

CounterSoft

Gemini Project Issue Tracking

User Guide

Product Version 1.9.1

1. INTRODUCTION.....	6
1.1 KEY FEATURES.....	6
1.2 LICENSING	6
1.2.1 <i>FREE License</i>	6
1.2.2 <i>Commercial License</i>	6
1.2.3 <i>.NET Community Website License</i>	7
1.2.4 <i>Open Source Project License</i>	7
2. INSTALLATION.....	8
2.1 GEMINI REQUIREMENTS	8
2.2 DATABASE SETUP	8
2.3 GEMINI WEB APPLICATION.....	8
2.4 UPGRADING	9
2.4.1 <i>Version 1.9b to Version 1.9.1</i>	9
2.4.2 <i>Version 1.9a to Version 1.9b</i>	9
2.4.3 <i>Version 1.9 to Version 1.9a</i>	9
2.4.4 <i>Version 1.8+ to Version 1.9</i>	10
2.4.5 <i>Version 1.8.1 to Version 1.8.2</i>	11
2.4.6 <i>Version 1.8 to Version 1.8.1</i>	11
2.4.7 <i>Version 1.7 to Version 1.8</i>	12
2.4.8 <i>Version 1.6.3 to Version 1.7</i>	12
2.5 TROUBLESHOOTING.....	13
2.6 IMPORTING ISSUES	13
3. CONFIGURATION	14
3.1 DATABASE CONNECTION STRING	14
3.2 PRODUCT REGISTRATION DETAILS.....	14
3.3 USER REGISTRATION LINK	14
3.4 DATE FORMAT – USER INPUT	14
3.5 DATE FORMAT – DISPLAY	15
3.6 TIME IN WORKING DAY.....	15
3.7 WEB SERVICES ACCESS CODE	15
3.8 VIEW ALL PROJECTS.....	15
3.9 EXCEL CHARACTER SET	16
3.10 ENABLE HTML POSTS	16
3.11 GLOBAL RESOURCE ASSIGNMENT	16
3.12 AUTOMATIC ISSUE ALERTS	16
3.13 WEB SERVER URL.....	17
3.14 PLUG-IN FOLDER	17
3.15 ANONYMOUS USER ACCESS.....	17
3.16 WELCOME MESSAGE.....	17
3.17 ADMINISTRATORS EMAIL	18
3.18 SHOW GEMINI STATISTICS	18
3.19 RESET PASSWORD MESSAGING	18
3.20 RICH TEXT BOX USAGE	18
3.21 SOURCE CONTROL ACCESS CODE.....	19
3.22 AUTHENTICATION MODE	19
3.22.1 <i>Windows Authentication</i>	20
3.22.2 <i>Web Forms Authentication</i>	20
3.23 AUTHENTICATION COOKIE NAME	21
3.24 SESSION STATE PROVIDER.....	21
3.25 FILE UPLOAD SIZE LIMIT	21
3.26 SMTP / EMAIL ALERTS CONFIGURATION	22
4. GEMINI CONCEPTS.....	23
4.1 PROJECTS.....	23
4.2 ISSUES	23
4.2.1 <i>Type</i>	23

4.2.2	Priority.....	24
4.2.3	Status.....	24
4.2.4	Status Transition.....	24
4.2.5	Resolution.....	24
4.2.6	Risk Level.....	25
4.2.7	Resource Assignment.....	25
4.2.8	Work Estimates & Time Tracking.....	25
4.2.9	Issue Visibility.....	25
5.	USING GEMINI	26
5.1	PROJECT MANAGEMENT	26
5.1.1	Project Maintenance.....	26
5.1.2	Project Home Page.....	27
5.1.3	Components.....	27
5.1.4	Versions.....	27
5.1.5	Resources.....	28
5.1.6	Road Map.....	29
5.1.7	Change Log.....	29
5.1.8	Custom Fields.....	30
5.1.9	Security Scheme.....	32
5.1.10	Time Tracking.....	33
5.1.11	Cross-Project Issue Reporting.....	34
5.2	ISSUE MANAGEMENT	35
5.2.1	Creating.....	36
5.2.2	Issues List.....	37
5.2.3	Viewing an Issue.....	38
5.2.4	Editing.....	40
5.2.5	Deleting.....	41
5.2.6	Linking.....	41
5.2.7	Moving.....	42
5.2.8	Issue Visibility.....	43
5.2.9	Comments.....	43
5.2.10	Issue Watchers.....	43
5.2.11	Time Logging.....	44
5.2.12	Filtering Issues.....	45
5.2.13	Personal Saved Filters.....	46
5.2.14	Reporting.....	46
5.2.15	Gantt View.....	46
5.3	USER MANAGEMENT	47
5.3.1	User Creation.....	47
5.3.2	Anonymous Access.....	47
5.3.3	Self User Registration.....	47
5.3.4	User Maintenance.....	48
5.3.5	Security Schemes.....	49
5.3.6	User Security.....	51
5.3.7	Passwords.....	51
5.4	EMAIL ALERTS	53
5.4.1	Configuring Your Alerts.....	53
5.4.2	Manage Your Profile.....	54
6.	SOURCE CONTROL INTEGRATION.....	56
6.1	OVERVIEW	56
6.2	MANUAL SOURCE CONTROL FILE ASSOCIATION.....	56
6.3	AUTOMATIC INTEGRATION BASICS.....	57
6.3.1	Microsoft Visual SourceSafe.....	57
6.3.2	CVSNT.....	58
6.3.3	Other Source Control Systems.....	58

7. SMTP MAIL BOX PROCESSOR	59
7.1 OVERVIEW	59
7.2 INSTALLING / UNINSTALLING	59
7.3 CONFIGURATION FILE	59
8. SYSTEM ADMINISTRATION	60
8.1 SYSTEM ERROR LOG	60
8.2 ISSUE LINK TYPES	60
8.3 ISSUE TYPE & PRIORITY	60
8.4 ISSUE STATUS	60
9. CUSTOMISATION.....	61
9.1 ISSUE TYPE & PRIORITY	61
9.2 ISSUE LINKS	61
9.3 ISSUE STATUS	62
9.3.1 <i>Issue Status Workflow</i>	62
9.4 EMAIL ALERT TEMPLATES	63
9.5 PROJECTS LIST XSL	63
9.6 ISSUE REPORTS XSL	63
9.6.1 <i>Report Fields</i>	64
9.7 ADDITIONAL REPORTS	65
9.8 SMTP MAILBOX PROCESSING	65
9.9 WE CAN HELP	65
10. GEMINI EVENT LISTENER API	66
10.1 OVERVIEW	66
10.2 ENTITIES	66
10.3 HELPERS	66
10.4 EVENTS	67
10.5 CREATING A PLUG-IN	68
10.6 GEMINI EMAIL PLUG-IN	69
11. GEMINI WEB SERVICES	70
11.1 OVERVIEW	70
11.2 PROXY	70
11.3 PROJECTS	70
11.4 COMPONENTS	70
11.5 VERSIONS	70
11.6 ISSUES	71
11.7 SOURCE CONTROL	72
11.8 TIME TRACKING	72
11.8.1 <i>GetProjectTimeSpentReport</i>	72
11.8.2 <i>GetUserTimeSpentReport</i>	72
11.8.3 <i>CreateIssueTimeEntry</i>	72
11.8.4 <i>GetIssueTimeEntries</i>	73
11.8.5 <i>GetIssueTotalMinutesLogged</i>	73
11.8.6 <i>GetMinutesInWorkingDay</i>	73
11.8.7 <i>GetIssueTotalTimeLogged</i>	73
12. TROUBLESHOOTING.....	74
12.1 MULTIPLE GEMINI INSTALLATIONS	74
12.2 SQL SERVER INSTALLATION	74
12.3 EMAIL ALERTS – “ACCESS IS DENIED”	74
12.3.1 <i>IIS 5.0</i>	74
12.3.2 <i>IIS 6.0</i>	74
12.4 DATE FORMATS	74

12.5	SMTP TROUBLESHOOTING.....	74
12.6	WEB PAGE SOURCE DISPLAYED	74
12.7	MICROSOFT SHAREPOINT PORTAL.....	75
12.8	NEW ISSUE CREATION DISABLED	75
12.9	WINDOWS XP SERVICE PACK 2	75
12.10	WINDOWS AUTHENTICATION	75
13.	WE ARE HERE	76
13.1	SUPPORT	76
13.2	SALES	76
13.3	SERVICES	76
13.4	BUG REPORTING / FEATURE REQUESTS	76
13.5	FUTURE PLANS.....	76

1. Introduction

Gemini is a .NET web-based project issue tracking system.

1.1 Key Features

- ASP.NET web application
- SQL Server database back-end
- Time-tracking
- Source control integration
- Configurable email alert templates
- Custom fields support
- Personal issue filters
- Gemini API – event/listener model
- Automatic project road map and change logs
- Customisable issue type and priority
- Controlled anonymous user access
- Flexible reporting – based upon XML/XSL
- Export to Microsoft Excel
- Issue linking across projects
- Unicode support
- Windows to web forms authentication

1.2 Licensing

Please see <http://www.countersoft.com/Licensing.aspx> for the latest Gemini product licensing and pricing information.

1.2.1 FREE License

The FREE license has the following restrictions:

- Only one Gemini installation per site
- No more than 10 Gemini users
- Gemini can only be used internally – installation on an internet-facing server is strictly prohibited

1.2.2 Commercial License

Purchasing a license entitles the following:

- Unlimited installations per site
- Unlimited number of Gemini users
- Permission to install Gemini on an internet-facing server

1.2.3 .NET Community Website License

CounterSoft supports the .NET community and will provide a complimentary license to .NET community websites.

If you would like a .NET Community Website license, please send your project details to sales@countersoft.com.

Terms and conditions will apply.

1.2.4 Open Source Project License

CounterSoft supports Open Source projects and will provide a complimentary license to open source projects.

If you would like an Open Source Project license, please send your project details to sales@countersoft.com.

Terms and conditions will apply.

2. Installation

Gemini consists of an ASP.NET web application and SQL Server database components. These can either be installed using the MSI installer files or manually using the source files.

The Gemini download is a single WINZIP file.

Note: By default, both the username and password after installation for the administrator user is “admin”.

2.1 Gemini Requirements

The following requirements are necessary in order to install and use Gemini.

- Microsoft .NET Framework v1.1
- SQL Server 7/2000 or MSDE
- IIS (v5 or v6)
- Microsoft Installer v2.0 (optional)
- SMTP server for email notifications support

Note: Ensure that your SQL Server installation is not case-sensitive.

2.2 Database Setup

The Gemini database components comprise of SQL tables and stored procedures.

Note: Create a SQL database prior to installing these components.

You can perform the database components installation in one of two ways:

- Use the **GEMINIDB.MSI** file
- Use the contents of the “**Deploy\Step1_SQL_Database**” folder to create the necessary database component. The SQL scripts should be executed in the following order:
 - CREATE_TABLES.SQL
 - CREATE_VIEWS.SQL
 - CREATE_PROCS.SQL
 - CREATE_SAMPLEDATA.SQL

2.3 Gemini Web Application

The Gemini web application should be installed on a machine that already has ASP.NET installed. You can perform the web application installation in one of two ways:

- Use the **GEMINI.MSI** file – you will be prompted to provide the IIS Virtual Directory name and port number.
- Manually create an IIS Virtual Directory and copy the contents of the “**Deploy\Step2_WebApp**” folder.

2.4 Upgrading

The process of upgrading your existing Gemini installation from one release to another is necessary to ensure that your existing Gemini (SQL) database remains intact. The upgrade process will ensure that all your existing users, projects, and versions are ported and used by the newer release of Gemini.

2.4.1 Version 1.9b to Version 1.9.1

The following steps should be executed in the order specified to ensure that your existing Gemini database is ported to the new Gemini release:

1. De-install your existing Gemini web application from your web server. You are advised to keep a copy of your existing WEB.CONFIG file prior to de-installing
2. Install newer release of the Gemini web application (**GEMINI.MSI**). Update the WEB.CONFIG file to suit your preferences.
3. Execute the "**UPGRADE_V1-9-1.SQL**" script in your existing Gemini database. This script can be found in the "**Deploy\Step1_SQL_DatabaseUpgrades**" folder.
4. Execute the "**CREATE_PROCS.SQL**" script in your existing Gemini database. This script can be found in the "**Deploy\Step1_SQL_Database**" folder.

Configuration File Changes

The MailPlugin configuration section has new entries:

- IssueWatcherAlert

2.4.2 Version 1.9a to Version 1.9b

The following steps should be executed in the order specified to ensure that your existing Gemini database is ported to the new Gemini release:

1. De-install your existing Gemini web application from your web server. You are advised to keep a copy of your existing WEB.CONFIG file prior to de-installing
2. Install newer release of the Gemini web application (**GEMINI.MSI**). Update the WEB.CONFIG file to suit your preferences.
3. Execute the "**CREATE_PROCS.SQL**" script in your existing Gemini database. This script can be found in the "**Deploy\Step1_SQL_Database**" folder.

Configuration File Changes

The MailPlugin configuration section has new entries:

- Encoding

2.4.3 Version 1.9 to Version 1.9a

Execute the "**CREATE_PROCS.SQL**" script in your existing Gemini database. This script can be found in the "**Deploy\Step1_SQL_Database**" folder.

