
AIMMS Tutorial for Professionals - Management of Pages and Templates

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Part IV

Building an End-User Interface

Chapter 10

Management of Pages and Templates

Following this chapter, you will set up the structure of your end-user interface using the **Page Manager**. In addition, you will specify the style of your end-user interface using the **Template Manager**. At the end of this chapter you will make a startup page that will contain references to all the other pages.

This chapter

Designing an effective end-user interface is an iterative process that requires interaction with the end-users. Chapter 12 of the *The User's Guide* contains several design principles. In this tutorial, however, you will build the specified interface without any redesign.

Iterative design process

10.1 Page management

In AIMMS, *pages* correspond to windows of information visible to the end-user. Pages are managed using the **Page Manager**, which allows you to organize all your end-user windows in a tree-like fashion. The organization of pages in the page tree defines the navigation structure of the end-user interface. Relative to a particular page in the page tree, the positions of the other pages define relationships such as *parent* page, *child* page, *next* page or *previous* page, which can be used with navigation controls such as buttons and menus. Figure 10.1 shows the navigation structure that you will use in your end-user application.

The AIMMS Page Manager

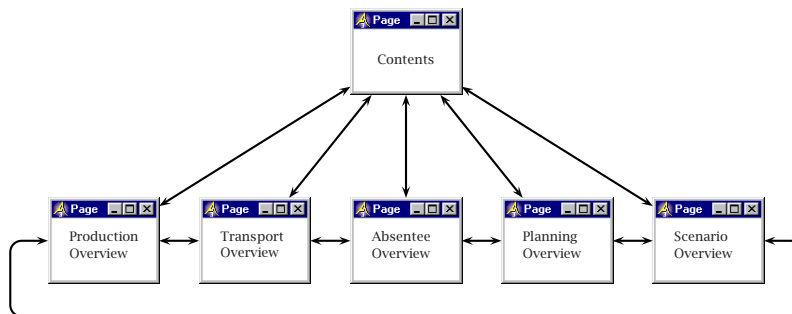


Figure 10.1: The navigation structure to be implemented

To create the desired page structure, you should first open the **Page Manager** by selecting it from the AIMMS **Tools** menu, or alternatively by pressing the *F9* key. A page tree is shown in Figure 10.2. Note that the trial page created in Chapter ?? was automatically added to the **Page Manager**. If you previously saved a changed Data Page, a parent page named 'All Data Pages' is added as well, containing the saved Data Page.

Opening the Page Manager

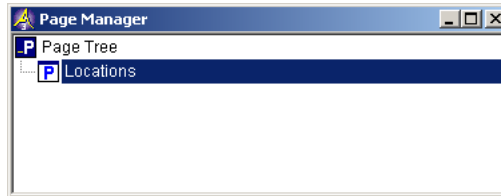



Figure 10.2: A **Page Manager** with one page


You have already created a new page in Chapter ??:

Creating a new page

- ▶ press the **New Page**  on the toolbar to create a new page, or alternatively press the *Insert* key,
- ▶ specify 'Contents' as the name of this new page, and
- ▶ press the *Enter* key to register the page.

To create a child page of the *Contents* page you should execute the following steps:

Creating a child page

- ▶ open the *Contents* page by double-clicking on its icon,
- ▶ press the **New Page**  on the toolbar to create a new page,
- ▶ specify 'Production Overview' as the name of this new page, and
- ▶ press the *Enter* key to register the page.

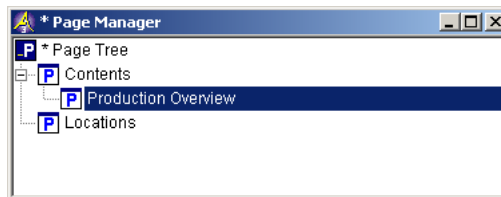


Figure 10.3: The intermediate page tree

You should now complete the structure of the page tree to match Figure 10.4.

