ADT:
Mailing List Manager
Version 1.0

Functional Specification

Author	Josh Hill
Version	1.0
Printed	2001-10-221:32 PM

`Document Revisions

Revisions on this document should be recorded in the table below:

	Date	Description	Author
1	22 October 2001	First Draft	Josh Hill
2	10 September 2001	First Edit	Josh Hill
3	12 October 2001	Screenshots, Params, Views, Edits	Josh Hill
4			

1 Introduction **4**
1.1 Purpose of this document 4
1.2 Scope of this document 4
1.3 Overview 4
1.4 Business Context 4
2 General Description **4**
2.1 Product Functions 4
2.2 General Constraints 4
3 Functional Requirements **11**
3.1 MLM Application 11
3.1.1 Description *11*
3.1.2 Risks and Dependencies *18*
4 Database Design **18**
4.1 Description 18
4.2 Communications Interfaces 19
5 Other non-functional attributes **19**
5.1 Reliability 19
5.2 Maintainability 19
5.3 Portability 19
5.4 Extensibility 19
5.5 Reusability 19
5.6 Serviceability 19

1 Introduction

1.1 Purpose of this document

The purpose of this document is to specify the functional and system specification of the Mailing List Manager application. The document provides a road-map through which the implementation of the application will be developed and where applicable, will also contain information detailing technical design constraints and assumptions.

1.2 Scope of this document

The scope of this specification covers the functional specifications of the Web Mailing List Manager application. This specification does not extend to third party or infrastructure components (such as a web server installation and/or configuration) .

1.3 Overview

The basic requirements summary build-in for the MLM application:

- To be able to add, delete, and modify users of the list.
- To be able to send mail to the list.

1.4 Business Context

MLM is a groupware application designed for multiple users over a wide area. The generic version is open source for distribution. Anyone may take advantage of the powerful eXtropia Perl ADT. Improvements will be made incrementally as bug reports come in and suggestions are made. The generic MLM will ultimately benefit both the company and our users.

2 General Description

2.1 Product Functions

MLM is a wide area application capable of use by everyone. A user should be able to act only on his own record in order to best manage his own needs. Regular users may submit email to the list, but it must be approved by an administrator.

2.2 General Constraints

The application will be written in Perl and the data files are stored in a common flat file system (ASCII File). This will slow down in terms of searching for information if there is a presence of huge database.

The application is also able to interface with relational databases should the administrator desire it.

Bold Params indicate Section Headings. *Italic Params* are objects.
Indented Params are configurable variables.
Grayed out or missing items are not required or not available in the default configuration.

Param	Default configuration	Notes
Language	Perl	
Session Setup		
Type	File	Note that flatfile data sources are slow. We recommend upgrading to a database based data source
Max Modify Time	1 hour	
Fatal Timeout	Off	
Fatal if session not found	Off	
Session Manager Setup		
Type	FormVar	
Cgi Object	$CGI	
Session Params	Session Config Params	
Authentication Setup		For the datasource
Type	File	
Field Delimeter	I (pipe)	
Create a file if none exists	On	
Field Names	From Auth User Datasource	
File	Scriptname.users.dat	Path is set at start of script
Default Authentication Fields	Username, password, groups, firstname, lastname, email	
Authentication Manager Setup		How requests are processed
Color for even rows	E5E5E5	
Color for Odd Rows	FFFFFF	
CSS View URL	$CSS_VIEW_URL	
Application Logo	logo.gif	
Application Logo Height	40	
Application Logo Width	353	
Application Logo ALT	WebDB Demo	
HTTP Header Params	[-EXPIRES => '-1d']	
Document Root URL	'/' or web root directory	
Image Root URL	/Images/Extropia	
Script Display Name	'MLM'	
Script Name	$CGI->script_name()	
Page Top View	PageTopView	
Page Bottom View	PageBottomView	
Link Target	'_self' or current window	
User_Fields	Auth_username, auth_password, auth_groups, auth_firstname, auth_lastname, auth_email	
Mail Params		
Type	Sendmail	Default on most systems
User Mail Send Params		
From	you@yourdomain.com	

Subject	Password Generated	
Admin Mail Send Params		
From	you@yourdomain.com	
To	you@yourdomain.com	
Subject	Registration Notification	
Auth Manager Config Params		
Type	CGI	
Allow Registration	On	
Allow User Search	On	Allow anyone to checkfor an old account.
Generate Password	Off	
Default Groups	Normal	
Email Registration to Admin	Off	
Display Registration After Failure	On	
Data Handler Setup		How data is handled
Add Form DHM Config		
Type	CGI	
CGI Object	$CGI	
Data Handlers	Email, Exists, HTML, Number, String	
Field Mappings	Subject, abstract, full_text	
Datasource Setup		Configure the database and fields displayed
Field Names	record_id, fname, lname, email, gender, age, occupation, username_of_poster, group_of_poster, date_time_posted,	Corresponds to default extropia database
Fields Required for Deletion	email	
Sample Default Widget Definitions		Configure field types for TTML
Display Name	Country	Name that appears in the browser
Type	Textfield, textarea, popup_menu	
Name	Fname	Internal field name
Size	30	Display size in characters
Maxlength	80	Maximum number of characters permitted
Rows	6	Initial height of textarea
Cols	30	Initial width of textarea
Wrap	VIRTUAL	Wrapping of text in textarea
Basic Datasource Config Params		Configure datasource
Type	File	
File	$APP_DATAFILES_DIRECTORY/$APP_NAME.dat	
Field Delimiter	| (pipe)	
Comment Prefix	#	Ignore lines starting with #
Create File if None Exists	On	
Field Names	\@DATASOURCE_FIELD_NAMES	
Key Fields	['record_id']	Not required if key is not used