2.4.4 Version 1.8+ to Version 1.9

The following steps should be executed in the order specified to ensure that your existing Gemini database is ported to the new Gemini release:

4. De-install your existing Gemini web application from your web server. You are advised to keep a copy of your existing WEB.CONFIG file prior to de-installing
1. Install newer release of the Gemini web application (**GEMINI.MSI**). Update the WEB.CONFIG file to suit your preferences.
2. Execute the "**UPGRADE_V1-9.SQL**" script in your existing Gemini database. This script can be found in the "**Deploy\Step1_SQL_Database\Upgrades**" folder.
3. Execute the "**CREATE_PROCS.SQL**" script in your existing Gemini database. This script can be found in the "**Deploy\Step1_SQL_Database**" folder.

Note: Upgrading to version 1.9 will recreate issue type, priority, status and resolution tables. Any customisations to these tables will be lost!

Configuration File Changes

Please note the following web.config file changes:

- TimeInWorkingDay
- UseAccessCodeForSourceControl

The MailPlugin configuration section also has new entries:

- IssueCreateAlert
- IssueUpdateAlert
- IssueCommentAlert
- IssueStatusChangeAlert
- IssueResolutionChangeAlert
- IssueDeleteAlert
- IssueAssignedAlert
- IssueClosedAlert
- IssueResolvedAlert

2.4.5 Version 1.8.1 to Version 1.8.2

The following steps should be executed in the order specified to ensure that your existing Gemini database is ported to the new Gemini release:

1. De-install your existing Gemini web application from your web server. You are advised to keep a copy of your existing WEB.CONFIG file prior to de-installing
2. Install newer release of the Gemini web application (**GEMINI.MSI**). Update the WEB.CONFIG file to suit your preferences – use the WEB.CONFIG file saved in step 1.
3. Execute the "CREATE_PROCS.SQL" script in your existing Gemini database. This script can be found in the "**Deploy\Step1_SQL_Database**" folder.

2.4.6 Version 1.8 to Version 1.8.1

The following steps should be executed in the order specified to ensure that your existing Gemini database is ported to the new Gemini release:

1. De-install your existing Gemini web application from your web server. You are advised to keep a copy of your existing WEB.CONFIG file prior to de-installing
2. Install newer release of the Gemini web application (**GEMINI.MSI**). Update the WEB.CONFIG file to suit your preferences – use the WEB.CONFIG file saved in step 1.
3. Execute the "CREATE_PROCS.SQL" script in your existing Gemini database. This script can be found in the "**Deploy\Step1_SQL_Database**" folder.

2.4.7 Version 1.7 to Version 1.8

The following steps should be executed in the order specified to ensure that your existing Gemini database is ported to the new Gemini release:

1. De-install your existing Gemini web application from your web server. You are advised to keep a copy of your existing WEB.CONFIG file prior to de-installing
2. Install newer release of the Gemini web application (**GEMINI.MSI**). Update the WEB.CONFIG file to suit your preferences – use the WEB.CONFIG file saved in step 1.
3. Execute the "**UPGRADE_V1-8.SQL**" script in your existing Gemini database. This script can be found in the "**Deploy\Step1_SQL_Database\Upgrades**" folder.
4. Execute the "CREATE_PROCS.SQL" script in your existing Gemini database. This script can be found in the "**Deploy\Step1_SQL_Database**" folder.
5. Complete the steps detailed in the "Unicode Support" section below.

Note: Upgrading to version 1.8 will remove all user roles currently associated to users. This is necessary as v1.8 now handles user roles via Security Schemes.

Any issues or questions regarding upgrades should be directed to support@countersoft.com.

Unicode Support

As of version 1.8, Gemini supports UNICODE data entry and storage. Users that have an existing Gemini database are advised to follow these steps to ensure that they are UNICODE compliant:

1. Execute the "UNICODEUPGRADE.SQL" script in your existing Gemini database. This script can be found in the "**Deploy\Step1_SQL_Database\Upgrades**" folder.
2. Using SQL Server Enterprise Manager, amend tables ISSUES and ISSUECOMMENTS to convert all TEXT fields to NTEXT:
 - a. ISSUES.LONGDESC field;
 - b. ISSUECOMMENTS.COMMENT field.

2.4.8 Version 1.6.3 to Version 1.7

The following steps should be executed in the order specified to ensure that your existing Gemini database is ported to the new Gemini release:

1. De-install your existing Gemini web application from your web server. You are advised to keep a copy of your existing WEB.CONFIG file prior to de-installing
2. Install newer release of the Gemini web application (**GEMINI.MSI**). Update the WEB.CONFIG file to suit your preferences – use the WEB.CONFIG file saved in step 1.
3. Execute the "**UPGRADE_V1-7.SQL**" script in your existing Gemini database. This script can be found in the "**Deploy\Step1_SQL_Database\Upgrades**" folder.
4. Execute the "CREATE_PROCS.SQL" script in your existing Gemini database. This script can be found in the "**Deploy\Step1_SQL_Database**" folder.

2.5 Troubleshooting

If your SQL Server installation is using Mixed Security, ensure that the SA account has privileges to the database into which Gemini database components are being installed. This is necessary because the GEMINIDB.MSI installer utilises the SA account.

2.6 Importing Issues

We currently provide an application to import data from BugTracker.NET.

<http://www.countersoft.com/utis/GeminilImportsBugTrackerNet.zip>

3. Configuration

Gemini application configuration options are held within the web applications WEB.CONFIG file.

Note: Any changes to the WEB.CONFIG file will result in the Gemini web application being restarted automatically. If you are using the ASP.NET In-Process session provider, your sessions will be lost!

3.1 Database Connection String

```
<!-- DatabaseConnection - The SQL Server database
<add key="DatabaseConnection" value="data source=1
```

This setting defines the SQL connection string to your Gemini database as held in SQL Server.

If you would like to use Windows Security to access your database (as opposed to SQL Security), simply change this setting as follows:

```
trusted_connection=Yes; initial catalog=Gemini; data source=localhost;
```

3.2 Product Registration Details

```
<!-- RegisteredTo - The email address of
<add key="RegisteredTo" value="" />
```

```
<!-- RegistrationCode - The product regi
<add key="RegistrationCode" value="" />
```

These settings are used to specify the product registration details as specified in the email sent when the product was downloaded. You will receive product registration details when you either download or purchase a Commercial License.

3.3 User Registration Link

```
<!-- ShowUserRegistrationLink
      - controls whether the logon page displays:
      - possible values = "YES" or "NO"
-->
<add key="ShowUserRegistrationLink" value="YES"/>
```

If set to "YES", a link will be displayed on the login page that will allow new users to register themselves.

3.4 Date Format – User Input

```
<!-- DateFormat - "EU" or "US" -->
<add key="DateFormat" value="EU" />
```

This setting controls the date format used by Gemini to validate user input.

Valid values are "EU" or "US":

- EU: DD/MM/YYYY
- US: MM/DD/YYYY

3.5 Date Format – Display

You should change the standard ASP.NET "globalization" setting in the WEB.CONFIG file to ensure that date and times are displayed as per your locale.

For the UK:

```
<!-- GLOBALIZATION
      This section sets the globalization setting
-->
<globalization culture="en-GB" uiCulture="en-US"
```

For the US:

```
<!-- GLOBALIZATION
      This section sets the globalization setting
-->
<globalization culture="en-US" uiCulture="en-US"
```

3.6 Time in Working Day

```
<!-- TimeInWorkingDay - specify as HH:MM (example "7:30"
<add key="TimeInWorkingDay" value="7:30" />
```

This setting is used to validate time input when logging work time against an issue.

3.7 Web Services Access Code

```
<!-- WebServicesAccessCode - Security code that must
<add key="WebServicesAccessCode" value="ABC123" />
```

In order to invoke a Gemini web services method you must provide an access code. This will ensure authorised usage of the web service. Set this to any value and ensure the same value is then used when invoking web services methods.

3.8 View All Projects

```
<!-- ViewAllProjects
      - Are all projects visible to everyone?
      - Possible values = "YES" or "NO"
      - Setting this option to "NO" will control individual project visibility.
-->
<add key="ViewAllProjects" value="NO" />
```

Setting this value to "YES" will result in all projects being visible to all users.

Set this value to "NO" to control individual project visibility. You can then grant VIEW access to users at the project level.

3.9 Excel Character Set

```
<!-- CharSetForExcel - The character set used when exporting the issues list to Microsoft Excel
<add key="CharSetForExcel" value="ISO-8859-1" />
```

This setting specifies the character set/code page used when exporting the issues list to Microsoft Excel.

3.10 Enable HTML Posts

```
<!-- EnableHTMLPosts
- Controls if HTML tags can be entered in issue descriptions or comments
- Possible values = "YES" or "NO"
- If this is set to NO, validateRequest must be set to TRUE in the WEB.CONFIG file
-->
<add key="EnableHTMLPosts" value="YES" />
```

This setting controls where HTML tags can be entered when providing an issue description or issue comments.

If this setting is set to "NO" then the ASP.NET "validateRequest" setting in the WEB.CONFIG file should be set to "TRUE" in order to prevent HTML being entered at all.

```
<!-- This allows HTML text to be entered into Gemini -->
<pages validateRequest="false" enableSessionState="true" />
```

3.11 Global Resource Assignment

```
<!-- GlobalAssignResourceAtIssueCreation
- Controls if ALL USERS can assign resource to an issue
- Possible values = "YES" or "NO"
- If this is set to YES, then ANY USER can assign a resource to an issue
-->
<add key="GlobalAssignResourceAtIssueCreation" value="NO" />
```

This setting controls whether all users have the right to assign a resource against an issue during issue creation.

If you would like to control this setting on a per user basis then set this option to "NO" and use the new "Assign Resource" role.

3.12 Automatic Issue Alerts

```
<!-- AutoAlertForIssueCreator
- Controls if the user creating an issue is automatically configured to watch the issue (receive alerts)
- Possible values = "YES" or "NO"
- If this is set to YES, then alerts will be sent to the user
-->
<add key="AutoAlertForIssueCreator" value="YES" />
```

This setting controls if the user creating an issue is automatically configured to watch the issue (receive alerts).


```

<!-- AutoAlertForIssueResource
    - Controls if the user working on an issue :
    - Possible values = "YES" or "NO"
    - If this is set to YES, then alerts will be
-->
<add key="AutoAlertForIssueResource" value="YES" />

```

This setting controls if the user assigned to the issue is automatically configured to watch the issue (receive alerts).

3.13 Web Server URL

```

<!-- FullGeminiURL - requires trailing forward-slash! -->
<add key="FullGeminiURL" value="http://localhost/gemini/" />

```

This setting contains the complete URL to the Gemini web application and it should be changed to reflect the full path to your Gemini web application.

3.14 Plug-in Folder

```

<!-- PluginPath - path to plugin directory under bin folder
<add key="PluginPath" value="bin/plugins" />

```

This setting contains the location of the Gemini plug-ins directory - don't change!

3.15 Anonymous User Access

```

<!-- AllowAnonymousUsers
    - Controls if anonymous users can access
    - Possible values = "YES" or "NO"
    - If this is set to YES, then anyone can
-->
<add key="AllowAnonymousUsers" value="YES" />

```

This setting controls whether people can browse/access GEMINI without logging in.

The built-in "Anonymous User" user account is used for this purpose. You can configure this accounts' access and project viewing rights just like any other user account.

If you have set the "ViewAllProjects" setting to "NO" then please ensure that the "Anonymous User" user account has view privileges on all projects that you wish to be visible to anonymous users.

3.16 Welcome Message

```

<!-- WelcomeTitle - Commercial Licensees only !! -->
<add key="WelcomeTitle" value="Welcome" />

<!-- WelcomeMessage - Commercial Licensees only !! -->
<add key="WelcomeMessage" value="Customise this message" />

```

The first setting contains the title bar content for the "welcome box" on the main page.

The second setting contains the actual content for the "welcome box" on the main page.

Note: The welcome content can be customised by Commercial License holders only.

3.17 Administrators Email

```
<!-- GeminiAdmins - Email address for Gemini administrators -->
<add key="GeminiAdmins" value="admin@abc.com" />
```

This setting contains the Gemini administrators email addresses separated by a comma.

3.18 Show Gemini Statistics

```
<!-- AlwaysShowGeminiStats
    - Possible values = "YES" or "NO"
    - Controls if the Gemini statistics panel is visible
    - By default, the stats panel is only visible to administrators
-->
<add key="AlwaysShowGeminiStats" value="NO" />
```

This setting controls where top-level Gemini statistics are always visible regardless of user. By default, statistics are only visible to Gemini administrators or if the "ViewAllProjects" setting is set to "YES".

3.19 Reset Password Messaging

```
<!-- ResetPasswordSubject - The email subject line
-->
<add key="ResetPasswordSubject" value="Gemini Password Reset" />

<!-- ResetPasswordMessage - The email message content
-->
<add key="ResetPasswordMessage" value="Please click the link below to reset your password." />
```

These two settings control the email subject line and content for the password reset email.

3.20 Rich Text Box Usage

```
<!-- IssueDescriptionType
    - The type of the issue description input box
    - Possible values: Text or RichText
-->
<add key="IssueDescriptionType" value="RichText" />

<!-- IssueCommentType
    - The type of the issue comment input box
    - Possible values: Text or RichText
-->
<add key="IssueCommentType" value="RichText" />
```

A rich text box can be used for data entry when adding an issue or an issue comment. This feature can be turned on or off as desired.