Completing the page navigation structure

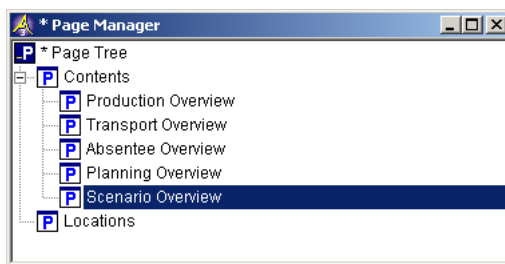



Figure 10.4: The final page navigation structure

The asterisk at the left side of the title bar indicates that changes to your project have not yet been saved to disk. Save your work by pressing the **Save Project** button  on the toolbar, or alternatively, pressing the *Ctrl-S* key combination.

Saving your changes

The intended contents of each of the six pages are described below.

Describing the six pages

- **Contents:** The *Contents* page will be created as a means of navigating to the other pages.
- **Production Overview:** The *Production Overview* page will contain the optimal production levels and maintenance schedule for the current planning interval.
- **Transport Overview:** The *Transport Overview* page will contain the optimal transport values for the factories and centers plus their corresponding stock levels for the current planning interval.
- **Absentee Overview:** The *Absentee Overview* page will provide an interactive facility to specify holidays and vacation periods in a convenient manner.
- **Planning Overview:** The *Planning Overview* page will display the overall production and maintenance planning for the portion of the entire calendar under consideration.
- **Scenario Overview:** The *Scenario Overview* page will display the demand figures for the different scenarios in the database.

10.2 Template management

Using the **Template Manager**, you can ensure that all end-user pages are the same size and possess the same look and feel. You can accomplish this effect by creating so-called page templates, which define page properties and objects common to a group of end-user pages. These page templates can be nested inside the tree of page templates. In addition, you need to position all your

*The AIMMS
Template
Manager*

end-user pages as child pages beneath the page templates so that the objects on the template pages become visible on the end-user pages.

Typical page objects and page properties that are inherited by end-user pages from page templates are:

Common page components

- background color or background bitmap,
- a logo,
- navigation buttons,
- page menubar and toolbar,
- header and footer areas, and
- page size and resize behavior.

In this tutorial exercise, there will be one template for the background color, and one template containing shared navigation buttons.

To create the desired page templates you should first open the **Template Manager** by selecting it from the AIMMS **Tools** menu, or alternatively by pressing the *Alt+F9* key. The initial template tree is shown in Figure 10.5. Note that the initial template tree automatically contains all the pages that you previously created inside the **Page Manager**.


Opening the Template Manager



Figure 10.5: The **Template Manager** with initial template tree


Next, you need to create one page template for the background color and one for the navigation buttons:

Creating two page templates

- ▶ select the root node in the template tree,
- ▶ press the **New Template** button  on the toolbar,
- ▶ specify 'Background Bitmap' as the name of this new template, and
- ▶ press the *Enter* key to register the template.

Position the second page template as a child of the first page template as shown in Figure 10.6:

- ▶ open the *Background Bitmap* template by double-clicking on its icon,

- ▶ press the **New Template** button  on the toolbar,
- ▶ specify 'Navigation Buttons' as the name of this new template, and
- ▶ press the *Enter* key to register the template.

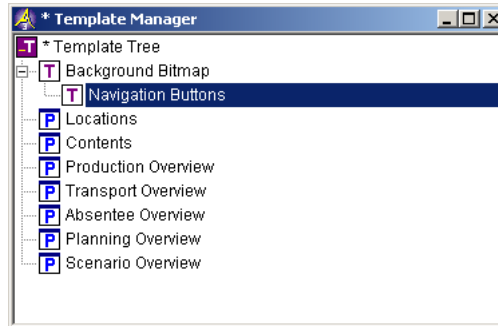


Figure 10.6: The **Template Manager** with intermediate template tree

The six pages created in the **Page Manager** appear automatically in the **Template Manager**. You should move the *Contents* page so that it inherits the bitmap background as indicated in Figure 10.7:

Moving pages underneath templates

- ▶ select the *Contents* page in the template tree, and
- ▶ drag the page to the *Background Bitmap* template.