Field Types	Record_id => 'Autoincrement'	Specify a specific kind of field
Mailer Setup		Required for regular email. Not the same as Auth Mailer
Mail Config Params		
Type	Sendmail	
Email Display Fields	Fname, lname, email, gender, age, occupation	Email these fields
Delete Event Mail Send		Warns Someone of Deletions to the database
From	you@yourdomain.com	
To	you@yourdomain.com	
Reply To	you@yourdomain.com	
Subject	MLM Delete	
Add Event Mail Send		Tells user of additions
From	you@yourdomain.com	
To	you@yourdomain.com	
Reply To	you@yourdomain.com	
Subject	MLM Addition	
Modify Event Mail Send		Tells user of modifications to records
From	you@yourdomain.com	
To	you@yourdomain.com	
Reply To	you@yourdomain.com	
Subject	MLM Modification	
Logging Setup		
Type	File	
Log File	$APP_DATAFILES_DIRECTORY/$APP_NAME.og	
Log Entry Suffix	'|' . _generateEnvVarsString() . '|',	
Log Entry Prefix	'MLM|'	
View Setup		Views to use, display, and defaults
Valid Views	CSSView, DeleteAcknowledgementView, DeleteRecordConfirmationView, LogoffView, BasicDataView, MLMDetailsView, MLMFindRecordFormView, MLMSendMailAcknowledgementView, MLMSendMailFormView, MLMTOCView, DetailsRecordView, ModifyAcknowledgementView, ModifyRecordConfirmationView, ModifyRecordView, OptionsView, PowerSearchFormView, SessionTimeoutErrorView,	The program cannot display views that are not available here.
View Display Params		Defaults for Views
Application Logo	logo.gif	
Application Logo Height	40	
Application Logo Width	353	
Application Logo ALT	WebDB Demo	
Color for Even Rows	E5E5E5	
Color for Odd Rows	FFFFFF	
Display Fields	Fname, lname, email, gender, age, occupation	

Table BG Color 1	6699CC	
Table BG Color 2	E5E5E5	
Table BG Font Color1	BLACK	
Table BG Font Color2	BLACK	
Filter Setup		
HTMLIZE Filter		
Type	HTMLize	
Convert Double Linebreak to P	On	
Convert Linebreak to BR	On	
Charset Filter		
Type	CharSet	
Embed Filter		
Type	Embed	
Enable	Off	
Action/Workflow Setup		
Action Handler List	Defaults	User should not need to modify
Action Handler Action Params		
Action Handler List	\@ACTION_HANDLER_LIST	
Add Acknowledgment View Name	AddAcknowledgementView	
Add Email Body View	AddEventEmailView	
Add Form View Name	AddRecordView	
Allow Additions Flag	On	
Allow Deletions Flag	On	
Allow List Mailings	On	
Allow Duplicate Entries	Off	
Allow Username Fields to be Searched	On	
Allow Modifications Flag	On	
Application Sub Menu View Name	ApplicationSubMenuView	
Options Form View Name	OptionsView	
Auth Manager Config Params	\@AUTH_MANAGER_CONFIG_PARAMS	
Add Record Confirmation View Name	AddRecordConfirmationView	
Basic Data View Name	MLMTOCView	
CGI Object	$CGI	
CSS View URL	$CSS_VIEW_URL	For speed, change CSS URL to a location outside the CGI directory.
CSS View Name	CSSView	
Datasource Config Params	\@DATASOURCE_CONFIG_PARAMS	
Delete Acknowledgment View	DeleteAcknowledgementView	
Delete Record Confirm View	DeleteRecordConfirmationView	