3.21 Source Control Access Code

```
<!-- UseAccessCodeForSourceControl
      - Should we authenticate access to the AddSCFile.aspx
      - Possible values: YES or NO
-->
<add key="UseAccessCodeForSourceControl" value="NO" />
```

This setting controls whether the web services access code (also defined in the web.config file) is used to control access to the ADDSCFILE.ASPX page.

3.22 Authentication Mode

```
<authentication mode="Forms">
  <forms name="Gemini" loginUrl="Default.aspx" path="/" >
  </forms>
</authentication>
```

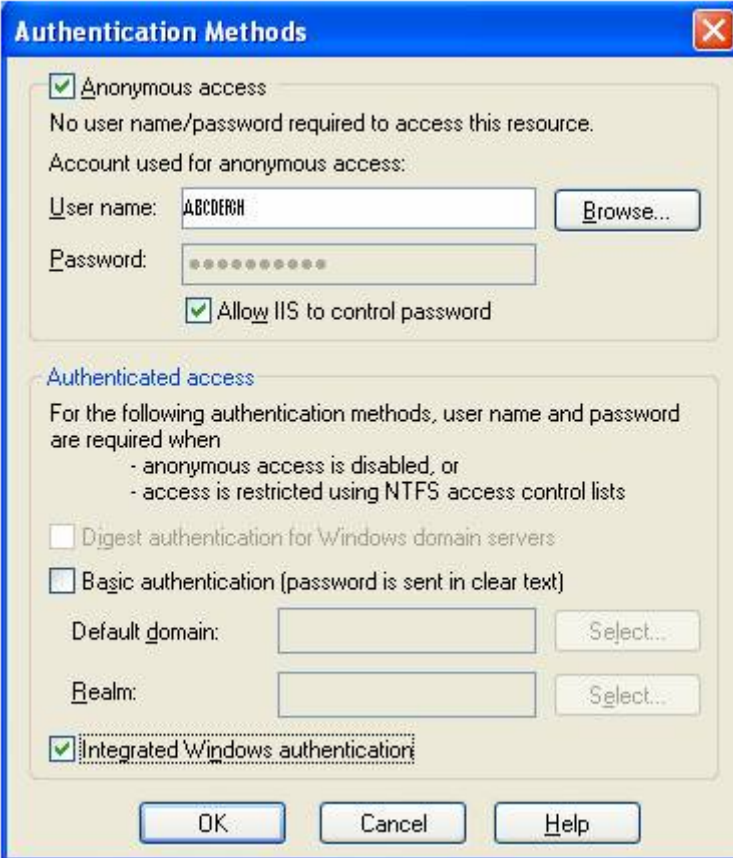
Windows and Forms authentication modes are supported.

3.22.1 Windows Authentication

Changing the mode to “Windows” will configure Gemini to only support Windows authentication.

Before using Windows authentication, you are advised to create a user within Gemini whereby the username is a valid network/Windows user (e.g. “mydomain\username”). This will ensure that at least one user will be able to access Gemini once you switch to Windows authentication.

Ensure that the option “Integrated Windows authentication” is selected on the Gemini website directory security (IIS):



Authentication Methods

☒ **Anonymous access**
No user name/password required to access this resource.
Account used for anonymous access:
User name:
Password:
☒ Allow IIS to control password

Authenticated access
For the following authentication methods, user name and password are required when
- anonymous access is disabled, or
- access is restricted using NTFS access control lists

☐ Digest authentication for Windows domain servers
☐ Basic authentication (password is sent in clear text)
Default domain:
Realm:
☒ Integrated Windows authentication

3.22.2 Web Forms Authentication

Changing the mode to “Forms” will configure Gemini to only support web forms authentication. The default login username and password is “admin”.

3.23 Authentication Cookie Name

```
<authentication mode="Forms">
  <forms name="Gemini" loginUrl="Default.aspx" path="/" >
  </forms>
</authentication>
```

If you have installed Gemini more than once on a single web server, you should change the "name" value of the "forms" setting to something unique across all Gemini installations (recommendation is that the "name" value reflects the IIS Virtual Directory where Gemini is installed).

This is necessary to ensure that cookies are correctly stored and processed for each Gemini web application instance.

3.24 Session State Provider

```
<!-- SESSION STATE SETTINGS
By default ASP .NET uses cookies to ider
If cookies are not available, a session
To disable cookies, set sessionState coc

InProc
SQLServer (http://support.microsoft.com/
StateServer
-->
<sessionState mode="InProc" stateConnectionStr
```

You are advised to configure the Gemini web application to use an out-of-session state provider (either SQL or State Server). This will ensure that user sessions are not lost when the ASPNET Worker Process is recycled.

3.25 File Upload Size Limit

```
<!-- File Upload Settings -->
<httpRuntime executionTimeout="90" maxRequestLength="4096"
```

This setting controls the maximum permitted file size for files that are being attached to issues and comments within Gemini. Default is 4MB.

3.26 SMTP / Email Alerts Configuration

```
<GeminiPlugins>
  <MailPlugin>
    <add key="Debug" value="false" />
    <add key="SendAlerts" value="true" />
    <add key="SMTPServer" value="127.0.0.1" />
    <add key="FromEmailAddress" value="gemini@abc.com" />
    <!-- SMTP authentication values: OFF, BASIC, NTLM. -->
    <add key="SMTPAuthentication" value="OFF" />
    <add key="SMTPUserName" value="" />
    <add key="SMTPPassword" value="" />
    <!-- Global email alert type on/off settings -->
    <add key="IssueCreateAlert" value="true"/>
    <add key="IssueUpdateAlert" value="true"/>
    <add key="IssueCommentAlert" value="true"/>
    <add key="IssueStatusChangeAlert" value="true"/>
    <add key="IssueResolutionChangeAlert" value="true"/>
    <add key="IssueDeleteAlert" value="true"/>
    <add key="IssueAssignedAlert" value="true"/>
    <add key="IssueClosedAlert" value="true"/>
    <add key="IssueResolvedAlert" value="true"/>
  </MailPlugin>
</GeminiPlugins>
```

The “MailPlugin” setting controls the parameters used to send email notifications via an SMTP server. SMTP authentication is supported.

There are email alert type settings that control whether certain types of alert are enabled or disabled globally (regardless of user email alert preferences).

4. Gemini Concepts

Gemini provides a browser-based, project-centric approach for logging and viewing issues. Access to the system can be secured or open dependent upon your requirements.

4.1 Projects

Gemini is based upon projects. A project is a logical container designed to hold components, versions, resources and issues.

Each project has multiple versions. A version is a specific release or build of a project.

Each project has multiple components. A component is a discrete part of a project. A component could be a software module or non-software such as documentation.

Each project has one or more resources who are assigned to work on the project. A resource is a user within Gemini. A resource can work on multiple projects.

4.2 Issues

An issue is associated to a single project.

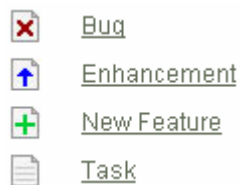
An issue is also associated to a single component within the project – the component to which the issue relates to.

An issue can also belong to a single version – the version in which the issue will be addressed.

Several key attributes of an issue that explained in the proceeding sections.

4.2.1 Type

Issue types allow for classification of an issue. By default, there are four types of issues:



Each issue must have an issue type. The types themselves can be customised as per requirements – see Customisation section.

4.2.2 Priority

Issue priority allows for an issue to be graded by urgency. By default, there are four types of priority:

	<u>Major</u>
	<u>Minor</u>
	<u>Show Stopper</u>
	<u>Trivial</u>

Each issue must have an issue priority. The priorities themselves can be customised as per requirements – see Customisation section.

4.2.3 Status

Issue status is used to specify and identify the current status of an issue:

<u>Issue Status</u>	<u>Explanation</u>
Unassigned	The issue has not been assigned a resource and is lacking progress.
Assigned	The issue has been assigned to a resource but work has not commenced.
In Progress	The issue has been resourced and work has commenced.
Closed	The issue has been closed. No more work will be performed against the issue.
Reopened	The issue has been reopened and work is in progress.

The status values themselves can be customised as per requirements – see Customisation section.

4.2.4 Status Transition

Generally speaking, an issue will change status over time. Gemini provides the ability to define pre and post status values relative to an issue status. By default, the following issue status transition logic is provided:

<u>Valid Pre States</u>	<u>Issue Status</u>	<u>Valid Post States</u>
-	Unassigned	Assigned, In Progress
Unassigned	Assigned	In Progress, Closed
Unassigned, Assigned	In Progress	Closed
In Progress, Reopened	Closed	-
-	Reopened	In Progress, Closed

The status transition logic can be customised as per requirements – see Customisation section.

4.2.5 Resolution

Issue resolution signifies the current and final outcome of an issue:

<u>Issue Resolution</u>	<u>Explanation</u>
Unresolved	The issue has yet to be completed.
Won't Fix	The issue will not be addressed.
Duplicate	The issue is a duplicate.
Cannot Reproduce	The issue cannot be replicated.
Complete	The issue has been completed.

4.2.6 Risk Level

A risk level indicates the anticipated risk level for the issue. A risk level indicates the potential risk in changing the system based upon the issue.

Risk Level	Explanation
No Risk	There is no impact on the project if the issue is rectified.
Low	There is a minor risk associated with implementing the issue.
Medium	There is a cause for concern associated with implementing the issue.
High	There is a high risk associated with implementing the issue.

4.2.7 Resource Assignment

Each issue will require a resource assignment in order for the issue to be worked upon. Only resources assigned to the project can be assigned to issues for that project.

Resources assigned to the project are active by default – they are able to work on project issues. Users that have not been assigned as resources to a project cannot work on issues for that project. A resource can also be deactivated for a project. Deactivated resources cannot be assigned any issues but can continue to work upon any issues already assigned to them.

4.2.8 Work Estimates & Time Tracking

Each issue can be given the estimated effort in days/hours/minutes required to complete the issue.

Resources working upon an issue and issue administrators can log time spent against an issue.

4.2.9 Issue Visibility

Each issue and issue comment can be given either public or private visibility. Private issues and issue comments are only visible by users who have the user role of "View Private Issues". This provides the ability to "hide" issues and issue comments from certain groups of user.

5. Using Gemini

This section describes the various topics that will be encountered whilst using Gemini.

5.1 Project Management

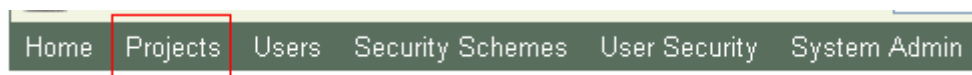
When creating new projects the following key steps should be performed:

Create Project →
Assign Resources →
Create Components →
Create Versions →
Define Custom Fields (optional)

The above steps ensure that your project is setup correctly and ready to accept issues.

You can optionally assign a default security scheme to a project which will enable new created to be assigned default rights within a given project (i.e. new users automatically receive the right to create issues).

5.1.1 Project Maintenance

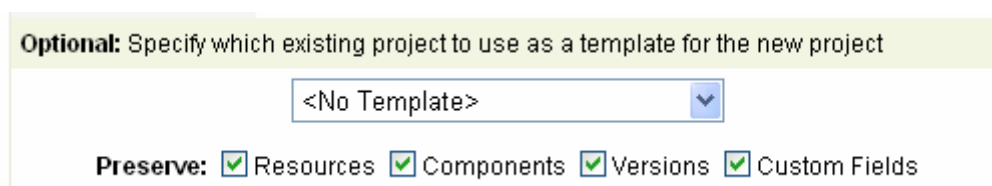


Each project is has the following attributes:

Attribute	Description
Code	A code that can be up to four letters in length. The code is prefixed against each issue within the project.
Name	A single line name/title for the project.
Description	A multi-line description for the project.
Locked	A “switch” that can be used to lock a project. A locked project cannot accept any more issues.

Project creation, editing and deletion can be performed by users who have been classified as Gemini Administrators.

When creating new projects existing projects can be used as templates:

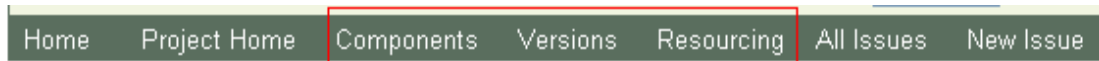
A screenshot of the Gemini project creation form. It shows a section titled 'Optional: Specify which existing project to use as a template for the new project'. Below this title is a dropdown menu with the text '<No Template>' and a downward arrow. At the bottom of the section, there is a 'Preserve:' label followed by four checked checkboxes: 'Resources', 'Components', 'Versions', and 'Custom Fields'.

Deleting a project will remove all components, version and issues associated with the project.

5.1.2 Project Home Page

The project home page acts as a project dashboard detailing all open issues by components, versions, resources, status, type and priority.

Component, version and resource management options are accessible from the project home page:



5.1.3 Components

Component Maintenance

Create, edit and delete components for this project.
Locked components cannot have any more issues assigned against them.

☐ [Create component](#) for this project

ID	Name	Description
69	Database	The central SQL database.
70	Documentation	User and technical reference material.
68	Financial Reporting	The financial reporting suite.

