

Eight Steps of Application Development

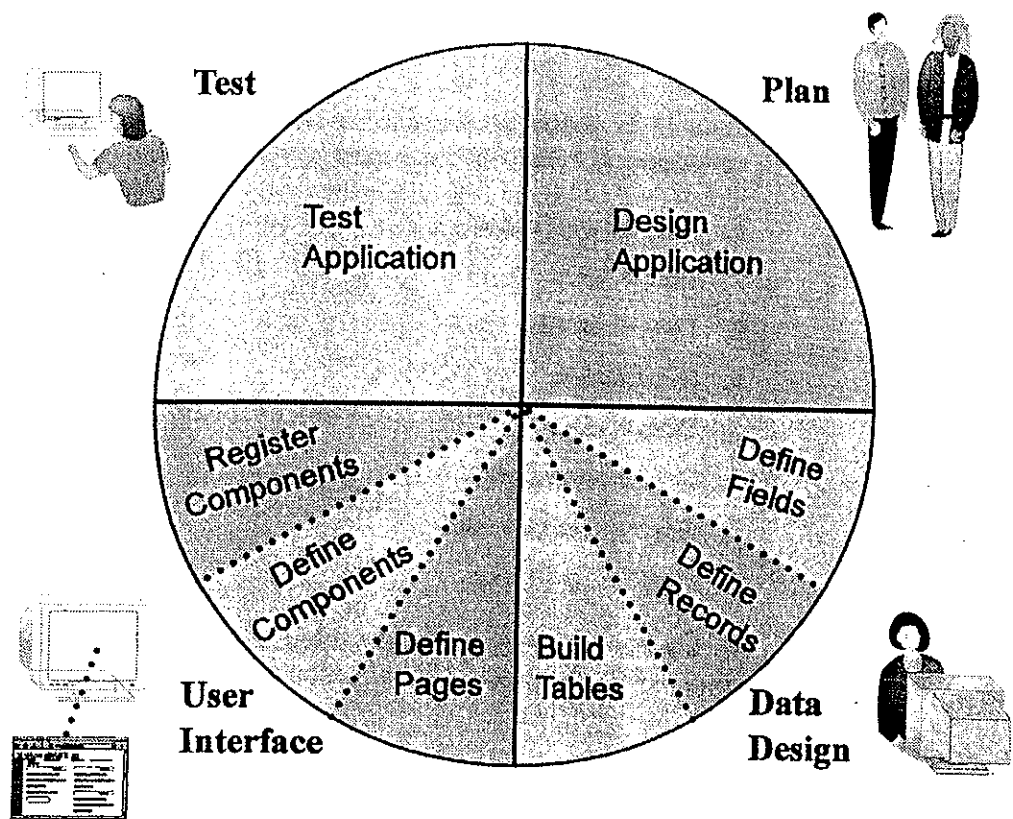
As with any software development, creating or modifying PeopleSoft applications is a cyclical process. We begin with planning and end with testing, and any problems we uncover in testing begin the cycle again.

This section discusses:

- The four phases of application development
- The eight steps of application development

Development Phases

When developing PeopleSoft applications, it is helpful to look at the process as a phased approach. This graphic shows the four phases of development.



Application development phases

The four phases are:

<i>Plan</i>	The first phase of development in any environment is planning. Some will tell you that 80 percent of the effort should be spent planning before taking the first actual development step.
<i>Data Design</i>	In this phase, you lay the foundation for the application by creating the database tables that hold application data.
<i>User Interface</i>	With the database tables in place, the next phase involves creating the user interface that grants access to these tables in an easy-to-use format. With PeopleSoft, this interface is delivered on a browser.
<i>Test</i>	This phase should also be familiar to anyone who has developed in any environment. The surest way to guarantee failure is to roll a product out without first running a thorough, rigorous test.

