Beginning SharePoint® 2007:
Building Team Solutions with MOSS 2007

Chapter 5: Working with Workflow

ISBN-10: 0-470-12449-0
ISBN-13: 978-0-470-12449-9

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Working with Workflow

Most businesses have processes related to specific activities and, typically, the steps of these processes are documented in procedures in a predictable manner. *Workflow* involves the various tasks that employees must complete on a business activity, and these tasks often occur in a specific order. A workflow could be something completely nontechnical, such as washing your car; however, it usually involves some level of interaction with technology mixed with human activity. Workflows in SharePoint generally focus on a specific document or list item. However, it is important to remember that the actual document may be representative of a much larger human-based process such as applying for a job or requesting vacation time.

In the 2003 release, SharePoint did not include an automated workflow engine. For many organizations, this meant purchasing third-party software solutions to get automated business process management. However, in 2007, SharePoint comes with support for automated workflow solutions built upon the *Windows Workflow Foundation*, which is Microsoft's platform for workflow development and tools. Because it is a development platform, it can be extended and customized to meet the needs of most organizations if the available solutions do not.

Because it parallels business processes and natural human activity, workflow is an important part of document management. When used correctly, it can meld automation and tasks that rely heavily on people, allowing your team to track a project's progress and keeping team members informed of their duties. In this chapter, you learn about the various levels of workflow in SharePoint 2007 including:

- A discussion of what workflow is
- The various types of workflow solutions in SharePoint 2007
- A hands-on review of the different workflow templates available in SharePoint Server
- Examples of how to create a custom workflow solution using SharePoint Designer

Types of Workflow Solutions

The expansion of workflow support in SharePoint 2007 based on the Windows Workflow Foundation provides many alternatives for organizations looking to automate business activities and drive processes through use of the SharePoint environment. To best understand how workflow can help your organization, you need to understand some basic concepts. First, you need to understand the differences between a serial and parallel workflow. You also need to understand the three different ways to create a workflow template, which you will use to build your workflow. Finally, you need understand the process behind workflow creation. Before you delve into all of this, the following explains the difference between a serial and parallel workflow:

- A *serial workflow* is one that allows users to participate one at a time. An example of this is an employee requesting vacation leave. The employee submits a request to his or her supervisor. The request is approved and sent to a departmental or human resources manager, and then sent to accounting or the payroll manager. Each step requires some sort of input before the next step can take place, and no steps can be interchanged.
- In a *parallel workflow*, multiple users can participate at the same time with individual steps being less structured and defined. An example of this is a review process where a research and development team creates a report, which is circulated around to all departmental managers for feedback and suggestions. Managers from each division can respond in whatever order they prefer, or choose not to participate. Once research and development receives an adequate amount of feedback, their team updates the report and publishes it.

Understanding the Workflow Templates

In this section, you learn about the various SharePoint workflow templates that you can adapt to your workflow. Note that if your internal processes require a specific set of activities and/or notifications that the SharePoint templates don't support, you can develop a custom workflow template using either SharePoint Designer or Custom Development. You use SharePoint Designer when the workflow centers around a specific list or library, and you do not need to reuse the template for another location. You would consider custom development if the SharePoint Designer templates don't work for you or you want to reuse the template in any list or library.

Microsoft Office SharePoint Templates

One of Microsoft Office SharePoint Server's greatest features is not available in Windows SharePoint Services — a set of workflow templates for team collaboration, content publishing, and document management. You can use these templates to create a workflow and then further customize them to suit your needs. Four templates are usually assigned to a specific document library:

- **Collect Feedback:** For workflows in which you want to receive feedback around specific documents or items. Although you can use this for completed items, its common use is for documents in draft form or projects in progress. This is ideal for draft material, applications, or special requests.
- **Collect Signatures**: For workflows that result in an approval in the form of a signature. This workflow template is designed to allow for electronic signatures in the documents via a compatible Microsoft Office application.
- **Approval:** For workflows that require a review team or manager to review and approve an item or document.
- **Disposition Approval**: For workflows that must determine how or when content will expire.

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Custom List-Based Workflows Created with SharePoint Designer

For situations where you need to create a unique workflow that interacts exclusively with a single list or library and don't want to reuse this template anywhere else, you can use SharePoint Designer. *SharePoint Designer* has an intuitive wizard-type design tool that content owners and web designers use to create multi-step and interactive workflows. An example of such a workflow might be the purchasing process for your organization. You may track all purchase requests via a single list that the purchasing department manages. Using SharePoint Designer, you can create a workflow that features more customizable actions and messages than would be available using a standard SharePoint template. You can add custom messages to send to different users based on the value of a certain column. For example, if the purchase request was for something computer-related, an email might go to the head of the Information Technology group containing details on the type of computer purchase required.

SharePoint Designer is a great tool for extending and customizing the SharePoint environment; however, like any development tool, it should only be used by those with some basic design and development skills, and all custom activities should be planned and approved by business users before implementation. Later in this chapter in the "Custom Workflows with SharePoint Designer" section, you see how to use SharePoint Designer to create a workflow.

Global Workflow Templates Created by Developers

Although the SharePoint templates provide an excellent foundation for most common business activities that organizations conduct, they might not meet your needs. If you want to create additional templates beyond what SharePoint offers, you can do so using development tools and the Windows Workflow Foundation. Unlike the SharePoint Designer workflows that you will create, you can reuse these templates with any list, document library, or content type directly via the interface.

For more information on lists and document libraries, see Chapters 2 and 3. For more information on content types, see Chapter 6.

This book does not cover specific examples on creating custom workflow templates using development techniques with Visual Studio .NET.

Understanding the Workflow Creation Process

Now, you're ready to understand the basic process for creating a workflow. This process involves naming your workflow to distinguish it from other similar workflows created from the same template and associated with the same document library. You then associate your workflow with a list of tasks. Finally, you can view task history to make sure that team members are following through on what they are assigned.

Naming and Creating Workflows

When you add a workflow to a document library, you must give it a name to distinguish it from other workflows created from the same template that are tied to the same document library. For example, you can have two workflows, one for management approval and the other for document approval. The management approval workflow may be a serial workflow assigned to a departmental manager and only required for document types of strategic importance; the document approval workflow may be a simple approval process that requires members of a reviewers' group to sign off on a document before it becomes available to the rest of the team, or the review group may need to sign off on the document so that management can review it. Alternatively, you might have two workflows based on the same template that manage different document updates — one for new documents and one for existing documents that need to be edited.

Creating and Assigning a Task List

Once you have a name, you associate your workflow with a tasks list. This means you can create and assign individual tasks to users so they can complete the steps of a workflow action. To use the management approval process as an example, a division manager would be assigned a task in the tasks list of the site whenever a new document is created. If the task list is configured to send email notifications, she receives an email notifying of the task assignment. She can view task details directly from the email message, review the linked document, and launch her task for updates directly from the email message, as shown in Figure 5-1. If she does not respond to the task when she receives the initial email notification, the task is marked as incomplete on her task list until the approval decision is made.

Figure 5-1

Viewing History and Tracking Progress

You can associate a history list with each workflow process to track the progress of specific activities. You view this history directly from the individual document, as shown in Figure 5-2.

You can view a history for every individual workflow process to which a document is assigned and see a listing of active tasks in addition to specific steps that have been completed on the workflow process to date. This information helps you track the progress of a specific request. Users can add comments throughout the workflow process as part of the history to explain delays or difficulties associated with a specific document.

Using Workflow Templates

To understand how to effectively use SharePoint workflow templates, this section gives you some hands-on experience. Here, you learn about the various SharePoint workflow templates and how to use each one. You create a new team site within an existing corporate intranet site collection based on the collaboration publishing site template. This gives you a location to create and practice the various workflow templates. You create this site as part of the next Try It Out and use it in the rest of the exercises in the chapter.

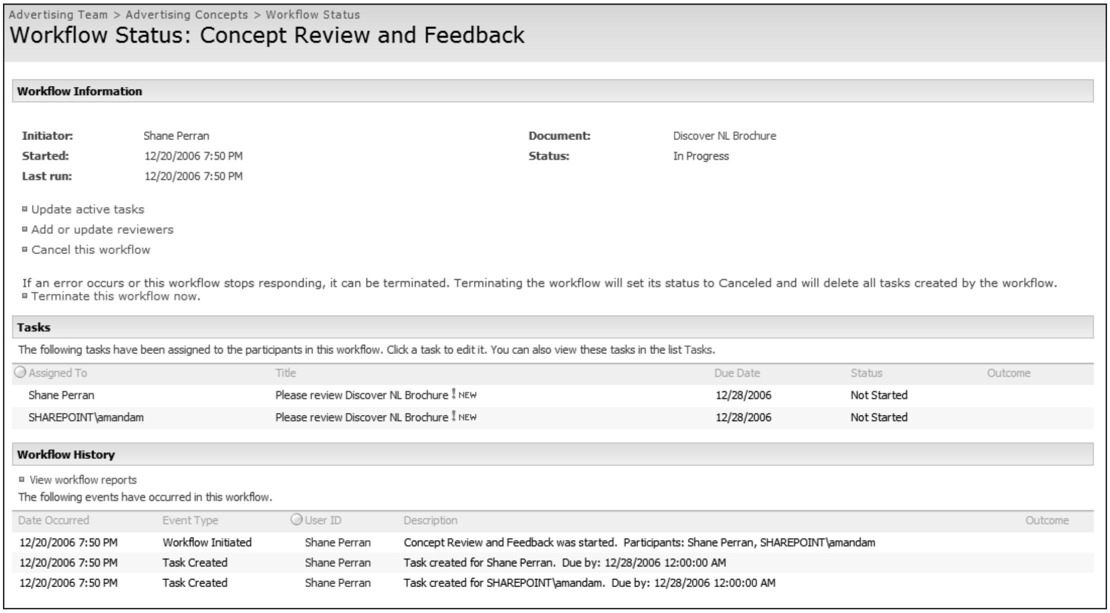

Figure 5-2

Collect Feedback Workflow

At the completion of a project, or when a specific item or document is in the process of being produced, team members may want feedback from other team members or management. For example, an advertising group may be working on a new ad campaign for a travel resort, where it has come up with new concepts for the brochure and print advertising materials. Team members can upload their work to the SharePoint site and submit them for colleagues to review to generate feedback. SharePoint stores all feedback in the workflow history so that the group can update its documents in response to colleagues' edits. But this workflow isn't just for draft materials feedback; it's also useful for document libraries that contain applications or special requests.