Many components can belong to a single project. Components can be added, edited and removed from a project. Each component has the following attributes:

Attribute	Description
Name	The component name.
Description	The component description.
Locked	A "switch" that can be used to lock a component. A locked component cannot be linked to any new issues.

Note: at least one component must exist before issues can be created.

5.1.4 Versions

Version Maintenance

Create, edit and delete Versions.
Multiple versions can be assigned to a Project.

☐ [Create version](#) for this project

ID	Version Number	Version Name	Description
20	1.0	Release 1.0	This is the "tiger" release.
21	2.0	Release 2.0	The is the "zebra" release.
22	2.1	Service Release 2.1	This is a service release ad

Many versions can belong to a single project. Versions can be added, edited and removed from a project. Each version has the following attributes:

Attribute	Description
Number	The version number – can be numeric or alpha.
Name	A single-line name for the version.
Description	A multi-line description for the version.
Released	A “switch” that controls whether a version has been released.
Archived	A “switch” that controls whether a version is obsolete.

Versions can be ordered in a sequential order of your choosing using the “Move Up” and “Move Down” links against each version. The version order determines the order in which versions appear in dropdown lists, road map and change log screens.

Released versions appear on the project change log. Not-released versions appear on the project road map.

5.1.5 Resources

Project Resourcing

Add, remove resources to this project

Assigned Resources				Available Resources		
Full Name	User Name			Full Name	User Name	
David Jones	David	<input checked="" type="checkbox"/> Active	Edit Remove	* Anonymous User *	anon	Assign
John O'Shea	x	<input checked="" type="checkbox"/> Active	Edit Remove	Bob Green	Bob	Assign
Jon Smith	admin	<input checked="" type="checkbox"/> Active	Edit Remove	Fred Brown	Fred	Assign
Nick Connors	Nick	<input checked="" type="checkbox"/> Active	Edit Remove	Jane Furlong	Jane	Assign
Sue White	Sue	<input checked="" type="checkbox"/> Active	Edit Remove	Paul Davis	Paul	Assign

Gemini users can be resourced to work on projects. One user can belong to many projects.

Resources can be added and removed from the project as and when required.

A resource assigned to a project can be de-activated. Such a resource cannot be assigned any new issues.

When a resource is removed from a project, any issues assigned to the resource will be marked as “Unassigned” (as opposed to being assigned to the resource).

The “Anonymous User” is a system user that is used to define actions and privileges for unauthenticated users. Typically, the unauthenticated users should not be resourced to any projects.

5.1.6 Road Map

Project Road Map					
	Component	Issue Type	Issue ID	Summary	Resource
1.8 Release	Administration	New Feature	GEM-40	Project templates	Lead Developer
	Administration	New Feature	GEM-53	Public and Private Issues	Lead Developer
	Administration	New Feature	GEM-55	Project Cost Codes	Lead Developer
	Administration	New Feature	GEM-143	Automatic create issue role for all projects	Lead Developer
	Custom Fields	Enhancement	GEM-146	Lookup table in another database	Lead Developer
	Email Alerts	Enhancement	GEM-112	Expose Change Log to Email Templates	Lead Developer
	Email Alerts	New Feature	GEM-86	SMTP authentication support	Lead Developer
	Filters & Searching	Enhancement	GEM-113	Issues List Sortation & Paging Enhancements	Lead Developer
	Filters & Searching	New Feature	GEM-117	New Filter: Issue Aging	Lead Developer
	Filters & Searching	New Feature	GEM-76	Issue Filtering: Show comments in-line	Lead Developer
	Import/Export	New Feature	GEM-122	Get Issues from .NET Assembly	Lead Developer
	Import/Export	New Feature	GEM-142	RSS data feed	Lead Developer

The primary purpose of the project road map is to show exactly what issues are scheduled to be addressed for each unreleased version of a project.

If a project has no unreleased versions, then no issues will be displayed on the project road map.

5.1.7 Change Log

1.6 Release	Filters & Searching	Bug	GEM-94	Closed issue do not display from Project Home page
	Filters & Searching	Enhancement	GEM-91	Add due date to My Work
	Filters & Searching	Enhancement	GEM-93	Retain issue filter when editing issue
	Installation & Configuration	Enhancement	GEM-104	Support for out-of-process sessions
	Security	New Feature	GEM-74	Implementation of anonymous access?
	User Interface	Bug	GEM-95	Attachment filenames do not always appear
	User Interface	Bug	GEM-102	User rights not displayed correctly for first user in list
	User Interface	Enhancement	GEM-103	Disable HTML autocomplete
	User Interface	New Feature	GEM-84	Remember me login option
	User Interface	New Feature	GEM-32	Support for user defined data
	Workflow	Bug	GEM-92	My Work issue click-throughs do not inherit project user rights
	Workflow	Bug	GEM-105	Current Project does not follow current issue
1.5 Release	Workflow	Bug	GEM-81	Prevent issue creation when project has not been setup
	Workflow	New Feature	GEM-41	Issue linking
	Email Alerts	Bug	GEM-67	Email not automatically sent to assignee
	Email Alerts	Enhancement	GEM-75	Replace alerts service with mail plug-in
	Email Alerts	Enhancement	GEM-79	Template driven email subject line
	Email Alerts	Enhancement	GEM-66	Enable HTML formatted email alerts
	Events & Listeners	New Feature	GEM-34	Implement event handling model

The primary purpose of the project change log is to show exactly what issues have been addressed for each released version of a project.

If a project has no released versions, then no issues will be displayed on the project change log.

5.1.8 Custom Fields

Custom fields allow for the capture of additional data against an issue. Custom fields are specified on a per project basis.

Custom fields can be added via the "Custom field maintenance" link on the Project Home Page.

[Issues](#) [Road Map](#) [Change Log](#) [Email Alerts](#) [Time Report](#) [Custom fields](#) [Security Scheme](#)

Gemini supports the following types of custom fields:

Field Type	Description
Textbox	A single line or multi-line text box with regular expressions validation
Dropdown List	A dropdown list box
List box	A single or multi-select list box

The following table describes the input parameters required to define custom fields:

Parameter	Description
Custom field name	Name used to describe the custom field.
Custom field type	Textbox, dropdown list or list box.
Screen order	A numeric value that is used to determine where the custom field appears on-screen (relative to other custom fields).
Screen label	The text that is displayed on-screen to users.
Screen tool tip	The tool tip text for the field that is shown when the mouse hovers over the screen label.
Maximum length	The maximum length of the field input in characters – only applies to textbox field types.
Number of columns	The number of columns to display for textbox field types.
Number of rows	The number of rows to display for either a textbox or list box field type – more than 1 row results in a multiple lines being displayed.
Required field	Determines whether a textbox field type requires mandatory input.
Regular expression	Optional regular expression use to validate input for textbox field types.
Default field value	The default value for the custom field.
Can multi-select	Determines whether a user can select multiple items in a list box field type.
Lookup table name	Specifies the SQL table/view to be used to populate either a dropdown list or list box. By default Gemini assumes the lookup table will be in the Gemini SQL database. You can however specify a different database as follows "OTHER_DB_NAME].[MY_LOOKUP_TABLE".
Lookup key field name	Specifies the key field name within the lookup table (value field).
Lookup description field name	Specifies the description field name within the lookup table (description field).
Is visible on issue create	Determines whether the custom field is visible to users during issue creation.

Is visible on issue edit	Determines whether the custom field is visible to users during issue editing.
Is visible on issue view	Determines whether the custom field is visible to users when viewing an issue.

The dropdown list and list box field types are data-driven – the contents of such fields are derived from a SQL table/view. When defining such fields, ensure the following:

- Ensure that a SQL table or view wish to use to populate your custom Dropdown list or list box exists.
- Ensure that the SQL table or view contains two fields: one "code" field and one "description" field.
- Use simple data types for the "code" and "description" fields (VARCHAR, NUMERIC, CHAR, etc.).

A sample table to populate a custom dropdown or list box field would be as follows:

MyCodeField	MyDescriptionField
1	Red
2	Blue
3	Green

When first experimenting with dropdown or list box custom fields, you are advised to use the Components SQL table (that ships with Gemini) and specify the following parameters when creating the new custom field:

Parameter	Value
Lookup table name	Components
Lookup key field name	CompID
Lookup description field name	CompName

Lookup tables should be present within the Gemini SQL database.

Note: please ensure that custom fields do not contain "<>" symbols as these are problematic to the ASPNET Validate Request logic – this logic checks for potentially dangerous requests that could be used for cross-site scripting attacks.

5.1.9 Security Scheme

Each project can be assigned a default security scheme which can be used to control which privileges new users inherit by default.

[Issues](#) [Road Map](#) [Change Log](#) [Email Alerts](#) [Time Report](#) [Custom fields](#) [Security Scheme](#)

Clicking on the “Change” link enables a security scheme to be picked:

Project Security Scheme

This screen enables a default security scheme for the project. All users who have not explicitly been assigned a security scheme will automatically inherit the default project security scheme.

<No Scheme>

Issue Administration

Issue Creator

Issue Worker

No Access

Project Administration

Viewer

5.1.10 Time Tracking

Users with appropriate user rights can view time reports on a per project basis:

[Issues](#) [Road Map](#) [Change Log](#) [Email Alerts](#) [Time Report](#) [Custom fields](#) [Security Scheme](#)

For a given date range, the report details how much time was spent by each of the project resources.

ACME System - Time Report

Date Range

Start Date

End Date

Resource	Total Time (HH:MM)	Days	Hours	Minutes
David Jones	0 :0	0	0	0
John O'Shea	0 :0	0	0	0
Jon Smith	9 :30	1	2	0
Nick Conners	0 :0	0	0	0
Sue White	0 :0	0	0	0

Clicking a resource name will provide a time report for the individual listing all the issues where time has been logged:

ACME System - Jon Smith Time Report

Date Range

Start Date

End Date

Issue	Total Time (HH:MM)	Days	Hours	Minutes
ACME-11 Main Attachment	8 :30	1	1	0
ACME-12 Another reporting issue	1 :0	0	1	0

5.1.11 Cross-Project Issue Reporting

Issues can be filtered and viewed from across multiple projects using the link highlighted below. This link exists on the Gemini home page.

All projects issue reporting	
Intranet (111)	
Corporate intranet development.	
Home Road Map Change Log Create Issue	All Issues
Accounting System (ACT)	
Accounting & payroll systems.	
Home Road Map Change Log Create Issue	All Issues
Test (TST)	
This is a test project	
Home Road Map Change Log Create Issue	All Issues

5.2 Issue Management

Issues are created against a project and can only belong to a single project. Issues can be moved between projects and can be linked to other issues.

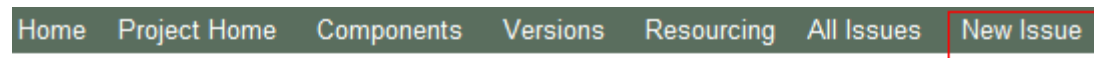
The following user roles are applicable to issue management:

User Role	Description
Issue Administration	Users in this role can created, edit, delete, move and link issues.
Create Issue	Users in this role can create issues.
Edit Issue	Users in this role can create edit issues.
Move Issue	Users in this role can move issues between projects.
Link Issue	Users in this role can link two issues.
Create Comment	Users in the role can add comments to issues.
Update Issue Progress	Users in this role can update issue progress.
Assign Resource When Creating Issue	Users in this role can assign a project resource when an issue is created.
View Private Issues	Users in this role can view issues marked as private.
View Time Logs/Reports	Users in this role can view issue time logs and reports.
Log Time Against Issue	Users in this role can log time spent against issues.
Manage Issue Time Logs	Users in this role can change issue time logs.

Issue privileges are assigned to users on a per project basis.

5.2.1 Creating

The New Issue link located on the project home page is used to create new issues.



Project: Gemini - GEM

Project Lead: CounterSoft

☐ [View](#) all issues for this project

The New Issue creation form is used to create a new issue:

Create New Issue

Provide information to create a new issue

Component Affected	<input type="text" value="Administration"/>
Issue Title	<input type="text"/>
Detailed Description	<div></div>
Issue Type	<input type="text" value="Bug"/>
Issue Priority	<input type="text" value="Major"/>
Fixed In Version	<input type="text" value="<None>"/>
Assigned To	<input type="text" value="<Nobody>"/>
Attachment (optional)	<input type="text"/> <input type="button" value="Browse..."/>

Each new issue must be assigned to a component. The issue title is a mandatory field and should be used to describe the issue in a single line. The issue description is a multi-line text entry used to describe in detail the issue. Issue type and priority should also be set as required. The “Fixed in Version” parameter can be used to indicate in which release the issue should be fixed or addressed.

The “Assigned To” parameter will be visible dependent upon user role. This parameter is used to specify which project resource should work on the issue.

Optionally, a file can be attached to the issue. Any attachment with an issue will be accessible to all users who view the issue. By default, the size of file attachments is limited to 4MB (this setting is configurable).

Any project custom fields will also appear on the “Create New Issue” form. Custom fields will appear before the attachment parameter.

A user who creates an issue is automatically sent email alerts whenever the issue is changed. A user who is assigned to work on an issue is also automatically sent email alerts. Both these behaviours are configurable.

