

DotNetNuke DNN Development Module CMS Skins Developer

Web application platforms like DotNetNuke (DNN), web portals, have grown in popularity over the years because they do a very good job of solving the problem of basic web application plumbing. Security, user creation and management, forgotten passwords, page layout, backups, and multi-site/single-footprint capabilities are all common among major portal systems.

Web portal systems do all that for you, but that's where they stop. Or rather, that's where you start.

Web application platform and infrastructure is obviously necessary, but businesses need custom solutions for the problems they face. Fortunately, platforms like DotNetNuke make it possible to extend basic functionality by running custom programming within the site pages. You can do this without getting into the core programming of the portal system called modules in DotNetNuke, these self-contained business application components are known by many names in other portal systems: SharePoint calls them Web Parts, Java-based portal servers call them Port lets, and PHP-Nuke calls them blocks.

DotNetNuke allows you to get down to the business of implementing great new web site features without having to worry about the basics of user management, pages, and security. While the process of creating your custom DNN modules isn't difficult it can be hard to get your mind wrapped around how it all works.

- The architecture of DotNetNuke

Now let's first cover a little architecture for DNN. The following diagram is taken from the DotNetNuke documentation. This provides a look into how DNN is architected. First with the ascx controls which provide our user interface. The interface then communicates with the Business Logic Layer (BLL), as in the diagram this BLL is contained with the SurveyDB.vb class, and provides all data for our user interface. Below the BLL we have the Abstract Data Provider, we'll get more into this later, but this class provides an abstraction layer for our application. This provider is not database specific; rather our data provider class will provide methods that override the abstraction class and interaction with our specific database. The abstraction provider in this example is the DataProvider.vb class within the main survey module project. Below the abstraction layer we have our Data Access Layer, this class is specific to a vendor database and is unique based on what database we want our module to interact with. This class is the SQLDataProvider project as in the image above. Finally there is the Microsoft.ApplicationBlocks.Data which provides functions for our specific database interaction, and frees a developer from having to write specific SQL Server code.

Features and Benefits of the DotNetNuke Platform

Installable Graphic Design

Website look and feel on the DotNetNuke platform is achieved by installing a Skin Package. A Skin is a professional graphic design implemented under strict specifications and packaged as a zip file. Any HTML or Flash design can be implemented as a Skin. A new skin can be installed on a DotNetNuke site within minutes. The appearance of the site can be changed dramatically while existing content and application functionality remains unchanged.

Extendable Application Functionality

DotNetNuke is an expandable Web Application Platform. Third party applications and services can be deployed as DotNetNuke Modules. Modules are pieces of code that each present some functionality to the user, like a personnel contacts list, events calendar, or a list of announcements. Installing a module is a simple administrative task and it does not require programming. Once installed, third party modules are visually integrated with the rest of the site because they use the graphic styles of the current Skin. Modules are completely integrated with the site security and internationalization settings. Modules can be easily added, edited, deleted, restored, moved around on a page, or transferred to other pages. DotNetNuke installation includes over 25 modules. A wide variety of modules, with their own purpose and functionality, are available through DotNetNuke community members and many third-party vendors.

Content Management without Programming

Administrators and authorized users can add pages to their site. New pages automatically appear on the site menu and the site map. Look and feel for the new pages is determined by the current Skin. Adding or changing text content can be as easy as copy and paste. Page content and functionality is building by adding and organizing modules on the site pages.

Installable Language Packs

DotNetNuke is fully localized. Built-in multi-language localization features allow administrators worldwide to easily use and adapt DotNetNuke software for their own use. Over 50 installable Language Packs are available through the DotNetNuke community.

Centralized Security

DotNetNuke offers robust features for dealing with the permissions and controlling the tasks a particular user is allow performing. It does this with a roles-based security module, where every page and module in the site is assigned roles that determine what the user is allowed to do. Administrators have the option of setting permissions at several. A user may be allowed access to edit certain modules, or be given access to edit an entire page. This allows very granular control over the actions of the users.

Site Administration

All aspects of the site can be managed through the site settings pages: title of site, search engine description and submission, user welcome messages, logo, background, skins and many other settings can be customized with no programming intervention.

Integrated Error Management and Reporting

Built in logging and error reporting infrastructure makes DotNetNuke portals very manageable and reliable. Administrators can monitor site usage and performance and ensure that third-party or custom modules are well integrated and functional.

File Management

This powerful tool allows administrators the ability to upload files directly from their desktop to their site. Any uploaded file becomes instantly available to be used on the site or listed in a module that handles documents or file downloads.

Recycle Bin

Allows users to restore any content, modules, or pages that have been deleted. The deleted item is restored to the location it was deleted from.

Banner Advertising

Revenue can be generated and managed through the use of banner advertisements. Through the Vendors tab, administrators can easily add vendors and their profile information; upload banners and determine their placement; define number of impressions, cost per impression, or length of ad campaign; track ad views and click-thrus; and define affiliate referrals.

Drag and Drop Functionality

Containers and modules are easily moved within pages by mouse, using drag and drop feature.

About the Author

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