The first Try It Out reflects the fact that many materials in the concept stage do not necessarily follow the same goals from start to finish, but instead reshape and reform based on the feedback. Therefore, it is more effective to keep all items in this stage of the process in a single location. In the second Try It Out, you find out how to manually start the workflow process related to a document in a library, which involves assigning tasks and reviewers. After you've launched a workflow, you can still add more reviewers and tasks that you've accidentally overlooked or in cases where a reviewer goes on vacation and you want to reallocate tasks. The third and fourth Try It Outs cover how to add a reviewer to an existing workflow and then how to reassign an existing workflow task to another user.

Try It Out — Associate a Feedback Workflow Template with a Document Library

In this example, you create a new team site for an advertising department to help facilitate and encourage communication around a new marketing campaign. For the promotional material to be successful, the team needs to examine all possible interpretations the content might have. To help this collaborative feedback process, you associate the workflow template with a document library.

First, you create a new collaborative team site for the advertising team and a new library for storing materials for initial conceptual and pre-release states. You will then enter document library settings to configure your workflow. For example, you will set the workflow to launch upon an author's request. You could select to have the request launch immediately, but in this example, there could be a lag time between the document's submission and review. You also do not specify the reviewers for the document because the document owners may want to specify this information when launching the workflow. You will create this workflow as a parallel workflow because you want to assign multiple people at once to allow document owners to receive feedback from more than one person at a time. You associate the workflow tasks with the default task list so that you can store all tasks for the advertising team in a single list. This cuts down on the number of locations you are required to review and update later in the process. Using views and filters, you can accomplish any additional separation of tasks.

Finally, you will associate a history list with your workflow so you can track all activity related to your document in a single location. This allows team members to view feedback as well as the current status of the material.

1. From your Corporate Intranet site, select Sites from the top navigation menu.

For more on setting up a Corporate Intranet site using a collaboration publishing template, see Chapter 8.

2. Select the Create Site tab. The New SharePoint Site window appears, as shown in Figure 5-3.

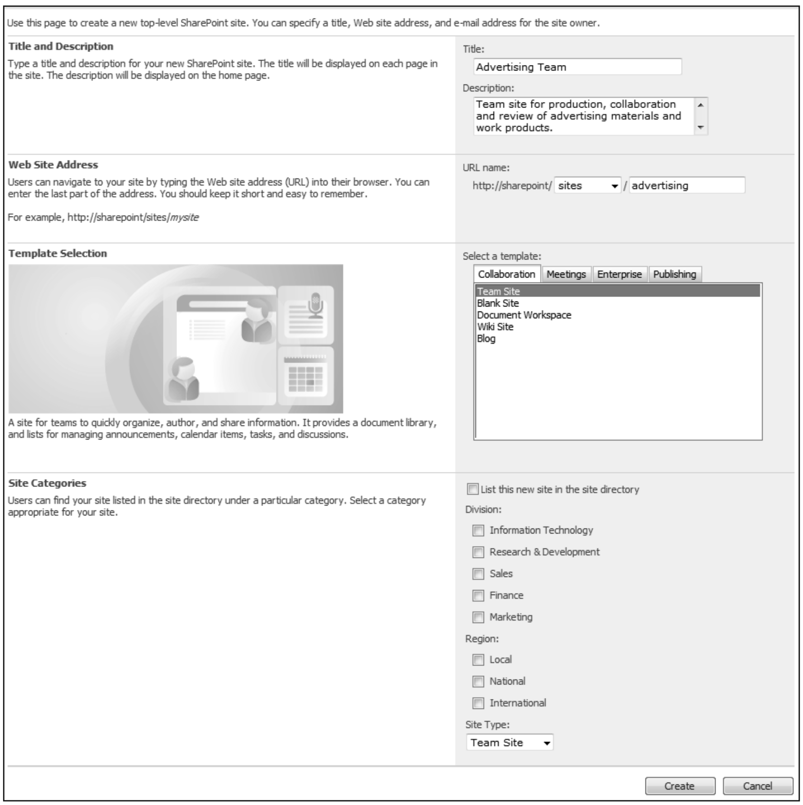

Figure 5-3

3. Type a title and description for the site. For this example, enter **Advertising Team** and for the description enter the following:

> **Team site for production, collaboration, and review of advertising materials and work products.**

4. Enter a URL for the site. For this example, enter **advertising**.
5. Select the Team Site template from the Collaboration tab.
6. Retain all other default settings and click the Create button. Your site is created, and you are redirected to it.
7. Within your new team site, you want to create a new document library for storing advertising materials that are still in the concept stage. Select Create from the Site Actions menu.
8. Select Document Library.
9. For the properties of your document library, specify the following:

Property	Value
Name	Advertising Concepts
Description	Document library for storing in progress concepts and materials related to upcoming campaigns
Display this item in Quick Launch?	Yes
Create a version each time you edit a file in this document library?	Yes
Document Template	Microsoft Office Word document

10. Click the Create button.
11. Select Document Library Settings from the Settings toolbar menu. The Document Library Settings page appears.
12. Select Workflow Settings. The Workflow Settings page appears.
13. Select the Collect Feedback template for the Workflow activity as shown in Figure 5-4.
14. Enter a name for the workflow. For this example, enter **Concept Review and Feedback**.
15. For Task List and History List, retain the default list name settings.
16. For Start Options, select the Allow This Workflow to be Manually Started by an Authenticated User with Edit Items Permissions option.
17. Click the Next button. You are redirected to the next page of the workflow creation process.

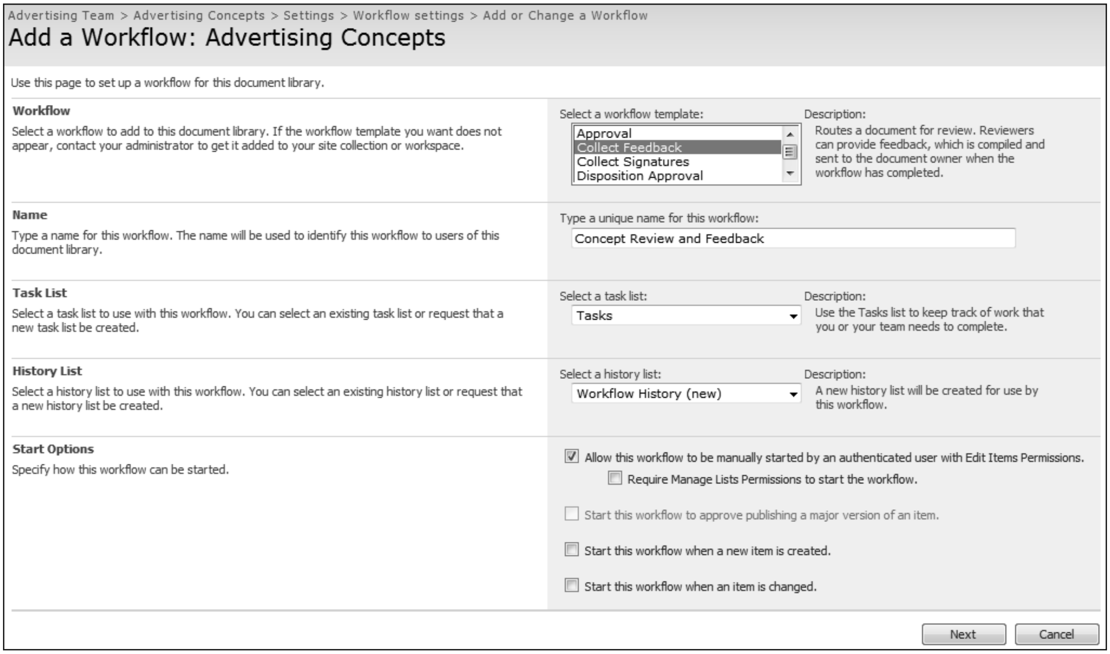

Figure 5-4

18. For the workflow tasks, select to assign tasks to All Participants Simultaneously (Parallel) and retain the selection to allow users to Reassign the Task and Request Changes.

19. Do not specify any names for the Reviewers field.

20. Enter the following for a message:

> **Please review and provide feedback on this document. All comments are welcome and your feedback would be greatly appreciated.**

21. Click the OK button at the bottom of the page to save your workflow settings for the Advertising Concepts library.

Try It Out Launch a Feedback Workflow Instance

In this exercise, you upload new content to the Advertising Concepts document library that you created in the previous Try It Out. This new campaign is for tourists who are considering traveling to Newfoundland and Labrador on Canada’s east coast. You upload a new brochure that the company wants to give to travel agencies throughout the world. The brochure is in the early stages, and your team needs feedback on the layout, text, and images. For this reason, you launch an instance of the Concept Review and Feedback workflow that you created in the last Try It Out. When you created this workflow in the last example, you did not specify the reviewers. This is so that the user launching the workflow could select the reviewers.

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By default, the message related to this workflow process is the same as the one you selected to configure the workflow. You can change this message to suit the specific objective of this review. For example, you can say you're looking for input on the layout of the brochure so that the reviewers know what is required of them.

In this example, you select a due date to receive feedback by a certain deadline. By default, the task list associated with the workflow process sends an email message to reviewers when they are assigned to a task. Setting a due date ensures that the assigned reviewers will receive an email reminder if their task is not marked as complete by the deadline.

1. From the Advertising Concepts document library created in the previous example, select Upload from the toolbar.
2. Browse the location of resources for this chapter that you downloaded from the website and select the "Discover NL Brochure" document for upload.
3. Click the OK button.
4. Hover your cursor over the document in the document library to expose the drop-down menu shown in Figure 5-5.

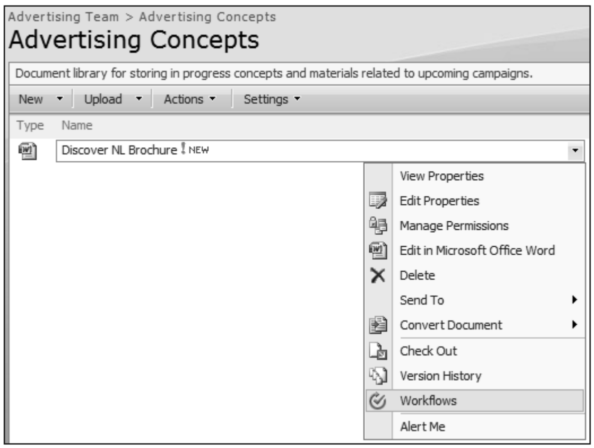

Figure 5-5

5. Select Workflows.
6. Select Concept Review and Feedback from the list of three workflows available from within this library.
7. Enter the names of people who you would like to review the document. Select at least two users. If you do not know the exact names of the users, you can select the Reviews button to perform a search and selection.
8. For Due Date, select a day that is approximately one week from the current date.
9. For the Notify Others field, enter your own name.
10. Click the Start button.
11. Select the Tasks list from the Quick Launch navigation bar.