Records Per Page Options	[5, 10, 25, 50, 100]	Remove or change numbers as desired. This appears under Options.
Max Records Per Page	$CGI->param('records_per_page') || 5	
Sort Field 1	$CGI->param('sort_field1') || 'category'	Sort by which field?
Sort Field 2	$CGI->param('sort_field2') || 'fname'	Sort by which field?
Sort Direction	$CGI->param('sort_direction') || 'ASC'	ASC=Ascending, DSC=Descending
Delete Form View Name	BasicDataView	
Delete Email Body View	DeleteEventEmailView	
Details View Name	DetailsRecordView	
Data Handler Manager Config Param	\@DATA_HANDLER_MANAGER_CONFIG_PARAMS	
Display Acknowledgement On Add	On	
Display Acknowledgement On Delete	On	
Display Acknowledgement On Modify	On	
Display Confirmation On Add	On	
Display Confirmation On Delete	Off	
Display Confirmation On Modify	On	
Enable Sorting	Off	
Hidden Admin Fields View	HiddenAdminFieldsView	
Input Widget Definitions	\@INPUT_WIDGET_DEFINITIONS	
Basic Input Widget Display COLSPAN	2	
Key Field	record_id	
Logoff View	LogoffView	
URL Encoded Admin Fields View	URLEncodedAdminFieldsView	
Log Config Params	ModifyAcknowledgementView	
Modify Acknowledgment View	ModifyRecordConfirmationView	
Mail Config Params	\@MAIL_CONFIG_PARAMS	
Modify Form View	ModifyRecordView	
Modify Email Body View	ModifyEventEmailView	
Power Search View	PowerSearchFormView	
Require Auth to Search	Off	Is authorization required for the action?
Require Auth for Add	Off	Is authorization required for the action?

	Require Auth for Modify	Off	Is authorization required for the action?
	Require Auth for Delete	Off	Is authorization required for the action?
	Require Auth for Details	Off	Is authorization required for the action?
	Require Auth for Sending Mail	On	Is a matching group or username required for the action on that record?
	Require Matching Username for Modify	Off	Is a matching group or username required for the action on that record?
	Require Matching Group for Modify	Off	Is a matching group or username required for the action on that record?
	Require Matching Username for Delete	Off	Is a matching group or username required for the action on that record?
	Require Matching Group for Delete	Off	Is a matching group or username required for the action on that record?
	Require Matching Username for Search	Off	Is a matching group or username required for the action on that record?
	Require Matching Group for Search	Off	Is a matching group or username required for the action on that record?
	Send Email on Delete	Off	
	Send Email on Modify	Off	
	Send Email on Add	Off	
	Send Mail Acknowledgement View Name	MLMSendMailAcknowledgmentView	
	Send Mail Form View Name	MLMSendMailFormView	
	Session Object	$SESSION	
	Session Timeout View	SessionTimeoutErrorView	
	Templates Cache Directory	$TEMPLATES_CACHE_DIRECTORY	
	Valid Views	\@VALID_VIEWS	
	View Display Params	\@VIEW_DISPLAY_PARAMS	
	View Filters Config Params	\@VIEW_FILTERS_CONFIG_PARAMS	
	View Loader	$VIEW_LOADER	
	Simple Search String	$CGI->param('simple_search_string') || ""	
	First Record on Page	$CGI->param('first_record_to_display') || 0	
	Last Record on Page	$CGI->param('first_record_to_display') || "0"	
	Page Top View	PageTopView	
	Page Bottom View	PageBottomView	
	Action Handler Plugins	\%ACTION_HANDLER_PLUGINS,	

3 Functional Requirements

3.1 MLM Application

3.1.1 Description

The following definitions only cover the Default settings and views.

Authentication Definition Views

Any user may add, modify, or delete records. It is hoped they would only alter their own records. Only registered users (who should be administrators) may Send Mail to the list. There is no capacity for multiple group definitions, thus the default group is "Normal" and cannot be changed.

Default Settings Permit:

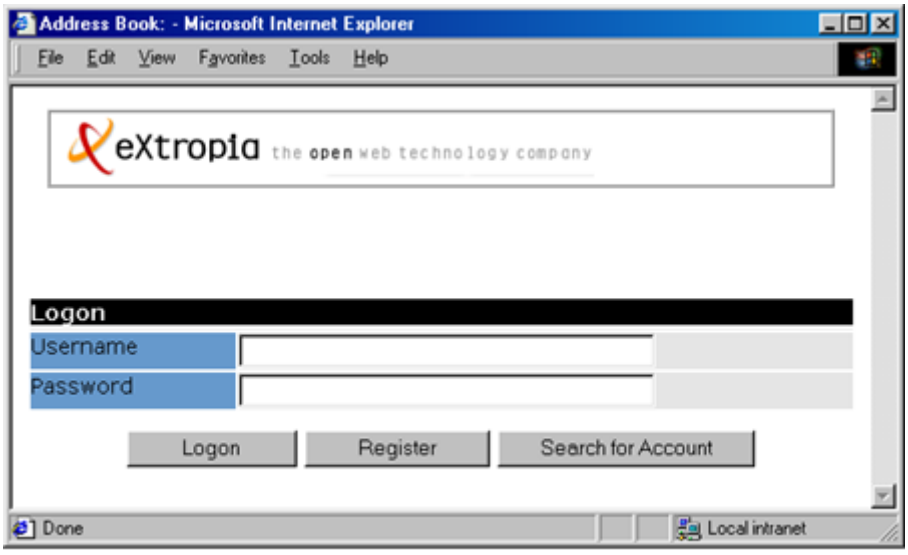
- No one may browse the database
- Any user may search the database
- Any user may look for and remove records
- Registered users may send mail to the list
- Registration is available to anyone