5.2.2 Issues List

There are several locations within Gemini that provide “view all issues” links. Clicking on such links will result in the issues list being displayed:

Gemini
[[Road Map](#) | [Change Log](#)]

1-30 out of 56 (sorted by Revised descending) [Gantt](#) [Excel](#)

ID	Type	Priority	Component	Summary	Assigned To	Status	Resolution
GEM-150			User Interface	Road Map Enhancements	Lead Developer	Assigned	Unresolved
GEM-117			Filters & Searching	New Filter: Issue Aging	Lead Developer	Assigned	Unresolved
GEM-128			User Interface	Issues List Customisation	Lead Developer	Assigned	Unresolved
GEM-141			Installation & Configuration	Premature Session Termination	Lead Developer	Assigned	Unresolved
GEM-113			Filters & Searching	Issues List Sortation & Paging Enhancements	Lead Developer	Assigned	Unresolved
GEM-148			User Interface	Associate RETURN key with Find Issue box	Lead Developer	Assigned	Unresolved
GEM-139			Security	DotNetNuke Single Sign-on	Lead Developer	Assigned	Unresolved

This summary list of issues displays key information for each issue. Clicking on an Issue ID (highlighted in the above screenshot) enables the issue to be viewed.

Users with sufficient privileges within the project will also see an “Edit” column on the far right:

[Gantt](#) [Excel](#) [Print Friendly](#) [Summary Report](#)

Summary	Assigned To	Status	Resolution	Start Date	Due Date	Revised	
Road Map Enhancements	Lead Developer	Assigned	Unresolved			16/07/2004	Edit
New Filter: Issue Aging	Lead Developer	Assigned	Unresolved			14/07/2004	Edit
Issues List Customisation	Lead Developer	Assigned	Unresolved			14/07/2004	Edit
Premature Session Termination	Lead Developer	Assigned	Unresolved			14/07/2004	Edit
Issues List Sortation & Paging Enhancements	Lead Developer	Assigned	Unresolved			14/07/2004	Edit
Associate RETURN key with Find Issue box	Lead Developer	Assigned	Unresolved			07/07/2004	Edit
DotNetNuke Single Sign-on	Lead Developer	Assigned	Unresolved			03/07/2004	Edit

Clicking on the “Edit” link enables users to quickly edit an issue.

5.2.3 Viewing an Issue

The below screenshot is a typical view of an issue:

Cras dignissim tortor ut nunc

Created: 24/12/2004 15:50:20 Revised:24/12/2004 15:53:20

Description [\[Update\]](#)

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Cras lacinia elit ac mauris. Nam nulla turpis, posuere sed, sagittis sed, vulputate nec, wisi. Mauris quis lacus a nisi mattis egestas. Etiam luctus, nunc in consectetur tempor, wisi erat porta nisi, at commodo sem metus a justo. Duis vel magna. Aenean vel est at ligula tristique tincidunt. Etiam nec felis. Vestibulum ullamcorper risus quis arcu. Maecenas ornare bibendum mi. Vestibulum mauris dui, convallis in, viverra eget, sagittis eget, wisi. Curabitur nec est ac sapien euismod laoreet. Curabitur dapibus arcu tempor ante.

Pellentesque aliquet commodo libero. Etiam semper. Donec nulla lectus, hendrerit id, rutrum ut, posuere quis, metus. Etiam arcu justo, aliquam eget, rhoncus et, condimentum eget, felis. Mauris in libero. Nam iaculis elementum massa. Nam eros. Morbi fermentum. Mauris tincidunt turpis ac turpis. Fusce tincidunt. Proin sit amet purus. Suspendisse potenti. Sed accumsan neque non massa. Donec malesuada convallis mauris. Phasellus ultricies sodales sem. Nullam tincidunt pede vel quam. In portitor, risus nec volutpat pulvinar, tellus felis mollis odio, tempor malesuada libero dui quis enim. Donec in leo ac neque facilisis egestas. Mauris aliquam turpis eu enim.


Additional Information

Reference Number

Issue Links [\[Link\]](#)

Related

← ACME-14



Suspendisse eu lorem

Unassigned 

Comments [\[Comment\]](#)

Jon Smith 24/12/2004 [\[Edit\]](#) [\[Delete\]](#)

In orci justo, venenatis quis, placerat eu, condimentum nec, magna. Aliquam erat volutpat. Sed lectus arcu, dapibus et, portitor sed, ultrices nec, risus. Suspendisse portitor. Quisque rutrum erat nec neque. Fusce malesuada. Quisque suscipit elit sed elit. Pellentesque nunc.

Issue attributes are also visible when viewing an issue. Action links are also present when viewing an issue. The types of actions available are dependent upon the user's privileges.

Issue Details	
[Edit] [Move] [Delete]	
Issue ID	ACME-13
Type	 New Feature
Priority	 Trivial
Visibility	Public
Assigned to	Nick Conners
Reported by	Jon Smith
Component	Reporting
Fixed in Version	2.0
Risk Level	No Risk
Status	Unassigned  Update
Resolution	Unresolved

Time	
[Log]	
Start Date	?
Due Date	?
Estimated	0d 0h 0m
Logged	0d 0h 0m
Time Left	0d 0h 0m

-  [View](#) issue history
-  [Print](#) view
-  [Watch](#) this issue
-  [Add](#) Source Control file association

5.2.4 Editing

Users can change issue attributes by clicking on the “Edit” link:

Update Issue ACME-13
Edit the issue

Title	<input type="text" value="Cras dignissim tortor ut nunc"/>
Visibility	<input type="text" value="Public"/>



Assignment

Assigned To	<input type="text" value="Nick Conners"/>
Fixed In Version	<input type="text" value="NextGen"/>
Component	<input type="text" value="Reporting"/>
Risk Level	<input type="text" value="No Risk"/>

Detail

Type	<input type="text" value="New Feature"/>
Priority	<input type="text" value="Trivial"/>
Status	<input type="text" value="Unassigned"/>
Resolution	<input type="text" value="Unresolved"/>

Dates

Start Date	<input type="text"/>	
Due Date	<input type="text"/>	

Work Estimate [1 day = 7 hours 30 minutes]

Days	<input type="text" value="0"/>
Hours	<input type="text" value="0"/>
Minutes	<input type="text" value="0"/>

Custom fields are also displayed for editing purposes:

Additional Information

Reference Number	<input type="text" value="ABC123"/>
------------------	-------------------------------------

5.2.5 Deleting

When viewing an issue, the “Delete” issue action can be used to permanently remove an issue from a project. All issue data, comments, attachments, history and custom field data will be removed from Gemini.



5.2.6 Linking

An issue can be linked to many other issues and links can be created across projects. In order to link an issue, view the issue and click on the “Link” action.



The following screenshot shows the parameters required in order to create an issue link:

A screenshot of the 'Link Issue' form. The form has a title 'Link Issue' and a subtitle 'Link this issue to another issue'. It contains four main sections: 'Link Type' with a dropdown menu set to 'Duplicate'; 'Issue ID' with a text input field and a 'Find' button; 'Link Direction' with a dropdown menu set to 'Inbound' and a note '(relative to this issue)'; and 'Comment (Optional)' with a large text area and an upward arrow icon.

The following two issue linking concepts should be understood before attempting to create issue links:

Link Type

A link type is a categorisation used to determine the reason for linking an issue. By default the following link types are provided:

Link Type	Description
Duplicate	Specifies that two or more issues are duplicates of each other
Grouped	Specifies that two or more issues are grouped together
Related	Specifies that two or more issues are related

Issue link types can be created and maintained via the System Admin menu option.

Link Direction

When creating an issue link, the link direction can be specified in order to state the link flow between two issues. Link direction helps users establish parent/child relationship between linked issues.

Two link type values are supported: Inbound and Outbound.

5.2.7 Moving

An issue can be moved between projects.

Issue Details	[Edit]	[Move]	[Delete]
Issue ID	ACME-13		

The following parameters must be configured before an issue can be moved:

Move Issue
Move this issue to another project

Issue ID	<input type="text" value="13"/>
Project	<input type="text" value="ACME System"/>
Component	<input type="text" value="Data Loader"/>
Reported By	<input type="text" value="David"/>
Issue History	<input checked="" type="radio"/> Keep intact <input type="radio"/> Reset

Note: Any custom field data for this issue will be lost after the move.

The Issue ID cannot be changed. The issue can be moved to any other Gemini project. The issue being moved must be assigned a component from the target project. Furthermore, the issue reported can be changed where necessary.

Issue history data can either be preserved or removed during the issue move.

Note: custom data is not preserved during an issue move.

5.2.8 Issue Visibility

Each issue and issue comment can be given either public or private visibility. Private issues and issue comments are only visible by users who have the user role of “View Private Issues”. This provides the ability to “hide” issues and issue comments from certain groups of user.



Issue Visibility

Issue Type

Public

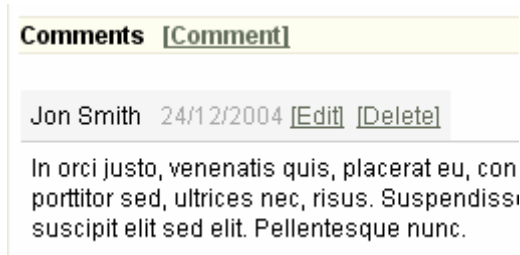
Public

Private

5.2.9 Comments

Multiple comments can be recorded against an issue. Each comment can have a single attachment and its visibility can be specified (public or private).

Comments can be edited (text or attachment) as well as deleted.



Comments [\[Comment\]](#)

Jon Smith 24/12/2004 [\[Edit\]](#) [\[Delete\]](#)

In orci justo, venenatis quis, placerat eu, con porttitor sed, ultrices nec, risus. Suspendiss...

5.2.10 Issue Watchers

Users can be configured to watch or stop watching an issue. An email alert will be sent to users when they are added to the watch list.

- ☐ [View](#) issue history
- ☐ [Print](#) view
- ☐ [Watch](#) this issue
- ☐ [Set](#) issue watchers
- ☐ [Add](#) source control file association

5.2.11 Time Logging

Users can specify the estimated time to complete the issue.

Work Estimate [1 day = 7 hours 30 minutes]	
Days	<input type="text" value="0"/>
Hours	<input type="text" value="0"/>
Minutes	<input type="text" value="0"/>

The definition of a working day (in hours and minutes) is specified in the Gemini “web.config” file.

Users can log time spent against an issue

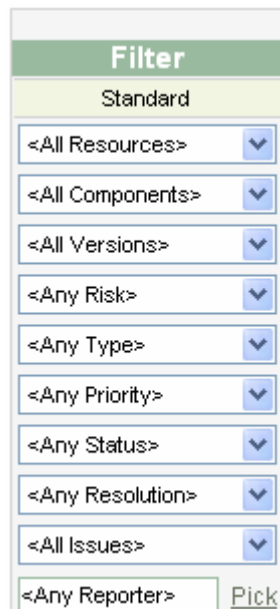
Time	[Log]
Start Date	?
Due Date	?
Estimated	4d 6h 30m
Logged	2d 2h 20m
Time Left	2d 4h 10m

When specifying a time entry against an issue, users can specify on which day the time was spent:

Log time against issue																																																														
Time entry date: 24/12/2004																																																														
<table><tr><td>≤</td><td colspan="5">December 2004</td><td>≥</td></tr><tr><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td><td>S</td></tr><tr><td>29</td><td>30</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr><tr><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td></tr><tr><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td></tr><tr><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td></tr><tr><td>27</td><td>28</td><td>29</td><td>30</td><td>31</td><td>1</td><td>2</td></tr><tr><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr></table>							≤	December 2004					≥	M	T	W	T	F	S	S	29	30	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9
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6	7	8	9	10	11	12																																																								
13	14	15	16	17	18	19																																																								
20	21	22	23	24	25	26																																																								
27	28	29	30	31	1	2																																																								
3	4	5	6	7	8	9																																																								
Time spent																																																														
Hours	<input type="text"/>																																																													
Minutes	<input type="text"/>																																																													
Resource																																																														
<input type="text" value="David"/>						▼																																																								

5.2.12 Filtering Issues

There are several links within Gemini that will take you the main issues list page. To the left of the page will be the issues filter box:

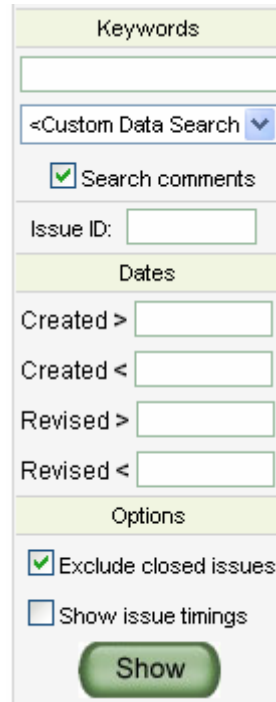


The filter box allows users to specify criteria that will result in a filtered issues list.

The dropdown boxes pertain to the various issue attributes.

Any combination of dropdowns and keywords can be used to filter the issues list.

Issues submitted by a particular user can also be filtered. Specify either a Gemini username or a users' full name.



Users can enter keywords to limit the issues list. The keyword search can be extended to include searching of issue comments as well as custom fields of type textbox.

Dates can be used to filter issues.

