1. Set up your environment. Right click my computer, choose properties. System Properties dialog appears. Click advanced tab. Click Environmental Variables. Create a new environmental variable called ORACLE_PATH. The value should be the entire path to your stage directory and any other directories with files that FMBs refer to. Purpose: With this value, the Oracle Forms program will be able to find and access the libraries and objects used in sub-classing. On my machine, my ORACLE_PATH= D:\Banner\5.x Upgrades; D:\Banner\5.x\RES

2. Use a skeleton form. There are three forms that SCT/Banner provides, namely GUASKEL.FMB, GTVSKEL.FMB, and GUISKEL.FMB that are skeletons or templates. These were made to be copied, renamed, and changed to suit your needs. There are many, many triggers, variables, and code that work together for a form to work in the banner environment. It is better to start from a form that has that code done for you, than to try to recreate it all from scratch. Skeleton Forms to choose from:

```
D:\Banner\5.x\Gen\GUASKEL.fmb – Application Form
D:\Banner\5.x\Gen\GTVSKEL.fmb – Validation Form (use this for simple, tabular forms)
D:\Banner\5.x\Gen\GUISKEL.fmb – Query Form
```

3. Copy & Rename a Skeleton. Copy `D:\Banner\5.x\Gen\GTVSKEL.fmb` to your staging folder: `D:\Banner\5.x Upgrades\` and rename it to the form name you intend to use (for the sake of this white paper, we will use `RTVLVEX.fmb`
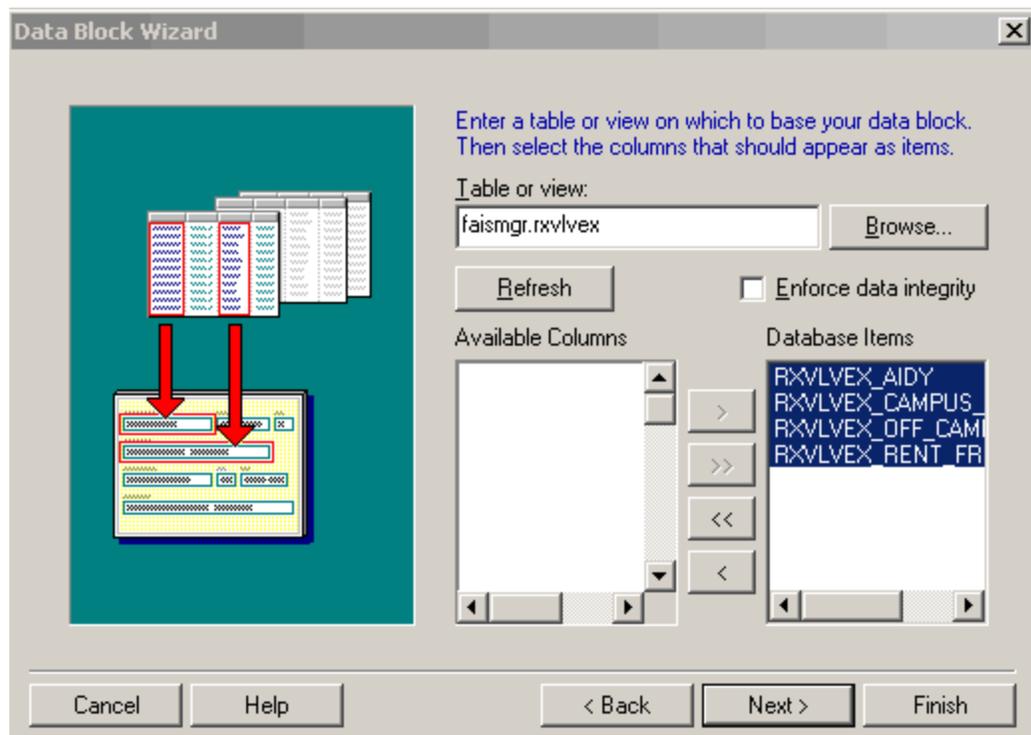
4. Open the form by double clicking the icon from the operating system.