Registration of normal users is simply done by pressing "Logon" and following the Registration Views. User data is written to the datasource. In the default installation, it is written to `Datafiles/MLM/mlm.users.dat`. It is recommended that administrators do not alter the contents, especially the encrypted passwords. The information is listed as:

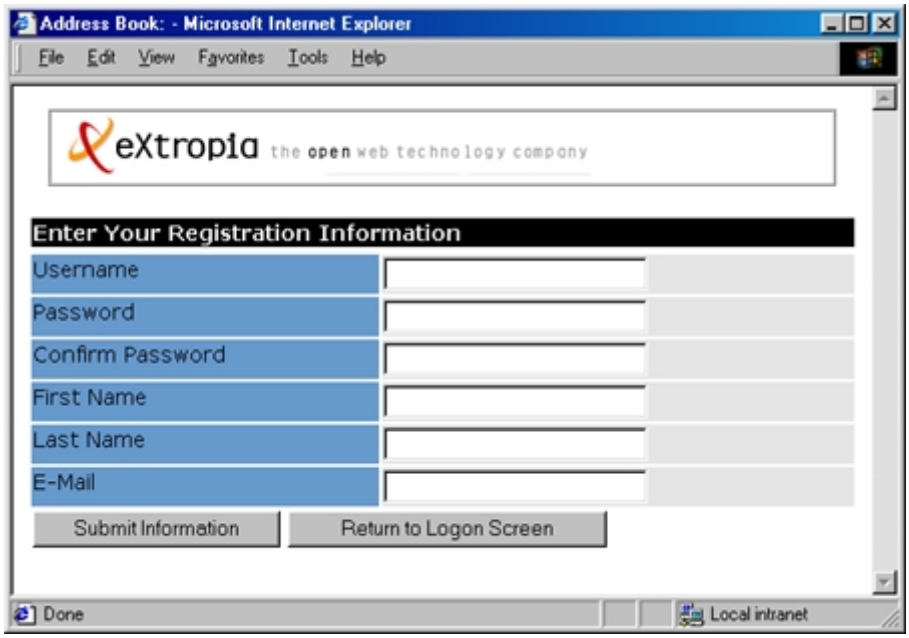
`username|password|group_name|fname|lname|email`

Registration of Administrative users may be done at a later date. System administrators will be able to alter hard data in databases or flatfiles as needed.

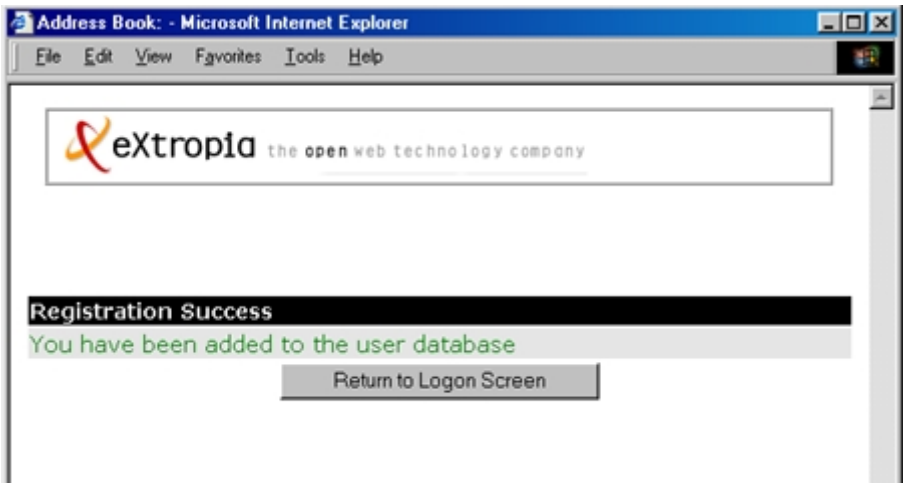
- **Logon View** requests the Username and Password of registered users. Users may attempt to logon, Register, or Search for Account. Also the view for failed logins.



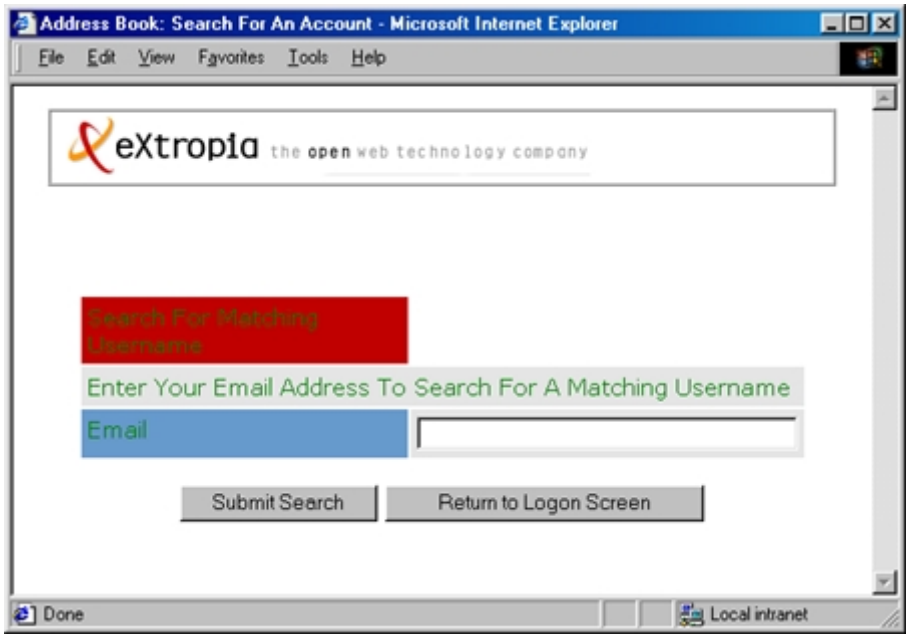
- **Register View** permits any user to enter Username, Password, Confirm, Password, First Name, Last Name, and E-Mail. The user may then Register or Return to Logon Screen.