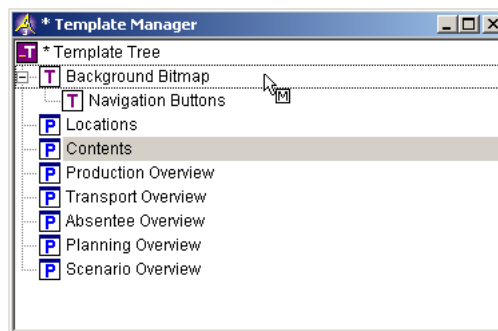


Figure 10.7: The **Template Manager** while moving the *Contents* page

Next, you should move the remaining five overview pages so that they inherit both the bitmap background and the navigation buttons as illustrated in Figure 10.8:

- ▶ open the *Navigation Buttons* template by double-clicking on its icon,
- ▶ select all five overview pages in the template tree using the *Shift* key together with the mouse, and

- ▶ drag the selected pages to below the *Navigation Buttons* template.

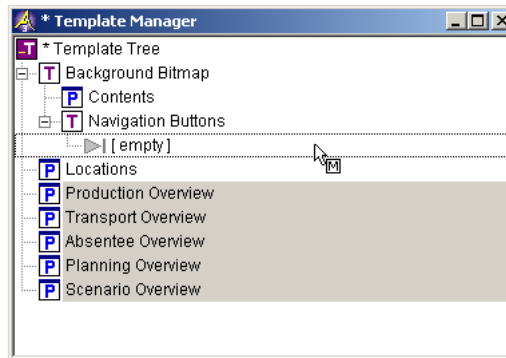


Figure 10.8: The **Template Manager** while moving overview pages

The final template tree should be as shown in Figure 10.9.

Final template tree

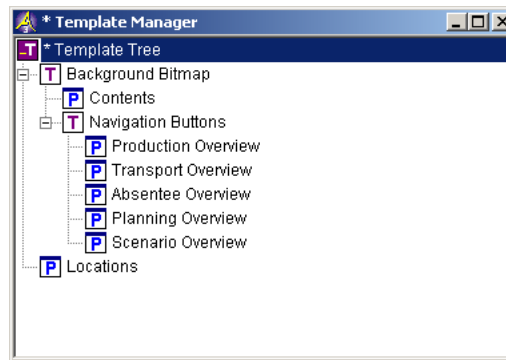




Figure 10.9: The **Template Manager** after moving pages

The *Background Bitmap* template is designed to provide a uniform background for your entire end-user interface. You can specify this template in the following manner:

Background bitmap specification

- ▶ select the *Background Bitmap* template in the template tree,
- ▶ open the template by clicking on the **Open in Edit Mode** button  on the toolbar,
- ▶ select the **Picture** command from the **Object** menu,
- ▶ position the mouse cursor at the upper left corner of the template,
- ▶ depress the left-mouse button and drag the mouse cursor to the lower right corner of the template, and
- ▶ release the mouse button.

At this point you need to complete the **Picture Properties** dialog box:

- ▶ press the **Wizard** button  on the right of the 'File Name' edit field,
- ▶ select the **Select File Name...** command in the right-mouse pop-up menu,
- ▶ select the bitmap file 'Bitmaps\Background.bmp',
- ▶ press the **Open** button,
- ▶ select the 'Fill with Multiple Pictures' display option, and
- ▶ press the **OK** button.

