W H I T E P A P E R

idega®

IDEGAWEB EPLATFORM V 3.0

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Introduction

What is ePlatform?

The ePlatform is built from the ground as "one stop shop" web-application and as a result covers the basic needs of most customers for the web. It has an integrated User & Security System, built-in Content Management, Portal Building, Document Management and much more.

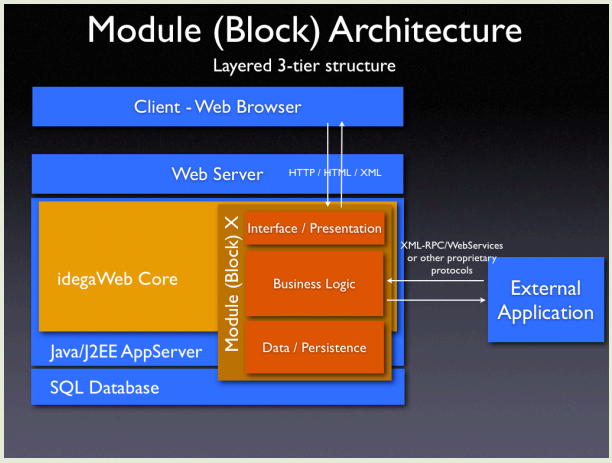
Advantages

The requirements of most organizations today is to have their workflow in a web based system. When they face this challenge many organizations choose to develop their own web-software platform in-house and invent the wheel once one more time. The ePlatform it a base platform that is precisely intended to minimize the need for such elementary programming and provides a rich set of re-useable components that can be customized in a flexible way. Most of these components are also built to comply with industry standards which minimizes vendor lock-in. An example of this is that all the presentational or user interface components in the ePlatform are compatible with the Java Server Faces architecture.

Overview

Architecture

The ePlatform has a very modularized architecture and is actually a package composed of between 20-30 modules. The standard platform package has a standard set of modules such as traditional CMS modules like Text & Images, Articles, Document Management etc. Each module has it's User Interface logic, Business and Data or Persistence logic and the design makes it as easy as possible to install a new module as e.g. the persistence layer objects take care of necessary installation routines like generating the data tables in the SQL database that the module needs to have to store its data.



Architecture of a typical idegaWeb Block.

The main standard Java APIs that the ePlatform builds upon are the Servlets and Java Server Faces APIs and through the latter it also inherits interoperability with the Portlets API. The ePlatform also builds on an EJB (Enterprise Java Beans) compatible architecture for objects in the Business Logic tier and objects in the Persistence tier. This gives the ePlatform a Service Oriented Architecture because the components in the Business Logic tier who are called "Service Beans" are EJB Stateless Session Beans. This compatibility gives the Service Beans the capability to be easily be exposed as RMI objects or SOAP Web Services through the EJB 2.1 architecture.

idega Software has also a collection of modules that can be easily installed to extend the solution. Examples of such modules are Forums, Calendar, Survey, Product Catalogue, Credit Card Payments etc.

idega Software also has made a few "vertical" solutions such as eGov, eGolf, eTravel etc. These solutions have specialized logic for a target market segment and in general those solutions just add a few specialized modules on top of the idegaWeb ePlatform.

Technical Design

ePlatform is from the ground up designed as a Toolkit or API for web application development on top of Java2 Enterprise Edition. For this reason the platform has all the characteristics of a base platform for building new applications with real and complex business logic on top of. The modular design makes it easily extendable by adding or writing new modules from idega or 3rd party developers.

Requirements

The eplatform is a pure Java product so it only needs a Java (1.4+) Virtual Machine and compatible Operating system to run on. It has to date been tested on the Windows, Linux and Mac OS X platforms. The system also needs a J2EE Application Server or a Servlet Container, it has been tested on Apache Tomcat and Oracle Application Server. It also requires an SQL-92 compliant database where its application data is stored. It has to this date been tried in production installations with the following databases: Oracle 9i & 10g, Microsoft SQL Server 2000, Informix Dynamic Server 9 , Firebird (Interbase) 1.0 & 1.5, SapDB 7.3 and MySQL 4.1. There is also support for the embedded Java database engines HSQL and Apache Derby (formerly Cloudscape) for testing purposes.

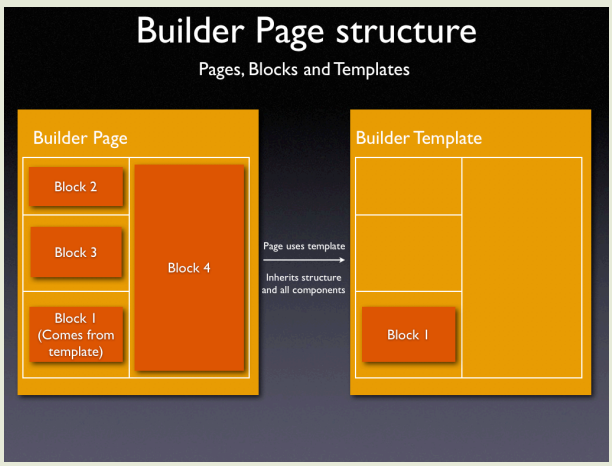
Components

idegaWeb Builder

The Builder is the primary tool for creating and customizing a portal in the idegaWeb ePlatform. Through it the users can get access to all the components installed, create new pages and templates and place the components on these pages and customize their behavior. Layout can be controlled by setting up templates and their structure inherits down to the pages that use these templates.

idegaWeb User

The User system is the standard User system in idegaWeb ePlatform and includes a standard management interface application called UserApplication. This application has tools for creating and manipulating data about users, groups and roles. Groups can be built into a hierarchical organizational tree and the User system can optionally expose this data as an LDAP catalogue. It can also replicate data from external LDAP v3 sources such as an ActiveDirectory.