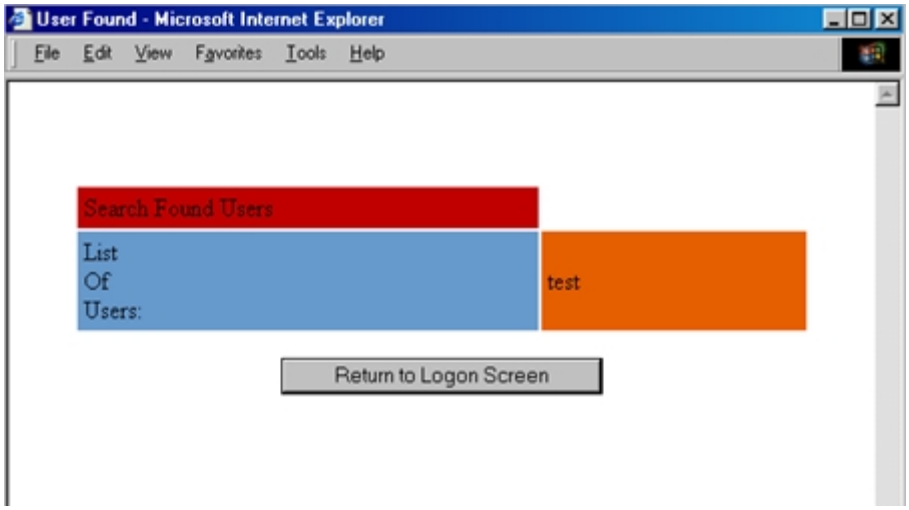
- **Register Confirmation View** confirms registration and returns the user to the Logon View.



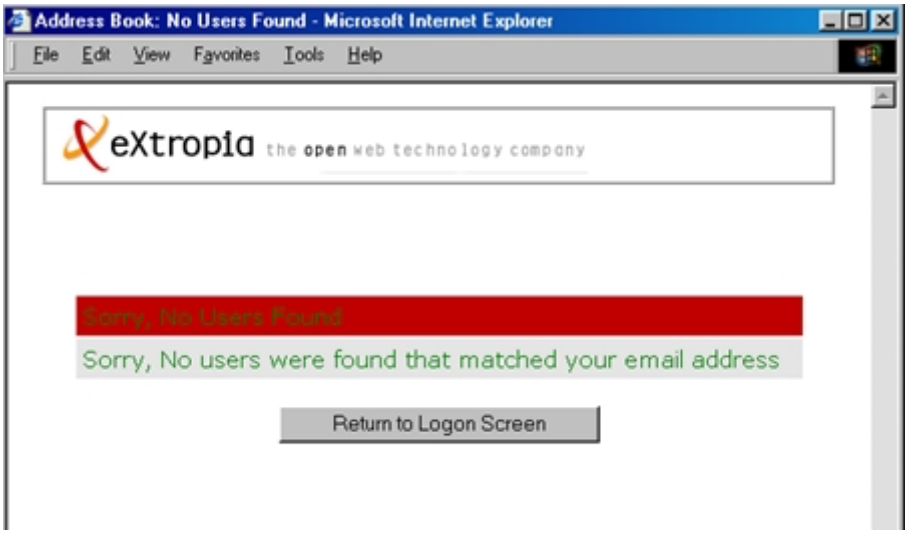
- **Search for Account** requests an email address to match users and then sends the password to the user.