How It Works

Once you successfully launched the workflow, you can jump to the Tasks list of the site and view individual tasks assigned to each of the reviewers. Reviewers receive tasks and email notifications. In addition, on the due date, you receive an email telling you what team members are assigned to the workflow task with a link to view the current status of the workflow activity. An example of the email message is shown in Figure 5-6.

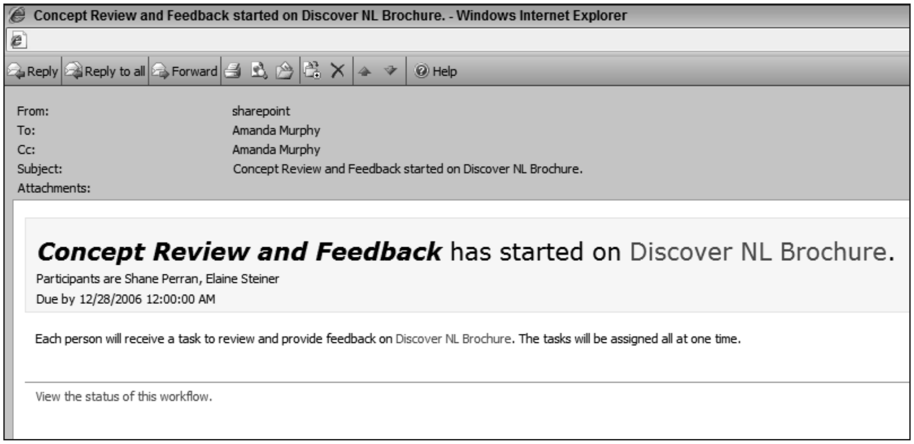

Figure 5-6

Try It Out — Add a Reviewer to an Existing Workflow Activity

In this example, you learn how to add new reviewers to an existing document. To do this, you return to the workflow interface associated with the document. Notice that you can no longer select a new instance of the Concept Review and Feedback workflow process because it is already associated with your document and you can only have one instance of a specific workflow activity running on a document at a time. However, you can launch different workflow activities from the same document while another is running.

Adding a new user is very similar to the process you used for originally setting up the workflow activity. You can either enter the name of the user directly into the field, or you can select the To button to search and select specific users from the server's address book.

As you add a new reviewer to the existing workflow process, note that the due date information is already there. You could set a unique due date for this reviewer; however, you generally keep the existing due date specified for the activity to keep the workflow on the original schedule.

1. From your Advertising Concepts document library, hover you cursor over the Discover NL Brochure that you uploaded in the previous Try It Out, and select Workflows from the drop-down menu.
2. From the running workflows section of the page, select Concept Review and Feedback. The Workflow Status window appears, as shown in Figure 5-7.

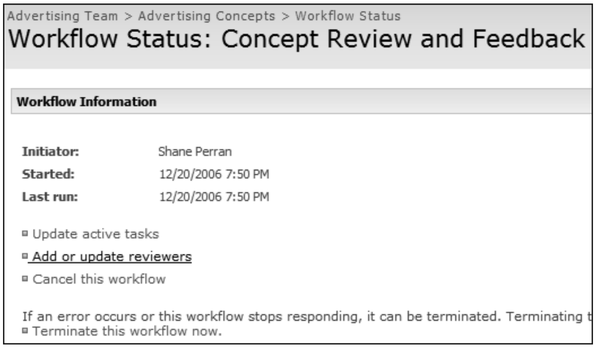

Figure 5-7

3. From the Workflow Information section, select the Add or Update Reviewers link.
4. Enter your own name in the To field so that you can assign yourself as a reviewer of the document.
5. Click the Update button.

How It Works

A new task is created for you in the workflow's task list. An email message is also generated automatically and sent to you to notify you of the new assignment. An example of this message is shown in Figure 5-8.

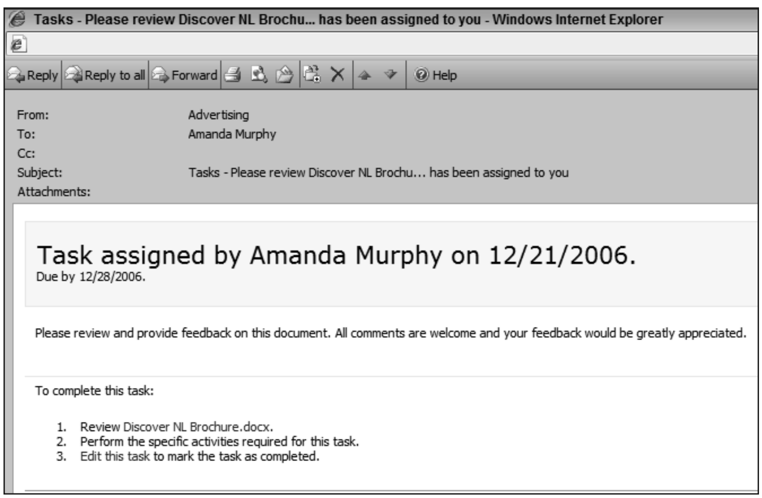

Figure 5-8

From the task assignment notification email, you can click a link to jump directly to the document you have been assigned to review. Alternatively, you can select a link to edit the details of the assigned task.

Try It Out Assign a Workflow Task to Another User

What if, after assigning someone to a task, you must reassign it to someone else? Perhaps you are unqualified to complete the task or maybe you will be out of the office and unable to complete your assignment. The following example illustrates how to reassign a task when you discover that another member of your team is better suited to give feedback on the travel campaign created in the first Try It Out.

By selecting the reassign task link, you can either assign a task back to the workflow owner or another person. You might select the owner when you feel that you cannot complete the assigned task and you do not know who the best person is to suggest. In this case, the owner receives a notification and can ask someone else to complete the task. For this example, you change the task assignment to another person because you have a specific individual in mind to take over responsibility on the task.

To start this process, you use the email message that was generated as a result of the last Try It Out as follows:

1. From the notification email you received related to the task assignment from the previous exercise, click the Edit This Task button from the menu bar. A new window appears.
2. Select the Reassign Task hyperlink at bottom of the page. A window appears, as shown in Figure 5-9.

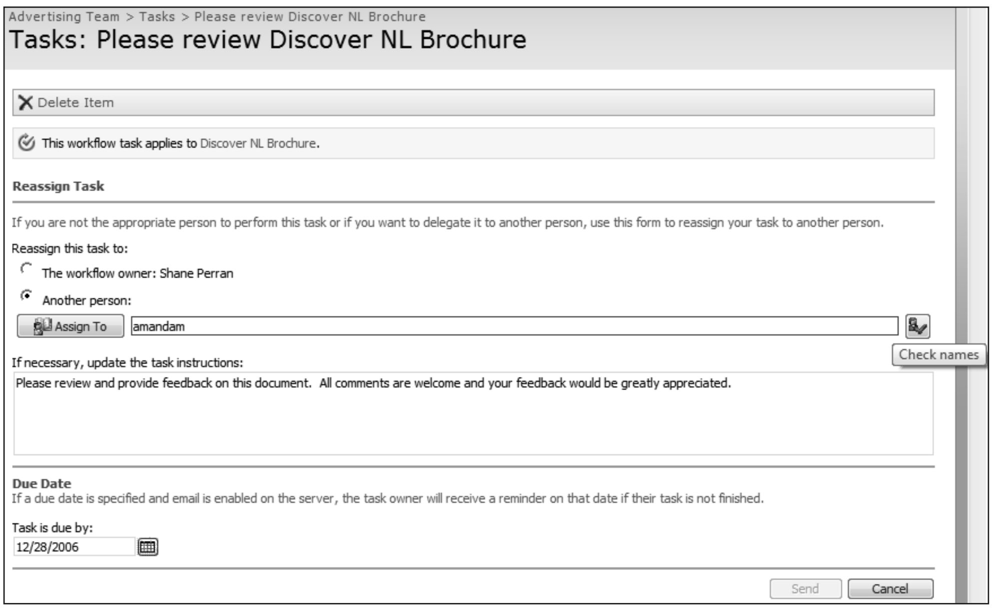

Figure 5-9

3. Click the option that assigns the task to another person, and enter the name of the person to whom you want to assign the task. Click the Check Names button on the right to associate the name you entered with the correct user account.
4. For the task message, change the message to read as follows:

Please review this document and provide feedback by the assigned deadline. Based on your specific experience with this customer, I feel you would be able to provide excellent insight on our approach with this campaign.

5. Click the Send button.

How It Works

After you complete the task reassignment, you should return to the All Items view of the task list. This list now shows that the task is assigned to the new person. In addition, if you return to the Advertising Concepts library and select the Concept Review and Feedback status link associated with the document, you see that the workflow history is updated to display the task delegation along with the reassignment message you had entered. An example of this is shown in Figure 5-10.


Workflow History

View workflow reports

The following events have occurred in this workflow.

Date Occurred	Event Type	User ID	Description	Outcome
4/26/2007 3:46 PM	Workflow Initiated	Amanda Murphy	Concept Review and Feedback was started. Participants: Benjamin Walker, Elaine Steiner	
4/26/2007 3:46 PM	Task Created	Amanda Murphy	Task created for Benjamin Walker. Due by: 5/3/2007 12:00:00 AM	
4/26/2007 3:46 PM	Task Created	Amanda Murphy	Task created for Elaine Steiner. Due by: 5/3/2007 12:00:00 AM	
4/26/2007 3:46 PM	Task Created	Amanda Murphy	Task created for Amanda Murphy. Due by: 5/3/2007 12:00:00 AM	
4/26/2007 3:46 PM	Comment	Amanda Murphy	Participants for Concept Review and Feedback on Discover NL Brochure were updated by Amanda Murphy. New participants: Amanda Murphy	
4/26/2007 3:48 PM	Task Completed	Amanda Murphy	Task assigned to Amanda Murphy was delegated by Amanda Murphy. Comments: Please review this document and provide feedback by the assigned deadline. Based on your specific experience with this customer, I feel you would be able to provide excellent ins...	Delegated by Amanda Murphy to Shane Perran
4/26/2007 3:48 PM	Task Created	Amanda Murphy	Task created for Shane Perran. Due by: 5/3/2007 12:00:00 AM	

Figure 5-10

Collect Signatures Workflow

For legal or internal reasons, you may need to have a person of authority sign off on a document or request. For that reason, SharePoint offers a workflow template to collect signatures that you can launch from within a Microsoft Office client application such as Word, Excel, or PowerPoint. By allowing users to sign the document directly, you maintain the document's integrity and have the benefits of storing the document in the central document management system. In addition, when you use a custom workflow process, you can launch a new activity that can move or send the document to a new location or recipient for further processing.

