



Nouncer-Driven Prototype Preview

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Introduction

Scope

This document provides a preview of a fully-featured Nouncer-driven website prototype. The goal of this document is to demonstrate the platform's capabilities, and explain how a Nouncer website is expected to interact with users. It is not meant to be the only possible implementation, and it is expected that most implementers will only use parts of this prototype.

Functionality Overview

Nouncer is a micro-content platform with strong focus on real-time content distribution. The best examples of what a Nouncer-driven website can be are existing microblogging sites such as Twitter, Jaiku, and Pownce. The idea is that many sites and developers would like to incorporate real-time content functionality into their products but lack the resources to build a large scalable messaging system. What Nouncer does is provide a rich set of APIs developers can use instead of their own server side application.

The idea is that in order to build the site described in this document, all you need to do is create the front-end user interfaces. There is no need for a database or large messaging systems. The site can be implemented as a desktop application, a client-side AJAX site, or a server-based website. It can be a standalone service or add functionality to an existing site. But the advantage over existing services, is that Nouncer can be a fully customized white-label solution that does not require sites to send their users to another service first before using their functionality.

The prototype is meant to function as a message board site. The boards are called Channels, and include simple text postings. Users can create and join channels (subscriptions), and administer their accounts. Channels have properties controlling their visibility and access control, as well as permission to post to the channel. Channel messages are searchable and viewable at any time.








When a user subscribes to a channel, they receive new content to their email, phone, or IM client in real-time as the content is being posted to the channel. Subscriptions can be simplistic for an entire channel, or more complex with filters to increase the quality of the content being delivered. The quality layer of the platform allows ratings to users, channels, and messages, which can be then used to filter out unwanted content, similar to social news sites where users rate stories (such as Digg).

In a similar manner, users can choose to receive content only after a certain number of other users already viewed it, just like the front page of Digg. The objective is to increase the value and quality of the content being delivered, while the service on the web includes the full set of content with search capabilities.

Each message posted to a channel can have comments by different users, and the comments are threaded which means users can comment on other comments, not just the message itself.

Legend

To make the specifications document easier to read, repeated patterns or properties are indicated using an icon. The icons are explained in the Implementation sections but are listed here for reference.

-  Signed-in users
-  Guests / Signed-out users
-  Optional form input
-  Collapsible / expandable form
-  Sortable list
-  Context-sensitive page (object view)
-  Field validation rule

Site Pages

Home page

The Home page is the default page and the primary entry point destination for the site. It includes links to useful resources, customized content, and an introduction to new users on how to start using the service. The Home page will include components or links to other pages with the objective of providing access to features with a single link whenever possible (to avoid the need to drill in multiple pages to find a feature).

- *Service Introduction* 🔄 – a quick explanation with images of the service, how to use it and what it is useful for.
- *Quick Message* ➡ – a component enabling quick message posting into the user’s channels. It does not allow attaching a URL to the message (which can only be done from the **Channel Content** page). The component will include:
 - Channel name input box with drop down list of channels the user the user successfully posted a message to in the past. Auto-complete the channel name from the list of channels in the combo-box or the user can choose a name from the list [Text: Word].
 - Message input box with a single line for text messages [Text: Line].
 - Post button with confirmation dialog showing the channel name and message content before transmission.
 - If the channel has a required tag, posting the message will take the user to the **Channel Content** page where the Post Message component will be populated with the entered message, and the required tag highlighted.
- *My Subscriptions* ➡ – a list of select number of channels the user chose to subscribe to. If the user selected to show zero channels in this component, it will not be visible (just the title and link). The ‘My Subscription’ title itself will link to the **My Subscriptions** page. Each channel name on the list will have:
 - Link on the channel name to the **Channel Content** page.
 - Channel photo if enabled (tiny size).
 - Activity indicator icon showing how active (message throughput) the channel is.
 - A list of some recent messages:
 - User photo if enabled (tiny size).
 - Each message will display the first few words of its content. Preview length is configurable.
 - Message timestamp.

- “More” link to the **Message Details** page.
- Quality feedback element.
- *My Channels* ➡ – a list of select number of channels owned or administered by the user. The title will link to the **My Channels** page. If the user selected to show zero channels in this component, it will not be visible (just the title and link). Each channel name in the list will have:
 - Pending requests icon if there are pending subscription requests requiring authorization.
 - “Manage” link to the **Channel Administration** page.
- *Invitations* ➡ –The title (with the number of incoming invitations) will link to the **My Account** page. If there are no incoming invitations the component will not appear.
- *Channel Directory* – a link to the full channel directory, as well as direct links to some of the more popular top level directory categories. Not implemented as part of these specifications.