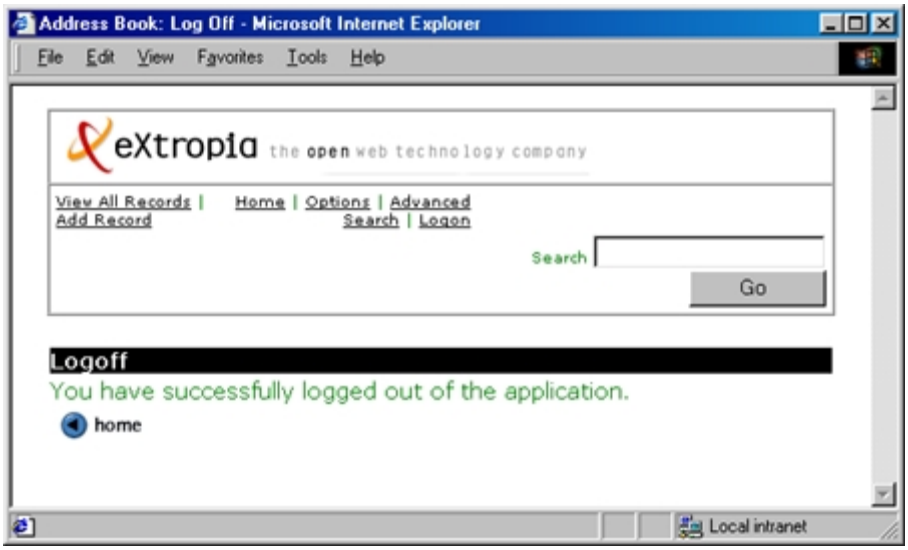
- **Search for Account Users Found** displays the username that matches the email address given.



- **Search for Users No Results** appears when no email address is associated with a username.



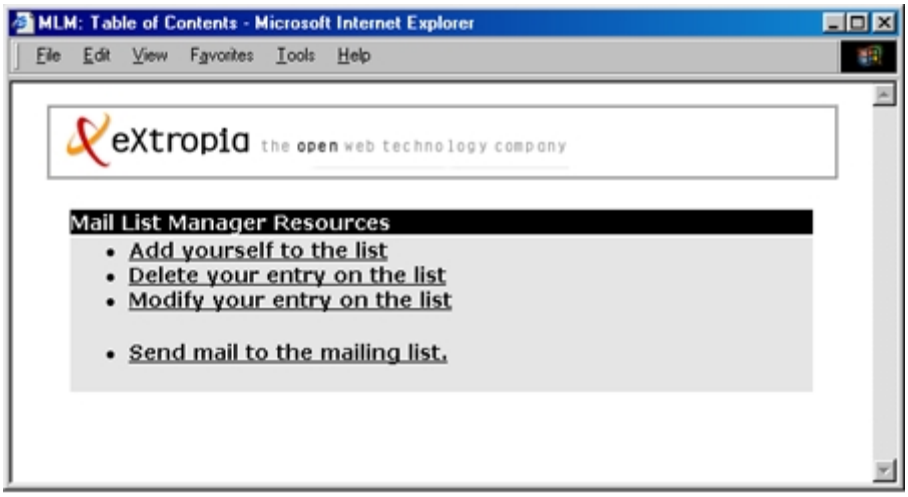
- **Logoff View** logs the user out and confirms the logoff. The session is terminated.



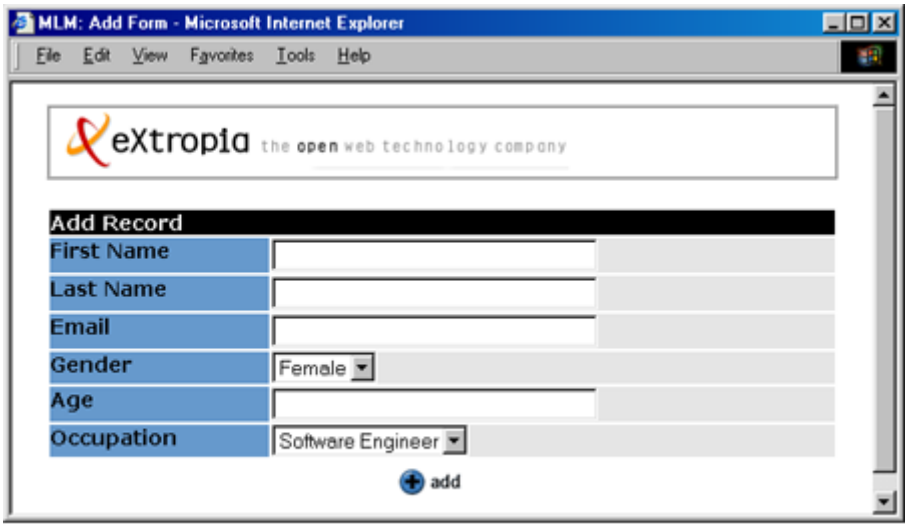
Application Specific View Definitions

Unless specified by the administrator, any user may add a new record. Sending mail requires a separate authorization through the Authentication database.