The fact that this workflow template works only with Microsoft Office applications makes the template different from the other templates in this chapter; you cannot select workflows based on this template from the document's drop-down menu and then initiate a Collect Signatures workflow as you did with the Collect Feedback workflow, nor can you configure a document library to have this workflow initiated automatically whenever someone adds a new document. The workflow instance can only be launched from the Microsoft Office application.

This section has three Try It Outs to familiarize you with the Collect Signatures workflow. In the next Try It Out, you configure a document library for the Collect Signatures workflow so that you can later use it to gather signatures from your advertising account managers for new client agreements generated from the site. In the second Try It Out, you add a signature line to a document template so that a manager can sign off on the document. Once you add a template that supports a handwritten or digital signature to the document library, you can create new documents from that template and launch the workflow process, as illustrated in the final Try It Out. The user can sign the document using Ink. *Ink* is special functionality built in to Microsoft Office applications to support the use of signing, annotating, and drawing with a digital pen such as one that might be used with a Tablet PC.

Try It Out Associate a Collect Signatures Workflow Template with a Document Library

The Collect Signatures workflow template allows certain Microsoft Office applications to accept user signatures in documents that have a signature line. In the next exercise, you modify a Word document template to include a signature line where an Account Manager would sign to accept a client agreement. You then upload this template to the document library so that you can use it in a later example to collect a signature as part of the workflow process.

1. From the home page of the Advertising Team site, select Site Actions ➪ Create.
2. Select Document Library from the Libraries group. You are redirected to the document library creation page.
3. Type the document library name and a description. For this example, type **Client Agreements** for the document library name and enter the following description:

Use this library to create new client agreements based on a standard template and organize existing agreements.

4. Select Yes to display the document library on the Quick Launch navigation bar.
5. Select Yes to create a new version every time you edit the document.
6. For Document Template, select Microsoft Office Word Document from the drop-down. You could also select a different template if you wanted; however, in this example you are working with a Word template.
7. Click the Create button. Your document library is created, and you are redirected to it.
8. Select Settings ➪ Document Library Settings. You are redirected to the Document Library Settings page.
9. Select Workflow Settings from the Permissions and Management options to go to the Add a Workflow window, shown in Figure 5-11.

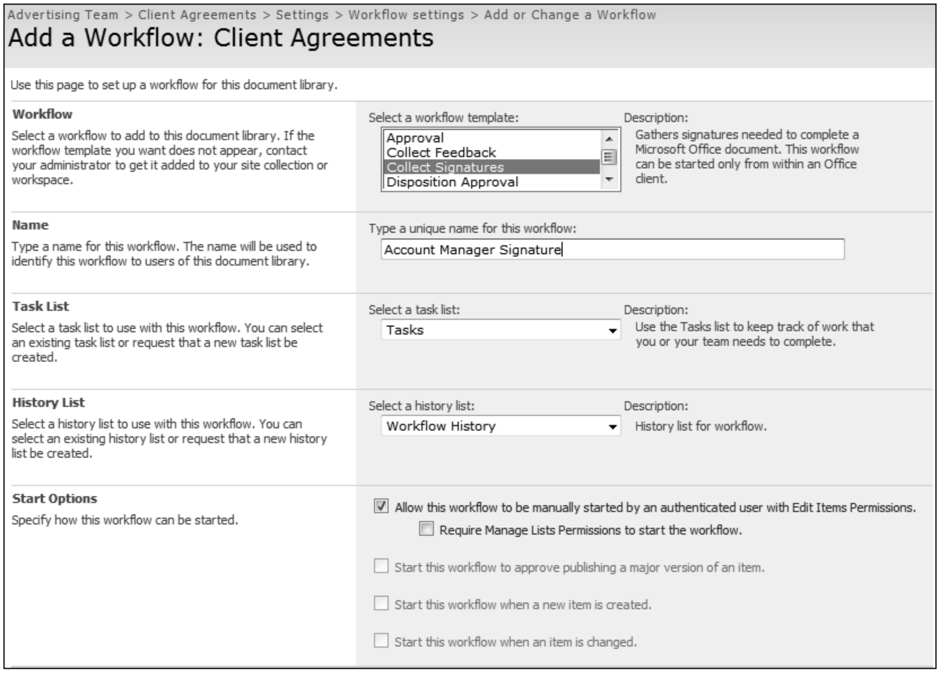

Figure 5-11

10. Select the Collect Signatures workflow template.
11. Enter a workflow name. For this example, enter **Account Manager Signature**.
12. Click the OK button at the bottom of the page to complete the workflow creation process.

Try It Out Add a Signature Line to a Document Template

In this example, you modify a Word document template by inserting a signature line so your Account Manager can sign his signature on client agreements. You then upload this new document template to the Client Agreements document library so that you can have users sign it as part of the Account Manager Signature workflow process that is based upon the Collect Signatures workflow template.

To complete this example, you need the document included as part of this chapter's resources called clientagreement.docx.

1. Open the document stored within this chapter's resources called clientagreement.docx in Microsoft Word 2007.
2. Place the cursor at the very bottom of the document.
3. Select the Insert tab from the Ribbon. A menu appears, as shown in Figure 5-12.

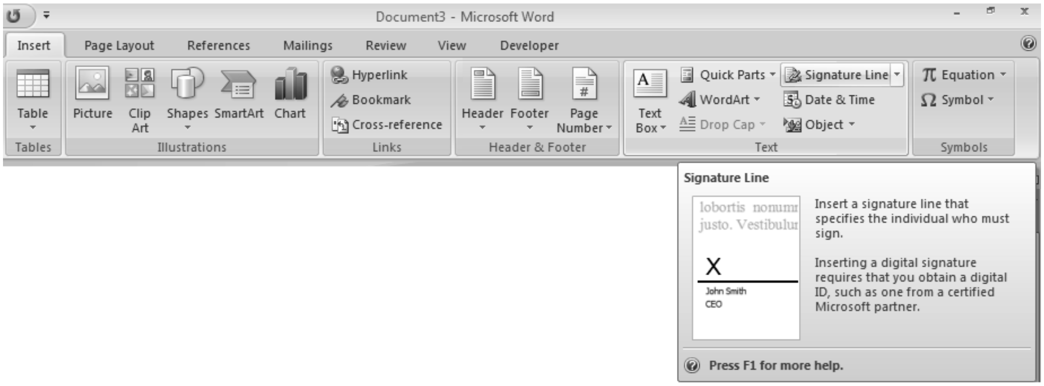

Figure 5-12

4. Select the Signature Line item from the Text group. The Signature Setup dialog box appears, as shown in Figure 5-13. If this is your first time using this option, you may also see a warning window appear before this dialog box. Click OK on the warning window so that you can continue to the Signature Setup window.

Figure 5-13

5. Enter the title of the person who will be providing the signature in the Suggested Signer's Title field. For this example, enter **Account Manager**. You could also optionally prepopulate the name of the person who would be signing the document, which would insert their name underneath the signature line in the document.
6. Select the check box to Allow the Signer to Add Comments in the Sign Dialog box.
7. Check the "Show Sign Date" box.
8. Click the OK button.
9. Save changes to the document.
10. Return to the Client Agreements document library on the Advertising Team site and select Open with Windows Explorer from the Actions menu.
11. Double-click the Forms folder. If you do not see the Forms Folder, you may need to turn on the ability to view Hidden Files and Folders in your Windows Explorer settings.

12. Copy the clientagreement.docx file into the Forms folder.
13. Close the Windows Explorer view window and return to the document library of the Advertising Team site.
14. Select Settings ➪ Document Library Settings.
15. Select Advanced settings. The Document Library Advanced Settings window appears, as shown in Figure 5-14.

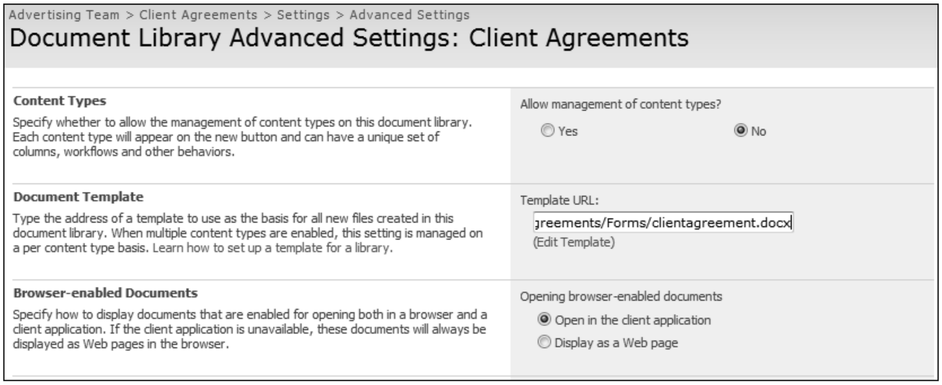

Figure 5-14

16. For Template URL, change the end portion of the URL from template.dotx to clientagreement.docx.
17. Click the OK button. You have now changed the document template associated with your library to your custom signature template.

Try It Out Launch a Collect Signatures Workflow from a Document

In this example, you create a new document based upon the custom client agreement template you created in the last Try It Out. As the person responsible for the users' SharePoint experiences, it's effective and timesaving to associate document templates with libraries that contain the elements that users need so they can focus on creating new content rather than recreating everything from scratch. For this example, having templates that contain the most common and shared elements of a typical agreement allows clients to receive a signed and completed agreement much sooner than if the account manager had to create the agreement from scratch, and eliminates the chances for human error associated with element omissions. Once you save the client agreement and it's ready for signing, you launch the Account Manager Signature workflow process. This opens a new window requesting further information to complete the workflow process, such as who the required signer is.

1. From the toolbar of your Client Agreement document library, click the New button. You may receive a dialog warning box. If so, click the OK button to continue.
2. A new blank client agreement opens for you to complete. Once you have made the desired changes to the document, click the Office button to expose the menu shown in Figure 5-15.