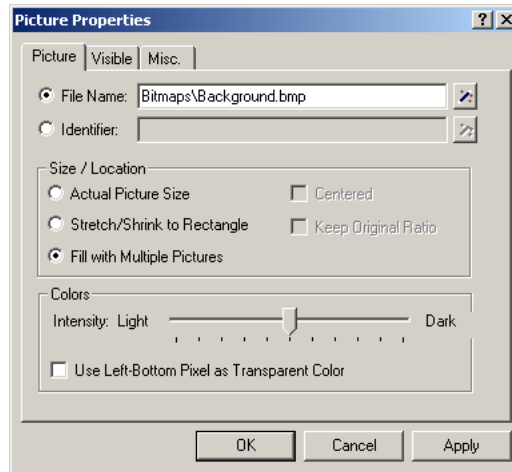


Figure 10.10: The **Picture Properties** dialog box

By selecting the option 'Fill with Multiple Pictures', as shown above in Figure 10.10, you instruct AIMMS to replicate the small bitmap contained in the file 'Background.bmp'. As a result, the entire screen should now be filled with a blue pattern as displayed in Figure 10.11.

Viewing the result

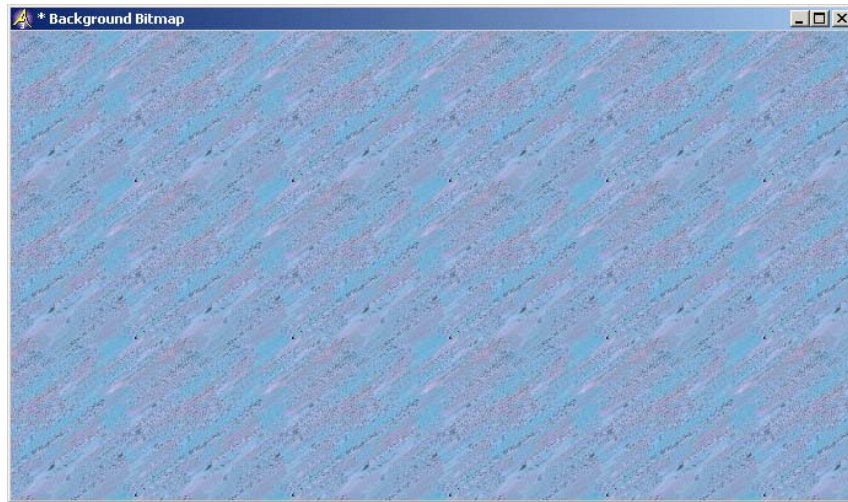



Figure 10.11: The *Background Bitmap* template


The asterisk on the left of the title bar on the template page indicates that additions to your project have not yet been saved to disk. Save your work by pressing the **Save Project** button  on the toolbar.

Saving your changes

You can check whether the *Background Bitmap* template is correctly inherited by performing the following actions:

Verifying template inheritance

- ▶ press the *F9* key to open the **Page Manager**, and
- ▶ open, for instance, the *Production Overview* page by double-clicking on it.

The *Production Overview* page should look the same as the *Background Template* page. Once you have verified this action, you may close this page by clicking the cross  at the upper right corner of the page.


The second template provides a dedicated area with navigation buttons for the overview pages. You will place three buttons for easy access to:

Navigation buttons

- the next page,
- the previous page, and
- the contents page.

To create a button that allows you to go to the next page with a single click, you should perform the following actions:

Creating a 'Next Page' button

- ▶ open the *Navigation Buttons* template in **Edit** mode,
- ▶ press the **New Button** button  on the toolbar,
- ▶ use the mouse to draw a small rectangle at the lower right corner of the page,

- ▶ select the 'Bitmap Button' option in the **Button Properties** dialog box,
- ▶ use the wizard to select the **Select File Name...** command from the right-mouse pop-up menu,
- ▶ select the file 'Bitmaps\Button Next.bmp', and
- ▶ press the **OK** button.

Next, you need to open the **Button Properties** dialog box again and complete the **Actions** tab as shown in Figure 10.12.

