

**CNS TECHNOLOGY WEBSITE ADMINISTRATIVE GUIDE
VERSION 1.0**

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CNS TECHNOLOGY WEBSITE

Administrative Guide

Version 1.0

<http://cns.bu.edu/techlab/tlwguide>

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Chapter 1: Website Structure

The CNS Technology Lab Website (TLW) is implemented using the XOOPS (eXtensible Object Oriented Portal System) development platform. XOOPS is a PHP-based, GNU General Public License (GPL) content management system for websites. It uses a modular architecture allowing users to customize and update their websites. XOOPS is free to use, modify, and redistribute. The top-level architecture of the TLW is illustrated in Figure 1.

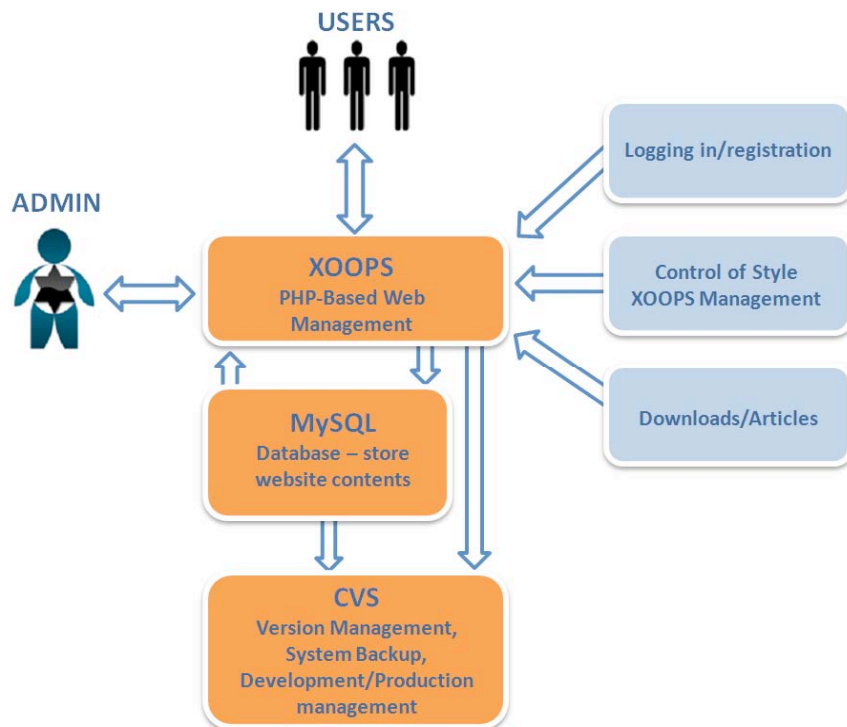


Figure 1. TLW top-level architecture

XOOPS is a centralized command station that allows the TLW administrator to manage the TLW. The contents of the website are stored in a related MySQL database (or can be stored in specific directories). The TLW consists of two websites:

1. **Profusion:** A production website (<http://profusion.bu.edu/techlab/>) which is the website visible to the end user.
2. **Infusion:** A development website (<http://infusion.bu.edu/techlab/>) which is used to test modifications to the TLW before they are moved to the production website.

Figure 2 shows an overview of the production and development websites, and their relationships.

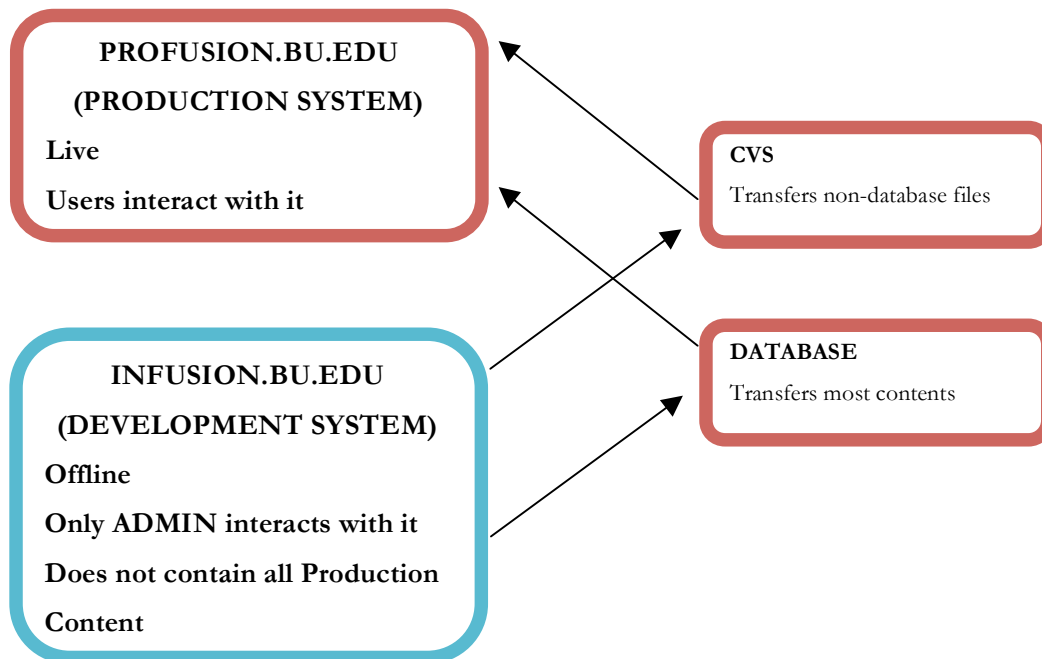


Figure 2. Overview of Production/Development systems

XOOPS

This section provides a compact overview of XOOPS. The complete documentation, from which the following text is an excerpt, can be found at www.xoops.org. XOOPS is a powerful, flexible, and easy to use Content Management System (CMS) based on the scripting language PHP. When installed on a web server with MySQL, it allows administrators to manage dynamic websites, build online communities, handle users, modify at will a site's layout, and feed content through

a simple interface. XOOPS handles 'the hard stuff' leaving the Administrator free to focus on the content of the website.

XOOPS stands for: eXtensible Object Oriented Portal System, and is released under the terms of the GNU General Public License (GPL), which means it's free to use and modify. The Administrator can tweak and twist the program as much as needed, as long as he abides by the distribution terms of the GPL.

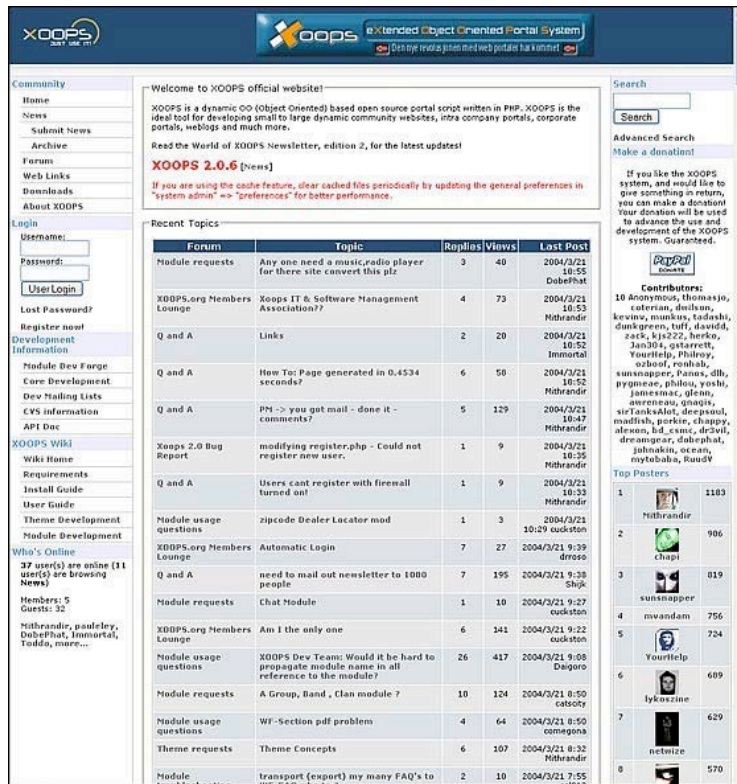


Figure 3. Every XOOPS site is managed through a secure Web interface which can be customized.