Sign-Up ➡

The sign-up process is meant to be very simple and quick. The idea is to get users to join quickly and require them to provide more information later in order to receive services from the site. Long sign-up process causes users to abandon the application before they are done. A signed-in user trying to access the page will be immediately redirected to the **Home** page (link to this page should not be available to signed-in users). The page will include a form with the following:

- *Username Selector* – the key component of the sign-up process is the username selection. Usernames are the unique identifiers for users and no two users can have the same username. In order to assist users in selecting a unique username, the page will check for the entered username as it is being typed and will indicate if it is available. Usernames must also follow certain rules.
 - Username input box [Username].
 - Availability indicator – a true/false type of indicator showing if the username typed so far is available. The check will wait for a pause in the user typing to save on API queries.
 - Validity indicator – a message indicating issues with the entered username as it is being typed for conformance with the rules (see Usernames and Passwords section).
- *Personal Information* – collect personal information.
 - Full Name input boxes (first, middle, and last) [Text: Word].
 - Email Address (Primary) input box [Email].
 - Email Address (Primary) re-entry input box (must match the first email address).
 - Address form
 - Zip / Postal Code input box [Text: Word].

- Country combo box [Enum].
- *OpenID* – input box. The OpenID verification with regard to the sign-up process has not yet been finalized.
- *User Profile* – general questions about the user that will help customize the site in the future.
 - Date of birth input boxes (Day, Month, Year) [Birth Date].
 - Gender combo box [Enum].
 - ‘How did you hear about us?’ combo box [Enum].
- *Legal Notice* – display in a scrollable insert a copy of the site privacy policy, terms of service, and copyright policy. The versions will be recorded for future revision notifications.
 - Legal Notice Acceptance check box – an empty check box signifying full acceptance of the *Legal Notice* terms and conditions. Must be checked by the user to be able to submit the new user application.
 - Allow the site to use the user’s email address to send news about the site and new products and services – check box (checked by default).
 - Allow the site to use the user’s email address to send third party offers – check box (checked by default).
- *Verification Image* – an image showing random letters and numbers used to prevent automatic user creation by machines.
 - Image generated showing the non-machine readable text.
 - Verification Message input box – answer must match the displayed image content [Text: Word].
- *Clear* – button to clear form content.
- *Submit* – button to send the application for username verification and user creation. Checks to ensure fields are properly filled. If the username was available and the required fields are correct, the user is created and redirected to the **User Sign-In** page with a welcome message. If the username is no longer available or there is a problem with the entered data, the page refreshes with an error message explaining the problem, and the problematic fields are indicated (the form retains all data expect for password and a new verification image is generated).

User Sign-In ↩

A simple page allowing users to sign-in. Used when trying to access pages restricted to signed-in users only. The page keeps track of the address that redirected the user to it, and upon a successful login, redirects the user back to the requested page. Failed attempts cause the page to refresh with an error message. A signed-in user trying to access the page will be immediately redirected to the requested page or **Home** page (if no redirection requested).

Since the page includes the standard Header element, it does not need an explicit login component.

- **Message** – text requesting the user to Sign-In in order to access the requested resource.

Primary Email Verification →



After signing-up the user will receive a confirmation email with a verification token needed to confirm ownership of the provided email address. Without this, the site will not permit the user to sign-in (a valid email address is a system requirement). If the users successfully entered their login credentials but have yet to verify their primary email address, they will be redirected to this page on every login attempt. The page will allow them a few choices, validate the email address provided, ask for new validation token to be sent, or enter a new email address (in case the email was entered incorrectly or is no longer valid).




If for some reason no email address marked as primary can be found in the user profile, the page will only show the *Change email form* component. If multiple primary emails are found, the first is used.











- **Introduction** – message explaining to the users the verification process and they should wait for an email with the token and enter it here.
- **Email information** – display the current primary email configured for the account.
- **Validation form** – user can enter the received validation token to activate their account.
 - Validation token input box [Text: Word].
 - Validate button – failed validation will return to this page. Successful will sign the user out and redirect to the **User Sign-In** page. This is required to remove the session limitation code from the session (see Session Management section).
- **Request new token** ↕ – button to generate a new validation token and send email.
- **Change email form** ↕ – in case the user needs to change their email they will be able to enter a new address which will send a new token to the new address.
 - New email input box [Email].
 - New email re-entry input box (must march the value in the new email input box).
 - Submit button.