- ▶ select the **Actions** tab,
- ▶ select a 'Goto Page' action,
- ▶ press the **Add** button which selects the default 'Go to Previous Page' action,
- ▶ select the 'Next Page' option,
- ▶ press the **Apply** button to get the new 'Go to Next Page' action, and
- ▶ press the **OK** button.

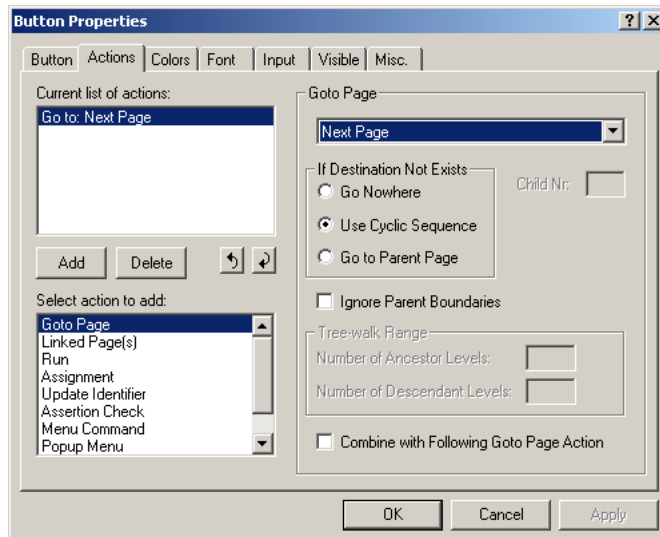




Figure 10.12: The **Button Properties** dialog box

On your screen you should see a button containing a small grey box. By pressing the **Page User Mode** button  on the left of the tool bar, the grey box changes into the bitmap with an arrow pointing to the right. By again pressing the **Page Edit Mode** button  on the left of the tool bar, you are back in object **Edit** mode and can create the remaining two buttons as shown in Figure 10.13.

Inspecting the button

The bitmap on the button with the left arrow corresponds with the bitmap file 'Bitmaps\Button Prev.bmp'. This button reflects the action 'Go to Previous Page'. The remaining button corresponds with the file 'Bitmaps\Button Up.bmp', and reflects the action 'Go to Parent Page'. Again, you can inspect the three buttons by changing into **User** mode as described in the previous paragraph.

Creating the remaining two buttons

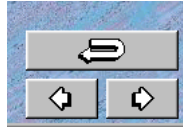


Figure 10.13: The three buttons on their page template


10.3 The Contents page

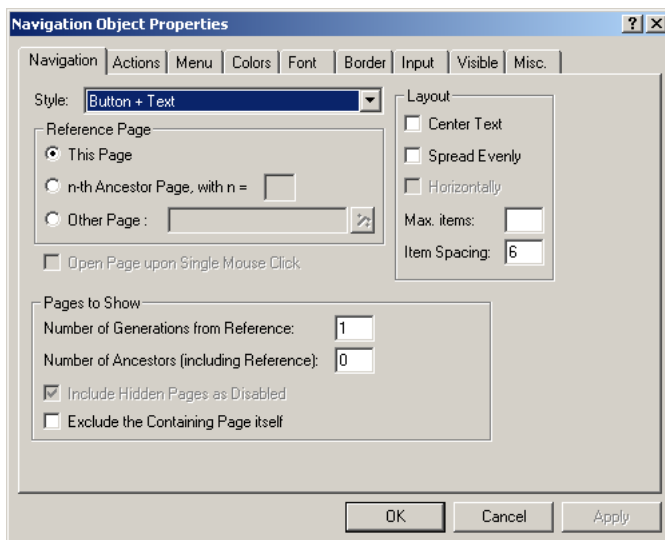
The *Contents* page is the parent page in the hierarchy of pages within the **Page Manager**. From this page you should be able to reference each of the five overview pages. For this purpose, AIMMS provides you with a so-called navigation object. The contents of such a navigation object can change dynamically depending on the page structure in the **Page Manager**.