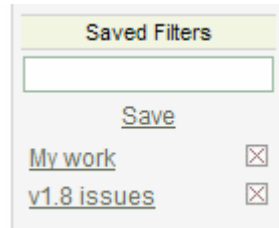
Users can also specify an Issue ID and only the issue with the matching ID will be returned in the issues list.

Filters can be saved and subsequently used to filter issues – see next section.

5.2.13 Personal Saved Filters

Any filter can be saved and subsequently used. Personal saved filters are defined on a per project basis.

Saved filters are displayed below the filters box:



Saved Filters

[Save](#)

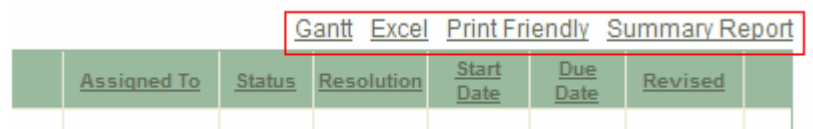
[My work](#) ☐

[v1.8 issues](#) ☐

Simply enter a filter name and click “Save” to save the filter. Clicking on a saved filter will result in the filter being executed – only issues that meet the filter specification will be returned. Saved filters can be deleted by clicking on the “X” icon – no confirmation dialog will be presented so click with care!

5.2.14 Reporting

There are several links reports located on the issues list page (as marked in red below):



The Excel, Print Friendly and Summary Report are all generated using XSL technology – the reports can be customised as per requirements.

The Excel and Print Friendly reports show all columns as visible in the issues grid plus custom fields.

The Summary Report shows fewer columns but does show the first 200 characters of the issue description.

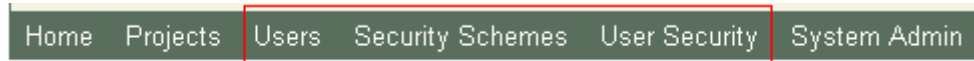
5.2.15 Gantt View

The Gantt view displays filtered issues against a timeline. Issue Start and Due date fields are used to plot issues against a timeline.

5.3 User Management

Gemini currently supports forms authentication: users must provide a username and password security credentials.

Only Gemini administrators have rights to setup users and to assign user roles. The options highlighted below are used to maintain users, security schemes and user privileges within Gemini:



The “Users” link allows for the creation, editing and deletion of users.

The “Security Schemes” link allows for the creation, editing and deletion of security schemes.

The “User Roles” link allows for the assignment of security schemes to users on a per project basis.

5.3.1 User Creation

Users can be created in one of two ways:

1. A user clicks on the registration link and self-registers. Such users will not have any default user roles and will require user role assignment.
2. A Gemini administrator creates a user account.

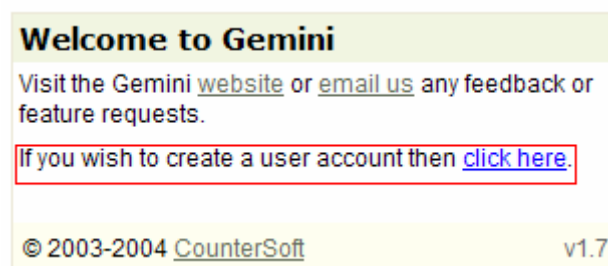
5.3.2 Anonymous Access

Anonymous user access can be enabled to allow unauthenticated users to browse Gemini. This situation is useful on public-facing installations of Gemini where the general public can browse Gemini projects without requiring registration.

See the Configuration section to see how this setting can be changed.

5.3.3 Self User Registration

Users can register themselves by clicking on a “register” link:



Users are required to fill in a simple Gemini registration form to create a Gemini user account:

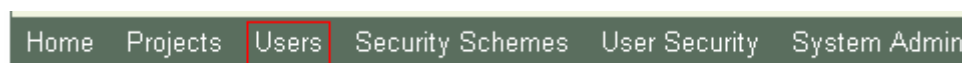
New User Registration

Please enter the required information below.
Upon successful completion, you will be redirected to the login page.

Username	<input type="text"/>
Password	<input type="password"/>
Firstname	<input type="text"/>
Surname	<input type="text"/>
Email Address	<input type="text"/>

All fields are mandatory and the username must be unique within each Gemini installation.

5.3.4 User Maintenance



The “Users” link displays all Gemini users:

ID	User Name	Password	Firstname	Surname	Email			
-1	anon		* Anonymous	User *	anon@anon.com	<input type="checkbox"/> Admin	Edit	Delete
5	Bob		Bob	Green	bob@kandola.com	<input type="checkbox"/> Admin	Edit	Delete
8	David		David	Jones	harvey@kandola.com	<input type="checkbox"/> Admin	Edit	Delete
6	Fred		Fred	Brown	harvey@kandola.com	<input type="checkbox"/> Admin	Edit	Delete
10	Jane		Jane	Furlong	harvey@kandola.com	<input type="checkbox"/> Admin	Edit	Delete
2	x		John	O'Shea	d	<input type="checkbox"/> Admin	Edit	Delete
1	admin		Jon	Smith	jon@smith.com	<input checked="" type="checkbox"/> Admin	Edit	Delete
9	Nick		Nick	Connors	harvey@kandola.com	<input type="checkbox"/> Admin	Edit	Delete
7	Paul		Paul	Davis	harvey@kandola.com	<input type="checkbox"/> Admin	Edit	Delete

Users can be deleted by clicking on the “Delete” link. A confirmation dialog box will be displayed asking for deletion confirmation.

User details such as password, first name, surname and email can also be changed by clicking on the “Edit” link.

The “Admin” checkbox signifies that a user is a Gemini Administrator. Click the “Edit” link in order to change the state of the “Admin” checkbox.

A special “anon” user exists within Gemini and is used to control anonymous user access behaviour. This user cannot be edited or deleted.

5.3.5 Security Schemes

Home Projects Users **Security Schemes** User Security System Admin

A security scheme is a collection of user roles. Such schemes can be applied to both projects and users. Security schemes are defined at the Gemini – they are not defined at the project level.

Clicking on the “Security Schemes” link displays all the current schemes within Gemini. Several security schemes are provided by Gemini out-of-the-box:

Security Schemes

This screen enables the creation and maintenance of security schemes. Such schemes define a collection of user roles and these schemes can be applied to projects as well as users. Security schemes are akin to “user groups”.

[Create](#) security scheme

Issue Administration	Issue Administrator, View Project	Edit
Issue Creator	Create Issue, Create Issue Comment, View Project	Edit
Issue Worker	Create Issue, Link Issue, Move Issue, Create Issue Comment, Update Issue Progress, Assign Resource, View Project	Edit
No Access		Edit
Project Administration	Project Administrator, View Project	Edit
Viewer	View Project	Edit

Editing a security scheme displays the following screen:

Security Scheme

This screen enables the definition of a security scheme.

This scheme is used by the following projects:
Accounting System
Test

Scheme Name

Issue Creator

Scheme User Roles

☐ Project Administration

☐ Issue Administration

☒ Create Issue

☐ Edit Issue

☐ Delete Issue

☐ Link Issue

☐ Move Issue

☒ Create Comment

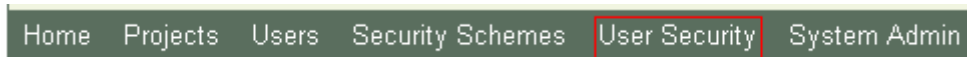
☐ Update Issue Progress

☐ Assign Resource

☒ View Project

If a security scheme is assigned to projects, those projects are listed (as highlighted above).

5.3.6 User Security



The “User Security” link is used to manage user privileges on a per project basis:

The 'User Security' interface is shown within a light green header. Below the header, there is a descriptive paragraph: 'Assign security schemes to individual users on a per project basis. Users will automatically inherit the default project security scheme where they have not been given an explicit security scheme.' Below this, there are three numbered steps: '1. Select Project', '2. Select User', and '3. Assign Security Scheme'. Each step has a corresponding list box. Step 1 shows 'Intranet' selected, with 'Accounting System' and 'Test' as options. Step 2 shows '* Anonymous User *' selected, with a list of names: Anthony Spade, Bob Jones, Dave Green, Fred Bloggs, Harvey Kandola, Jon Smith, and Mark Cohen. Step 3 shows '<No Scheme>' selected, with a list of roles: Issue Administration, Issue Creator, Issue Worker, No Access, Project Administration, and 'Viewer' (which is highlighted with a blue background).

Users are assigned a security scheme for each project. The roles defined within the security scheme are given to the user.

5.3.7 Passwords

User passwords are stored using one-way MD5 encryption – there is no way to notify a user of their current password.

Users who forget their password are asked to either ask a Gemini Administrator to reset their password or click on the “Forgot your password” link (highlighted below):

A login form titled 'Login' in a light green header. It contains two input fields: 'Username' and 'Password'. Below these is a checkbox labeled 'Remember me'. Below the checkbox is a link 'Forgot your password?' which is highlighted with a red rectangular border. At the bottom of the form is a green 'Login' button.

Clicking on the “Forgot your password” link will prompt you for your Gemini username:

Gemini Password Reset

Please provide your username.

A password reset confirmation email will be sent to your email address.

Username

Reset

A password reset confirmation email will be sent to the email address associated with the username that was entered. The password reset confirmation email will contain a hyperlink that has to be clicked in order for the password to be reset.

5.4 Email Alerts

Gemini can send you email alerts whenever issues are created, updated, deleted, etc. Users can configure which type of email alerts they wish to receive on a per project basis.

5.4.1 Configuring Your Alerts

Email alerts can be configured for a project by clicking on the “Email Alerts” link as highlighted below:

[Issues](#) [Road Map](#) [Change Log](#) [Email Alerts](#) [Time Report](#) [Custom fields](#) [Security Scheme](#)

This will display the email alerts configuration link:

Configure Project Email Alerts
Choose which email alerts you wish to receive for this project.
You can set you preferred email format from My Profile link.

☒

Receive alert when issue is CREATED

☒

Receive alert when issue is UPDATED

☐

Receive alert when issue is DELETED

☐

Receive alert when COMMENT is added to issue

☐

Receive alert when resource ASSIGNED to issue

☒

Receive alert when issue is CLOSED

☐

Receive alert when issue is RESOLVED

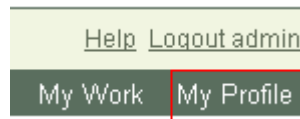
☒

Receive alert when issue STATUS changes

☐

Receive alert when issue RESOLUTION changes

5.4.2 Manage Your Profile



Users can change their profile as well as setting their preferences.

User profile:

Profile	
Define your user profile	
Username	<input type="text" value="Developer"/>
Password	<input type="password"/>
Confirm Password	<input type="password"/>
Firstname	<input type="text" value="Lead"/>
Surname	<input type="text" value="Developer"/>
Email	<input type="text" value="support@countersoft.com"/>

User preferences:

Preferences	
Configure your options (affects all projects)	
Maximum number of issues in list	<input type="text" value="30"/>
After creating issue	<input type="text" value="Navigate To Issues List"/> ▼
After editing issue	<input type="text" value="Navigate To Issues List"/> ▼
When switching projects	<input type="text" value="Navigate To Project Home"/> ▼
Preferred email format	<input type="text" value="HTML"/> ▼
Receive email alerts	<input type="text" value="No"/> ▼
Email me my changes	<input type="text" value="No"/> ▼

Preference settings definitions are as follows:

Preference Setting	Description
Maximum number of issues in list	This setting controls how many issues should be displayed at any time when viewing the issues list.
After creating issue	This setting controls where the user should be redirected after creating a new issue.
After editing issue	This setting controls where the user should be redirected after editing an issue.
When switching projects	This setting controls whether the user should be redirected to the project home page or to the project issues page after switching projects (using the project dropdown list box located on the top navigation bar).
Preferred email format	A user can choose to receive either HTML or TEXT format emails.
Receive email alerts	This setting allows a user to turn off all email alerts for all projects but still preserve their individual project email alert preferences.
Email me my changes	This setting can be used to not send a user email alerts when they have initiated the alert (by creating or updating an issue, etc.).

6. Source Control Integration

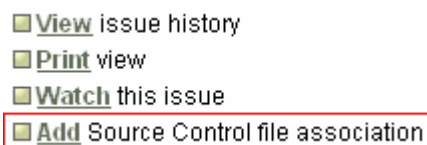
6.1 Overview

Users can associate source control files with an issue in one of two ways:

1. Automatic: deploy integration code that would intercept file check-in events and post source code file information to Gemini via the URL <http://yourserver/gemini/sc/AddSCFile.aspx>.
2. Manual: use the Gemini user interface to specify a link to a source code file.

6.2 Manual Source Control File Association

When viewing an issue, click on the “Add Source Control file association” link:



After clicking on the link you'll be presented with the following screen:

ACME System
[[Road Map](#) | [Change Log](#)]

[ACME-5] Add Source Control File

Add a source control file to this issue

File Name	<input type="text"/>
File Path	<input type="text"/>
Repository	<input type="text"/>

Simply enter the files' name, path and repository. For example: file name: Gemini.doc, file path: `$/Projects/Gemini/Documents`, repository: [\\server\\ssafe.ini](#).

After adding a file to an issue you can see all the associated files:

Issue Links [Link]		
None		
Source Control Files		
File Name	Path	Repository
<input checked="" type="checkbox"/> Gemini.doc	\$/Projects/Gemini/Documents	\\server\\ssafe.ini

You can click on the ☒ icon to disassociate the file with the issue.