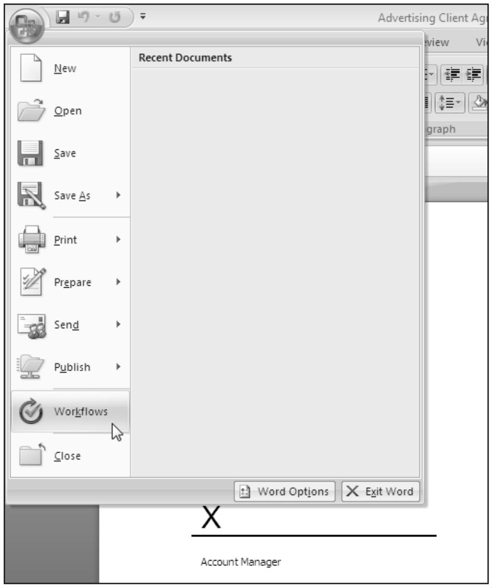

Figure 5-15

3. Select Workflows. You will receive a warning stating that the document must be saved.

If the Workflows option does not appear in the menu as shown in the figure, you may not be using a version of Microsoft Word 2007 that supports this SharePoint integration feature. This feature is only available in Enterprise versions of the application.

4. Click Yes to save the document.
5. Enter the file name for the file. For this example, enter **Client 123456.** Click the Save button.
6. From the listing of available workflow processes, find the Account Manager Signature workflow process and click the Start button.
7. Enter the username of the person that you want to sign the document as shown in Figure 5-16 and click the Start button.

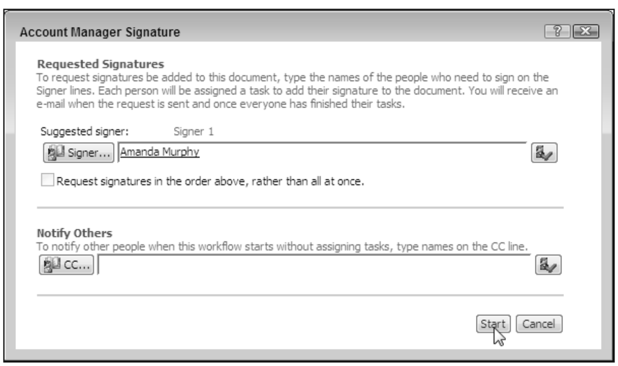

Figure 5-16

How It Works

Once you specify the signers for a document, those users receive an email message requesting their signature on the document. An example of that email message is shown in Figure 5-17.

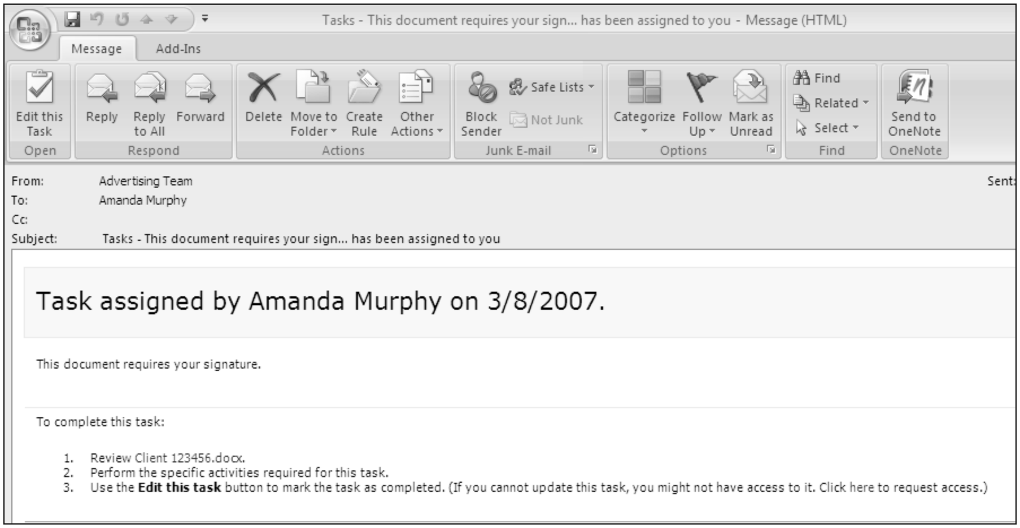

Figure 5-17

In addition, SharePoint creates a task in the central team task list to notify users that their input is required. From either the email message or the task, signers can click a link to open the document and to access a special interface, allowing them to upload an image of their signature or sign the document using Microsoft Office's built-in Ink functionality. An example of this interface is seen in Figure 5-18.

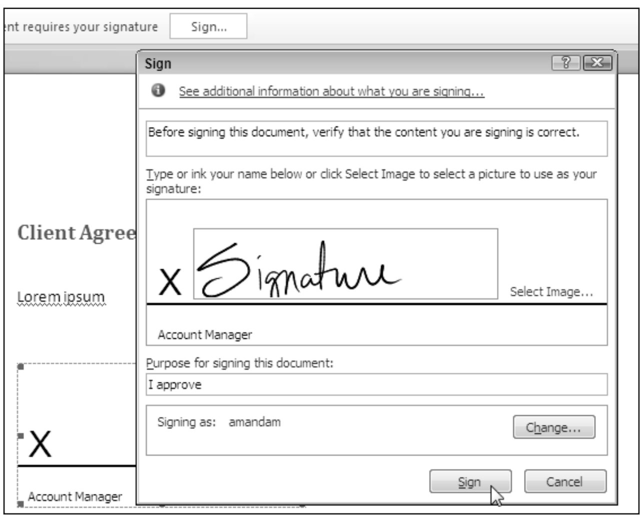

Figure 5-18

Approval Workflow

Commonly, when you collaborate with others on a document, you must obtain approval from other colleagues or a superior, which in SharePoint 2007 means using the Approval workflow. With this workflow, you can assign content to specific team members for review and the document is pending until they approve it. Like the previous workflow templates, the Approval template supports integration with a tasks list as well as Workflow History, and you can make the process either serial or parallel.

This section presents three Try It Outs to explore the Approval workflow. For the first Try It Out, you configure the Client Agreements document library to launch an approval workflow process every time a new agreement is added. New agreements require an Account Manager's approval before they are official or active so that the approver can identify any required change. In the second Try It Out, you see how to handle change requests in the event that your approvers find mistakes or edits on the document under consideration. The final Try It Out shows you how to remove an approval workflow once you decide it is no longer necessary.

Try It Out Associate an Approval Workflow with a Document Library

In this example, you add a new workflow to the Client Agreement document library to track the approval of specific client agreements. You decide whether the process is serial or parallel. For a parallel process, any one member of the approving group can complete the approval process. Alternatively, the document can be approved only after a specific number of members approve it. For example, if you have five managers in the Approvers group, you can designate that you only need three managers to approve the document to complete the process.

For the purposes of this example, you specify that the request for approval be sent to the site's built-in Approvers group — the Account Managers group — but in real life, you can associate the Approvers group with another site group.

1. From the toolbar of the Client Agreements library, select Settings ➪ Document Library Settings.
2. Select Workflow settings from the Permissions and Management options. The Change Workflow Settings window appears, as shown in Figure 5-19.
3. Click the Add a Workflow link. You are redirected to an Add a Workflow page.

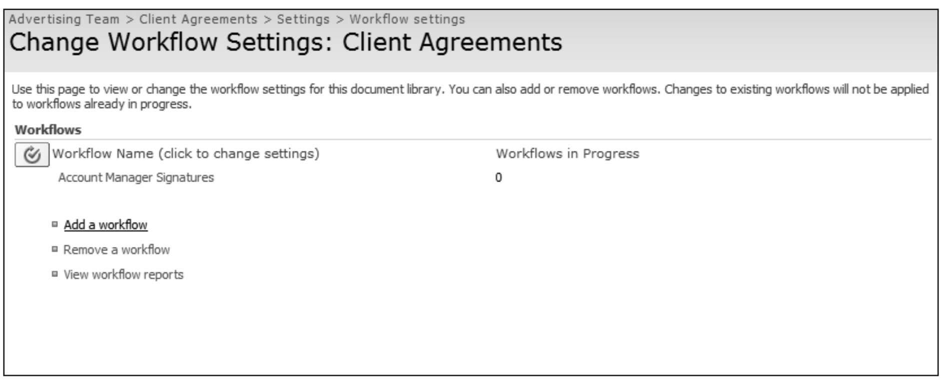

Figure 5-19

4. Select Approval for the workflow template.
5. Enter a unique name of the workflow. For this example, enter **Account Manager Approval**.
6. Select the check box to start this workflow when a new item is created.
7. Click the Next button. You are redirected to a page where additional details are specified related to your new workflow.
8. Select to Assign Tasks to All Participants Simultaneously (Parallel).
9. Keep the check boxes selected to all workflow participants to reassign the task to another person and request a change before completing the task.
10. In the Default Workflow Start Values section, click the Approvers button. The Add Recipients – Webpage Dialog appears, as shown in Figure 5-20.

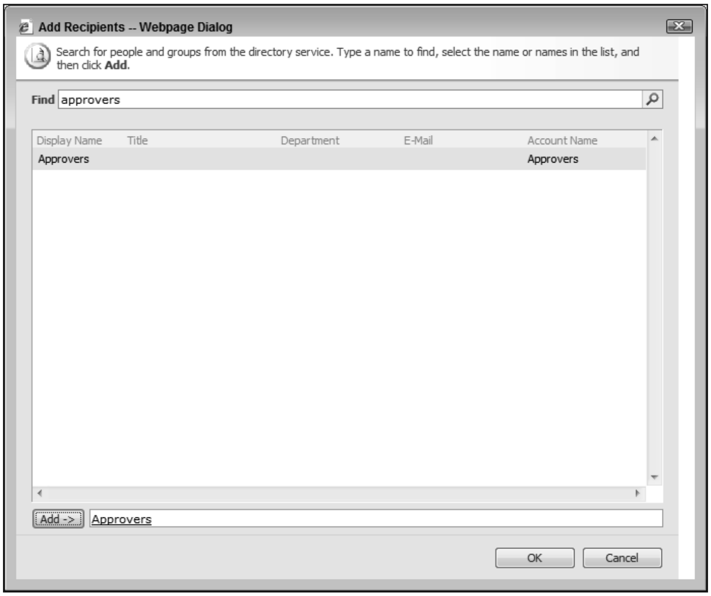

Figure 5-20

11. In the Find Box, search for Approvers.
12. Select the Approvers group that is returned and click the Add button.
13. Click the OK button.
14. Enter the following message to be included with each request:

Please review and approve this new client agreement.