Figure 4. Content accessibility is the primary goal.

XOOPS uses a relational database to store content, manage data, and maintain a dynamic website. XOOPS works best with MySQL, an open-source relational database available from many web hosting companies.

The power of XOOPS lies in the modular implementation of its features - it is written in an object-oriented manner. This allows for better scalability, extensibility, and customization.

XOOPS consists of:

- the *core* XOOPS program, which provides the basic operating and administrative framework;
- a series of official modules that serve the basic needs of a dynamic site;
- as many optional modules as you need to provide additional functionality.

New functions can be added through a simple module installation process. This modular approach makes XOOPS highly customizable. The Administrator only needs to install those modules that are useful and he can remove them at any time.

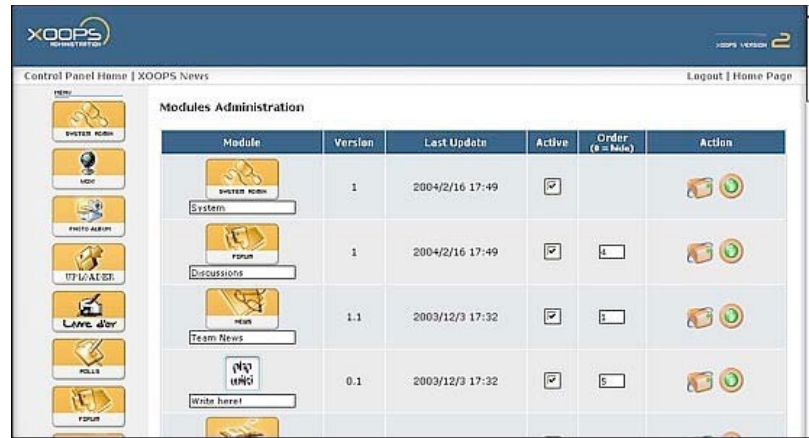


Figure 5. Module installation and de-installation are processes in the admin side of XOOPS.

The layout of a XOOPS website is controlled through a system of blocks, columns, and themes (or website *skins*). Modules come with a set of pre-defined blocks to display their output on the screen. The column (horizontal placement) and vertical position of each block can be set through the administrative interface:

- horizontal placement is set by assigning blocks to a particular column (XOOPS supports up to five columns in a layout);
- vertical order is set by assigning each block a *weight* (order) from 1-99;
- page layout can be set independently for each module, and is handled outside of the code using the Template Set Manager.

The administrative interface also allows for the creation of custom blocks, which can be PHP code or HTML.

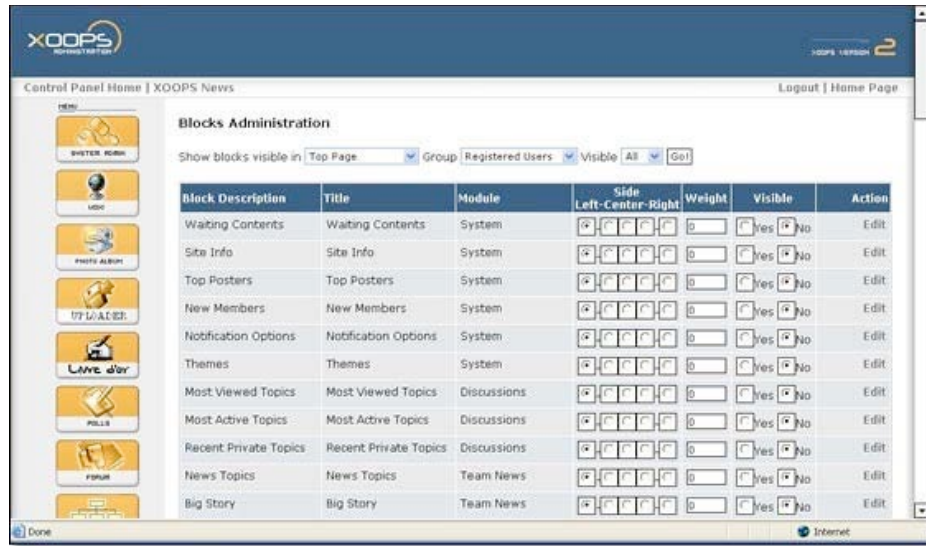


Figure 6. It's easy to define the position of every block in the system.

The look or skin of a XOOPS site is controlled by a graphical theming system which allows a site's designer to work directly in HTML. Administrators and users (with proper permissions) can change the look of the entire web site with a click of the mouse. More than a hundred themes are publicly (and freely) available and multiple themes can be installed in the same site. The system incorporates Cascading Style Sheets (or CSS) for easy customization. CSS have been introduced as a mechanism for controlling the style of HTML documents: web designers and users can create style sheets that define how different elements of the website would appear.

Smarty is a template engine for PHP that has been incorporated into the core of XOOPS since version 2.0. This allows site administrators to design their sites with minimal knowledge of PHP. Using basic HTML, Cascading Style Sheets, and Smarty tags, site designers can customize themes and templates within minutes. Smarty tags allow website programmers to develop short scripts to use site and user data (e.g., site name, site slogan, site URL, username, and user ID) inside their HTML theme and template files. Smarty also implements a caching system that stores themes and templates for quick retrieval. This speeds up the loading of any XOOPS site.

XOOPS incorporates a member registration system – you can optionally require people to sign up to your site in order to have access to certain areas or functions. For example, most sites require people to join before they are allowed to contribute news or post messages in the forums. TLW users may log in, but they are not required to do so.

Access and administration rights to a XOOPS website are set through a flexible permission system based on user groups. The default groups include anonymous users, registered members, and webmasters, but of course you can define as many groups as you need to manage your site. Each group can be given a unique set of access rights governing which blocks can be seen, modules can be accessed, modules can be administered, aspects of system administration can be modified.

Custom groups can also be created through the groups administration page.