6.3 Automatic Integration Basics

Gemini exposes web services and a URL method to allow source control integration.

We also provide a sample VC++ project to allow Gemini to integrate with Microsoft's SourceSafe. This can be used to integrate Gemini with any other source control software that exposes it's events in a similar manner. Below is the structure of the URL:

```
http://yourserver/gemini/sc/AddSCFile.aspx?ii=1&fn=gemini.doc&ac=ABC23&scr=\\server\ssafe.ini&fp= Projects/Gemini/Documents
```

These are the URL parameters:

Query String	Description
ii	Issue ID. The issue ID to associate the file with.
fn	File name. The file name to associate.
ac	Access Code. You can disable the use of this code in the web.config file.
scr	Source Control Repository.
fp	File Path. The path of the file (within source control).
on	Old Name. This parameter is only used if the issue id is -999. It allows renaming of a source control file.

Please note that you'll have to encode the parameters when using the URL option.

6.3.1 Microsoft Visual SourceSafe

Gemini provides a Microsoft Visual C++ COM component that hooks up to Microsoft Visual SourceSafe's (VSS) API. This component will have to be installed on every VSS client machine. It uses registry setting for Gemini's location and page name.

The access code is hard coded in the code for security reasons; you can either change the source code or ask Gemini to ignore the Access Code for the source control URL via the `UseAccessCodeForSourceControl` key in the web.config file.

To install:

1. Copy GeminiVSS.dll to each client machine
2. Run `REGSVR32 GEMINIVSS.DLL`,
3. Double click on `GEMINIVSS.REG` file to install the registry settings (you'll have to change the contents of this file to suit your needs).
4. Create a new file called `ssaddin.ini` under the win32 of your SourceSafe client folder and put the following line: `GeminiVSS.SourceSafe.1=1`. This will ensure that Gemini SourceSafe add-in is used.

When you check in/out files from VSS, put "GEM:XXX" at the start of the comment where XXX is an issue ID (numeric only). This will associate all files part of the check-in with a single issue.

6.3.2 CVSNT

The integration with CVSNT is done on commits only. When you commit you will have to specify a message (`-m` in CVS command line tool) that starts with "GEM:XXX" where XXX is an issue ID (numeric only). This will associate all files committed with that issue.

The access code is hard coded in the code for security reasons; you can either change the source code or ask Gemini to ignore the Access Code for the source control URL via the `UseAccessCodeForSourceControl` key in the `web.config` file.

To install:

1. Copy `GEMINICVSNT.DLL` to your CVSNT folder (on the server).
2. Double click on `GeminiCVSNT.reg` file to install the registry settings (you'll have to change the contents of this file to suit your needs).
3. Check-out the `LOGINFO` file from your CVS root.
4. Put the following line at the end of the `LOGINFO` file: `DEFAULT @GeminiCVSNT.dll`.
5. Commit `LOGINFO` the file.

6.3.3 Other Source Control Systems

Most of the source control systems provide some kind of trigger/API functionality, which is similar to SourceSafe or CVSNT. Simply create a trigger that will post the check-in file information to Gemini via the URL <http://yourserver/gemini/sc/AddSCFile.aspx>.

We would be happy to provide sample code and guidance if required!

7. SMTP Mail Box Processor

7.1 Overview

The SMTP Mail Box Processor helps users to add issue via emails.

You specify an Email address to “listen” to and default configuration options and the mail box processor is run periodically checking for new emails and adding their content, including attachments, to Gemini. This works using Gemini web services and runs as Windows Service on any machine that has the .NET framework installed.

All code can be found in the “**Code Samples\MailBox Processor**” folder.

7.2 Installing / Uninstalling

Extract the files to a folder of your choice. Navigate to the bin folder and run “installutil.exe”, which can be found under C:\WINDOWS\Microsoft.NET\Framework\v1.1.4322, passing GeminiSMTP.exe as a parameter. This will create a windows service called Gemini SMTP Service.

Before starting the service you should note that it will automatically look for a configuration file called GeminiEmailSettings.xml in the root of your C drive. You can change that by passing a start parameter, which is the file name (including full path), to the service.

To uninstall the service simply run “installutil.exe /u geminismtp.exe”. You should execute this command from the location of GeminiSMTP.exe.

7.3 Configuration File

The table below will explain each tag and its use:

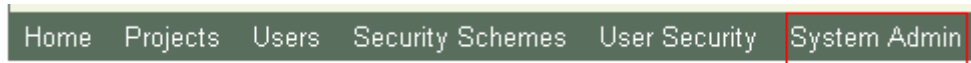
Tag	Description
GeminiURL	The URL for Gemini (including the trailing /).
WebServicesCode	The access code for the web services.
CheckEverySecs	How long to wait between checks.

Below are the tags that are used per project:

Tag	Description
ProjectID	The project ID that will be used to allocate the issues to.
UserID	The user ID to use when creating issues.
ComponentID	The component ID to use when creating an issue.
IssueType	The type to set the newly created issue.
IssuePriority	The priority to set the newly created issue
EmailServer	The name of your email server.
EmailAddress	The email address to check.
EmailUserName	The emails' user name.
EmailPassword	The emails' password.
DeleteMessages	Whether to keep or delete processed messages (true/false).
SubjectLikeRegExp	If this is populated the subject must match the regular expression.
SubjectNOTLikeRegExp	If this is populated the subject mustn't match the regular expression.

8. System Administration

The Gemini system administration options can be accessed via the “System Admin” link highlighted below:



Clicking on the “System Admin” link leads the following options:

<u>System Error Log</u>	<u>Issue Link Types</u>
View error and debug messages	Maintain issue link types
<u>Issue Type & Priority</u>	<u>Issue Status</u>
Maintain issue type and priority data items	Define issue status values and associated workflow

8.1 System Error Log

This option enables administrators to view Gemini error and debug information. An option is provided to delete all log entries.

8.2 Issue Link Types

This option enables administrators to configure (add/remove) issue link types.

8.3 Issue Type & Priority

This option enables administrators to configure (add/remove) issue type and priority items.

8.4 Issue Status

This option enables administrators to configure (add/remove) issue status values and define issue status workflow.

9. Customisation

9.1 Issue Type & Priority

Issue type and priority can be customised as per your requirements. This functionality is available to Gemini administrators via the “System Admin” option:

Issue Type & Priority Data Maintenance

Create, edit and delete issue type and priority data associated with Gemini.

Lookup Data:

Issue Type
Issue Type
Issue Priority

Item ID	Description	Image Path			
3	New Feature	images/Type_NewFeature.jpg	Edit	Delete	Move Down
2	Enhancement	images/Type_Enhancement.jpg	Edit	Delete	Move Up Move Down
4	Task	images/Type_Task.jpg	Edit	Delete	Move Up Move Down
1	Bug	images/Type_Bug.jpg	Edit	Delete	Move Up

Create New Item

Specify all data fields

Item ID Description Image Path [Create](#)

Issue type & priority item actions can be summarised as follows:

- Create item: specify item name, description and image path.
- Edit item: change item name, description and image path.
- Delete item.
- Define item on-screen sort order: move up & move down.

Note: ensure that image paths specified are correct!

9.2 Issue Links

Issue link types can be customised by Gemini administrators via the “System Admin” option.

9.3 Issue Status

Issue status items can be customised by Gemini administrators via the “System Admin” option. Items can be created, updated and deleted. Furthermore, issue status workflow can be defined to determine how an issue can change status values.

Issue Status Maintenance
Create, edit and delete Issue Status values.

☐ Define new Issue Status value

Status ID	Status Description		
1	Unassigned	Edit	Move Down
2	Assigned	Edit	Move Up Move Down
3	In Progress	Edit	Move Up Move Down
4	Closed	Edit	Move Up Move Down
5	Reopened	Edit	Move Up

One and only one issue status item should be marked as the “final status”. This “final status” value determines the issue status item that relates to the status of CLOSED.

9.3.1 Issue Status Workflow

Each issue status can be valid pre and post states. These states determine how an issue status can change: can an issue marked as “In Progress” then be changed to “Closed”?

Status Workflow
Define the valid pre and post status values in relation to this issue.
The values selected below will determine the issue status workflow.

Valid Pre States

Unassigned
Assigned
In Progress
Closed
Reopened

Valid Post States

Unassigned
Assigned
In Progress
Closed
Reopened

9.4 Email Alert Templates

Email alert templates are located under the "templates" folder of the web application. Email templates are provided for both HTML and TEXT email formats

Email templates are created using the NVelocity template engine. The look and feel of the email template can be customised. Furthermore the actual email content can be defined for each email alert type (issue create, update, deleted, etc.).

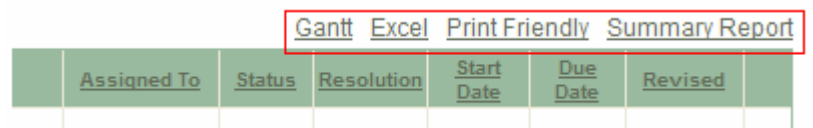
See <http://nvelocity.sourceforge.net> for more details.

9.5 Projects List XSL

The projects list on the main page is rendered using XML/XSL. The file "views\ProjectsList.xsl" located within the Gemini web application can be customised as per requirements.

9.6 Issue Reports XSL

There are several report links located on the issues list page (as marked in red below):



The report links will display the currently filtered issues in either Excel or HTML format in a separate browser window.

The reports are generated using XSL technology. The XSL templates are held within the "views" folder below Gemini the web application folder:

File	Description
Issue.xsl	Defines the issue print view (for single issue). Shows how to render custom fields for an issue as well all issue comments.
IssueExcel.xsl	Defines the Excel view including landscape print setup. Displays multiple issues in a list format – one row per issue with custom field data.
IssuePrint.xsl	Defines the print view for multiple issues in a list format – one row per issue with custom field data.
IssueSummary.xsl	Defines a summary view for multiple issues in a list format – one row per issue with the first 200 characters of the issue description.

9.6.1 Report Fields

The following fields are available for reporting from within an XSL report template file:

Field (XSL)	Description
issueid	Issue ID
issuekey	Issue key (project code + issue ID)
isstype	Type value
typedesc	Type name
isspriority	Priority value
prioritydesc	Priority name
issstatus	Status value
statusdesc	Status name
issresolution	Resolution value
resdesc	Resolution name
compname	Component name
verdesc	"Fixed in Version" name
risklevel	Risk level value
riskdesc	Risk level name
reporteddesc	User who reported the issue
assigneddesc	User who is assigned to the issue
startdate	Issue work start date
duedate	Issue work due date
estimatedays	Estimated work in days
estimatehours	Estimated work in hours
estimateminutes	Estimated work in minutes
summary	Issue title text
longdesc	Issue description text
created	Created date
revised	Revised date

Note: all field names are lower-case.

9.7 Additional Reports

Additional user reports can be added to the issue list page. The below screenshot shows the reports that are provided with Gemini:



The screenshot shows a table with columns: Assigned To, Status, Resolution, Start Date, Due Date, and Revised. Above the table, there are four links: Gantt, Excel, Print Friendly, and Summary Report. These links are enclosed in a red rectangular box.

Assigned To	Status	Resolution	Start Date	Due Date	Revised
-------------	--------	------------	------------	----------	---------

Additional reports can be created that can be used to display current issues as filtered in the issues list page.

The following steps should be followed to create additional reports:

1. Define your XSL template and place it in the “views” folder.
2. Add a link to the issues list page (screenshot above).
 - a. The link should be to the IssueReport.aspx page.
 - b. The link should pass in an “xsl” URL parameter that specifies the name of your new XSL template – do not specify the “.xsl” extension or the path to the “views” folder.

The “Excel”, “Print Friendly” and “Summary Report” links can be examined for further clarification.

9.8 SMTP Mailbox Processing

9.9 We Can Help

We provide Gemini customisation services – discuss your requirements with us and we will endeavour to provide a cost-effective solution.

Contact sales@countersoft.com with your requirements.

10. Gemini Event Listener API

10.1 Overview

Gemini provides an event listener model enabling users to listen and handle events that have been raised within Gemini. For instance, users can write custom code that could be invoked when a new issue is created within Gemini.

Entity classes are used extensively within Gemini to depict projects, versions, users, issues, etc. Event arguments are used to marshal data from within Gemini to the custom user code that handles the event. Typically event arguments contain entity objects that contain Gemini data (such as issue data).

The GeminiLib.dll assembly contains the event API and associated entity and event argument classes. This assembly enables you to develop your own plug-ins that can consume Gemini events.

10.2 Entities

The following table details the Entity classes exposed via the Gemini API:

Entity Class	Description
ChangeLogEN	Represents a change for an issue.
ComponentEN	Represents a component for a project.
CustomFieldDataEN	Represents custom field data for a given custom field.
CustomFieldEN	Represents a custom field definition.
FileEN	Represents a file attachment (for an issue).
FilterEN	Represents a personal issue filter.
IssueEN	Represents an issue.
IssueExtraEN	Represents an issue comment or change log entry.
IssueLinkEN	Represents an issue link definition.
IssueTimeEntryEN	Represents an issue time log entry.
IssueWatcherEN	Represents a user watching an issue.
ProjectEN	Represents a project.
ProjectResourceEN	Represents an assigned project resource.
ProjectStatsEN	Represents statistics for all projects within Gemini.
SecuritySchemeEN	Represents a security scheme within Gemini.
SourceControlEN	Represents a source file related to an issue.
UserEN	Represents a user within Gemini.
UserRolesEN	Represents a user role for a given user.
VersionEN	Represents a version for a project.