5. Rename the following appropriately:
Module Name: RTVLVEX
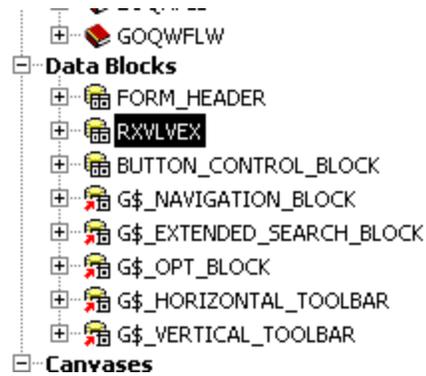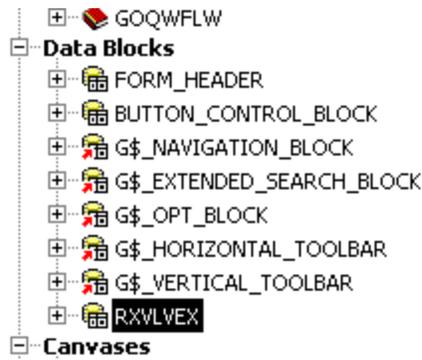Main_canvas change to RTVLVEX_CANVAS

6. Change Title Bar Text. Double click on the Main_Window and change its Title Property (in this case, change it to read "RXVLVEX Table Maintenance - "
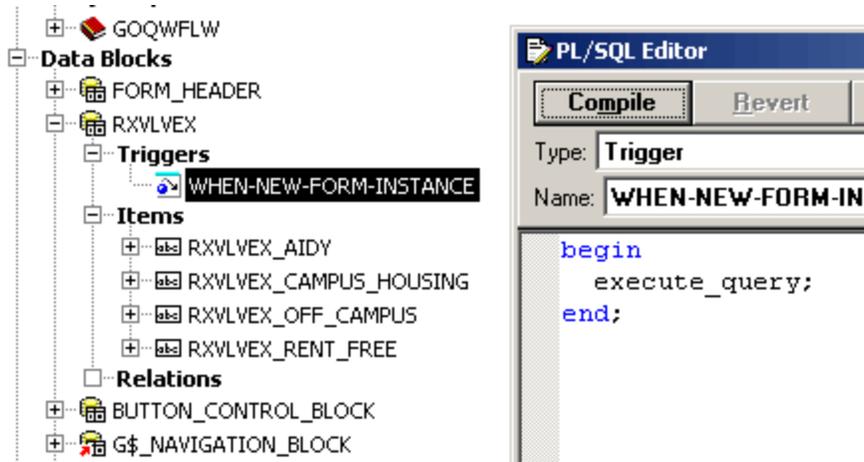

7. Create a new datablock. Delete the **A_Block** datablock (notice that its position is #2 in the list of datablocks, our replacement should go here) this is the datablock we will replace with our own datablock. Now, open the datablock wizard. Follow the steps of the wizard. You may get stuck when it comes time to indicate the table. Do not browse to it, especially if it is from a schema other than the user you are logged in as. Just type the *schema.table*, for example faismgr.rxvlvex and click the refresh button. Now click the [>>] button to move all of the columns to the *Database Items* side. Click next, and finish the datablock creation as usual going straight into the Layout wizard.

8. Layout Wizard. The first important screen of the layout wizard will ask you to choose the canvas. Choose the one called RTVLVEX_CANVAS, what used to be the MAIN_CANVAS. Next screen, display all of the items by clicking the [>>] button. On the prompt screen, you can change the names of the prompts to be more descriptive (ie: "Rxvlvex Aidy" becomes "Aid Year", etc.). Next, as the layout style, choose *TABULAR*. Next, write a Frame title, such as "RXVLVEX TABLE", *Records displayed*: 10, and be sure to check the *display scrollbar* checkbox. Finished!

9. Adjust the Layout. After the layout wizard, the layout of your form should immediately appear. If not, open it by double clicking the canvas. On the top of the canvas will appear 3 labels "ID", "Name", and "Citizen". Just delete these (click on, then delete). They are left over from the original skeleton form. Now you can adjust your items the way you like by dragging, clicking on text, etc. One thing you may prefer is to right click the black frame around your datablock, open the properties palette and change the Update Layout condition from "AUTOMATICALLY" to "MANUALLY". This will prevent Oracle from making adjustments to your layout, adjustments you probably won't like.

10. Reposition the datablock into the #2 position. You may notice that your datablock is not the second one. If that is the case, drag and drop it into the #2 position, after *FORM_HEADER*. This will make the form attempt to run this datablock second in line and prevent errors.
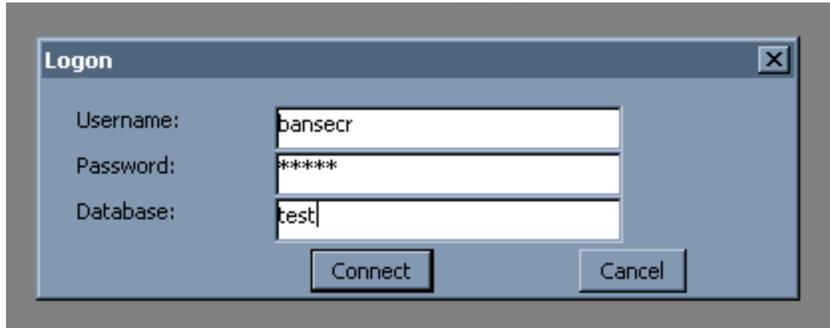