The structure of Builder pages and templates

idegaWeb Manager

The manager application has support for updating components inside the ePlatform and installing new idegaWeb components. This includes a management user interface that can be operated with minimal knowledge about how the components are deployed within the J2EE Application Server.

idegaWeb Blocks

The modules that can plug into the ePlatform are called Blocks. There are some Blocks included by standard in the ePlatform package but idega Software has also a collection of ready made Blocks that can be installed and used without any programming knowledge. Examples of available blocks are: Forums, Polls, Calendar, Quote, Advertising Banner, Report Generator etc.

General Features

Security

The platform has built in security in different parts of the system. The document system is fully access controllable like a conventional filesystem in an Operating System and even more so. It is controllable by user, group, role and this data comes from the standard User system. The User system in itself is also access controllable so that e.g. certain groups can be managed by other users, groups or roles.

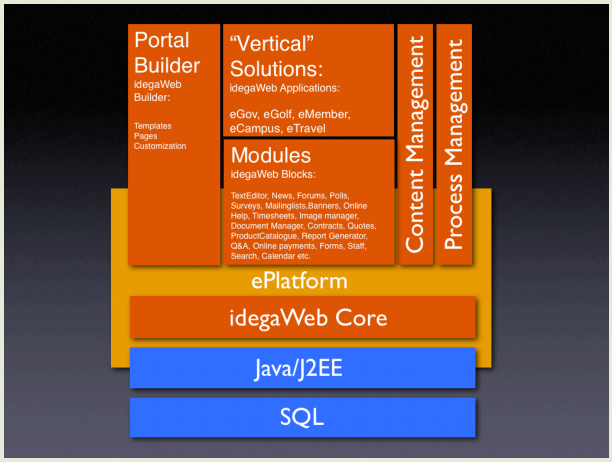


Diagram of the most important components of the idegaWeb ePlatform.

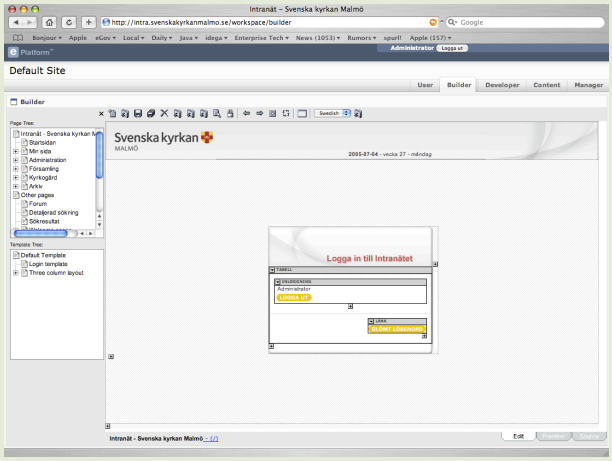
Document Management

idega Software embeds the Open Source document management system Apache Slide. It has features such as version control of documents, support for tagging documents with meta data, searching and indexing with a live index of all documents in the system and their content. The system understands and reads the content of the document formats Word,Excel,Powerpoint,PDF,XML & regular text files. All the content in the document repository is in turn stored in the SQL database but can also be configured to store its content in the OS filesystem.

There is also support for WebDAV which is becoming the de-facto standard for document management on the World Wide Web. Most modern Operating Systems today implement the WebDAV standard and e.g. in Microsoft Windows it goes under the name Web-Folders. This standard makes it easier for users to manipulate or add documents than through traditional HTML upload forms, especially large amounts of documents. This can e.g. be achieved by mapping the remote web-server as a virtual hard drive on the client computer.

Content Management

The ePlatform has built in traditional Content management for textual content. This is mainly covered by the modules Text,News and Article. The Article Block is meant to replace the older Text and News blocks and adds features such as version control as it stores its content as xml documents in the document management system. There is a built in visual



Screenshot of the Builder in the new workspace environment which is new in version 3.

xhtml editor based on the HTMLArea project and is supported on Internet Explorer and Mozilla based browsers.

Openness & Interoperability

The openness of the J2EE platform means that the ePlatform inherits the capability to interoperate with the thousands* of off-the -shelf Java solutions available on the market, both commercial and open source offerings. The eplatform also implements support for industry standards such as JSF (Java Server Faces - JSR 127), JSP, Servlets, EJB, XHTML, CSS, WebDAV, SQL and LDAP. These standard technologies are examples of how the solution can be extended or accessed by other systems. There is also a great deal of Open Source products that are embedded seamlessly inside the ePlatform. Examples of this include Apache Myfaces as the JSF implementation, Jakarta Slide as a Document Repository and WebDAV server, Apache Lucene as the search- and indexing engine and Apache Axis as the Web-Services and SOAP implementation.

New and Improved in version 3

Most of the features mentioned above are improved in version 3 such as content- and document management. One other new feature is a new administration environment called “workspace”. In this new interface there is a unified working environment for all idegaWeb applications in one place. This environment is wholly based on Cascading Style Sheets so it may completely be customized to users preferences.

Development Environment

idegaWeb Developer

To develop a component for the ePlatform only the standard Java SDK is needed but idega Software standardizes its development on the Eclipse platform. idega Software has also implemented the Apache Maven build system to build, version control and manage all of its modules. This includes a central repository where code is stored. The easiest and most straight-forward way to for 3rd party developers is therefore to use Eclipse and Maven to develop for the ePlatform. Both are open source and free products. The idegaWeb Developer includes also includes tools for facilitating developers with debugging and working with configuration files in the platform.

Conclusion

idegaWeb ePlatform is a feature-rich platform that gives organizations the opportunity to build new web based applications effectively and enables them to focus on building real-world services instead of writing basic infrastructure code.