Development Steps

Some of the phases listed above are divided into several development steps. When developing in PeopleSoft, you must perform the following eight steps in order:

1. Plan the application.
2. Define fields.
3. Define records.
4. Build tables.
5. Define pages.
6. Define components.
7. Register components.
8. Test the application.



In this chapter, we give a brief overview of each development step. The next two days of this class look at each step in detail.



Planning the Application

Planning is the lifeblood of any development project. In PeopleSoft, you need to understand the other seven steps to do a good job of planning, so it will take some time and practice.

When you are through with the planning phase, you will have an ERD of the tables required and the relationships between them, a list required definitions (fields, pages, and so on), complete with detailed specifications and naming conventions, mock-ups of page layouts, and the navigational hierarchy to give users access to any pages you create.

Defining Fields

Field definitions in PeopleSoft are a bit different from other environments. Fields are defined apart from any tables they may belong to, and may be reused in separate database tables.

Field definitions are early in the process because they are the basis for subsequent steps.

Defining Records

Record definitions compile several fields into a single location, organize them by key structure, define prompting options for each field, and may insert code for logic-based operations.

Building Tables

PeopleSoft Application Designer includes a feature that takes record definition properties and creates a database table from them. New developers often miss this step, as they think that a record definition is synonymous with a table. It is not. Unless step four is taken, there is no table in the database to accept application data.

With the conclusion of step four, you have completed the second phase: Data Design.

Defining Pages

This is the first step of the User Interface phase. Page definitions present data to users and enable them to enter data into the application data tables created in the last step.

While pages are presented in HTML to the user, you create them in PeopleSoft Application Designer in a WYSIWYG (What you see is *almost* what you get) format.

Defining Components

Component definitions are the heart of PeopleSoft applications. A component holds one or more pages, which the user navigates between using tabs. The component is also central to navigation and security access.

Understanding component definitions is central to being a successful developer in the PeopleSoft environment.

Registering Components

A provided wizard in PeopleSoft Application Designer registers your components. The Component Registration wizard attaches components to menu definitions, assigns security access for users, and places navigational links in the registry.

The Component Registration wizard is a new feature in PeopleTools 8.4. Once the components are registered, the User Interface phase is complete, and you can view your application in a browser.



In previous releases of PeopleSoft, developers manually attached components to menu definitions, and they then opened the browser to configure security settings. In PeopleTools 8.4, the component has to be entered into the portal registry for navigation. The Component Registration wizard folds all these tasks into a single step.

Testing the Application

The final step is also the final phase of application development. You test all aspects of the application and cycle back through the steps to resolve any issues that arise.

PeopleSoft Application Designer

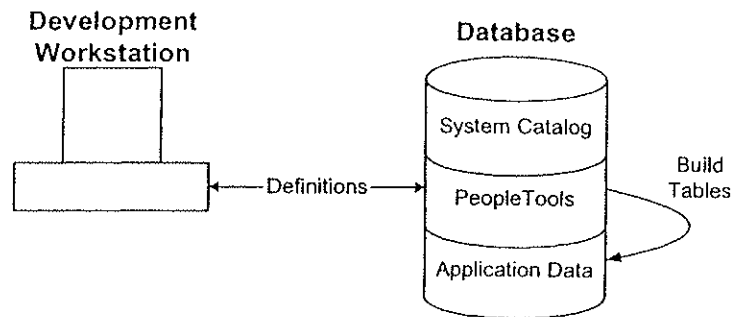
Virtually all application development tasks are performed in PeopleSoft Application Designer. You use it to create PeopleSoft pages that are available over the Internet.

This section discusses:

- PeopleTools definitions and PeopleSoft Application Designer
- Application Designer interface
- Definitions in Application Designer

PeopleTools Definitions and PeopleSoft Application Designer

Earlier we discussed the three types of tables in PeopleSoft application databases, as shown in the following diagram. You use PeopleSoft Application Designer to enter data into PeopleTools tables.



