Giga Creations Tools
"GCTools"

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README File

http://www.gigacreations.net/

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About GCTools

Purpose

GCTools was designed to help web developers create dynamic, feature-rich, applications quickly. It was not intended to be a Content Management System (CMS), a web forum, a photo gallery, a login system, or anything in particular. Instead, GCTools aimed to enable developers to create anything they wanted.

This allowed GCTools to be extremely flexible, and streamlined. The developer only has to include those classes that he actually needs, not an entire library of functions that may, or may not, be needed. This is one of the reasons GCTools has been developed so extensively. The developers have put a lot of time into thinking about what it is that a developer may need, and how can we do it with the most simple implementation available.

History

The very first code of GCTools was written in early September, 2010. The initial idea was not to create a framework, but to develop a management system for an object-oriented design class at the University of Louisville. The initial code was fairly small, and only included a few classes.

At the time, PHP had not really been developed with objects in mind. Most code was small scripts that was reminiscent of old C code. Although objects existed in PHP, they had not been utilized to a large extent. This was the aim of J. "Giga" Murphy during his class... to show his class that PHP could be used as a viable object-oriented language for web development.

Following the class, development came to a halt as other classes took priority. The code was commited to a private Git repository, and was largely forgotten about until late April, 2011. At this time development ramped up.

Within a week more than 4 new classes were created, and much of the older code was optimized. GCTools also gained another developer, M. "Beanyhead" Parker. Not only was a new developer added, but the project was released under the GPL v3 license, and pushed to a public GitHub repository for others to utilize. This also enabled people in the community to add to the project, and help to improve it.

Future of GCTools

The future of GCTools at this moment is unknown. Open-source developers are still needed to help contribute to the project, and the project is still lacking some major features.

You may check on the status of GCTools at the project's website, http://www.gigacreations.net/

GCTools file version scheme

The version scheme for individual files uses 3 groups (Version: X.X.X). They are explained as follows:

1. First group

    1. This is the overall file version.

    2. An integer greater than zero (0) indicates that everything in the file has been stabilized at one point. Please refer to the following groups for more information about this.

2. Second group

    1. This indicates how many classes in the current file are stable.

    2. An integer of zero (0) means that no class is fully stable yet.

    3. An integer greater than zero (0) means that this many classes in the file are stable.

    4. This does not provide what classes are currently stable. Please refer to the change log for that information.

3. Third group

    1. This is a revision number.

    2. It is not always updated (everyone forgets things sometimes), and thus shouldn't be relied upon.

    3. Basically, the higher the revision number, the greater likelihood that a particular class is almost stable.

Contributing to GCTools

Contributions to the code of GCTools are always welcome. This is why we have released the code under the GPL v3 license. If you haven't already, feel free to fork our project on the GitHub site.

Additionally, if you'd like to become a long-term contributor to GCTools, please send us an e-mail at webmaster@gigacreations.net with some more information about you so we can add you as a contributor to the GitHub repository.

Installing GCTools

Getting the files

There are multiple ways to obtain the GCTools files. Each way has it's own little path, and each has advantages/disadvantages. If you want a stable release, please make sure you read this section carefully. If you want the most bleeding-edge release that probably hasn't been tested, then you should follow the Git instructions.

From our Website

From time-to-time we will release a version of GCTools that we feel is stable. It will be found at our project page on http://www.gigacreations.net/gctools/. This page will provide you with a link to download any of our stable releases. If you have problems getting the release, please use the support, or contact, pages to report the issue.

From our Git repository

The Git repository is the central location for all GCTools files. It is constantly being updated with new designs, bugfixes, refined features, etc. Our Git repository is on GitHub at http://github.com/giga1699/GCTools. From there you can download a zip archive of the current files, or get the address to pull the data using Git on your own system.

If you wish for GCTools to be up-to-date, you should use Git on your system. It will allow you to pull the updated code with a single command. You must keep in mind that the code you pull from our Git repository may not be tested, and could break parts of GCTools that are already in place.

Enabling GCTools on your web server

There are numerous ways to utilize GCTools within your existing, or new, code. Our recommendation is to put the GCTools files in another directory on your web server that is not accessible from the internet. Then, go into your php.ini file, and add the path to GCTools into the default include path for PHP. When you do that, be sure to make the path to GCTools, and the files, readable by your web server user. They SHOULD NOT be writable by that user.

GCTools Files

autoload.inc.php

Class Variables

There are no class variables

Class Functions

The only function is the "__autoload" function which is a "magic" PHP function that tries to include the right file based on what class you are trying to use. It has not been tested in GCTools, but was developed to try to assist new users in loading the proper files before using a class.

cache.inc.php

Class Variables

1.) cacheDir – This defines the directory to store cached files. It must exist, and be writable.

Class Functions

1. Cache($cacheDir)

   (a) $cacheDir defines the directory to store cached files

   (b) Pre/Post Conditions:

      i. Precondition: The $cacheDir should be defined.

      ii. Postcondition: The cache class is initialized.

   (c) This function initializes the Cache class. It ensures that the cache directory exists, and is writable. If the directory does not exist, or is not writable, an exception is thrown.

2. getCacheDir()

   (a) Pre/Post Conditions:

      i. Precondition: $cacheDir should be set

      ii. Postcondition: Returns the $cacheDir, or FALSE otherwise

   (b) This function provides the user with the location of the cache directory.

3. setCacheDir($dir)

   (a) $dir defines the new location of the directory to store cached files.

   (b) Pre/Post Conditions:

      i. Precondition: $dir should be set, and a writable directory

      ii. Postcondition: Return TRUE on success, and FALSE otherwise

   (c) This function allows the user to change the location of the cache directory after the class has already been initialized.

4. createCache($file)

   (a) $file defines the path to the file to be cached

   (b) Pre/Post Conditions:

      i. Precondition: $file should be a valid file

      ii. Postcondition: Create a cache of the file and return TRUE on success, or FALSE on failure

   (c) This function allows the user to create a cache of a file.