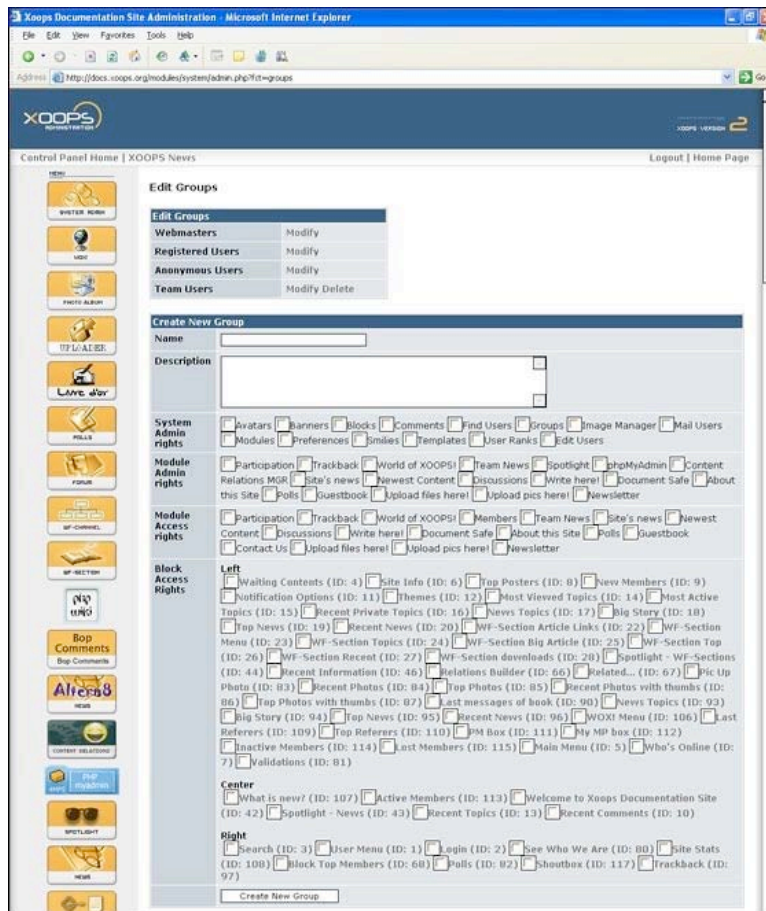


Figure 7. For every group, the Administrator can assign custom rights in the XOOPS system.

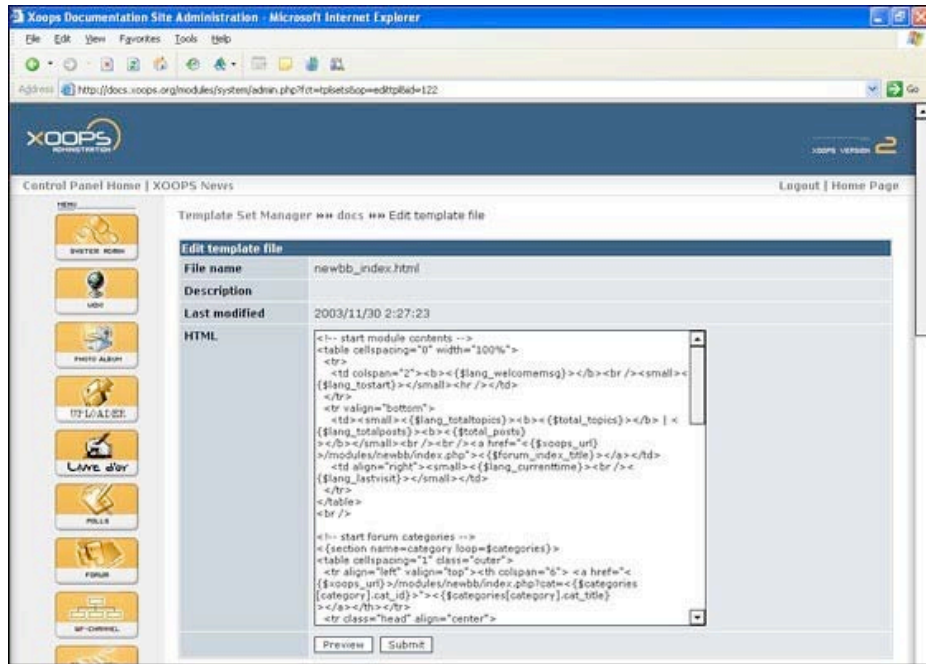


Figure 8. Edit the HTML code of every blocks.

XOOPS provides built-in tools for user management. These include the ability to search for users by various criteria, and to send email and private messages to users through a template-based messaging system. In the website, users have the rights that pertain to the group they're assigned to.

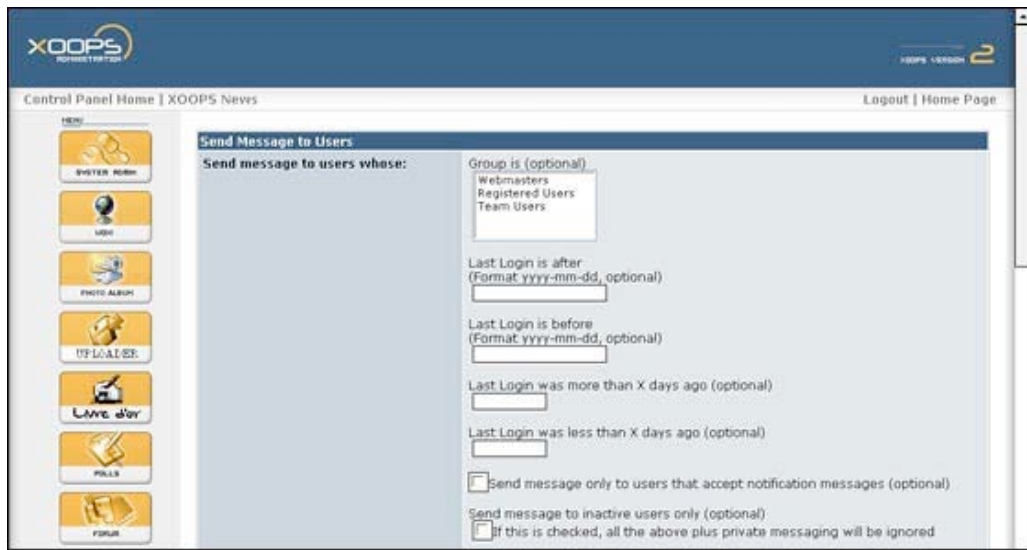


Figure 9. The administrator can address mail to groups or individual users.

Images can be categorized and uploaded directly into the image manager through a browser. The image manager opens in a separate window with one click, enabling easy insertion of images into news articles and other content. There is a permission system controlling image dimensions, file size, and access of user groups to different categories.

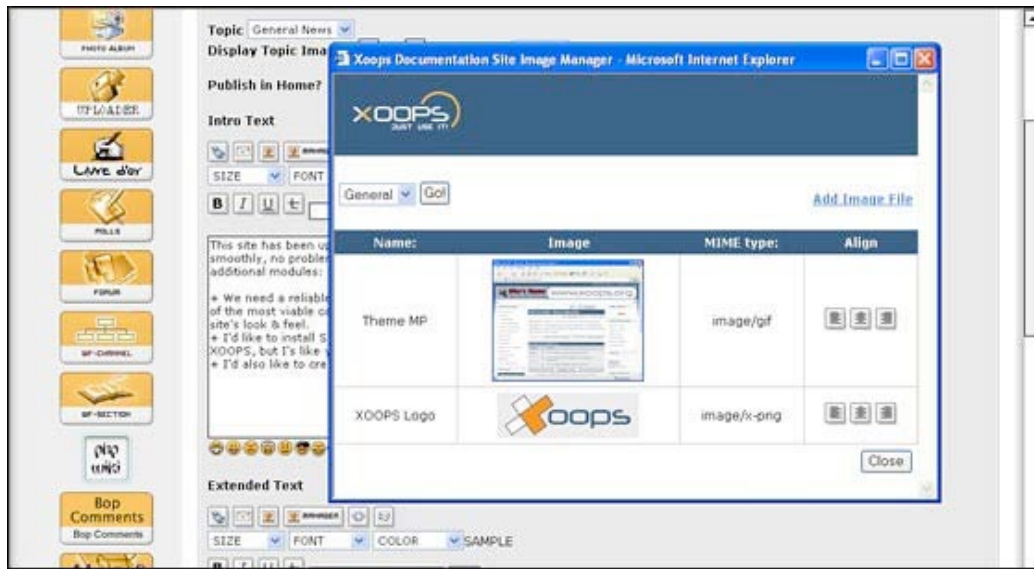
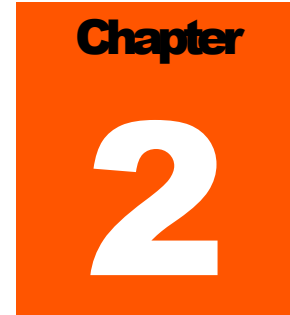


Figure 10. The image manager allows the Administrator to upload pictures which can be later used in news items, for instance.