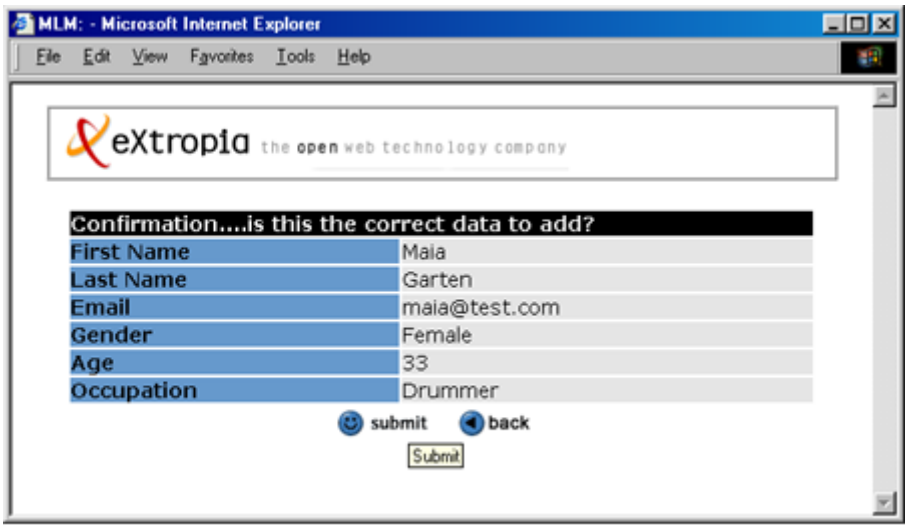
- **Home View** has four links: Add, Modify, Delete, and Send Mail.



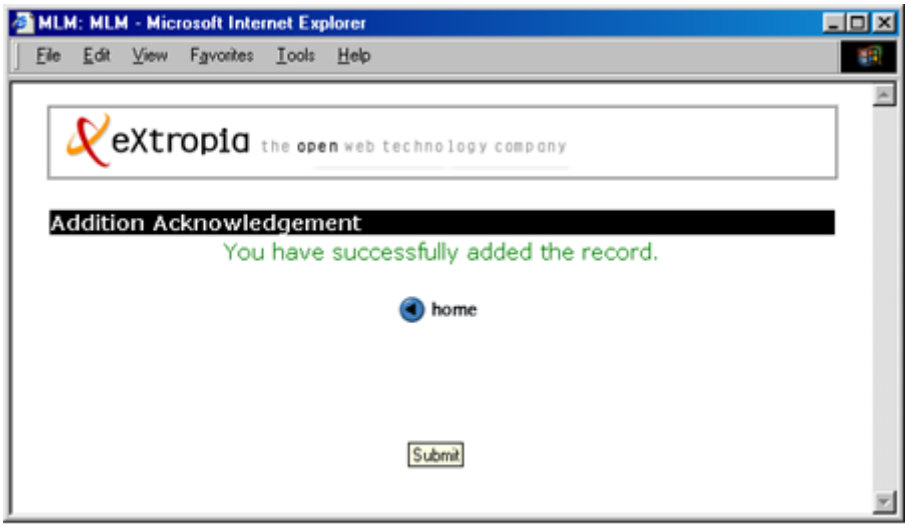
- **Add Record Form** will allow any user to enter a record based on first name, last name, email, gender, age, and occupation.



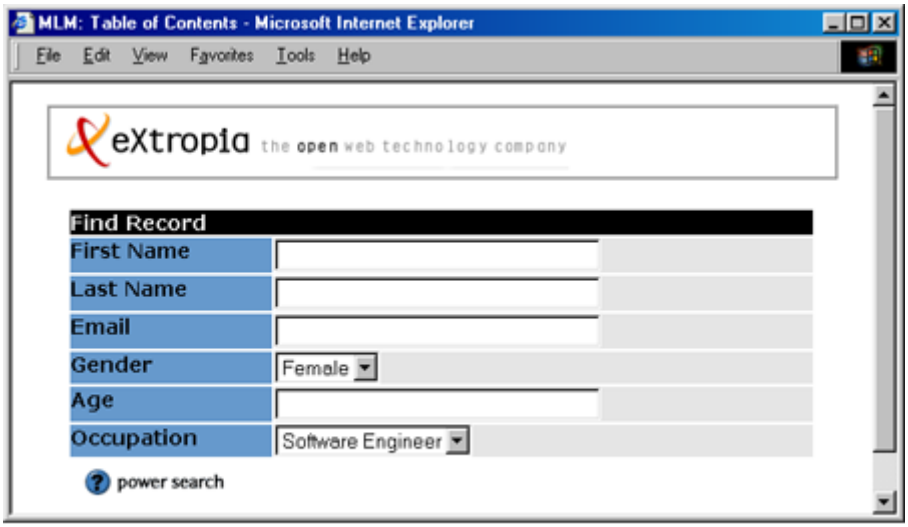
- **Confirmation View** will display details for final confirmation before they are added to the data source.



