code that make changes to the database. Scripts are most often used in association with a RadPlus version upgrade. For example, if a new column has been added to a table for use with the new version, a script must be run as part of the upgrade to create that new column in the existing database.
Shortcut	A Windows term for a Windows desktop icon that starts an application, such as RadPlus. Also, another term for an Access Key. (See also Access Key.)
Site Tips	Site-specific help for each tab form which can be accessed in RadPlus by pressing the site tips icon () at the top-right of the

	tab form. To paint site tips, they must be enabled via Window Properties. The text that appears when a user selects the site tips icon is entered for each tab form via the Form Properties window
Status Bar	The area at the bottom of a Windows application window that contains status messages.
Stored Procedure	A programmed database object that takes input from the application and can be used to manipulate data (e.g., compile a billing batch) or provide a result set for display (e.g., as a basis for InfoMaker reports).
Structure	Represents a type of PowerBuilder object that allows grouping of related objects for referencing throughout an application.
Structured Query Language	See SQL.
Sybase	Refers to the relational database management software used with RadPlus.
Tab Form	A form used to paint tab pages on a window. A window can consist of one or more tab forms. An example of a tab form/page is the Notes tab that appears in all dictionaries.
Tab Order	Refers to the order that the user's focus moves through a painted tab form as they press the Tab key. Each tab form has its own tab order. Also, datawindows on a tab form have their own tab order.
Table	A group of similar items stored together within a database. In RadPlus, there are hundreds of tables. Some commonly referenced tables include: encounter (r_encounter), patients (r_pat_demograph), radiologists (m_radiologists), film folder (m_filmfolder), department dictionary (c_d_deparment), interface error (i_error).
Tabular	A type of datawindow that consists of multiple rows of data with each data field in a column. In the Window Painter these are frequently used to paint multi-instance data such as fee codes. In InfoMaker these often appear as a grid.
Text	A data type used in RadPlus. Text can either be entered unformatted (like the Notes fields in dictionaries), or in Rich Text Format (like the diagnostic fields). Displaying text requires special handling in InfoMaker.

Trigger	Refers to a programmed database object that enables changes made to one table to cause additional changes to occur elsewhere in the database. Triggers usually run when data is filed. An example of a trigger in RadPlus is for the application of default fee codes based on parts, procedures or stains.
Variant	Controls the behavior of a field on a painted window. Examples of variants include the lookup styles available for a field (i.e., pop-up versus drop-down), restrictions on responses that can be entered at a field (e.g., technologists only, radiologists only, etc.), and protection attributes (e.g., when a field is or is not editable). A field can be assigned to one of the available variants via Field Properties. Variants are maintained by Dynamic programming staff and cannot be modified by users of the Window Painter.
Window	A type of PowerBuilder object used to create the visible component of the RadPlus application. Users interact with the application by entering data, performing inquiries, etc. via windows. Windows are containers for other types of graphical controls, such as data entry fields, buttons, and icons. Some RadPlus windows can be customized using the Window Painter, while other windows are programmer-controlled and cannot be customized.
Window Class	A category linked to each RadPlus painted window that determines several characteristics about the window, such as what objects can be painted and which columns/fields are required.
Window Painter	The RadPlus tool for creating and modifying data entry windows for procedure and patient activities.