Chapter 2: Managing and Updating the TLW

This chapter describes, in operative terms, how to manage and update content on the TLW, and contains other information needed to run the TLW and its modules. The procedures described here require login as an administrator. Administrator permission may be obtained from the TLW administrator, Max Versace, or the Director of CNS Computation Labs, Brian Bowlby.

TLW online repository

In October 2007, a repository of material concerning the TLW was created on <http://www.drivehq.com>. This repository facilitates sharing of files among administrators of the TLW, and provides a backup system. DriveHQ provides a web-based management system and a downloadable file manager. The username and passwords may be obtained from the TLW administrator.

Edit the homepage

1. Go to **Administration Menu > System Admin > Blocks**
2. At the bottom of the list of blocks, click the Edit link to the right of the block labeled "Welcome to the CNS Technology Lab Website!"
3. Modify the HTML code, and click Submit when finished.

Change start page

1. To change which page (module) is loaded when someone first comes to the TechLab website, go to **Administration Menu > System Admin > Preferences > General Settings [edit]**
2. Select the starting module from the drop-down menu labeled "Module for your start page"

3. Select “none” for the regular home page

Edit header and footer (top and bottom sections of website)

Header and footer HTML code is stored in the theme file. The current website theme is “gold”. Therefore, the HTML file containing the header and footer code is located on the server at `/mnt/localhd/www/techlab/themes/gold/theme.html` (profusion.bu.edu and infusion.bu.edu).

Edit section headings (left side bar)

1. Go to **Administration Menu > System Admin > Blocks**
2. Click the Edit link to the right of the section you would like to change (usually described as “Custom Block (HTML)”; look at the title for the name of the block).
3. Change the title.
4. Click Submit.

Add, edit, and delete Articles, Software, Data and Demos, and Tech Transfers

In October 2007, the Article and References sections of Infusion and Profusion were updated and replaced by a reference module that provides unified management and user interfaces for the Article, Software, Data and Demos, and Tech Transfer sections.

From the **Administration Menu**, the administrator selects References and can then add, edit, or delete an article. The administrator visualizes in a single screen all the information that the user submits through the various submission steps. The administrator can add items by the public website interface. The administrator must review, approve, or delete the information submitted by the user before it is made public.

Edit modules content via the XOOPS database

In order to delete content from the website – such as duplicate authors or articles – it is sometimes best to edit the mySQL tables directly using PHPmyAdmin or CocoaMySQL. Host, username, password, and SSH login information can be found in `TLW_usernames_pwords.doc` in the DriveHQ repository.

Create a “Short Name” URL for TLW content

1. Create a directory in profusion, e.g. :“CLASSER”
2. Edit the HTML code below giving the proper
 - a) target URL
 - b) time to elapse before redirecting

Code

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<HTML>
<HEAD>
<META
HTTP-EQUIV="Refresh"
CONTENT="1;
URL=http://profusion.bu.edu/techlab/modules/mydownloads/viewcat.php?op=&cid=49">
</HEAD>
<body>
</body>
```

3. Copy the file in the directory.
4. Create an .htaccess file (note: this is a hidden file) in the home directory. Edit it to include lower- and upper-case permutations for the content name.

Code (e.g. Classer)

```
Redirect permanent /techlab/classer http://cns.bu.edu/~gsc/CodeRes.html
Redirect permanent /techlab/Classer http://cns.bu.edu/~gsc/CodeRes.html
Redirect permanent /techlab/CLASSER http://cns.bu.edu/~gsc/CodeRes.html
```

Manage About Us menu and the sections under the About Us menu

Edit The menu (on the right of the screen)

1. Go to **Administration Menu > System Admin > Blocks**.
2. Scroll down, and find Tiny Content Menu.
3. Click Edit on the right side.
4. Next to Content, click Edit Template link.
5. At this point you can edit the HTML of the About Us menu.
6. Click Submit to submit your changes.

Edit the content of sections in the About Us menu

1. Go to **Administration Menu > Tiny Content (About Us) > Edit/Delete Content**

2. Click the Edit link to the right of the content that you want to edit. In order to know where the content of a specific menu item is stored, click on the link, and it will show if it belongs to a module, if it's a link, etc.
3. Click submit to enter your changes.

Add content to About Us menu and section

All content of the Tiny Content module, when set to Visible, will show up in the About Us menu. A new Tiny Content item can be set to Not Visible and be used in other parts of the website.

1. Go to **Administration Menu > Tiny Content (About Us) > Add Content**
2. Fill out the form.
Select the visible box if you want a link to the page to appear in the About Us menu.
3. Click submit to enter your changes.

Delete content

1. Go to **Administration Menu > Tiny Content (About Us) > Edit/Delete Content**
2. Click the Delete link to the right of the content you want to delete.
3. Confirm the deletion.

Manage the News section

Submit new news

1. Go to **Administration Menu > News > Post/Edit News**
2. Fill out the Post New Article section. The fields are self-explanatory.

Editing and deleting news

Log into the webpage as Administrator and go to the News page. Every story has an Edit and Delete link at the bottom of the article. Click on one of these to perform the action.

Manage Books

Add a book

1. Upload the book cover image to
[pro\(in\)fusion.bu.edu:/mnt/localhd/www/techlab/modules/mybooks/images/schots/](http://pro(in)fusion.bu.edu:/mnt/localhd/www/techlab/modules/mybooks/images/schots/)

2. Go to **Administration Menu > Book List > Add / Edit Titles**
3. Fill out the "Add a New Link" form. Select the image you uploaded should be selected from the Screenshot Img drop-down menu.
4. Click Add.

Edit a book

1. Go to the Books section.
2. Find the title you would like to edit, and click the modify link.
3. Remember the link ID displayed at the top of the page.
4. Go to **Administration Menu > Book List > Add / Edit Titles**
5. At the bottom of the page, enter the link ID in the Modify Book Title box. Click Modify.
6. Edit the information, and click Modify.

Delete a book

1. Follow the steps for editing a book (1-5) .
2. Click the Delete button at the bottom of the form.

Manage FAQ

NOTE: As of September 2007, the FAQ module has been disabled.

Add a category

1. Go to **Administration Menu > FAQ > List FAQ**
2. Fill out the Add Category Form.
3. Click Submit.

Add a FAQ to a category

1. Go to **Administration Menu > FAQ > List FAQ**
2. Click on the link called Question & Answer next to the section you want to put the question in.
3. Fill out the Add FAQ form.
4. Click Submit when done.

Edit a FAQ

1. Go to **Administration Menu > FAQ > List FAQ**

2. Click on the link called Question & Answer, next to the section you want to put the question in.
3. Click on the link called Edit, next to the FAQ you would like to edit.
4. Fill out the form, and click Submit when finished.

Delete a FAQ

1. Go to **Administration Menu > FAQ > List FAQ**
2. Click on the link called Question & Answer next to the section you want to put the question in.
3. Click on the link called Delete next to the FAQ you would like to delete

Contact Us module

Change contact info

1. Go to **Administration Menu > System Admin > Blocks**
2. Select Contact Us from the drop-down menu at the top of the page ("Show blocks visible in...").
3. Click the link labeled Edit to the right of the block titled Other Contact Info.
4. Edit the HTML to display the desired information.
5. Click Submit when done.

Change the Contact Us form

1. Go to **Administration Menu > System Admin > Templates**
2. Click on the link labeled List to the right of Contact Us in the Templates list for the `ogi_templates_test`.
3. Click Edit under Action column.
4. Edit the HTML, and click Submit.

Add / Edit / Delete Techlab members

(section to be checked and updated every 3 months)

Add a new member

1. Upload the member's image:
The image should be 128x96 pixels.
Its name should be the member's name.

Upload the image to the .../techlab/images folder

2. Go to **Administration Menu > Partners (Lab Members) > Add Partner**
3. Fill out the Add form

Ignore the weight, it doesn't matter.

In the image field put `http://pro(in)fusion.bu.edu/techlab/images/filename` where filename is the name of the image

In the URL field put the member's home page

In the Title field, put the full name

In the Description field, put their bio (a small paragraph about who the member is)

The status should be Active.

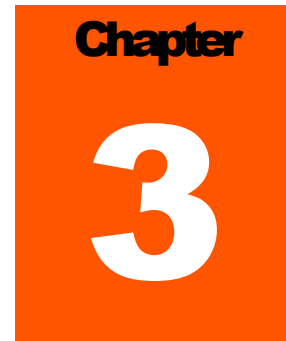
4. Click Add.

Modify an existing member

1. Go to **Administration Menu > Partners (Lab Members) > Manage Partners** (or just to the member's page)
2. Click the Edit link to the right of the member you would like to modify. See Add a New Member step 3 for a description of the fields.
3. Click Edit.

Delete a member

1. Go to **Administration Menu > Partners (Lab Members) > Manage Partners** (or just to the Member's page)
2. Click the Delete link to the right of the member you would like to delete.
3. Click Submit to confirm deletion



Chapter 3: Install & Restore Instructions

Administrator: Test the Backup system monthly.

Restore the website from Backup

This is the procedure to follow to restore the website after a crash:

1. Archive the current files, to undo the backup if it doesn't work: `cd; tar -zvcf backup.tgz techlab/`
2. Remove the current files. This is dangerous. Make sure you do it right: `cd /mnt/localhd/www/techlab/; rm -rf *`
3. Restore from old backup (replace source with the location of the backup): `tar -xzvf source`

Duplicate a module

If the template of the module you would like to copy has been modified from its original, you will have to download the new template.

Do not delete the old one, just move it using the `mv` command.