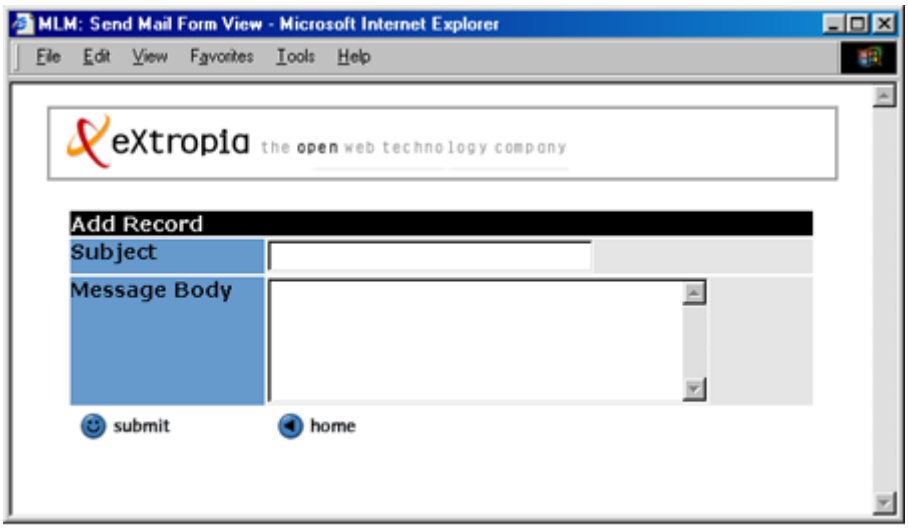
- **Acknowledgement View** will be displayed after a record is added to let the user know that the action was successful.



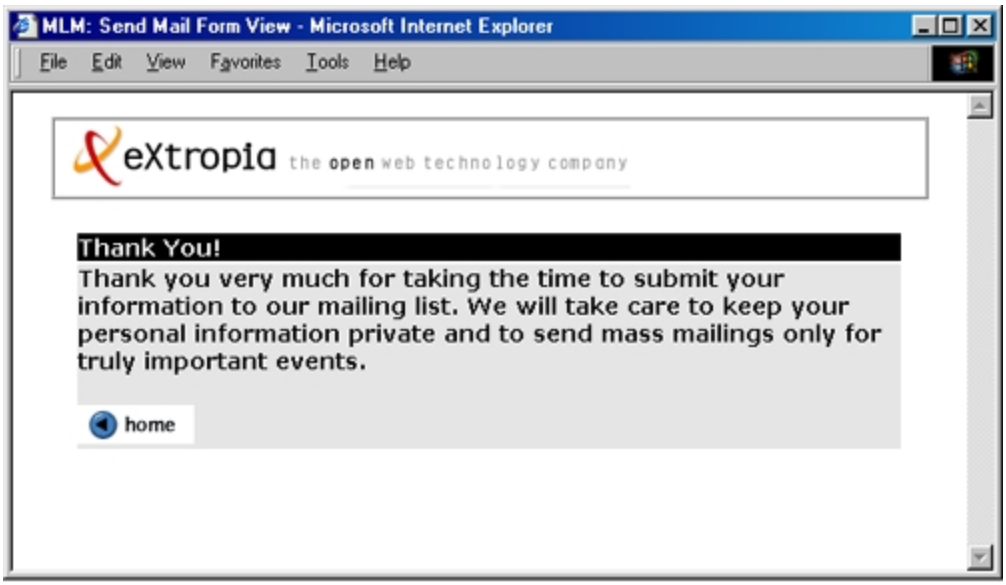
- **Modify and Delete Record Search** permits any user to search for his information and then change or delete it with the Modify Record and Delete Views.



- **Modify Record View** will allow the user who supplied enough details to modify the record.
- **Delete View** confirms and then deletes the selected record.
- **Details View** displays the entire record. User may then Modify or Delete.
- **Send Mail Add Record Page** allows the authorized user to send mail to the list. Subject and message body are the only two fields.



- **Send Mail Acknowledgment Page** Thanks the user for his entry. Links to home Screen.



Common Features Definitions

No common definition views.

3.1.2 Risks and Dependencies

There is a distinct possibility that any user with enough information can alter the record of a subscriber. While changes are logged, most amateur administrators will not notice or check.

Since there is a separate database for users authorized to send mail, there could be a mismatch between senders and receivers. This is not a serious problem, but may cause confusion.

4 Database Design

4.1 Description

The data of the application will be stored in a flat file. Each data fields of a record will be separated by '|'.

Field Name	Description	Data Type
record_id	Record value	Auto incremental numeric value
fname	First Name	char
lname	Last Name	char
email	Email address	Char
gender	Gender	Char
age	Age in years	Char
occupation	Occupation as listed	Char
username_of_poster	Username of poster	Char
group_of_poster	Poster's Group	Char
date_time_posted	Timestamp	date

4.2 Communications Interfaces

5 Other non-functional attributes

5.1 Reliability

Highly reliable in a properly secured environment.

5.2 Maintainability

Requires little maintenance. Owners will want to clear out a large flatfile now and then as well as ensure their installation is secure from hackers. Users of relational databases will probably not need to clear out their database. There is a risk that authorized senders and regular members of the list will be out of sync.

A modular architecture provides easy maintenance and upgrades.

5.3 Portability

The list of mailing list subscribers will be difficult to port to other applications. The script and its data are easily moved from server to server, however.

5.4 Extensibility

Information entered via MLM is portable to any relational database. The program can easily be switched to a new database with just a few lines of code. The program relies on the eXtropia ADT that divorces form and function.

5.5 Reusability

MLM is highly reusable. The application can be modified for just about anything!

5.6 Serviceability