Class example

```php
<?php
require_once("cache.inc.php");

try {
        $cache = new Cache("/path/to/my/cache/directory")
}
catch (Exception $e) {
        //There was some kind of error, so handle it
}

if (!$cache->createCache("/path/to/my/file")) {
        //There was an error creating the cache
}

//We're done. The cached file is /path/to/my/cache/directory/file.cache.html
?>
```

computer.inc.php

Class Variables

1. id => Defines a unique ID for the computer system.
2. name => Defines the computer's name (generally the DNS name).
3. mac => Defines the computer's MAC address.
4. ip => Defines the IPv4 address of the computer.
5. ip6 => Defines the IPv6 address of the computer (if needed).
6. osType => Defines the type of operating system.
7. osName => Defines the operating system's name.
8. serial => Defines the serial number for the computer.
9. location => Defines a location for the computer.
10. make => Defines the make (manufacturer) of the computer.
11. model => Defines the model of the computer.
12. cpu => Defines CPU information.
13. ram => Defines RAM information.
14. hdd => Defines hard drive information.
15. licensing => Defines licensing information.
16. notes => Defines additional notes about the computer.

Class Functions

1. Computer()
    (a) Pre/Post-conditions:
        i. Precondition: None
        ii. Postcondition: Sets up the Computer class variables for use
    (b) This function is the class constructor. It sets up all the variables for use.
2. getID()
    (a) Pre/Post-conditions:
        i. Precondition: id should be definied
        ii. Postcondition: Return the ID of the computer, or FALSE otherwise
    (b) This function allows the user to get the unique ID of the computer.
3. setID($newID)
    (a) $newID => Defines a new unique ID for the computer.
    (b) Pre/Post-conditions:
        i. Precondition: $newID should be defined

      ii. Postcondition: Set the ID

  (c) This function allows the user to set the unique ID for the computer.

4. getName()

  (a) Pre/Post-conditions:

      i. Precondition: name should be defined

      ii. Postcondition: Return the name of the computer, or FALSE otherwise.

  (b) This function allows the user to get the name of the computer.

5. setName($newName)

  (a) $newName => Defines the new name for the computer.

  (b) Pre/Post-conditions:

      i. Precondition: $newName should be defined

      ii. Postcondition: Set the new name of the computer.

  (c) This function allows the user to set the name of the computer.

6. getMac()

  (a) Pre/Post-conditions:

      i. Precondition: mac should be defined

      ii. Postcondition: Return the MAC address of the computer, or FALSE otherwise

  (b) This function allows the user to get the MAC address of the computer.

7. setMac($macAddress)

  (a) $macAddress => Defines the MAC address of the computer.

  (b) Pre/Post-conditions:

      i. Precondition: $macAddress should be defined, and be a valid MAC address

      ii. Postcondition: Set the MAC address of the computer.

  (c) This function allows the user to set the MAC address of a computer.

8. getIP()

  (a) Pre/Post-conditions:

      i. Precondition: ip should be defined

      ii. Postcondition: Return the IP address, or FALSE otherwise

  (b) This function allows the user to get the IP address of a computer.

9. setIP($ipAddr)

  (a) $ipAddr => Defines the IPv4 IP address of the computer.

  (b) Pre/Post-conditions:

      i. Precondition: $ipAddr should be defined, and a valid IPv4 address

      ii. Postcondition: Set the IPv4 address

  (c) This function allows the user to set an IPv4 address for the computer.

Class Example

This class is still under development.

database.inc.php

Class Variables

Database class

1.) dbType defines the type of database that is being used.

2.) dbLoc defines the location of the database. This can be an IP address, a hostname, a file location, etc

3.) dbUser defines the username used to connect to the database, if needed.

4.) dbPass defines the password used to connect to the database, if needed.

5.) dbName defines the name of the database to use.

6.) lastError defines the text of the last error that occurred, if any.

MySQL class

1.) myCon defines the MySQL connection

MSSQL class

This class is currently not functional

PGSQL class

This class is currently not functional.

SQLite class

This class is currently not functional.

Class Functions

Database class

1. (Protected) Database($loc, $user, $pass, $name, $type)

    (a) $loc defines the location of the database. This may be an IP address, a hostname or a location on the server.

    (b) $user defines the username used to login to the database.

    (c) $pass defines the password used in conjunction to the username to log into the server.

    (d) $name defines the default database to begin working with.

    (e) $type defines the type of database you will be working with.

    (f) Pre/Post-conditions:

        i. Precondition: The database location, username, password, name and type should be defined.

        ii. Postcondition: The class will set-up the variables that will be used to connect to the database, and conduct queries.

(g) This sets up the class to perform database operations.

2. hasError()

   (a) Pre/Post-conditions:

      i. Precondition: None

      ii. Postcondition: Returns TRUE if an error has occurred, and FALSE otherwise

   (b) This function will enable the user to check if an error has occurred during a database operation.

3. getLastError()

   (a) Pre/Post-conditions:

      i. Precondition: An error should have occurred.

      ii. Postcondition: Returns the error message the the database gave when the last error occurred.

   (b) This function gets the last error message provided by the database.

4. (protected) resetError()

   (a) Pre/Post-conditions:

      i. Precondition: None.

      ii. Postcondition: Any error is cleared from the class.

   (b) This function is used internally by the class to clear any previous errors that occurred.

MySQL class

1. MySQL($loc, $user, $pass, $name, $errorCallback=NULL)

   (a) $loc defines the location of the MySQL server. This can be either an IP address, or a hostname.

   (b) $user defines the username used to log into the MySQL server.

   (c) $pass defines the password used in conjunction with the username to log into the database.

   (d) $name defines the default database to use to perform database functions.

   (e) $errorCallback defines the callback function to send the error an additional way, if one occurs.