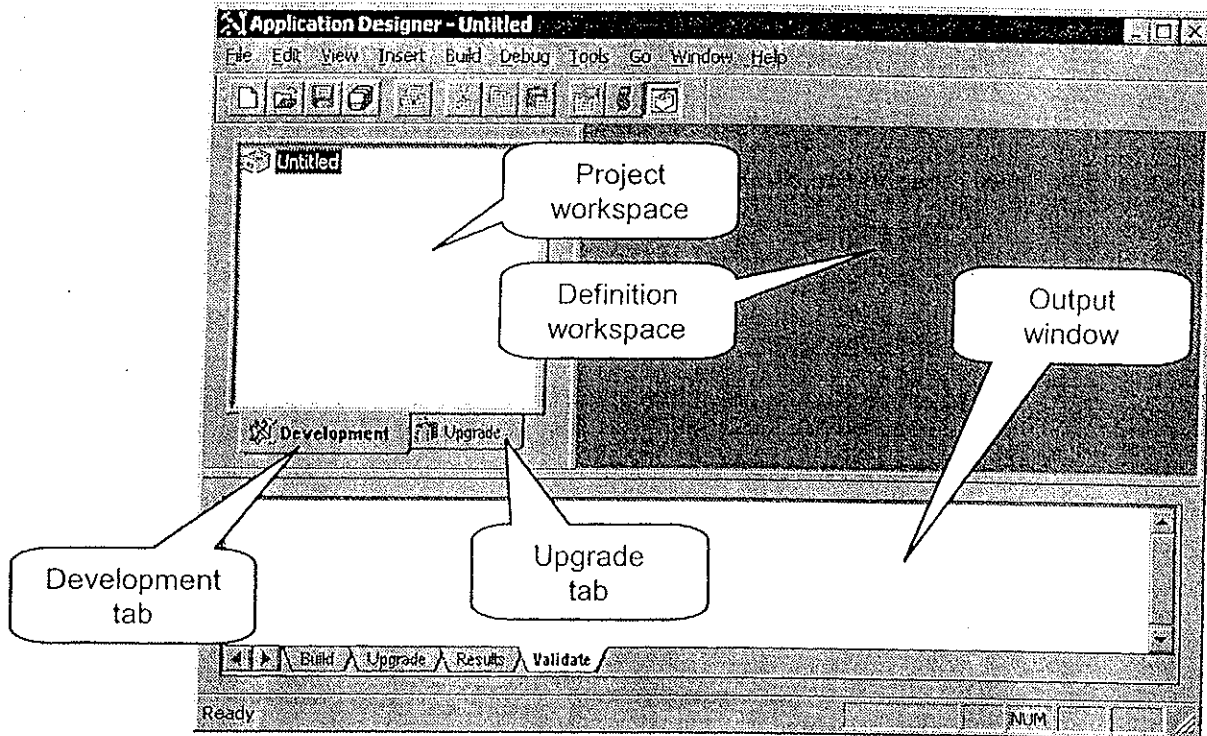
PeopleTools tables

With PeopleSoft Application Designer, you can see and manipulate the data in the PeopleTools tables to define the fields, records, pages, components, and other elements that the system then uses to build the user interface.

PeopleSoft Application Designer is also used to build application data tables based on record definitions.

PeopleSoft Application Designer Interface

Let's open PeopleSoft Application Designer now and look at the user interface.



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|--------------------------|---|
| <i>Project Workspace</i> | Displays a logical grouping of definitions, known as a project. Definitions can be dragged from this area to the object workspace. |
| <i>Object Workspace</i> | Individual definitions of all types appear in this area. |
| <i>Output Window</i> | Displays the results of various Application Designer operations. |
| <i>Development Tab</i> | Development mode is used to create and modify application objects. We use this tab exclusively in this class. |
| <i>Upgrade Tab</i> | Upgrade mode facilitates the grouping of objects for upgrades. Upgrades are covered in other classes, specifically Data Management Tools (DMT). |



In the future, you may find it easier to open PeopleSoft Application Designer with the shortcut on the task bar. The tools icon looks like this: 