11. Create a Trigger. Under your datablock, create a WHEN-NEW-FORM-INSTANCE trigger that runs the PL/SQL code shown (begin execute_query; end;). This will force the form to populate the datablock when it loads, showing the data in the table immediately.
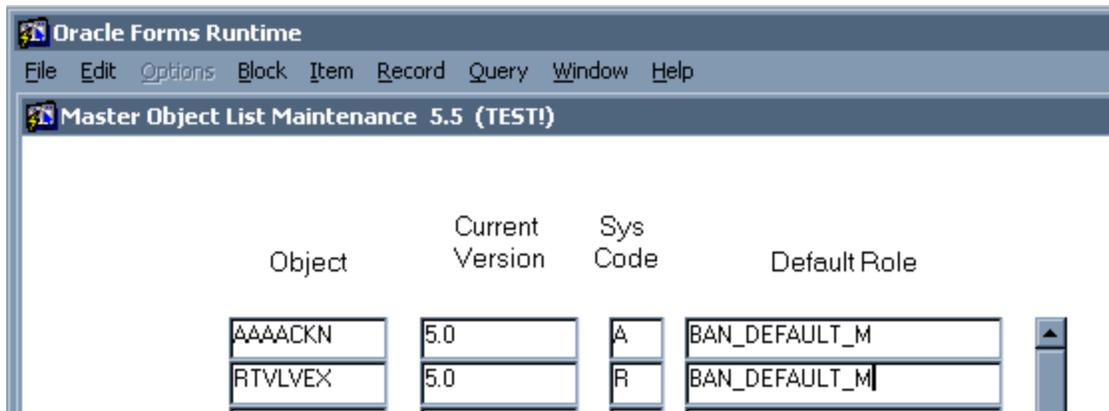
12. Compile your Form. Just type *CONTROL+T* to compile. If you run into any compile errors, you can analyze the errors and comment out the code that causes the errors. Once compiled, in your staging directory, you will find a file called RTVLVEX.FMX.

13. Add the form to the database. As shown above, you add a record to the database using the **GUAOBJS** form: the Object name is "RTVLVEX", Description is whatever text you prefer, Type is "FORM", and System is "R" for Finaid, or whatever appropriate letter.

Logon

Username:	bansecr
Password:	*****
Database:	test

Connect   Cancel

14. Add the form to Banner Security. Login with the bansecr account.

Oracle Forms Runtime

File   Edit   Options   Block   Item   Record   Query   Window   Help

Master Object List Maintenance 5.5 (TEST!)

Object	Current Version	Sys Code	Default Role
AAAACKN	5.0	A	BAN_DEFAULT_M
RTVLVEX	5.0	R	BAN_DEFAULT_M

Now add the form to the list by clicking Record, Insert. Add the object. The Sys Code represents the code for the module, so for example R = Finaid. There are two default roles to choose from, BAN_DEVAULT_M (modify, allowing people to modify data) and BAN_DEFAULT_Q (query, meaning people can view data only).

SCT Banner/ORACLE User Management

User ID: OPS$STOEVER

User	Permissions
Insert	Modify
Alter	Summary
Delete	

Now from the USER MAINTENANCE screen, type your OPS$ account and click modify.

Objects granted directly to the User or Class

OPS$STOEVER

	Object Name	Role Name	
Count	RTVKIDS	BAN_DEFAULT_M	
Wild Card	RTVLVEX	BAN_DEFAULT_M	
Insert			

Add the form to the Object Name list, the default role will appear. Done, close the Banner Security Forms.

15. Publish the form. Citrix may need to see the form name in all lower case letters, I have been told this was a problem at one time. So, change the name of your form on your OS so that it is all in lower case. Then copy the form to the following directories:

```
X:\Banner\test\fmx
Y:\Banner\test\fmx
```

These are the directories on the citrix servers, mapped to my X: and Y: virtual drives.

16. Test the form. You can test the form by accessing it from the main Banner directory. Just type in the form name at the top of the first menu, hit return and your form will appear.