   (f) Pre/Post-conditions:

      i. Precondition: The location of the SQL server, the username, the password and the database name is given.

      ii. Postcondition: The MySQL server is connected to

   (g) This function connects to a MySQL server to perform MySQL functions. It will attempt to load the MySQL libraries, if they are not already loaded. It will also initialize it's parent Database class so you can use all the functionality of the abstract Database class.

2. (Private) connect()

   (a) Pre/Post-conditions:

      i. Precondition: The MySQL class should be set up properly.

      ii. Postcondition: The connection to the MySQL server is made, or errors or handled.

   (b) This function is the one that actually makes the connection to the MySQL database.

3. (Protected) throwError([$specialError])

   (a) $specialError defines a unique error that MySQL may not handle by itself, or an error that occurs before a MySQL connection is established

   (b) Pre/Post-conditions:

       i. Precondition: An error should have occurred

       ii. Postcondition: The error is created in the Database class with the proper information.

   (c) This function is called internally when any error has occurred during MySQL operations.

4. query($qString)

   (a) $qString defines the SQL Query string to be executed.

   (b) Pre/Post-conditions:

       i. Precondition: A query should be presented

       ii. Postcondition: The class will attempt to execute the query, and handle any errors.

   (c) SECURITY NOTE:

       i. The user is responsible for handling any sort of SQL injection type attacks. This function DOES NOT handle this by itself.

   (d) This function takes a SQL query, and tries to execute it on a MySQL database. It will also handle any errors that occur during the execution of the query.

5. changeDB($dbName)

   (a) $dbName defines the new database to use for queries.

   (b) Pre/Post-conditions:

       i. Precondition: A database name is given

       ii. Postcondition: The class attempts to change the database to use for MySQL operations. Returns TRUE on success, and FALSE on failure.

   (c) This function changes the database that is used to execute queries.

6. escapeString($string)

   (a) $string defines a string to escape using MySQL

   (b) Pre/Post-conditions:

       i. Precondition: A string should be given

       ii. Postcondition: The string is escaped using the current MySQL connection.

   (c) This function escapes a string to be safe in a MySQL query.

7. connected()

   (a) Pre/Post-conditions:

       i. Precondition: None

       ii. Postcondition: Returns TRUE if the MySQL connection is active, and FALSE otherwise

   (b) This function informs the user if the MySQL connection is still active, or not.

8. reconnect()

    (a) Pre/Post-conditions:

        i. Precondition: None

        ii. Postcondition: Will close any current connection, and re-establish a connection to the MySQL server

    (b) This function is used to reconnect to a MySQL server. It is used internally if the MySQL connection is lost, and can be used by the user to reconnect using the given credentials at initialization time.

9. setErrorCallback($callback)

    (a) $callback => Defines a callback function that is called when a MySQL error occurs

    (b) Pre/Post-conditions:

        i. Precondition: $callback should be defined

        ii. Postcondition: Set the errorCallback. Returns TRUE on success, and FALSE otherwise.

    (c) This function allows the user to set/change the error callback after the MySQL class has been initialized.

MSSQL class

This class is still under development, and has not been tested.

PGSQL class

This class is not currently functional.

SQLite class

This class is not currently functional.

Class example

MySQL class

```php
<?php
require_once("database.inc.php");
require_once("error.inc.php");


$errorHandler = new Error("errorto@mydomain.com", "errorfrom@somedomain.com");
$errorHandler->setErrorSubject("MySQL Error");


try {
        $mysql = new MySQL("hostname", "username", "password", "database", array($errorHandler,
"sendError"));
}
```

```
catch (Exception $e) {
        //Something went wrong
        echo $mysql->getLastError();
}

//Let's do a query
$mysql->query("SELECT * FROM `users` WHERE `username`='" . $mysql->escapeString($username) . "'");

//Check if we're still connected
if (!$mysql->connected())
        $mysql->reconnect();
?>
```

MSSQL class

This class is not currently functional.

PGSQL class

This class is not currently functional.

SQLite class

This class is not currently functional.

error.inc.php

Class Variables

(Abstract) GCError Class

1. errorFrom => Defines the e-mail address to display in the "From:" header when sending an error e-mail
2. errorTo => Defines who error e-mails should be sent to
3. errorSubject => Defines the subject for the e-mail when sending error e-mails

GCErrorHandler Class

1. errorHandlerSet => Defines if the GCErrorHandler has been set for errors.
2. exceptionHandlerSet => Defines if the GCErrorHander has been set for exceptions.

Class Functions

(Abstract) GCError Class

1. GCError($from, $to)

   (a) $from => Defines the from address for sending e-mails

   (b) $to => Defines the to address for sending e-mails

   (c) Pre/Post-conditions:

      i. Precondition: The from, and to, address should be defined

      ii. Postcondition: The Error class is set-up.

   (d) This is the constructor for the Error class. It sets up the class to be able to send error messages via e-mail to an individual, or group.

2. setErrorSubject($errorSubject)

   (a) $errorSubject => Defines the subject line for e-mails sent through this class

   (b) Pre/Post-conditions:

      i. Precondition: None

      ii. Postcondition: The subject line is set

   (c) This function sets the subject line for all e-mails sent via this class.

3. sendError($errorMessage)

   (a) $errorMessage => Defines the body of the e-mail

   (b) Pre/Post-conditions:

      i. Precondition: $errorMessage should be defined

      ii. Postcondition: An e-mail is sent to $to, from $from and containing the body $errorMessage

   (c) This function sends an e-mail to the defined "To:" address(es) with the given error message. This

function may be used as the callback function in the MySQL class (as well as others).

GCErrorHandler Class

1. GCErrorHander($to, $from, $subject=NULL)

    (a) $to => Defines the "To:" address for e-mails

    (b) $from => Defiens the "From:" address for e-mails

    (c) (Optional) $subject => Defines the subject for e-mails

    (d) Pre/Post-conditions:

        i. Precondition: $to, and $from, should be defined.

        ii. Postcondition: Set-up the class

    (e) This is the class constructor. It will properly set-up the class, or report an error if there was a problem.