10.3 Helpers

The following table details the Helper classes exposed via the Gemini API:

Class	Description
GeminiHelper	Contains various helper methods (exception logging, etc.)
GeminiConstant	Exposes constants used throughout Gemini.
GeminiConstant.IssueAlertType	Enumeration of issue watch types (email alert types).
GeminiConstant.IssueEventSource	Enumeration of possible issue event source types.
GeminiConstant.IssueResolution	Enumeration of issue resolution values.
GeminiConstant.IssueStatus	Enumeration of issue status values.

10.4 Events

The Gemini API provides interfaces that can be used by custom user code to listen and consume Gemini events:

Interface	Description
IGeminiListener	The base interface that all other interfaces are derived from.
IIssueListener	<p>This interface exposes the following event-handling methods:</p> <ul style="list-style-type: none">• IssueAssigned• IssueClosed• IssueCommented• IssueCreated• IssueDeleted• IssueProgressUpdate• IssueResolutionChange• IssueResolved• IssueStatusChange• IssueUpdated <p>Custom user code can implement this interface and provide method implementations to handle the above events. The methods receive the IssueEventArgs parameter (which contains the event date, Issue Entity and Issue Extra Entity (issue comments)).</p>
IProjectResourceListener	<p>This interface exposes the following event-handling methods:</p> <ul style="list-style-type: none">• ProjectResourceAdded• ProjectResourceRemoved <p>Custom user code can implement this interface and provide method implementations to handle the above events. The methods receive the ProjectResourceEventArgs parameter (which contains the event date and Project Resource Entity).</p>
IUserListener	<p>This interface exposes the following event-handling methods:</p> <ul style="list-style-type: none">• UserCreated• UserDeleted <p>Custom user code can implement this interface and provide method implementations to handle the above events. The methods receive the UserEventArgs parameter (which contains the event date, Project Entity and User Entity).</p>

10.5 Creating a Plug-in

The following steps should be followed to create a custom assembly (DLL) that can listen and handle Gemini events:

1. Start Visual Studio .NET.
2. Create a new Class Library project (C# or VB.NET) and reference the GeminiLib.dll file (can be found within the Gemini web applications BIN directory).
3. Implement any of the interfaces provided within the GeminiLib.dll assembly. For convenience, users can also simply extend from the AbstractIssueListener abstract class. This abstract class already implements IIssueListener, IUserListener and the IProjectResourceListener interfaces.
4. Provide method implementations for any event you wish to consume.

Simply compile your .NET Class Library project and place the resulting DLL into the web applications "Gemini\Bin\Plugins" folder.

Sample code that demonstrates how to create a custom plug-in that listens for a Gemini event:

```
using GeminiLib;

namespace MyGeminiPlugins
{
    public class MyPlugin : AbstractIssueListener
    {
        public MyPlugin()
        {
        }

        public override void IssueCreated(IssueEventArgs args)
        {
            try
            {
                // Your code to handle the issue created event
            }
            catch(Exception ex)
            {
                GeminiHelper.LogException(ex);
            }
        }
    }
}
```

10.6 Gemini Email Plug-in

Gemini email alerts are produced by the Gemini Email plug-in that is located within the BIN folder of the web application. The mail plug-in uses the Gemini events sub-system to consume Gemini events. The plug-in determines which users should receive which type of alert as well as determining the users' chosen email content format.

The Gemini Email plug-in has its own configuration section in the web application WEB.CONFIG file. The settings are self-explanatory. Remember to change the SMTP server setting!

The actual email is produced by using predefined templates. These are located under the "templates" folder of the web application. Email templates are provided for both HTML and TEXT email formats. Users of Gemini can now specify which format of email they prefer. You may wish to prevent READ access to the "templates" folder so that users cannot browse the email templates via a web browser.

Email templates are created using the NVelocity template engine. See <http://nvelocity.sourceforge.net> for product details.

Source code for the Gemini Email plug-in is available to Commercial License customers.

If your SMTP server requires authentication (user/password) then you will require the source code to the GeminiMail plug-in. Once obtained, you can modify the source to perform SMTP authentication:

<http://dotnetjunkies.com/weblog/blue/posts/3925.aspx>
http://www.codeproject.com/dotnet/SystemWeb_Mail_SMTP_AUTH.asp

General SMTP and "CDO object" troubleshooting help can be found at <http://www.systemwebmail.com/faq/4.2.3.aspx>.

11. Gemini Web Services

11.1 Overview

Gemini provides web services that allow for the creation and management of issues as well as providing project, version and component data.

All web methods exposed by web services accept an “access code” parameter. The value of this parameter is defined within the web application’s “web.config” file. A web service request is only processed if the value of the “access code” passed to the method matches the value as defined by the “web.config” file.

11.2 Proxy

A Gemini web services proxy class (GeminiWSProxy.cs) is provided and exposes the web service methods. Using this proxy ensures that the return parameters from web services are the actual return types (Gemini Entities) as opposed to generic objects.

The following sections detail the web methods provided by Gemini.

11.3 Projects

Method	Parameters	Return Parameter
GetProject	Project ID	Project entity.
GetAllProjects		Project entity collection.
GetAllViewableProjects	User ID	Project entity collection.
GetProjectResources	Project ID	Project Resource entity collection.
GetProjectChangeLog	Project ID	DataSet containing issues for all released versions.
GetProjectRoadMap	Project ID	DataSet containing issues for all unreleased versions.

11.4 Components

Method	Parameters	Return Parameter
GetComponent	Component ID	Component entity.
GetAllComponents	Project ID	Component entity collection for a given project.

11.5 Versions

Method	Parameters	Return Parameter
GetVersion	Version ID	Version entity.
GetAllVersions	Project ID	Version entity collection for a given project.

11.6 Issues

The following web service methods allow for the creation and maintenance of issues and comments. Furthermore, methods are provided to retrieve bulk issues.

Method	Parameters	Return Parameter
GetIssueTypes		DataSet of Gemini issue types.
GetIssuePriorities		DataSet of Gemini issue priorities.
GetIssue	Issue ID	Issue entity.
GetIssueCustomFields	Project ID, Issue ID	Custom Field entity collection.
GetAllIssuesForProject	Project ID	DataSet containing all issues for a project.
GetAllIssuesForComponent	Component ID	DataSet containing all issues for a given component.
GetAllIssuesForVersion	Version ID	DataSet containing all issues for a given version.
GetAllIssuesReportedByUser	User ID	DataSet containing all issues reported by the user.
GetUserViewableProjectIssues	Project ID, User ID	DataSet containing all viewable issues for the user.
GetUserWorkload	User ID	DataSet containing all issues assigned to the user across all projects.
GetFilteredIssuesByFilterID	Filter ID	DataSet containing issues that meet the filter criteria. The filter ID is assigned to a personal filter – the ID is visible on-screen in the form of a tool tip.
GetFilteredIssues	Filter Entity	DataSet containing issues that meet the criteria as defined by the Filter entity.
CreateIssue	Issue Entity	Issue ID of the newly created issue is returned.
CreateIssueWithCustomFields	Issue Entity, Custom Field Data Entity array, User ID	Issue ID of the newly created issue is returned. The custom fields specified are also created against the issue.
CreateIssueWithAttachment	Issue Entity, File Entity, Byte array	Issue ID of the newly created issue is returned. The file attachment is created as specified the File entity and the byte array.
AddIssueComment	IssueExtra Entity, User ID	Issue Comment ID is returned for the newly created issue comment.
AddIssueComment	IssueExtra Entity, File Entity, Byte array, User ID	Issue Comment ID is returned for the newly created issue comment.
UpdateIssue	Issue Entity, User ID	
UpdateIssueWithCustomFields	Issue Entity, Custom Field Data Entity array, User ID	

11.7 Source Control

The following web service methods allow for integration with source control providers.

Method	Parameters	Return Parameter
GetIssueSourceControlFiles	Issue ID	Collection of SourceControl entity items.
AddIssueSourceControlFile	SourceControlEN	
RenameIssueSourceControlFile	SourceControlEN, OldFileName	
DeleteIssueSourceControlFile	File ID	

11.8 Time Tracking

The following web service methods allow for time tracking information to be logged and retrieved.

11.8.1 GetProjectTimeSpentReport

Method	GetProjectTimeSpentReport
Input Parameters	Project ID, Start Date, End Date
Return Parameters	DataSet
Description	Returns time spent data for each project resource between the specified start and end date range.

11.8.2 GetUserTimeSpentReport

Method	GetUserTimeSpentReport
Input Parameters	Project ID, User ID, Start Date, End Date
Return Parameters	DataSet
Description	Returns time spent data for the specified user between the specified start and end date range.

11.8.3 CreateIssueTimeEntry

Method	CreateIssueTimeEntry
Input Parameters	Issue Time Entry entity
Return Parameters	-
Description	<p>Create an issue time entry.</p> <p>Set the following properties of the parameter entity:</p> <ul style="list-style-type: none">• Issue ID• Project ID• User ID• Hours Worked• Minutes Worked• Date of Entry

11.8.4 GetIssueTimeEntries

Method	GetIssueTimeEntries
Input Parameters	Issue ID
Return Parameters	ArrayList of Issue Time Entry objects
Description	Returns the time spent data items for an individual issue.

Method	GetIssueTimeEntriesAsDataSet
Input Parameters	Issue ID
Return Parameters	DataSet
Description	Returns the time spent data items for an individual issue.

11.8.5 GetIssueTotalMinutesLogged

Method	GetIssueTotalMinutesLogged
Input Parameters	Issue ID
Return Parameters	Minutes
Description	Returns the total number of minutes logged against the specified issue.

11.8.6 GetMinutesInWorkingDay

Method	GetMinutesInWorkingDay
Input Parameters	-
Return Parameters	Minutes
Description	Returns the total number of minutes logged against the specified issue.

11.8.7 GetIssueTotalTimeLogged

Method	GetIssueTotalTimeLogged
Input Parameters	Issue ID
Return Parameters	Array
Description	Returns the total time logged against an issue as an array of integers: <ul style="list-style-type: none">• [0] – Hours• [1] – Minutes

12. Troubleshooting

Error messages are generally trapped and logged. Gemini administrators can view error messages via the "System Admin" menu option.

Support emails should be addressed to support@countersoft.com.

12.1 Multiple Gemini Installations

If you have installed Gemini more than once on a single web server, you should change the "name" value of the "forms" setting in the WEB.CONFIG file to something unique (recommendation is that the "name" value reflects the IIS Virtual Directory where Gemini is installed).

This is necessary to ensure that cookies are correctly stored and processed for each Gemini installation/instance.

12.2 SQL Server Installation

Gemini only supports case-insensitive installations of SQL Server.

12.3 Email Alerts – "Access is denied"

12.3.1 IIS 5.0

The "Access is denied" error occurs can occur when Gemini tries to send email alerts. Ensure that the Windows ASPNET user account has read/execute permissions for the "bin\plugins" folder below the Gemini web application folder.

12.3.2 IIS 6.0

If Gemini is configured to use the "default" application pool, you may need to ensure that the "Network Service" has read/execute permissions on the "bin" folder.

12.4 Date Formats

Please ensure that you change **both** the "*DateFormat*" and "*globalization*" settings in the WEB.CONFIG file.

12.5 SMTP Troubleshooting

General SMTP and "CDO object" troubleshooting help can be found here:
<http://www.systemwebmail.com/faq/4.2.3.aspx>.

The Gemini download also provides a simple SMTP application that can be used to aid testing.

12.6 Web Page Source Displayed

Under certain circumstances, the source code for an ASPX web page is displayed as opposed to rendering the content. Please use the ASPNET_REGIIS command to resolve this problem.

http://msdn.microsoft.com/library/default.asp?url=/library/en-us/cptools/html/cpgrfASPNETIISRegistrationToolAspnet_regiisexe.asp

12.7 Microsoft SharePoint Portal

Gemini will not run alongside Microsoft SharePoint by default.

12.8 New Issue Creation Disabled

New issues cannot be created when a project is “locked”.

12.9 Windows XP Service Pack 2

<http://support.microsoft.com/kb/841249>

<http://support.microsoft.com/kb/842242>

12.10 Windows Authentication

Under certain circumstances, it may be necessary to add the following users to Gemini in order to use Windows authentication:

- “NT AUTHORITY\NETWORK SERVER”
- “@@SERVERNAME\ASPNET”

13. We Are Here

We are always on hand to answer any questions and to provide product support.

13.1 Support

Support emails should be addressed to support@countersoft.com.

13.2 Sales

Any queries regarding the product should be addressed to sales@countersoft.com.

13.3 Services

If you require customisation of Gemini, please contact sales@countersoft.com with your requirements and we will be happy to discuss!

13.4 Bug Reporting / Feature Requests

In the first instance, send bug and feature requests to support@countersoft.com.

Currently listed issues can be found at <http://gemini.countersoft.com>.

13.5 Future Plans

Our future plans can be viewed at <http://gemini.countersoft.com>.

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