```
mkdir /mnt/localhd/www/techlab/modules/module_name/templates/originals
mv /mnt/localhd/www/techlab/modules/module_name/templates/module_name_*
/mnt/localhd/www/techlab/modules/module_name/originals/
```

Download all the new templates to the same folder.

1. Create a new folder on your local hard drive to save the template.
2. Go to **Administration Menu > System Admin > Templates**
3. Click on list to the right of the module you are going to copy, in `ogi_templates_test`.
4. Right click on each Download link, and click "Save Link As...". Select the new folder to download them to.

5. Transfer the template files to infusion:

```
scp download_dir/* techlab@infusion.bu.edu:/mnt/localhd/www/techlab/modules/module_name/templates/
```

6. Don't forget to update the permissions

```
chmod 444 -R /mnt/localhd/www/techlab/modules/module_name/templates
```

Copy the module folder.

```
cp -r /mnt/localhd/www/techlab/modules/old_module_name /mnt/localhdtechlab/modules/new_module_name
```

Change all instances of the old module name to the new module name. There are 2 scripts in /mnt/localhd/users/techlab that are useful here: search and replace.

```
replace /mnt/localhd/www/techlab/modules/new_module_name old_module_name new_module_name
```

The replace script is case-sensitive, so it is important to replace all different styles of the name

```
replace /mnt/localhd/www/techlab/modules/new_module_name OLD_MODULE_NAME NEW_MODULE_NAME
```

```
replace /mnt/localhd/www/techlab/modules/new_module_name OLDMODULENAME NEWMODULENAME
```

```
replace /mnt/localhd/www/techlab/modules/new_module_name "Old Module Name" "New Module Name"
```

```
replace /mnt/localhd/www/techlab/modules/new_module_name "old module name" "new module name"
```

To make sure you got all instances, try searching for partial patterns