Referencing the overview pages

To create a new navigation object on the *Contents* page you should perform the following steps:


Creating a navigation object

- ▶ open the *Contents* page,
- ▶ make sure that this page is in **Edit** mode,
- ▶ press the **New Navigation Object** button  on the toolbar,
- ▶ use the mouse to draw a rectangle in the center of the page, and
- ▶ press the **OK** button.

Figure 10.14: The **Navigation Object Properties** dialog box

As you can see in Figure 10.14, the default settings in the **Navigation Object Properties** dialog box are such that only child pages of the current reference page will be shown. By changing the ‘Number of Generations from Reference’ parameter and/or the ‘Number of Ancestors (including Reference)’ parameter, you can adjust the contents of the navigation object.

Default settings

You might have thought that the default font size in the navigation object is rather small. To change the font size you should open the **Navigation Properties** dialog box using either the right-mouse to select **Properties...** command, or clicking on the **Properties** button  on the tool bar. Once you are in the dialog box, you should execute the following steps:

Changing the font

- ▶ select the **Font** tab,
- ▶ press the **Add** button,
- ▶ select ‘**Bold**’ as the ‘Font Style’,
- ▶ select ‘20’ as the ‘Font Size’,
- ▶ press the **OK** button,
- ▶ specify ‘Navigation Object Font’ as the name of the new font, and
- ▶ press the **OK** buttons.

The font selections are shown in Figure 10.15, and they should be visible in the navigation object on your screen.

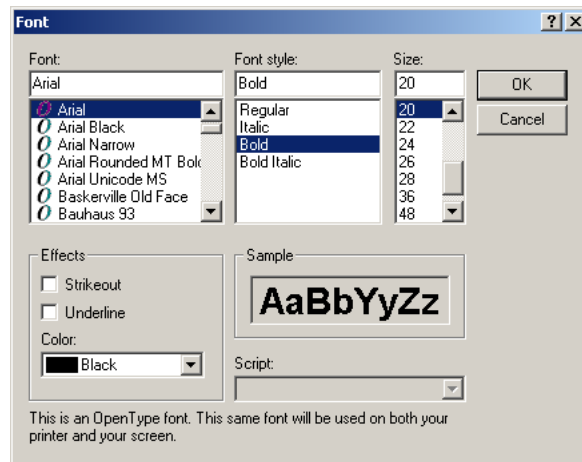
Figure 10.15: The **Font** dialog box

Figure 10.16 indicates how to set the foreground color to navy blue. Please execute the following steps.

Changing the color

- ▶ re-open the **Navigation Properties** dialog box,
- ▶ select the **Colors** tab,
- ▶ select 'Transparent' in the dropdown list of the background color
- ▶ select 'User' as the provider of the foreground color,
- ▶ set the foreground color to navy blue, and
- ▶ press the **OK** button.

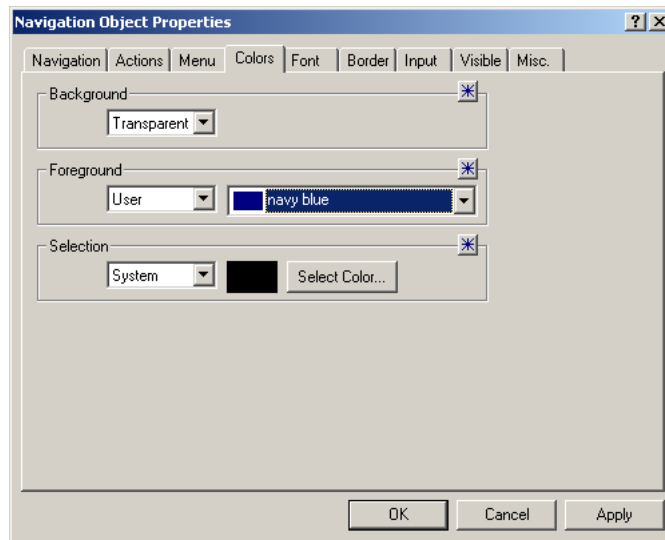



Figure 10.16: The **Colors** tab of the **Navigation Properties** dialog box

In many applications you will want to put a logo on a page. In this tutorial the AIMMS logo will be used by executing the following steps:


Putting a logo on the page

- ▶ open the *Contents* page in edit mode,
- ▶ select the **Picture** command from the **Object** menu,
- ▶ use the mouse to draw a rectangle in the upper right corner of the page,
- ▶ press the **Wizard** button  to the right of the 'File Name' edit field,
- ▶ select the **Select File Name** command from the right-mouse pop-up menu,
- ▶ select the file 'Bitmaps\AIMMS Logo.bmp' in the **Picture Properties** dialog page,
- ▶ press the **Open** button to return to the **Picture Properties** dialog box, and
- ▶ press the **OK** button.

The *Contents* page should now look like the one shown in Figure 10.17.



Figure 10.17: The *Contents* page

Once you have pressed the **Page User Mode** button , you can press any of the five buttons on the *Contents* page. AIMMS will automatically open the corresponding child page. You can then use the 'Previous', 'Next' or 'Up' buttons to navigate to another page.

Testing the initial interface

In AIMMS you can specify a startup page. This page is automatically shown when the underlying application is opened. To make the *Contents* page the default startup page of your application, you should execute the following actions:

Specifying a startup page

- ▶ select the **Project Options** command from the **Settings** menu,
- ▶ set the 'Startup page' as shown in Figure 10.18, and
- ▶ press the **OK** button.

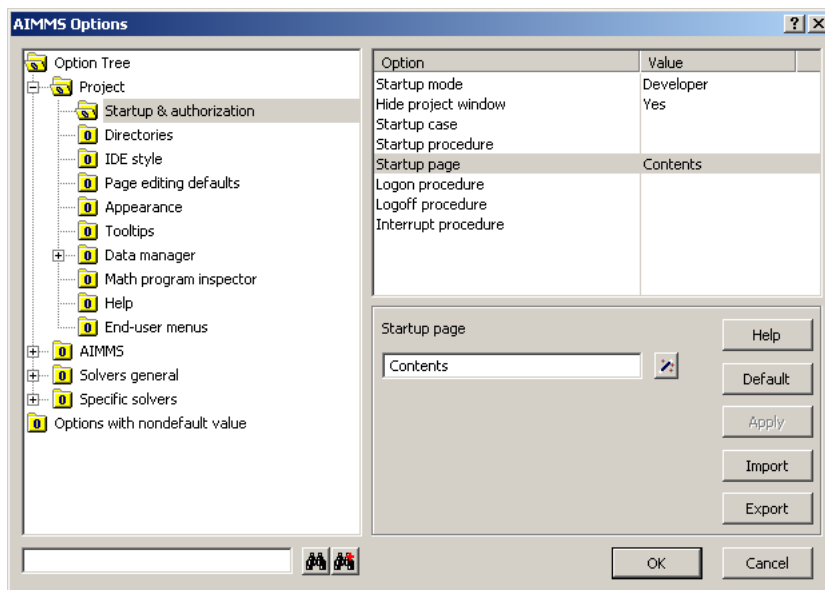



Figure 10.18: The AIMMS Options dialog box

The asterisk at the left of the title bar of the AIMMS window indicates that recent changes to your project have not yet been saved to disk. Save your work by pressing the **Save Project** button  on the toolbar.

Saving your changes

After having saved your project, you can close and subsequently re-open the project to verify that the *Contents* page is displayed automatically. The process of closing and re-opening a project has already been discussed in detail at the end of Chapter ??.

Closing and re-opening the project