2. setGCErrorGlobally($errors=NULL)

    (a) (Optional) $errors => Defines the types of errors to report

    (b) Pre/Post-conditions:

        i. Precondition: errorHandlerSet should be false (i.e. you haven't called this function yet)

        ii. Postcondition: Set the PHP error hander. Returns TRUE on success, and FALSE otherwise.

    (c) This sets the GCErrorHander to globally handle all PHP errors.

    (d) REFERENCE: http://php.net/manual/en/function.set-error-handler.php

3. unsetGCErrorGlobally()

    (a) Pre/Post-conditions:

        i. Precondition: Error handler should've been set already

        ii. Postcondition: Return PHP error handler to what it was before. returns TRUE on success, and FALSE otherwise

    (b) This function removes the GCErrorHandler from acting on PHP errors.

4. handleError function

    (a) This function is based off of the PHP guidance for handling errors. You will not need to call it yourself. It will automatically send you an e-mail with the error message, and a backtrace on the error.

5. setGCExceptionGlobally()

    (a) Pre/Post-conditions:

        i. Precondition: exceptionHandlerSet should be false (i.e. you haven't called this function yet)

        ii. Postcondition: Set the PHP exception hander. Returns TRUE on success, and FALSE otherwise.

    (b) This sets the GCErrorHander to globally handle all PHP exceptions.

    (c) REFERENCE: http://www.php.net/manual/en/function.set-exception-handler.php

6. unsetGCExceptionGlobally()

    (a) Pre/Post-conditions:

        i. Precondition: Exception handler should've been set already

        ii. Postcondition: Return PHP exception handler to what it was before. returns TRUE on success, and FALSE otherwise

    (b) This function removes the GCExceptionHandler from acting on PHP errors.

7. handleException function

    (a) This function is based off of the PHP guidance for handling exceptions. You will not need to call it yourself. It will automatically send you an e-mail with the exception message, and a backtrace on the error.

Class Example

GCErrorHandler Class

```php
<?php
require_once("error.inc.php");


try {

	$error = new GCErrorHandler("to@errormessage.com", "from@errorsfrom.com");
}
catch (Exception $e) {

	//Handle class init error here
}


$error->setErrorSubject("THERE WAS AN ERROR!");


$error->sendError("There was an error in a script. Please go take a look at it.");


?>
```

file.inc.php

Class Variables

1. fileLoc => Defines the location of the file on the system.
2. fileName => Defines the name of the file, to include any extension.
3. fileMIMEType => Defines the MIME type of the file.
4. fileBuffer => Defines a buffer that contains the file data.
5. fileSize => Defines the size of the file

Class Functions

1. File($file)
   (a) $file => Defines the location of the file on the system.
   (b) Pre/Post-conditoins:
      i. Precondition: $file should be defined, and an actual file on the system.
      ii. Postcondition: The File class is initialized, and ready for use by the user.
   (c) This function initializes the class, and prepares it for use by the user.
2. (private) addFile($file)
   (a) $file => Defines the location of the file on the system.
   (b) Pre/Post-conditions:
      i. Precondition: $file should be defined, and an actual file on the system.
      ii. Postcondition: Pull all needed data about the file, and fill class variables.
   (c) This function is the core function to this class. It is what actually pulls all the information about the file, and fills the class variables.
3. getFileName()
   (a) Pre/Post-conditions:
      i. Precondition: fileName should be set
      ii. Postcondition: Return the file name, or FALSE otherwise
   (b) This function returns the file name to the user.
4. getMIMEType()
   (a) Pre/Post-conditions:
      i. Precondition: fileMIMEType should be defines
      ii. Postcondition: Return the file's MIME type, or FALSE otherwise
   (b) This function provides the MIME type of the file to the user. It can be useful for limiting file uploads to particular MIME types, or utilizing it when sending an e-mail with an attachment.
5. getSize()

(a) Pre/Post-conditions:

      i. Precondition: fileSize should be defined

      ii. Postcondition: Return the file's size (in bytes), or FALSE otherwise

    (b) This function provides the user with the file size, in bytes, of the file that has been loaded into the class.

6. getFile()

    (a) Pre/Post-conditions:

      i. Precondition: fileBuffer should be defined

      ii. Postcondition: Return the binary file data, or FALSE otherwise

    (b) This function provides the binary data to the user, which is great for attaching a file in an e-mail.

7. hadError()

    (a) Pre/Post-conditions:

      i. Precondition: None

      ii. Postcondition: Returns TRUE if an error occurred, or FALSE otherwise

    (b) This function enables the user to determine if an error occurred during initialization of the class.

8. moveFile($newFile)

    (a) $newFile => Defines the new location and/or file name of the file

    (b) Pre/Post-conditions:

      i. Precondition: $newFile should be set

      ii. Postcondition: Move the file, and return TRUE if it was a success, or FALSE otherwise

    (c) This function allows a user to move a file on the system.

Class Example

```php
<?php

require_once("file.inc.php");

try {
        $theFile = new File("/loc/of/file/filename.txt");
}
catch (Exception $e) {
        //Handle exceptions here
}

//Print information about the file
```

```php
echo "File name: " . $theFile->getFileName() . "<br>\n";
echo "File size: " . $theFile->getFileSize() . " bytes<br>\n";
echo "File MIME type: " . $theFile->getMIMEType() . "<br>\n";


?>
```

ldap.inc.php

Class Variables

LDAP Class

ActiveDirectory Class

Class Functions

LDAP Class

ActiveDirectory Class

Class Example

LDAP Class

ActiveDirectory Class

mail.inc.php

Class Variables

EMail class

1. $mailTo = > Defines an array of "To:" address for e-mails
2. $mailCC => Defines an array of "CC:" address for e-mails
3. $mailBCC => Defines an array of "BCC:" addresses for e-mails
4. $mailFrom => Defines the "From:" address for e-mails
5. $mailReplyTo => Defines the "ReplyTo:" address fro e-mails
6. $mailSubject => Defines the subject of the e-mail
7. $mailMessage => Defines the body of the message
8. $mailAttachments => Defines an array of Attachments for the e-mail
9. $mailAddlHeaders => Defines any additional headers to be sent with the e-mail
10. (private)$mailSplit => Defines a splitting string that is used when sending e-mails with attachments.