```
search /mnt/localhd/www/techlab/modules/new_module_name module
```

At this point, there should be no forms of the old module's name still in existence. It is now time to install the new module

1. On the website, go to **Administration Menu > System Admin > Modules**
2. Your new module should appear in the bottom table, with the other not installed modules (the upper table lists all the installed modules). If your new module does not appear with the uninstalled modules, or it says module not found, go back to the find/replace steps as you missed something. Otherwise, proceed.
3. Click on the install icon (it looks like a floppy disk over a brown computer, just to the left of the green 'i')
4. Your new module should be installed.

I messed up... what now?

If you screwed up on your module, make sure you cleanly uninstall it, to avoid leaving junk in the database

1. Go to **Administration Menu > System Admin > Modules**
2. Uncheck the checkbox in the Active column, and click submit.
3. A page with the change highlighted will appear, click submit again.
4. Now click the uninstall icon. Confirm that you would like to uninstall it.

5. If you are starting over, or don't want the old one anymore, delete it from the /mnt/localhd/www/techlab/modules folder

Backups and Notifications

Backups are automatically handled using the *cron* daemon. The cron daemon is a program for scheduling regular tasks. Backups are handled as a cronjob performed every morning at 1am. To see all cronjobs type "crontab -l" in a terminal. For more information type "man crontab" in a terminal. All cronjob scripts are stored in the /mnt/localhd/users/techlab/ directory.

Notification system's logic, functionality, and procedures

Notification is done via event firing during an action on the form. The form action is triggered by clicking on the Submit or Add buttons in the administration menus of several modules. If the user is signed up to receive notifications (check by clicking on My Account link after logging in), a notification event is generated and placed into the xoops_notification_queue table for pickup. For pickup details see [Periodicity](#) section below. Also, note that this notification queue is an augmentation to intrinsic xoops functionality, which generated emails right away.

User notification preferences are first encountered during user registration. The processing of notification preferences is done in the /register.php file. The function doing the subscription is in the /include/notification_select_reg.php file. User preferences can later be changed by clicking on My Account link on top of most of site pages. They will be processed by /process_notif.php file.

For each module participating in notifications, a triggerEvent function of /kernel/notification.php was replaced by 'storeEvent' function of /kernel/notificationq.php in /modules/<module_name>/admin/index.php. This function stores events in xoops_notification_queue table. The email delivery and target information is stored in database fields, while most of the content is located in a hash stored in 'tags' field.

To add notification to a module:

1. include an additional entry in the xoops_version.php
2. reload the module via Admin Page → System Admin → Modules

3. subscribe to the event in Admin Page → <Module Name> → Preferences
4. verify that /modules/<module_name>/admin/index.php can send event
5. verify that notification tags match the ones in
~techlab/TLWNotificationDaemon/notification_daemon.php

NOTE: Ignore additional functions in notificationq.php, they were left over from notification.php and might serve as a basis for increasing queue-based functionality in the future.

Notification setup:

There are 3 categories during user registration:

1. No email (user_mailok is set to 0)
2. Essential -- only *mydownloads* module has this category, new_file and new_category events are assigned to it.
3. New Additions – a union of “essential” and global categories across the modules involved.

The following modules are currently used in notification event dispatching:

Book Lists

CNS Web Links

Downloads

Tech Transfer

News

Also, look for a list of modules available for user subscription in /include/notification_select_reg.php's functions.

Files changed (a complete list can be generated by grepping for 'zaydens' and/or 'ogas' in a case-insensitive mode):

System_user_info.php template

/register.php file

/userinfo.php file

System->userinfo template

X_UNSUBSCRIBE_URL tag in notifications.php

Mail templates in /modules/<module>/language/<language>/mailtemplate/*.tpl
/modules/<all subscription modules>/admin/index.php
/kernel/notifications.php
/register.php
Etc.

Periodicity:

Periodically (currently every Sunday at 1am), a
~techlab/TLWNotificationDaemon/notification_daemon.php is invoked via a UNIX cron job. The job picks up all the entries in the xoops_notification_queue table, sorts them by the user name, then loops through all the users, compiles an email for each one and sends it out. A solid testing strategy for the emails would be to create a few users on infusion with different email addresses (imap, pop3, and browser/yahoo/hotmail types) and sign them up for test emails to verify the formatting. Please make sure all email testing is done in infusion to avoid unnecessary notifications to live users.

NOTE: Notification_daemon.php depends on the absolute path to the mainfile.php file, located in the website root directory.

NOTE: No email is generated if there are no notifications in the queue, i.e. xoops_notification_queue table is empty.

NOTE: For cron job setup see ~techlab/cronjobs directory as well as by running 'man cron' and 'man crontab' commands.

MySQL reinstallation procedure

This section lists MySQL reinstallation procedure. It was used on Windows only. Tools such as MySQLFront and Navicat were used for db transfer on Linux. Those tools should be used in further development.

WARNING: Do not transfer development database directly to production, as users' information would be lost.

1. Remember and write down the database username/password combination used during XOOPSinstallation.
2. Back up the database for the website:
Copy the <MySQL_Install>/data/<xoops_site_db_name> (tl_xoops in our case) directory out to some other storage media.
3. Uninstall MySQL through standard Windows uninstall procedure.
4. Make a note of which directories and files were not removed.
5. Reboot the machine.
6. Clean up any leftover files and directories.
7. Unzip MySQL to a temp directory and run Setup.exe
8. Restore the site database.
After completing the installation, copy the <xoops_site_db_name> into <MySQL_Install>/data directory.
9. Start MySQL server:
Go to Start->ControlPanel->Administration Tools -> Services, right-click on MySql and select Start.
10. Verify that the server started successfully:
In the file <MySQL_Install>/data/<server_machine_name>.err, see that there are no error messages.
11. Set up the MySQL access privileges:
Open SQLFront. Log in as user "root" with password "TL2Web!". Open mysql.user table by clicking on it on the tree view on the left. Select Data tab (on the top of the right pane). Delete 2 records that contain no username (that will forbid anonymous access).

Open command prompt on the machine where MySQL is installed. CD to the following directory: <MySQL_Install>/bin. Type the following commands:

```
mysql --user=root
grant all on *.* to root identified by 'TL2Web!';
grant all on *.* to root@localhost identified by 'TL2Web!';
grant all on *.* to TLXoopsUser identified by 'PsBsCs&Sox';
grant all on *.* to TLXoopsUser@localhost identified by 'PsBsCs&Sox';
```

The commands above set password for user “root” to “TL2Web!” and install user “TLXoopsUser” with the password “PsBsCs&Sox”, granting it all permissions on all the tables. They also allow authentication to this server with these usernames from other machines.

12. Verify that the permissions got set correctly:

Disconnect from MySQLFront if connected. Then connect as root with the password TL2Web!. Go to mysql.user table and verify that there are 4 entries there, 2 for username root and 2 for username TLXoopsUser each one of them having two entries in the host column: localhost and %.

Repeat the procedure from a remote machine with a MySQL client installed.

13. Run XOOPS site to make sure it retained all the functionality.

Website relocation, including versions, download locations, usernames, and passwords.

WARNING: Do NOT copy the database as a whole to production machine, as that might erase some of the information that is only available on the production site. If need arises, only copy a pertinent section.

1. Download MySQL:

The file mysql-4.0.17-win.zip contains the last stable release for Windows. The list of mirrors can be found at the following URL:

<http://www.mysql.com/get/Downloads/MySQL-4.0/mysql-4.0.17-win.zip/from/pick>

Save the file to C:\Temp\TLW

2. Download Apache web server:

Please read and verify that the system adheres to the requirements listed at the following URL:

<http://apache.mirror.digitalspace.net/httpd/binaries/win32/README.html>

The file apache_1.3.29-win32-x86-no_src.exe contains the last stable release of version 1.3.9 for Windows. The file can be found at the following URL:

http://apache.mirror.digitalspace.net/httpd/binaries/win32/apache_1.3.29-win32-x86-no_src.exe

Save the file to C:\Temp\TLW

3. Download PHP:

The file php-4.3.4-installer.exe contains the latest stable release for Windows. The list of mirrors can be found at the following URL:

<http://www.php.net/get/php-4.3.4-installer.exe/from/a/mirror>

Save the file to C:\Temp\TLW

Also download the file php-4.3.4-Win32.zip The list of mirrors is available at:

<http://www.php.net/get/php-4.3.4-Win32.zip/from/a/mirror>

This file is required later, it contains some of the modules needed to run PHP on Apache.

4. Download XOOPS framework:

The file xoops-2.0.6RC.zip contains the latest release for all OS's. The file can be found at the following URL:

<http://umn.dl.sourceforge.net/sourceforge/xoops/xoops-2.0.6RC.zip>

Save the file to C:\Temp\TLW

5. Download MySQL client:

MySQL comes with the text-based client tools, but for speedier processing, the best one to use is MySQL-Front. The file MySQL-Front_Setup.exe contains the latest release for Windows. The file can be found at the following URL:

http://www.mysql-front.com/pub/MySQL-Front_Setup.exe

Save the file to C:\Temp\TLW

Versions 3.0 and 3.2 have been tested to be fully functional both during the evaluation period and after it expired.

NOTE: The software versions listed above are valid for Windows installation only. BU Linux systems come with php, apache, MySQL already installed.

6. Install MySQL:

Select Typical installation. Take a note of the directory where the program was installed.

7. Install MySQL-Front:

Double click on C:\Temp\TLW\MySQL-Front_Setup.exe Follow installation instructions.

8. Start MySQL service:

In Windows Explorer open <MySQL_Install>\bin and double-click on the file named winmysqladmin.exe. Enter username (root) and password (root). Hit OK. A little traffic light icon should show up in the System Tray. Verify the successful start by opening the <MySQL_Install>/data/<server_machine_name>.err file and seeing that there are no error messages. If the file cannot be opened, create a copy of the file and open it.

9. Set up the MySQL access privileges:

Open MySQL-Front. Log in as user "root" with no password, enter name (root) and server (127.0.0.1, infusion.bu.edu). Open mysql.user table by clicking on it on the tree view on the left. Select Data tab (on the top of the right pane). Delete 2 records that contain no username (that will forbid anonymous access).

Open command prompt on the machine where MySQL is installed. CD to the following directory: <MySQL_Install>/bin. Type the following commands:

```
mysql --user=root
```

```
grant all on *.* to root identified by 'root' with grant option;
```

```
grant all on *.* to root@localhost identified by 'root' with grant option;
```

```
grant all on *.* to TLXoopsUser identified by 'PsBsCs&Sox' with grant option;
```

```
grant all on *.* to TLXoopsUser@localhost identified by 'PsBsCs&Sox' with grant option;
```

```
grant all on *.* to TLBackUp identified by 'SaveMe2?' with grant option;
```

```
grant all on *.* to TLBackUp@localhost identified by 'SaveMe2?' with grant option;
```

The commands above set password for user "root" to "root" and install user "TLXoopsUser" with the password "PsBsCs&Sox", granting it all permissions on all the tables. They also allow authentication to this server with these usernames from other machines. Type "quit".

10. Install Apache HTTP Server:

Double click on C:\Temp\TLW\apache_1.3.29-win32-x86-no_src.exe

Fill in the required information:

Network Domain: bu.edu

Server Name: <server_name>.bu.edu

Admin Email: <username>@cns.bu.edu

Run as Service for All Users

Select Complete Installation

Select a folder: Short name with the version number as a part of a directory is recommended (Ex: C:\Apps\Apache139).

11. Install PHP:

Double-click on the file C:\Temp\TLW\php-4.3.4-installer.exe. Type of installation should be "standard".

SMTP server: cns.bu.edu

Admin email: <admin_username>@cns.bu.edu

HTTP Server: Apache

Verify that php4apache.dll exists in the <PHP_Install> directory. If it does NOT, unzip the php-4.3.4-Win32.zip file to a directory and copy the <unzip>\php-4.3.4-Win32\sapi\php4apache.dll (NOT the php4apache2.dll) to <PHP_Install>.

12. Configure PHP to run with Apache:

The Apache configuration file needs to be modified. httpd.conf lives in the <Apache_Install>\Apache\conf directory. Perform the following modifications:

a) On or around line 385 insert index.php in front of index.html

b) Around line 192 (at the end of the list) add the following line:

LoadModule php4_module <PHP_Install>/php4apache.dll

c) Around line 240 (at the end of the list) add the following line:

AddModule mod_php4.c

d) Around line 852 (at the end of the module list) add the following line:

AddType application/x-httpd-php .php

Restart Apache service (best done from the Start menu). If any errors arise, please consult the PHP installation and configuration instructions found in <PHP_Install>\install.txt

13. Install XOOPS framework:

Do a release checkout from CVS on Laplace.bu.edu into the main www root on the target server. The directory name can be found in <Apache_Install>\conf\httpd.conf, the name of the parameter is DocumentRoot (at or near line 301).

Open <Apache_Install>\conf\httpd.conf

Open XOOPS main configuration file (<DocumentRoot>\mainfile.php).

Verify that the ServerName parameter in httpd.conf is the same as the host name listed in XOOPS_URL parameter in mainfile.php (at or near line 35).

Also verify that all the other parameters in mainfile.php adhere to your system requirements.

Note: If this installation is to only be accessed locally, set both of these parameters to localhost to avoid Apache renaming links.

14. Copy the database:

Connect to the source MySQL installation using MySQL-Front. On the left-hand side highlight the database name that needs to be copied (usually tl_xoops). Export it to a SQL file. Save the file.

Connect to the destination MySQL installation using MySQL-Front. If it does not exist, create the database by the same name. If it does, clear all the table in it. Highlight the new/cleaned out database. On the right panel, click on the SQL tab. Input the SQL file content into the text editor using Edit→Paste from file command (the cursor must be on the text editor box for this menu option to be active). If present, remove the database creation part of the script (the first noncomment functional line should be a table creation one). Run the script to create tables and insert data into them. The script might take 5-15 minutes to run.

15. Create a backup script:

Create a backup script based on the *tldevbackup.php* file in Attachments:

- a) Check if it is necessary to ftp the file off the server. It is if the server is not centrally backed up to tape. Turn it on or off correspondingly.
- b) On or around line 18, update the variable *\$targetdir* to point to the correct data storage directory. Usually *~techlab/db_bak/data*

- c) On or around line 18, update the variable *\$mysqlBinPath* to point to the location of *mysqldump* command. Usually on UNIX, it's in the path, so the variable should be left blank.

16. Set notification to run:

Go to `~/techlab/TLWNotificationDaemon/` and make sure the following files are there:

`notification_daemon.bat`

`notification_daemon.cron`

`notification_daemon.php`

`notification_daemon.sh`

If they are not, get them from cvs by going one directory up and running the following command:

```
cvs -d :ext:techlab@laplace.bu.edu:/CVS/tldev checkout TLWNotificationDaemon
```

That should create directory `TLWNotificationDaemon` and place the necessary files there.

Adjust the code to the machine by updating the *include* directories in the beginning of `notification_daemon.php`.

After installing the files, check the notification queue for the correct hostname in the URLs that go out to the users:

- a) Open MySQL front-end (MySQLFront is one example)

- b) Run the following query:

```
select * from xoops_notification_queue where tags like %http://cns.bu.edu%
```

- c) For each response, change all the URLs in the 'tags' field to point to the new host.

17. Configure webalizer:

Webalizer is a program that creates html from webserver log files. To configure the script, do the following:

- a) Create a `webstat` directory in `XOOPS_ROOT_PATH`.

- b) Set permissions for the http server logfile and containing directory to allow user `techlab` read access (need CNS admin to do that).

Note: on *infusion* and *profusion*, the log files are located at `/var/log/httpd`, and the file name is *access_log*.

- c) Open `<techlab home>/webalizer/webalizer.conf` file and change the following entries to the appropriate values:

LogFile

OutputDir (change to `XOOPS_ROOT_PATH/webstat`)

HistoryName (change to `<techlab home>/webalizer/webalizer.hist`)

IncrementalName (change to `<techlab home>/webalizer/webalizer.current`)

For the PageType entry, add the following line:

PageType php.

Make sure the DNSCache entry points to a valid file.

Set Quiet entry to 'no'.

Add the following values to HideSite entry: `profusion.bu.edu, infusion.bu.edu, ezlaptop, kenmore.bu.edu, fusion4.bu.edu, fusion6.bu.edu`.

Add the following to the 'Grouping options':

Grouping options

GroupURL techtransfer TechTransfers

HideURL techtransfer

GroupURL cns_links WebLinks

HideURL cns_links

GroupURL mybooks Books

HideURL mybooks

GroupURL news News

HideURL news

GroupURL xoopsfaq FAQ

HideURL xoopsfaq

GroupURL xoopspartners TechLab Members

HideURL xoopspartners

GroupReferrer yahoo.com* Yahoo!

HideReferrer yahoo.com*

GroupReferrer excite.com* Excite

HideReferrer excite.com*

GroupReferrer infoseek.com* InfoSeek

HideReferrer infoseek.com*

GroupReferrer webcrawler.com* WebCrawler

HideReferrer webcrawler.com*

GroupReferrer google GoogleSearch

HideReferrer google

Set the directories for the target files in *webalizer.sh*. to *<techlab home>/webalizer/*.

Set the proper directories in *change_mo.pl* file.

Set the proper directories in *webalizer.pl* file.

Make the DNSCache file writable for the user running the script.

Note: On in- and profusion, the file is located at */var/lib/webalizer/dns_cache.db* and the script is run as user *techlab*.

18. Install cron jobs for items 15-17:

Go to *~techlab/cronjobs* directory and type the following command:

```
crontab techlab.cron
```

To verify that 3 cron jobs are installed, type *crontab -l* to list the jobs.

TLW search engine submission notes

Notes pertinent to the submission of the TechLab website to several search engines can be obtained from the previous/current TL administrator(s). These notes are found in a document entitled *search_engine_sub_notes*.

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By accessing and using the TL website, you understand and agree that:

- The TL collects the following information from its website:
 - Information you provide by completing our online forms.
 - Your IP address.
 - Pages you access within TL website.
- The TL may retain this information indefinitely.
- The TL will neither disclose nor sell personal information to any third party without your express consent, except when required to do so by law.
- The TL will communicate directly with you via email (e.g. for code updates) according to the specifications in your profile.
- The TL will use information collected exclusively for internal administrative and technical purposes.



Chapter 4: To Do List

This section is an example of “TO-DO” list created by Max Versace in June 2008. It consists of a list of tasks, their priority, and the % completed, and can be used as a template by future TLW Administrators. The To Do List can be found in the DriveHQ repository.

TO DO	Priority	% complete
Test software download section: Upload test software.	HIGH	50
Website organization: rethink organization of websites, including all menus and software.	HIGH	50
Website look: work on logo, templates, etc.	MEDIUM	0
CMS System: Explore PHP-based alternatives to XOOPS (such as Joomla)	MEDIUM	0
Add coursework section: this section will have information about coursework, with links to relevant CNS pages. Basically: list of courses with links.	MEDIUM	0
Expand use for CN710 (Fall 2008) & CN550 (Spring 2009): Include class readings and posting of code. Course module is NOT accessible to the general public. BU IP is okay.	MEDIUM	0
CNS Image Processing Toolkit (IPT): Work with Santiago, Ennio, and Gail to integrate IPT into TLW. Include binary DISCOV (Ogi).	MEDIUM	0
Update article section: Collect and update on the website articles from the CNS department first, then from other authors.	MEDIUM	75
Update tech transfer section: Check existence of links, and compile a list of candidates to be added. Do not limit search to technology, but also include Neuroscience.	MEDIUM	25
Update books section: Find out what books are used in the coursework, and link them.	LOW	25
CELEST Educational website: think about how to interface with CELEST	LOW	0

Recurring Administrator Tasks

- Weekly
 1. Update To Do/update Lists on Drive HQ
- Monthly (document any updates/changes)
 1. Check and Update Members Page (every 3 months) and update Contact info for members in chapter 4 of the guide.
 2. Add additional recurring administrator tasks to this list when appropriate.
 3. Search for new content to update TLW.
 4. Update this guide.
 5. Check the backup system.
- Yearly (document any updates/changes)
 1. Check to see that all links are working.
 2. Go to through Website and check functionality of software, books, articles, tech transfer, and members.
 3. Evaluate Website design and software for the long-term, including functionality and ease of use by administrators, classes, and the public.
 4. Beta test the site with one or more new users, e.g., a first-year CNS student.



Chapter 5: Miscellaneous Notes

- Important file: mainfile.php. Stores the configuration and global variables.
- Infusion directory: /mnt/localhd/www/techlab
- Articles + other files are stored in /mnt/localhd/www/techlab/Docs
- The automatic email is generated by the file named tlddevbackup.php which is located in the following directory: /mnt/localhd/users/techlab/db_bak

This file creates a database dump into db_bak/data directory and emails success/failure status. The file is run daily at 1am by a UNIX scheduler called cron. The setup file for that and other cron jobs is called 'techlab.cron' and is located in:

/mnt/localhd/users/techlab/cronjobs

Old Article/References modules

In October 2007, the Article and References section of Infusion and Profusion were updated and substituted by a reference module that will provide unified management and user interface for the Article, Software, Data and Demos, and Tech Transfer sections. The following text describes the *old Article module* maintenance, and is published in this document as a backup.

Add an Article

1. Upload the file into pro(in)fusion to the following directory:
/mnt/localhd/www/techlab/Docs Using the following filename format:
Author1Author2YYYY.pdf
2. If the name of the first author is already in the Table of Contents section on the Articles page, skip this step.
3. Go to Administration Menu --> Downloads --> Add/Edit Downloads --> Add a SUB-Category
4. Enter the display number. Try to keep the names ordered alphabetically which may require changing other entries.

ASIDE: To change the display number of an entry, go to Administration Menu --> Downloads --> Add/Edit Downloads --> Modify a Category. Change the display number and click Save Changes.

NOTE: Display numbers must be integers.

5. Click Add.
6. Go to Administration Menu --> Downloads --> Add/Edit Downloads. Fill in the Add a New File portion. *For an Example go to modify download info (bottom of the same page) and enter the file ID 111.* The file ID of added articles can be found in the status bar of the browser.
The download URL should be */techlab/Docs/filename* where *filename* is the name you gave the file in step 1.
The file size can be found in windows by right clicking on the file and going to properties, or in Linux by entering *du -b filename* into a command prompt.
See example for proper formatting of the description and abstract.
7. Hit the Add button.

Delete an Article

1. Go to the articles section.
2. Find the article you want to delete
3. Click the link under the article labeled Modify
4. At the top of the page is a number labeled File ID. Remember this number
5. Go to **Administration menu > Downloads > Add/Edit Downloads**
6. Scroll to the bottom of the page, and enter the file ID in the box labeled Modify Download Info. Click Modify
7. Click Delete, and confirm that you would like to delete the article.

Manage references

NOTE: As of September 2007, the FAQ module has been disabled.

Add a Reference

1. Go to **Administration Menu > Downloads > Add / Edit Downloads**
2. Fill out the Add a New File form
 - Download Title is the name of the Article
 - Category is References
 - See any pre-existing entry for examples of description format
 - Download URL and HomePage should be blank
3. Click Add

Edit Reference

1. Go to the references page with your browser. Look at the HTML code
In Firefox this can be accomplished by pressing Cntrl-U
2. Find the name of the reference you would like to edit
3. Just above the name should be a tag that looks like
``
4. Remember the number
5. Go to **Administration Menu > Downloads > Add / Edit Downloads**
6. Enter the number from step 4 into the box at the bottom of the page, labeled "Modify Download Info"
7. Edit the reference, then click "Submit"

Delete a Reference

2. Follow the steps for editing a reference (steps 1-6)
3. Click the delete button under the modify form.

Names and Contact Info of Previous/Current TLW Administrators, Faculty, and Staff

NAME	EMAIL	POSITION	WORK PERIOD	WORK COMPLETED
Brian Bowlby	bowlby@cns.bu.edu	Director of CNS Computation Labs	2002-current	N/A
Gail Carpenter	gail@cns.bu.edu	TLW faculty supervisor	2002-current	N/A
Siegfried Martens	siegfried.martens@gmail.com	CLASSER developer	2003-2005	CLASSER
Sean Lorenz	slorenz@bu.edu	TLW administrator	06/2008 - current	TLW Guide & content update
Ogi Ogas	ogioagas@cns.bu.edu	TLW administrator	2003-2004	TLW setup
Mikhail Panko	mikpanko@cns.bu.edu	TLW administrator	8/2007	TLW Guide
Tim St. Clair	Timothy_St_Clair@brown.edu	TLW administrator		New TLW reference modules
Massimiliano Versace	versace@cns.bu.edu	TLW administrator	8/2007 - current	TLW Guide, class modules, TLW logo
Eugene Zaydens	ezaydens@cns.bu.edu	TLW administrator	1/2004 – 5/2005	Notification system, table of contents