My Account

My Account allows the user to configure all their personal settings, change their username, add and remove contact information (and validate their ownership of it), and provide links to channel and subscription administration.




- *Message* – a message is displayed based on how the user arrived to the page. Some pages, such as the **Sign-Up** page will redirect the user to the page and will include a message to be displayed such as a welcome message to new users being redirected here from the **Sign-Up** page.
- *My Subscriptions* – link to the **My Subscriptions** page.
- *My Channels* – link to the **My Channels** page. If there are pending subscription requests requiring authorization the link will be followed by a pending requests icon.
- *Invitations*  – list of all incoming invitations. If there are no incoming invitations the component will not appear at all. Each channel name in the list will have:
 - Link on the channel name to the **Channel Content** page.
 - Activity indicator icon showing how active (message throughput) the channel is.
 - Inviter username with a link to the **User Profile** page.
 - How old the invitation is (Today, x days ago).
 - Inviter message.
 - Accept and Decline links. Decline erases the invitation after a confirmation dialog. Accept will subscribe to the channel (or request a subscription) and archive the invitation after marking it accepted. The user will be able to modify the subscription from the **My Subscriptions** page (see User Subscription).
- *Verification Token* – appears only if a user connection is pending verification.
 - Token input box [Text: Word].
 - Validate button – the user will enter the token and will click validate to send the token to the server for comparison against existing tokens (see Connection Management section).
- *Connections Management* – provides the ability to add or delete connections. In order to change a connection a new one must be created and the old one deleted. To delete a primary email connection, a new email connection must be added, verified, and then made primary. Then the old connection will no longer be primary and can be deleted.
 - Connections list  – display full list of all current connections:
 - Connection type (email, mobile phone, instant messenger).
 - Service name (none for email, cell carrier, messenger system).
 - Identity name (email address, phone number, screen name).

- Current status (Pending Verification, Verified).
- Delete link  – clicking the link will open a confirmation form under the connection line to verify the user wants to delete the connection ('delete' and 'cancel' options). Choosing 'delete' will send a request to the server to delete the connection and will refresh the page. Choosing 'cancel' will collapse the delete form without making changes. Delete is not available to the primary connection.
- Make Primary link – appears only on non-primary, verified, email connections. There can only (and must) be one primary email connection per user. If the user chooses to make another verified email connection its primary, a confirmation dialog will open and if confirmed, the primary flag will move from the old connection to the new.
- Resend Verification Token link – the link will appear next to unverified connections. The user will be asked to confirm they want to resend the token and is confirmed, the token will be sent again.
- Test link – appears only on verified connections and will send a test message to the connection.
- Add Connection link  - expands a two-step form used to enter a new connection. The form will use the services list to create the combo boxes available.
 - Type combo box [Enum] – at first the Type box will be the only visible input. It will show all the available services (email, IM, SMS, etc). Based on the selection the rest of the form will appear. Changing the selection after other inputs have been filled will cause the form to reset and restart (and input lost).
 - Service name combo box – show the names of all available services matching the selected type.
 - Identity input box [Text: Word] – will have a matching name to the service type
 - Email: Address.
 - Mobile Phone: Phone number.
 - Instant Messenger: Screen name.
 - Web Service: Username.
 - Add button – send the information to the server and adds the connection to the list with an unverified status. A validation token is generated and sent to the user via the new connection and a message will appear in a dialog explaining to the user to wait for the token and upon reception to come back to this page to complete the process.
- *Preferences*  – general settings regarding the user account and site services.
 - Do not receive invitations via email check box – see Invitations section.

- User photo – Enabled check box, file browse input box and button, and upload button – See Style Customization section.
- User Background – Enabled check box, file browse input box and button, and upload button – See Style Customization section.
- *User Profile*  – information entered during the sign-up process. All fields show the currently saved values and are editable only between clicking the Edit button to clicking the Update button.
 - Full Name input boxes (first, middle, and last) [Text: Word].
 - Quick description input box (used for user public profile) [Text: Message] .
 - Web URL input box [URL] .
 - Address form
 - Street Address 1 input box [Text: Line] .
 - Street Address 2 input box [Text: Line] .
 - City input box [Text: Word] .
 - State / Province / Region input box [Text: Word] .
 - Zip / Postal Code input box [Text: Word].
 - Country combo box [Enum].
 - Phone input box [Phone] .
 - Date of birth input box [Birth Date].
 - Gender combo box [Enum].
 - Hobbies and interest text box [Text: Message] .
 - Allow the site to use the user's email address to send news about the site and new products and services – check box.
 - Allow the site to use the user's email address to send third party offers – check box.
 - Edit button – causes the input boxes to allow edits.
 - Update button – submit the changes to the server and refresh the page.
- *Change Username*  – not implemented as part of these specifications.