Class Functions

EMail class

1. Email()
   (a) Pre/Post-conditions:
       i. Precondition: None
       ii. Postcondition: Set-up the Email class for use by the user
   (b) This function prepares the EMail class for use by the user. It initializes all the variables needed.
2. addTo($address)
   (a) $address => Defines a valid e-mail address
   (b) Pre/Post-conditions:
       i. Precondition: A valid e-mail address is supplied
       ii. Postcondition: Return TRUE if the address was added, and FALSE otherwise
   (c) This function add an e-mail address to the list of "To:" addresses.
3. (private) formatTo()
   (a) This function is used to properly format the "To:" addresses for sending an e-mail using PHP's mail() function.
4. addCC($address)
   (a) $address => Defines a valid e-mail address
   (b) Pre/Post-conditions:

       i. Precondition: A valid e-mail address is supplied

      ii. Postcondition: Return TRUE if the address was added, and FALSE otherwise

  (c) This function add an e-mail address to the list of "CC:" addresses.

5. (private) formatCC()

  (a) This function is used to properly format the "CC:" addresses for sending an e-mail using PHP's mail() function.

6. addBCC($address)

  (a) $address => Defines a valid e-mail address

  (b) Pre/Post-conditions:

       i. Precondition: A valid e-mail address is supplied

      ii. Postcondition: Return TRUE if the address was added, and FALSE otherwise

  (c) This function add an e-mail address to the list of "BCC:" addresses.

7. (private) formatBCC()

  (a) This function is used to properly format the "BCC:" addresses for sending an e-mail using PHP's mail() function.

8. setFrom($address)

  (a) $address => Defines a valid e-mail address

  (b) Pre/Post-conditions:

       i. Precondition: A valid e-mail address is provided

      ii. Postcondition: The "From:" address is set

  (c) This functions enables the user to set the "From:" address for e-mails sent through this class.

9. getFrom()

  (a) Pre/Post-conditions:

       i. Precondition: The "From:" address should be set

      ii. Postcondition: Return the "From:" address, or FALSE otherwise

  (b) This function allows the user to see what the currently set "From:" address is set to. If one is not set, the function returns FALSE.

10. setReplyTo($address)

  (a) $address => Defines a valid e-mail address

  (b) Pre/Post-conditions:

       i. Precondition: A valid e-mail address is provided

      ii. Postcondition: The "Reply-to:" header is set

  (c) This function enables the user to set the "Reply-to:" header for e-mails set out using this class. This allows the user to define a specific "From:" address, but have the default reply action go to the "Reply-to:" address.

11. getReplyTo()

(a) Pre/Post-conditions:

    i. Precondition: The "Reply-to:" address should be set

    ii. Postcondition: Returns the "Reply-to:" address, or FALSE otherwise

(b) This function allows the user to know the currently set "Reply-to:" address. If one is not currently set, the function will return FALSE.

12. setSubject($subject)

(a) $subject => Defines the subject of the current e-mail

(b) Pre/Post-conditions:

    i. Precondition: A subject should be defined

    ii. Postcondition: Sets the subject of the current e-mail

(c) This function allows the user to set a specific subject for the e-mail message

13. getSubject()

(a) Pre/Post-conditions:

    i. Precondition: A subject should be defied already

    ii. Postcondition: Return the subject of the e-mail message, or FALSE otherwise.

(b) This function allows the user to see what the currently set subject is.

14. setMessage($message)

(a) $message => Defines the actual body of the e-mail message

(b) Pre/Post-conditions:

    i. Precondition: A message should be definied

    ii. Postcondition: Set the message for the e-mail

(c) This function allows the user to set the body of the e-mail message. It may, or may not, contain HTML and/or plain-text.

15. getMessage()

(a) Pre/Post-conditions:

    i. Precondition: A message body should be set

    ii. Postcondition: Return the message body, or FALSE otherwise

(b) This function allows the user to see what the currently set message body is.

16. addAttachment($file)

(a) $file => Defines the location, and name, of a file on the system to attach to the e-mail message

(b) Pre/Post-conditions:

    i. Precondition: A valid file is given

    ii. Postcondition: Attaches the given file to the e-mail message

(c) This function allows the user to attach a file from the system to the e-mail to be sent out.

17. setAddlHeaders($headers)

(a) $headers => Defines additional headers to be set

(b) Pre/Post-conditions:

    i.   Precondition: Valid headers are given

    ii. Postcondition: Adds the additional headers to the e-mail

(c) This function allows the user to add additional headers to the e-mail message. This function should not be used to set the "From:" or "Reply-To:" headers.

18. getAddlHeaders()

  (a) Pre/Post-conditions:

    i.   Precondition: Additional headers should be defined.

    ii. Postcondition: Return the additional headers, or FALSE otherwise.

  (b) This function allows the user to see what additional headers have been set for the e-mail.

19. (protected) getHeaders()

  (a) Pre/Post-conditions:

    i.   Precondition: None

    ii. Postcondition: Properly format all additional headers

  (b) This function is an internal function to the EMail class. It is used to properly format the headers to be used with the PHP mail() function.

20. send()

  (a) Pre/Post-conditions:

    i.   Precondition: The "To:" address should be set

    ii. Postcondition: The e-mail message should be sent. Returns TRUE on success, and FALSE otherwise.

21. validEmail($address)

  (a) $address => Defines an e-mail address to check.

  (b) Pre/Post-conditions:

    i.   Precondition: An address is given

    ii. Postcondition: Returns TRUE if the given address is valid, and FALSE otherwise.