15. Click the OK button.

Try It Out — Request a Change in an Active Workflow

Commonly, for a document to be approved, you need to correct errors, typos, or generally edit the material. For this reason, SharePoint supports changes you make to your active approval workflow. In this example, an account manager notices a spelling error in a customer's name. The incorrect spelling would make the client agreement invalid or offend the customer.

1. From the Client Agreements document library, click the New button.
2. Save the document as **Client 123457.docx**.
3. Close the document.
4. Click the Tasks link in the Quick Launch navigation bar. The Tasks list appears, as shown in Figure 5-21.

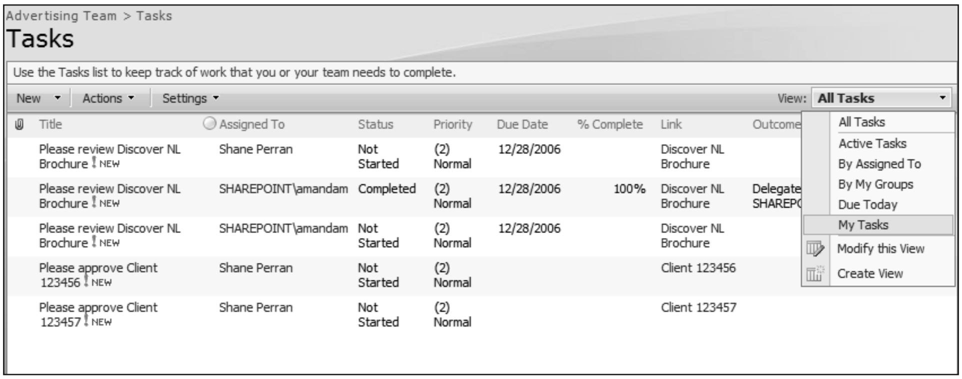

Figure 5-21

5. Change the view of the Tasks list to My Tasks.
6. Select the Task named "Please approve Client 123457."
7. Select the Request a Change link. The task's Request a Change window appears, as shown in Figure 5-22.
8. In the Type Your Request text box, enter a description of your request. For this example, enter the following:

> **The client's name is spelled incorrectly. Please verify correct spelling of name and resubmit for approval.**

9. Set the due date to be one day from the current date.
10. Click the Send button.
11. Select the new task created called "A change has been requested on Client 123457."

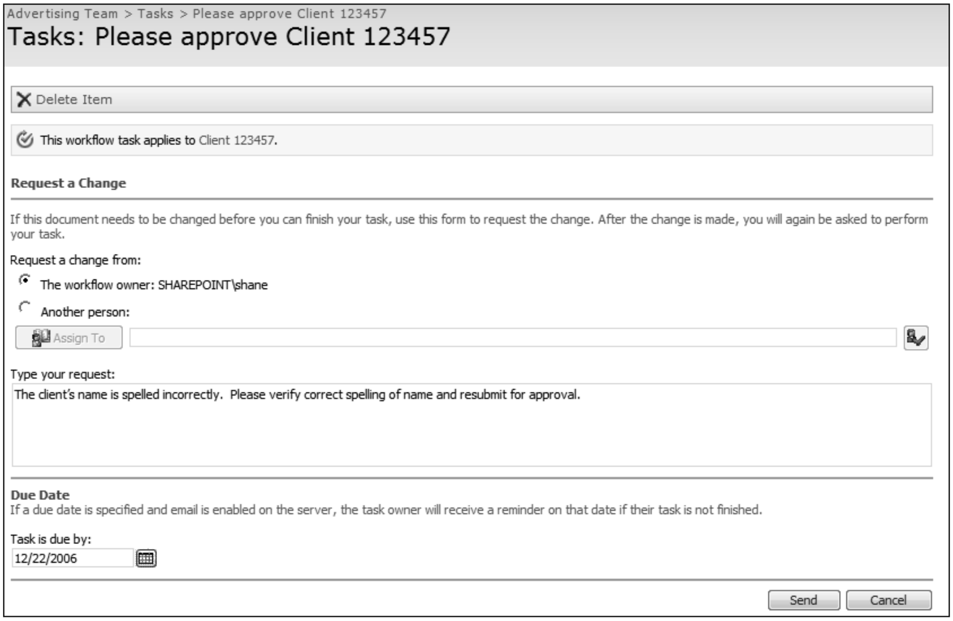

Figure 5-22

12. Enter the following for a response:

This has been resolved. Sorry for mistake.

13. Click the Send Response button.

How It Works

When a change was requested, the original task that was created for the approver was marked as complete and a new task was created for the document's author. Once the author makes the requested change and marks the task as complete, the workflow engine reinitiates the original approval request and creates a new task for the approver to either approve or reject. SharePoint automatically delegates tasks to ensure that no items "slip through the cracks" and that people are continuously aware of what actions are required of them.

Try It Out Remove a Workflow from a Library

In some cases, after adding a workflow process to a library, list, or content type, you may later decide that it isn't necessary. In an earlier Try It Out in this section, you associated a Collect Signatures workflow process and an approval workflow process with our Client Agreements document library, but you now discover that because the account managers essentially approved the client agreement by signing it, the workflow for approving the document within the library is no longer necessary, so you need to remove this process.

1. From the Client Agreements library toolbar, select Settings ➪ Document Library Settings. You are redirected to the Document Library Settings page.
2. Select Workflow Settings from the Permissions and Management options. You are redirected to the workflow settings page for the Client Agreements library.
3. Select the Remove a Workflow link. The Remove Workflows window appears as shown in Figure 5-23.
4. For the Account Manager Approval workflow, select the Remove option.

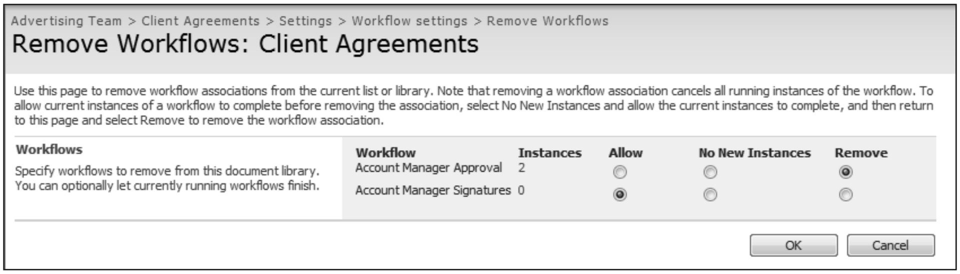

Figure 5-23

5. Click the OK button. Your workflow is permanently removed from the document library. If you decide later that you want to use the workflow again, you must recreate it.

Translation Management Workflow

The *translation management library* is a special workflow template for managing processes related to the translation of documents and content into other languages. Although you can use SharePoint 2007 to create a portal that supports content in multiple languages using variations, which is something you'll learn about in Chapter 13, many organizations initially create content in a single language and assign it to translators or content specialists to create the information in alternate languages. This process has a series of common steps no matter how the organization operates.

Step	Activity
Step One	The production and development team creates a product specification document in English.
Step Two	Management reviews the document and approves it for release.
Step Three	The English version of the document is published to the portal site.
Step Four	A copy of the document is emailed or delivered to a translator for replication in French.
Step Five	The French version of the document is published to the portal site.

Steps 1 through 3 are very similar to some of the collecting feedback and approval workflow scenarios discussed earlier in this chapter related to collecting feedback or approval related to content with the added process of translating content in another language.

The next three Try It Outs show you how to work with the Translation Management workflow. In the first Try It Out, you create a translation management library so your advertising team can generate advertisements and brochures in multiple languages. The second Try It Out shows you how to configure a translator list so you can translate content from English to Spanish and French. In the third Try It Out, you upload a document and launch the translation management workflow process. This assigns the document to translators, so the content can be converted to Spanish and French.

Try It Out Create a Translation Management Document Library

As you create a new translation management library, you are automatically walked through a series of steps that allow you to configure a property on the Creation page. In the other Try It Outs in this chapter, when you added a workflow to a document library, you had to configure the properties of the workflow as a completely separate step. However, because the translation management library is very much dependent on the workflow template for translation management, you create the library and configure the workflow together.

In the following example, you create new lists to track tasks and the workflow history. In previous workflows, you used a single task and history list to minimize the number of locations storing workflow activities and information, but in this example, because the translation process is completely separate from all other activities taking place on the site, you create a separate task and history list.

To follow the next example, you must use a site template that has the Translation Management feature enabled. The team site for this example should have this feature activated by default. If the site you are using does not have a translation management library option available, you may need to activate the Translation Management Library site feature in the Site Features section of the Site Settings of the site, as shown in Figure 5-24.

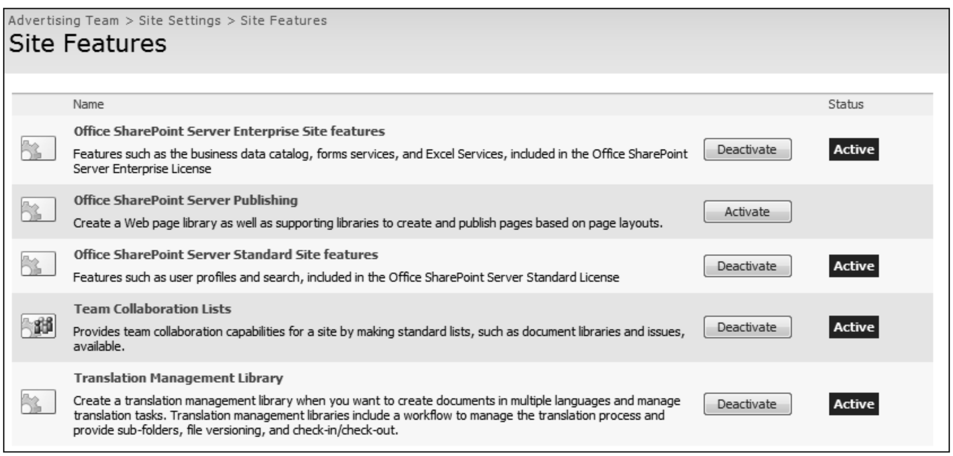

Figure 5-24

1. From the home page of the Advertising Team site, select Site Actions ➪ Create. The Create window appears as shown in Figure 5-25.