17. Add the form to the menu items. I have created a package especially made to add a form to the banner environment. It is very easy to use. If you need to run any of these procedures more than once, it will not harm the database. Here is an example of its use:

```
/*
  PROCEDURE show_sort_sequence (menu_name IN VARCHAR2);

  PROCEDURE add_form_to_menu (
    form_name        IN   VARCHAR2,                        -- name of form
    menu_name        IN   VARCHAR2,                        -- name of menu
    sort_sequence    IN   NUMBER,                          -- sort number
    description      IN   VARCHAR2,                        -- description
    module_code      IN   VARCHAR2,     -- module letter code, ie: R = FinAid
    ban_default_     IN   VARCHAR2,           -- M for modify or Q for query
    VERSION          IN   VARCHAR2     -- version # in text format, ie: '5.0'
  );

  PROCEDURE add_menu_to_menu (
    sub_menu_name    IN   VARCHAR2,            -- Menu to be added to menu
    super_menu_name  IN   VARCHAR2,     --Menu to contain link to other menu
    module_code      IN   VARCHAR2,     -- module letter code, ie: R = FinAid
    description      IN   VARCHAR2              --description of sub-menu
  );

  PROCEDURE grant_me_form_access (
    form_name        IN   VARCHAR2,                        -- name of form
    user_id          IN   VARCHAR2,          -- user name ie: 'OPS$STOEVER'
```

```
         ban_default_   IN   VARCHAR2              -- 'M' for modify or 'Q' for query
      );
*/


--Example of this package in use:

set serveroutput on   -- important!! Forget this and show_sort_sequence will not work!

exec    GXKMENU.add_form_to_menu ('RTVFEES','*RESANNU',1,'RXVFEES Table','R','M','5.0');
exec    GXKMENU.add_form_to_menu ('RTVLVEX','*RESANNU',2,'RXVLVEX Table','R','M','5.0');
exec    GXKMENU.add_form_to_menu ('RTVKIDS','*RESANNU',3,'RXVKIDS Table','R','M','5.0');
exec    GXKMENU.show_sort_sequence('*RESANNU');
exec    GXKMENU.add_menu_to_menu ('*RESANNU','*RESBUDG','R','Annual Budget Setup');
exec    GXKMENU.show_sort_sequence('*RESBUDG');
exec    GXKMENU.grant_me_form_access('RTVFEES','OPS$STOEVER','M');
exec    GXKMENU.grant_me_form_access('RTVLVEX','OPS$STOEVER','M');
exec    GXKMENU.grant_me_form_access('RTVKIDS','OPS$STOEVER','M');
```

The GXKMENU (owner is baninst1 and you must me logged in as baninst1 to use it) package is available on both Prod and Test. There is a form available in Banner that can create custom menus and add forms to menus: GUTGMNU. This form is buggy and hard to use. The GXKMENU package is much easier. You can create a script and run it in a few minutes. If you want to add a form to a pre-existing menu, simply *set serveroutput on*, then *exec show_sort_sequence* on that menu to see the current numbers in use. Then add the form with *add_form_to_menu* using a sort sequence number that is not already in use (if the highest number is 3, use 4). Finally, grant yourself access to your form with the *grant_me_form_access* procedure.

If you need to add a link to the vertical menu to the left of a form, review and run the procedure *gxkmenu.add_link_to_vert_menu*. (Login as Baninst1). For example:
```
/*
   PROCEDURE add_link_to_vert_menu (
      form_it_appears_on   IN   VARCHAR2,          -- Name of form to link from
      form_it_links_to     IN   VARCHAR2,             -- Name of from to link to
      text_description     IN   VARCHAR2, -- text of description shown on link
      module_code          IN   VARCHAR2 -- module letter code, ie: R = FinAid
   )
This procedure adds links to the vertical menu shown to the left of a form
*/
exec GXKMENU.add_link_to_vert_menu ('gziemal','goaemal','E-Mail Address Form',
'R');
```

18. Grant use of your form(s) to a class. Now that the form is available to you, and you have tested it, you will have to grant its use to the people who will actually use it. Contact the head of the department that the form is created for. In our example, the forms are to be granted to people in the Financial Aid department, and the department manager says to grant access to the FTS_R_USER class. Login to banner security through citrix (use the bansecr account). Click the Class Maintenance button. In the execute box at the top of the form, type the name of the class (in this case, FTS_R_USER). Now, click the OBJECTS button. Insert the form name(s) and the default role for that object will appear. When done, save and close. If you did things right, there should appear a MESSAGE in the far right column that your Class is out of synch. Click the SYNCHRONIZE button. Once that is done, the proper end users will have access to the form(s) you created.