  (c) This function checks if the given e-mail address is a valid address or not. It also does some additional checking to ensure that it can be sent through the various e-mail systems.

Class Example

```php
<?php

$email = new EMail();

$email->setFrom("billing@mycompany.com");
```

```php
$email->addTo("somebody@somedomain.com");
$email->addBCC("myboss@mycompany.com");
$email->setReplyTo("me@mycompany.com");
$email->setSubject("Your new bill");

$message = "Dear Sombody,

Attached is your new bill for this month. Please pay it within 15 days.

If you have any questions, please reply to this e-mail.

Thank you,
My Company Billing Services";

$email->setMessage($message);

$email->addAttachment("/home/billing/newbills/somebody.new.bill.pdf");

$email->send();
?>
```

navigation.inc.php

Class Variables

Page class

1. pageID => Defines a unique page ID
2. pageName => Defines the name of the page
3. pageTitle => Defines the title of the page
4. pageURL => Defines the full URL of the page
5. pageContent => Defines the HTML content of the page
6. pageChildren => An array of Page classes that are children of the current page
7. pageLastMod => Defines when the page was last modified (YYYY-MM-DD HH:MM:SS format)
8. pageChangeFreq => Defines how often the page changes
9. pagePriority => Defines the priority level of the page
10. pageEnabled => Defines if the page is enabled, or not
11. pagePHP => Defines if this is a PHP page
12. pageSecurityCheck => Defines a callback to check the security permissions of a user on the given page

Navigation class

1. navPages => An array of Page classes that create the navigation structure

Class Functions

Page class

1. Page()
   (a) Pre/Post-conditions:
      i. Precondition: None
      ii. Postcondition: Set-up the Page class to be ready for use
   (b) This is the constructor for the Page class. It will set-up all needed variables for use by the user.
2. getPageID()
   (a) Pre/Post-conditions:
      i. Precondition: pageID should be defined
      ii. Postcondition: Return the page ID, or FALSE otherwise
   (b) This function allows the user to get the unique ID of the page
3. setPageID($id)
   (a) $id => Defines the new page ID

(b) Pre/Post-conditions:

    i. Precondition: $id should be defined

    ii. Postcondition: Set the page ID. Return TRUE on success, and FALSE otherwise

(c) This function allows the user to set the unique page ID of the page

4. getPageName()

(a) Pre/Post-conditions:

    i. Precondition: pageName should be defined

    ii. Postcondition: Return the name of the page, or FALSE otherwise

(b) This function allows the user to see the name of the page.

5. setPageName($name)

(a) $name => Defines the new name of the page

(b) Pre/Post-conditions:

    i. Precondition: $name should be defined

    ii. Postcondition: Sets the name of the page. Return TRUE on success, and FALSE otherwise.

(c) This function allows the user to set the name of the page.

6. getPageTitle()

(a) Pre/Post-conditions:

    i. Precondition: pageTitle should be defined

    ii. Postcondition: Returns the page title, or FALSE otherwise

(b) This function allows the user to get the title of the page.

7. setPageTitle($title)

(a) $title => Defines the new title for the page

(b) Pre/Post-conditions:

    i. Precondition: $title should be defined

    ii. Postcondition: Set the new page name. Return TRUE on success and FALSE otherwise.

(c) This function allows the user to set the title of the page.

8. getPageURL()

(a) Pre/Post-conditions:

    i. Precondition: pageURL should be set

    ii. Postcondition: Return the page URL, or FALSE otherwise

(b) This function allows the user to set the URL of the page

9. setPageURL($url)

(a) $url => Defines the new page URL

(b) Pre/Post-conditions:

    i. Precondition: $url should be a valid URL

ii. Postcondition: Set the new page URL

(c) This function allows the user to set the page URL

10. getPageContent()

    (a) Pre/Post-conditions:

        i. Precondition: pageContent should be defined

        ii. Postcondition: Returns the content of the page, or FALSE otherwise

    (b) This function allows the user to get the content of a page. It will automatically get dynamic content from PHP pages as well so that you have the most up-to-date version of the page.

11. setPageContent($content)

    (a) $content

        i. Can define the actual content of the page, or...

        ii. Can define a PHP page to use as the content

    (b) Pre/Post-conditions:

        i. Precondition: Valid content is provided, and the user has access to if (if security is being used)

        ii. Postcondition: The content is set. Returns TRUE on success and FALSE otherwise

    (c) This function allows the user to set the page content, to include dynamic content from PHP pages. The function will also check if the user has rights to the page, if you are using the security callback. If they do not have access to the content, the function will return FALSE just like any other error.

    (d) The callback to check for page security utilizes a unique page ID, so if you haven't defined those yet you will need to before using that functionality.

12. hasChildren()

    (a) Pre/Post-conditions:

        i. Precondition: None

        ii. Postcondition: Returns TRUE if the page has children, and FALSE otherwise

    (b) This function allows the user to check if the page has any children.

13. getChildren()

    (a) Pre/Post-conditions:

        i. Precondition: Page should have children

        ii. Postcondition: Return children pages, or FALSE otherwise

    (b) This function allows the user to get the children of the page.

14. addChild($child)

    (a) $child => Defines another Page class that is a child of the present Page class

    (b) Pre/Post-conditions:

        i. Precondition: A valid Page class is passed to the function

        ii. Postcondition: The pageChildren array is updated. Returns TRUE on success, and FALSE otherwise.

(c) This function allows the user to add a child to the current Page class.

15. getLastMod()

    (a) Pre/Post-conditions:

        i. Precondition: pageLastMod should be definied

        ii. Postcondition: Returns the last modified time, or FALSE otherwise.

    (b) This function allows the user to get the last modified time of the page.

16. setLastMod($lastMod)

    (a) $lastMod => Defines a date/time that the page was last modified

    (b) Pre/Post-conditions:

        i. Precondition: $lastMod should be a valid date/time

        ii. Postcondition: Updates the pageLastMod value. Returns TRUE on success, and FALSE otherwise.