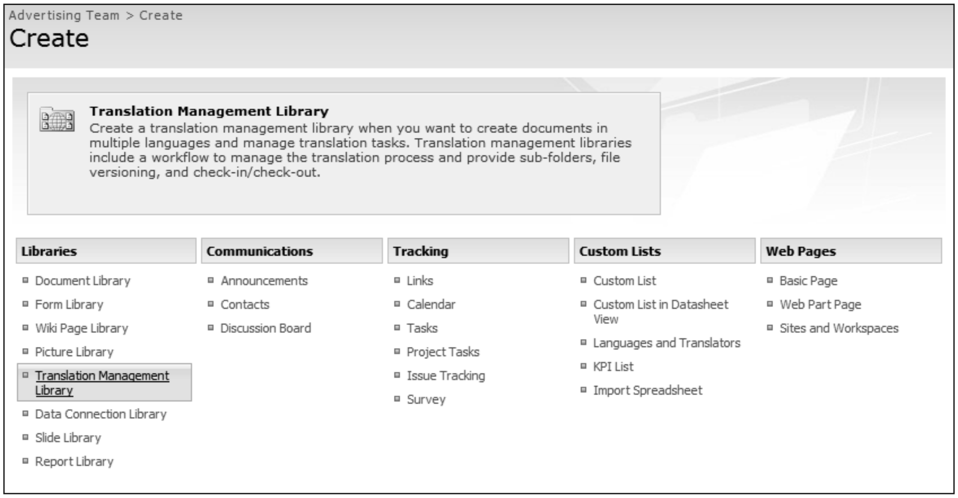

Figure 5-25

2. Select the Translation Management Library link from the Libraries group. You are redirected to the library creation page.
3. Enter **Advertising Materials** for the library name and enter the following for a description:

A location for storing published versions of advertising materials in both English and Spanish languages.

4. Ensure that Yes is selected for the option Add a Translation Management Workflow to this Document Library.
5. Click the Next button. The Add a Workflow window appears, as shown in Figure 5-26.
6. Change the unique name of the workflow to **Advertisement Management**.
7. For the Tasks list, select New Task List from the drop-down menu.
8. For the Workflow History, select New History List from the drop-down menu.
9. Click the Next button. You are redirected to a page requesting additional information for the workflow.
10. Select to create a new list of languages and translators for this workflow.
11. Unselect the check box to open the translators list in a new window.
12. Click the OK button.

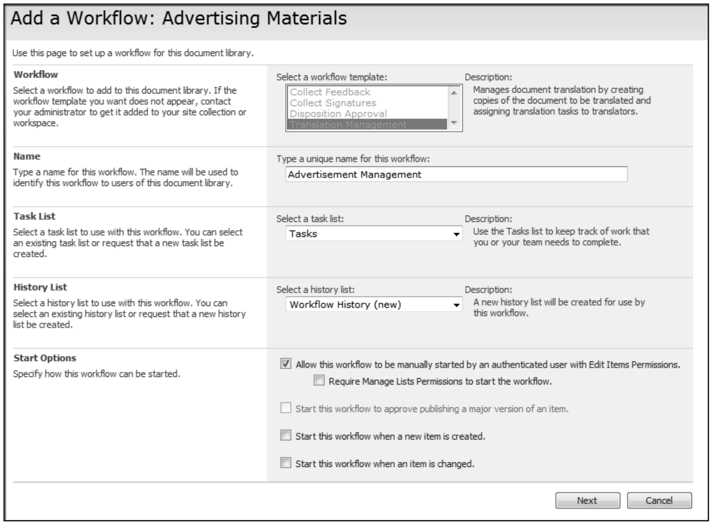

Figure 5-26

Try It Out Configure a List of Translators and Languages

The translator list identifies and tracks the individuals responsible for translating content from one language to another. The workflow process refers to this list when it needs to determine for which user(s) to create the task for translating content from one language to another. For this example, you want to automate the process so that English content can be translated to Spanish and French. You, therefore, create a translator list item for each language to which a document is translated.

1. Select View All Site Content from the Quick Launch navigation bar.
2. Select the Translators list.
3. Click the New button. The Translators: New Item window appears, as shown in Figure 5-27.

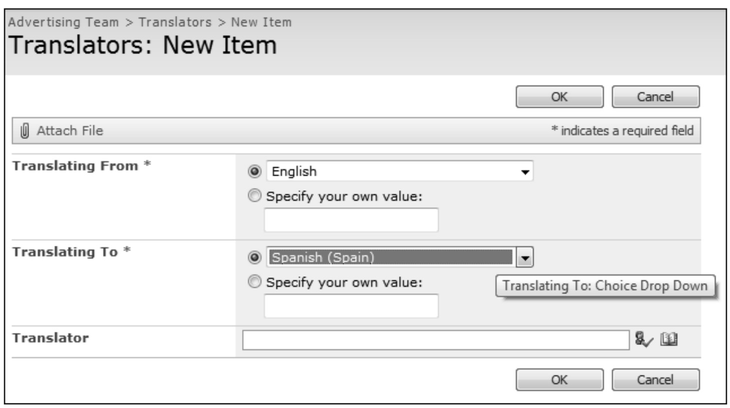

Figure 5-27

4. For the Translating From column, select English.
5. For the Translating To column, select Spanish (Spain).
6. For the Translator, select the name of a user on your site who is responsible for translating the content from English to Spanish.
7. Click the OK button.
8. Repeat steps 3 through 7 for each additional language you wish to translate content for such as French.

Try It Out — Launch a Translation Management Workflow

In this example, you create a new document (an English advertisement for a client) in your document library. The advertisement will run in magazines in North America and, therefore, should be available in English, Spanish, and French. Your team speaks primarily English, so the team creates content in that language first and lets language specialists translate it into the other languages. To do this, you save the document in English. You then launch the workflow process. Two new versions of the document are created — one for French and one for Spanish — and a task is in the Advertisement Translation Tasks list. From this list, the team can assign the translator for each language.

1. From the Advertising Materials document library, click the New button from the toolbar. This launches a new document, as shown in Figure 5-28.

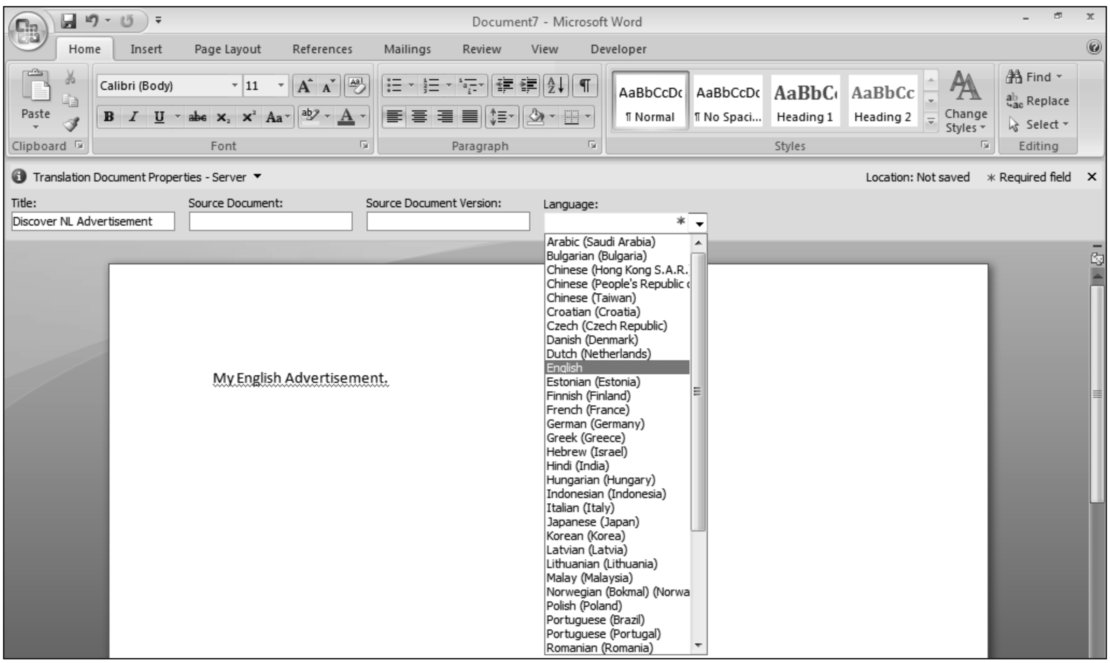

Figure 5-28

2. Enter the following text in the document:

> **My English Advertisement.**

3. In the Document Information Panel, enter a title and select English for the language of the document. This example uses **Discover NL Advertisement** for title.

4. Save the document as **Discover NL Advertisement.docx** and close the document.

5. Hover your cursor over the document and select workflows from the drop-down menu as you did in Figure 5-7.

6. Select the Advertisement Management workflow.

7. For Due Date, select a date that is one week from the current date.

8. Enter the following message to include with your request:

> **Please translate this advertisement into the appropriate language.**

9. Click the Send button.

How It Works

When you return to the Advertisement Materials document library, shown in Figure 5-29, you see three copies of the document. The Translation Status for the French and Spanish versions of the document is automatically set to Not Started. The documents for French and Spanish are copies of the English documents and act as placeholders until they are translated by the assigned translators. You also see that the Advertisement Translation workflow process has a status of In Progress.

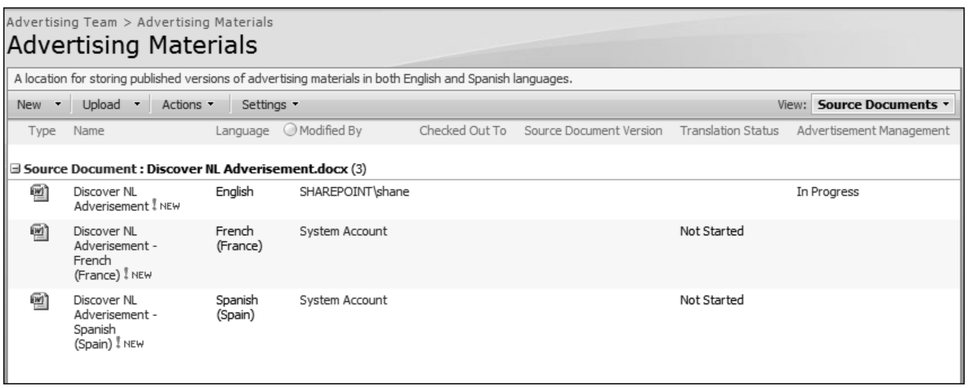

Figure 5-29

Custom Workflows with SharePoint Designer

Although the templates you've seen thus far are quite useful for most processes your organization may have, you may find you need a workflow process that closely matches a unique business activity. You can do this using the SharePoint Designer application. This requires you to download the .NET Framework 3.0 from the Microsoft site. This framework features the Windows Workflow Foundation elements required to create a custom workflow solution.