    (c) This function allows the user to set the last modified date/time for the page.

17. getChangeFreq()

    (a) Pre/Post-conditions:

        i. Precondition: pageChangeFreq should be defined

        ii. Postcondition: Return the page's change frequency, or FALSE otherwise

    (b) This function allows the user to know the change frequency of the page.

18. setChangeFreq($frequency)

    (a) $freq => Defines a change frequency.

        i. Must be one of the following values:

            A. always

            B. hourly

            C. daily

            D. weekly

            E. monthly

            F. yearly

            G. never

    (b) Pre/Post-conditions:

        i. Precondition: $frequency should be defined, and one of the acceptable values

        ii. Postcondition: Sets the page change frequency. Returns TRUE on success, and FALSE otherwise.

19. getPriority()

    (a) Pre/Post-conditions:

        i. Precondition: pagePriority should be defined

ii. Postcondition: Returns the page's priority, or FALSE otherwise

(b) This function allows the user to know the priority of the page.

20. setPriority($priority)

(a) $priority => Defines a double between 0 and 1 that show the page's priority

(b) Pre/Post-conditions:

i. Precondition: $priority should be defined, and be between 0.0 and 1.0

ii. Postcondition: Sets the pagePriority value. Returns TRUE on success, and FALSE otheriwse.

(c) This function allows the user to set the priority of the page.

21. enablePage()

(a) Pre/Post-conditions:

i. Precondition: None

ii. Postcondition: Set pageEnabled to TRUE. Returns TRUE on success, and FALSE on failure.

(b) This function allows the user to enable the page

22. disablePage()

(a) Pre/Post-conditions:

i. Precondition: None

ii. Postcondition: Sets pageEnabled to FALSE. Returns TRUE on success, and FALSE otherwise.

(b) This function allows the user to disable the page.

23. isEnabled()

(a) Pre/Post-conditions:

i. Precondition: None

ii. Postcondition: Returns TRUE if the page is enabled, and FALSE otherwise.

(b) This function allows the user to check if the page is enabled, or not.

24. isPHP()

(a) Pre/Post-conditions:

i. Precondition: None

ii. Postcondition: Returns TRUE if the page is a PHP page, and FALSE otherwise.

(b) This function allows the user to check if the page is a PHP page, or not.

25. setPHP()

(a) Pre/Post-conditions:

i. Precondition: None

ii. Postcondition: Sets the page to be a PHP one. Returns TRUE on success, and FALSE otherwise.

(b) This function allows the user to make the page a PHP one.

26. unsetPHP()

(a) Pre/Post-conditions:

    i. Precondition: None

    ii. Postcondition: Sets the page to NOT be a PHP page. Returns TRUE on success, and FALSE otherwise.

  (b) This function allows the user to remove the status of being a PHP page.

27. setSecurityCallback($callback)

  (a) $callback => Defines a callable function that accepts one input, the unique page ID

  (b) Pre/Post-conditions:

    i. Precondition: $callback should be defined, and callable.

    ii. Postcondition: Set the pageSecurityCheck variable

  (c) This function allows the user to define a callback function to check the security permissions of a given page

28. unsetSecurity()

  (a) Pre/Post-conditions:

    i. Precondition: None

    ii. Postcondition: Remove the security callback. Return TRUE on success, and FALSE otherwise

  (b) This function allows the user to get rid of the security checking.

29. hasSecurity()

  (a) Pre/Post-conditions:

    i. Precondition: None

    ii. Postcondition: Returns TRUE if security is enabled, and FALSE otherwise

  (b) This function allows the user to check if the page has security enabled, or not.

Navigation class

1. Navigation

  (a) Pre/Post-conditions:

    i. Precondition: None

    ii. Postcondition: Sets-up the Navigation class

  (b) This function sets up the Navigation class for the user to use

2. addPage($page)

  (a) $page => Defines a Page class to be added to the navigation structure

  (b) Pre/Post-conditions:

    i. Precondition: $page should be a Page class

    ii. Postcondition: Add the page to the navigation structure

  (c) This function allows the user to add a page to the navigation structure.

3. getPage($pageName)

  (a) $pageName => Defines the name of a page in the navigation structure

(b) Pre/Post-conditions:

    i. Precondition: $pageName should be a page that exists

    ii. Postcondition: Return the Page class of the page, or FALSE otherwise

(c) This function allows the user to get all the page information for a page based on its name.

4. getHomePage()

  (a) Pre/Post-conditions:

    i. Precondition: The home page should be set (i.e. a page name of "")

    ii. Postcondition: Return the Page class of the home page

  (b) This function allows the user access to the home page of the navigation structure. This is a unique function created specifically for the home page.

5. getSitemap()

  (a) Pre/Post-conditions:

    i. Precondition: Pages should exist in the navigation structure

    ii. Postcondition: Return a XML sitemap based on sitemaps.org standard, or FALSE otherwise.

  (b) This function generates a XML sitemap that the user can submit to search engines describing the layout of their website.

6. (protected) addPageToSitemap($page)

  (a) This function is internal to the Navigation class, and is used to actually add the pages to the XML sitemap in the getSitemap() function.

7. pageExists($pageName)

  (a) $pageName => Defines the name of a page that the user is looking for.

  (b) Pre/Post-conditions:

    i. Precondition: $pageName should be defined

    ii. Postcondition: Returns TRUE if the page exists, and FALSE otherwise

  (c) This function allows the user to check if a particular page exists in the navigation structure.

8. formatPageName($name)

  (a) $name => Defines a page name

  (b) Pre/Post-conditions:

    i. Precondition: $name should be given

    ii. Postcondition: Format the page name into a "SEO"-friendly format

  (c) This function allows the user to format a page name for SEO optimization.