For example, in the following Try It Out, you find there is no easy way to transition an advertising concept to production material. You therefore need to create a new column in the document library to flag client-approved concepts that are ready to become production material. Rather than create a custom view that flags items, you decide it's easier to copy the documents directly into the document library that stores production materials. From there, you can launch other SharePoint workflow processes, such as translation management.

Try It Out Create a Custom Workflow Solution in SharePoint Designer

For this example, you need to create a process to promote a concept document to a production material. You use SharePoint Designer with its easy-to-use wizard tool to create a custom workflow to first copy the approved concept material from the concept library to the production library, and then notify account managers of the update. SharePoint populates the document's name in the message area of the automatically generated email message. This makes it easier for the account managers to identify what content they need to convert. You can add more lookup fields to include a direct link to the library so users can jump directly to the item from their email message. When you finish creating the workflow, you upload it to the Advertising site and associate it with the Advertising Concept document library. From there, you can run the process by creating a new document, setting the Production material column to Yes and launching the workflow.

1. From the Advertising Concepts document library, choose Settings ➪ Create Column.
2. Enter **Production Material** for the column name.
3. For column type, select Choice.
4. Enter Yes and No as choice values.
5. Select Radio Buttons as the display choice.
6. Set the default value to No.
7. Click the OK button. You are returned to the Advertising Concepts document library.
8. Open SharePoint Designer.
9. Select File ➪ Open Site.
10. Enter the URL of the advertising team site.
11. Select File ➪ New ➪ Workflow as shown in Figure 5-30.

    Note if you do not see the Workflow option in your menu, you may need to download and install the .NET Framework 3.0 from the Microsoft site.

12. Name your workflow **Production Material Promotion**.

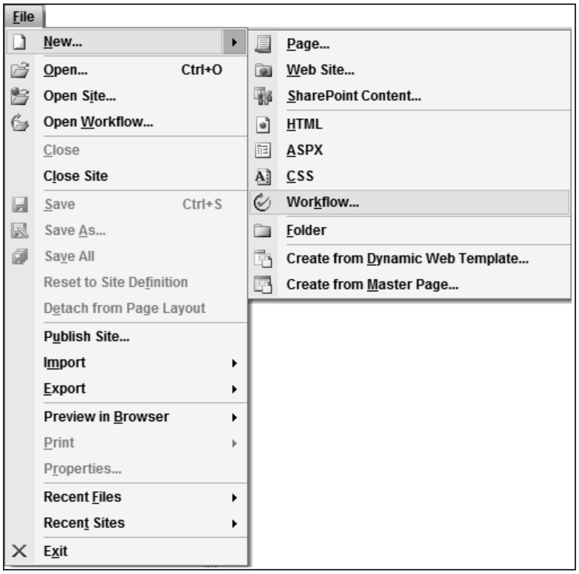

Figure 5-30

13. Select the Advertising Concepts library for the list to which the workflow should be attached.

14. Click the Next button. The Workflow Designer window changes, as shown in Figure 5-31.

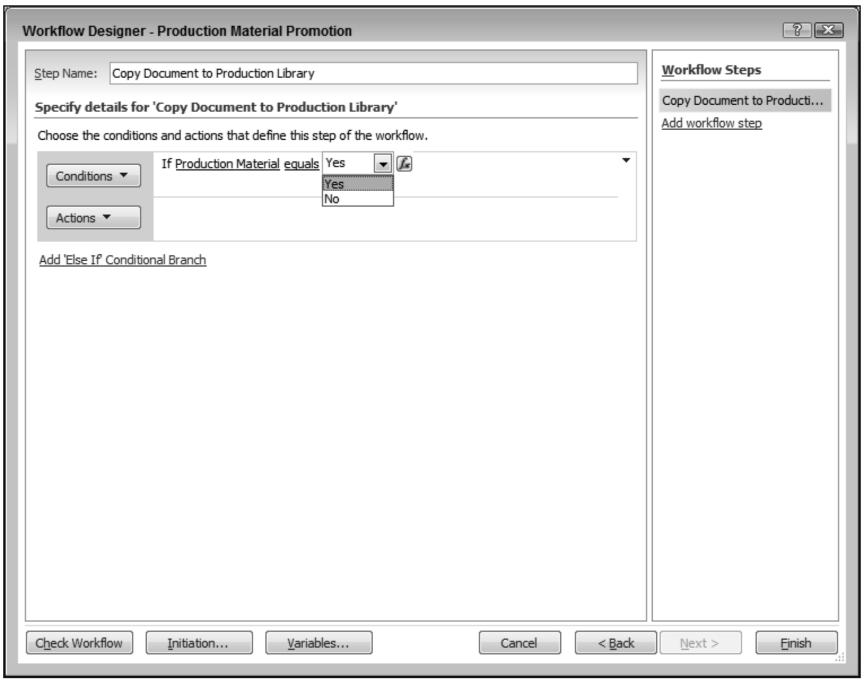

Figure 5-31

15. For Step Name, enter **Copy Document to Production Library**.
16. Select Conditions ➪ Compare Advertising Concepts field.
17. Click the field link and select Production Material.
18. Select the value field as shown in Figure 5-31, and select Yes.
19. Select Actions ➪ Copy List Item.
20. Click the first This List link. Select Current Item as shown in Figure 5-32, and click the OK button.

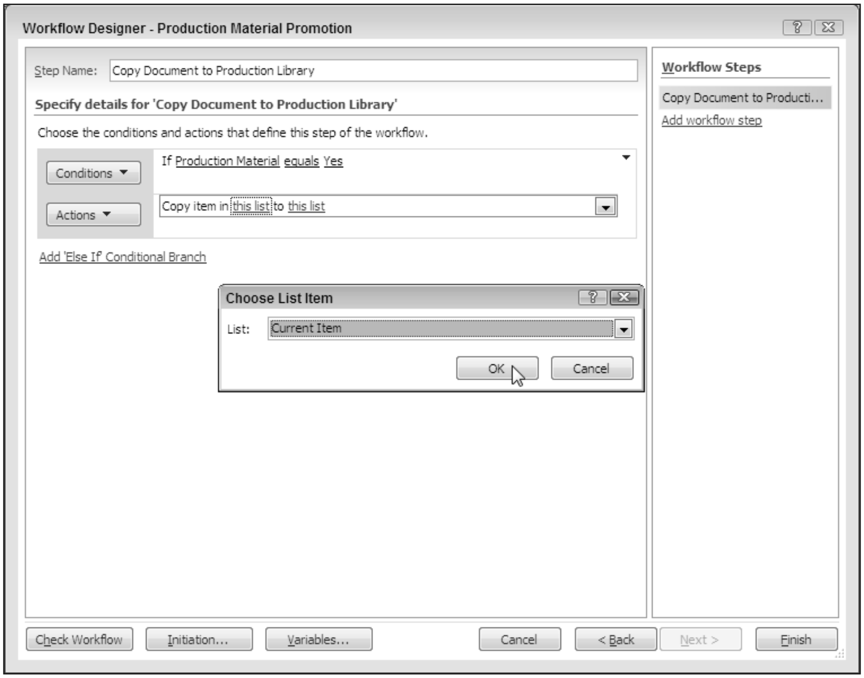

Figure 5-32

21. Click the second This List link. Select the Advertising Materials library.
22. Select the Add Workflow Step link.
23. For Step Name, enter **Notify Account Managers**.
24. From the Actions menu, select Send an Email.
25. Select the This Message link.
26. Click the address book to the right of the To field.
27. Select the Approvers group and click the Add button.
28. Click the OK button.

29. For Subject, enter the following:

```
New Advertising Material Available
```

30. Click in the message body window and select the Add Lookup to Body button.
31. For Source, select Current Item, and for Field select Name.
32. Click the OK button.
33. Enter the following message after the lookup field as shown in Figure 5-33.

Figure 5-33

```
has been added to the Advertising Materials library for your use.
```

34. Click the OK button.
35. Click the Finish button.
36. To test your workflow, create a new document in the Advertising Concepts library and set the Production Material field to Yes. Then from the workflow menu, select the Production Material Promotion workflow and click the Start button.

Summary

In this chapter, you saw how you can support and sometimes automate various business processes using SharePoint 2007's workflow capabilities. You can define workflow as the various tasks, and the order in which those tasks occur, related to a business activity that your team must complete. Although most SharePoint workflows are generally based around specific documents or list items, they can represent much larger human-based processes and actions. After reading this chapter, you should know the following:

- When defining a workflow process, you can select users or groups for specific activities. By doing so, tasks are created for these users.
- Workflow processes can be either serial or parallel. A serial workflow is one that only allows users to participate one at a time, whereas a parallel workflow may involve multiple participants at a given stage in an undefined order.
- SharePoint provides a number of templates that you can configure to suit your company's process and that you can associate with various content elements such as lists and libraries. These workflow processes include common activities related to content approval, feedback, or collecting signatures.
- You can also create custom templates using the Windows Workflow Foundation, Visual Studio 2005, or SharePoint Designer, if you are familiar with these programs. You can only assign workflows you create using SharePoint Designer to a single list or library; other central components, such as content types, which are discussed in the next chapter, cannot leverage them.
- The translation management template assigns and delegates tasks related to translating documents, and you associate this template with a document library. This workflow has a special list called Translators that stores information the system requires to identify for which languages documents should be created and to whom the workflow should assign translation tasks. When you upload a document to a translation management library, you specify a language. When the workflow launches, it copies the source document and creates new versions as placeholders for the translated versions.

This chapter demonstrated just a small amount of what is possible using workflow in SharePoint 2007 by looking at the usage scenarios of a small advertising team. It is recommended that you take some time to familiarize yourself with the various templates and customization alternatives so that you can effectively support your organization's business process management needs.

Exercises

1. What is the difference between an Approval Workflow template and the Collect Signatures workflow template?
2. True or False: You can create a custom workflow in SharePoint Designer for use across all sites in a site collection.
3. Explain the difference between a serial and parallel workflow process.
4. What two lists are required on a site that has workflow enabled on a document library?
5. Explain what happens when a change is requested during an approval workflow activity.

Excerpted from Beginning SharePoint(R) 2007: Building Team Solutions with MOSS 2007
Wrox Press, www.wrox.com