Class Example

photo.inc.php

Class Variables

1. picLoc => Defines the location of the picture on the system

2. picBuffer => Defines a buffer that holds the raw picture data

3. picSize => Defines the size, in bytes, of the picture file

4. picHeight => Defines the height, in pixels, of the image

5. picWidth => Defines the width, in pixels, of the image

6. picType => Defines the picture's type (jpeg, gif, etc).

7. picName => Defines a friendly name for the picture

8. picGDRes => Defines the PHP GD resource that holds the picture

Class Functions

1. Picture($loc=NULL)

   (a) $loc => Defines the location on the system of the picture file

   (b) Pre/Post-conditions:

       i. Precondition: None

       ii. Postcondition: If a file is given, then load it. Otherwise just initialize the class

   (c) This function enables the use of the Picture class. It will attempt to load the GD extensions, if they have not already been loaded. If you give it a location of a picture, it will attempt to load that picture into the class for you to manipulate it.

2. (protected) loadFromFile($file)

   (a) This function handles loading a picture from its file on the system. It is a protected function, and you should not try to call it unless you know what it is doing, and how it works.

3. resize($width, $height)

   (a) $width => Defines the maximum width of the new image

   (b) $height => Defines the maximum height of the new image

   (c) Pre/Post-conditions:

       i. Precondition: A GD resource must already exist (by loading a file, or creating one), and the width and height arguments must be defined.

       ii. Postcondition: The image is resized using GD. Returns TRUE on success, and FALSE for any failures.

   (d) This function enables you to resize an image using the GD library of PHP. It is very useful for creating thumbnails of larger pictures. As of now, you can not resize the picture to the exact dimensions given. Instead, the function will reduce the image by a ratio based on the maximum height and width given in the arguments. Future versions of this function may allow for exact resizing.

4. convertToGrayscale()

   (a) Pre/Post-conditions:

      i. Precondition: A GD resource should exist

      ii. Postcondition: The image is converted to grayscale

   (b) This function takes an image that was loaded, and converts it to grayscale.

5. addSiteText($text, $color=CLR_WHITE)

   (a) $text => Defines the text to be added to the image

   (b) $color => Defines the color of the text to be added.

   (c) Pre/Post-conditions:

      i. Precondition: A GD resource should exist, $text and $color should be defined.

      ii. Postcondition: The text is added to the top of the image in the given color

   (d) This function is very basic right now. It adds the given text to the top-left corner of the image, using the given color for the font.

6. save($fileLoc)

   (a) $fileLoc => Defines the location, and file name, to store the working image.

   (b) Pre/Post-conditions:

      i. Precondition: A GD resource should be defined, a file location must be given, and the class should have determined the picture type.

      ii. Postcondition: The image is stored to the given location

   (c) This function saves the working image to a given location. Currently, it only saves the image at 75% quality of the original. We will be adding the ability to define the quality in future code.

7. display()

   (a) Pre/Post-conditions:

      i. Precondition: A GD resource should exist, and the class should have determined the picture type.

      ii. Postcondition: Displays the image to the user

   (b) This function is used to display the current working image to the user via their web browser.

   (c) NOTE: This function must be called before headers have been sent, as it sends headers of its own.

Class Example

Class Variables

Class Functions

Class Example

session.inc.php

NOTE: This functionality uses the Singleton pattern. This is because you can only have 1 session open at a time in PHP.

Class Variables

1. $instance => Holds the instance of the session class
2. $sessionName => Defines the name of the current session, if any
3. $sessionID => Holds the PHP given session ID.

Class Functions

1. (Private) Session()
   (a) This function is kept private to prevent any user from creating multiple session classes.
2. init($session_name=NULL)
   (a) $session_name => Defines a name for the session, if wanted
   (b) Pre/Post-conditions:
      i. Precondition: None
      ii. Postcondition: Return the current instance of the session
   (c) This function will check if a current instance of Session is open. If so, it will return that instance to you. If not, it will create a new session and return the new instance to you.
3. getSessionName()
   (a) Pre/Post-conditions:
      i. Precondition: sessionName should be defined
      ii. Postcondition: Return the session name, or FALSE otherwise
   (b) This function allows the user to get the current session name, if defined
4. getSessionID()
   (a) Pre/Post-conditions:
      i. Precondition: A session should exist
      ii. Postcondition: Return the session ID, or FALSE otherwise
   (b) This function allows the user to get the session ID.
5. saveData($name, $data)
   (a) $name => Defines the name of the variable to store the data in
   (b) $data => Defines the data to store
   (c) Pre/Post-conditions:
      i. Precondition: A session should exist, a name should be defined, and there should be data to store
      ii. Postcondition: The data should be registered as a session variable named $name

(d) This function allows the user to save data into a session variable that can be pulled at a later time during the same session. Returns TRUE on success, and FALSE otherwise.

6. getData($name)

   (a) $name => Defines the name of the variable to pull data from

   (b) Pre/Post-conditions:

      i. Precondition: $name must be defined, and the variable must exist

      ii. Postcondition: Return the stored data, or return FALSE on failure

   (c) This function allows the user to retrieve stored session data.

7. destroyData($name)

   (a) $name => Defines the name of the variable to destroy

   (b) Pre/Post-conditions:

      i. Precondition: $name must be defined, and the variable should exist

      ii. Postcondition: The data in the variable is destroyed, and the variable is released

   (c) This function allows a user to destroy data stored in a session.

8. sessionStop()

   (a) Pre/Post-conditions:

      i. Precondition: A session should exist

      ii. Postcondition: The session is destroyed, and a new session should be available to be created

   (b) This function ends the currently running session.

Class Example

user.inc.php

Class Variables

Class Functions

Class Example

Credits

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Change Log

This is in the works

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can do so. This is fundamentally incompatible with the aim of
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pattern of such abuse occurs in the area of products for individuals to
use, which is precisely where it is most unacceptable. Therefore, we
have designed this version of the GPL to prohibit the practice for those
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  1. Source Code.

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The "Corresponding Source" for a work in object code form means all

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  (including a physical distribution medium), accompanied by a
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