My Subscriptions


The subscription page lists all the channels the user has chosen to subscribe to and allows adding, removing, and modification of subscription data. A subscription is like a membership in a channel. It allows the user access to the channel content and content reception based on the membership and the application of filters. Filters are simple quality boundaries placed on messages posted to the channel. Each message carries a quality score, as well as the quality score of the user posting it, and the channel overall score. When subscribing to a channel, the user can provide the minimum acceptable qualities to be notified of a new message when such is posted to the subscription channel.

- *Subscription List*  – full list of channels the user chose to subscribe to. Each channel on the list will have:
 - Channel name with a link on the name to the **Channel Content** page. If the subscription is pending authorization (in request mode) it will appear with an icon indicating the status.
 - Check box (read-only) for receiving update, and a filter icon if any of the filter fields are set (non-zero) or if the subscription includes rules.
 - Modify link  - clicking the link will open a subscription edit form allowing the user to make changes to the subscription filter. The form will be automatically populated with the current update preferences settings. Changes are automatically saved.
 - Receive updates check box. If the box is not checked, the rest of the fields in this form are hidden.
 - Minimum user quality input box [Number].
 - Minimum message quality input box [Number] – will cause messages to be delivered delayed only when enough other users vote on the message.
 - Minimum distribution input box [Number] – will cause messages to be delivered delayed only after a set number of other users already received the message.
 - Rules list element.
 - Delete link  – clicking the link will open a confirmation form under the channel line to verify the user wants to delete the subscription (‘delete’ and ‘cancel’ options). Choosing ‘delete’ will send a request to the server to delete the subscription and will refresh the page. Choosing ‘cancel’ will collapse the delete form without making changes.
- *Subscribe* – short message explaining how to subscribe to new channels by using the channel search feature at the top of the page and once the desired channel has been found, the click the ‘Subscribe’ link next to the channel name in the search result list.
- *Home Page Settings* – controls how subscriptions are displayed in the *My Subscription* component of the **Home** page. Values are stored in the user configuration.
 - Number of channels displayed input box [Number: 0-n].

- Channel order combo box [Enum].
- Channel sort method combo box [Enum].
- *Subscription Updates Settings* – controls how new subscriptions are configured to receive automatic updates via the user connections and what filters to apply to them. Values are stored in the user configuration (see User Subscription).
 - Receive updates check box.
 - Minimum user quality rating input box [Number: 0-n].
 - Minimum message quality input box [Number: 0-n].
 - Minimum distribution input box [Number: 0-n].

My Channels

The channels page includes all the channels owned or administered by the user and allow administrative access as well as creating new channels. Channels deletion is not implemented in these specifications.

- *Channel List*  – full list of channels created by the user. Each channel on the list will have:
 - Channel name with a link on the name to the **Channel Content** page.
 - Description icon – mouse hover-over will pop up a caption with the full description.
 - Visibility mode – show the current mode which defines who has access to see the channel in search, read messages, subscribe, etc.
 - Creation date.
 - Pending requests icon if there are pending subscription requests requiring authorization.
 - Manage link to the **Channel Administration** page.
- *Create Channel* – link to the **Channel Creation** page.
- *Home Page Settings* – controls how channels are displayed in the *My Channels* component of the **Home** page. Values are stored in the user configuration.
 - Number of channels displayed input box [Number 0-n].
 - Channel sort direction [Enum].
 - Channel sort method combo box [Enum].

Channel Creation ➡






Creating a new channel is not a high frequency activity but it is at the core of the site functionality as channels are the content placeholder and needed to provide valuable information to users based on their interests. Creating a channel is a quick process, while channel configuration can be a complex task based on the user's needs, and that step is performed in the **Channel Administration** page. The idea is to avoid duplication between creation and administration, so the **Channel Creation** page will collect the basic information and will then redirect the user to the more advance page. The entire channel creation process is described in detail in the Channel Creation section in the Implementation part of this specification.






- *Channel Name Selector* – In order to assist users in selecting a unique channel names, the page will check for the entered name as it is being typed and will indicate if it is available. Channel names must also follow certain rules.
 - Channel name input box [Text: Word].
 - Availability indicator – a true/false type of indicator showing if the name typed so far is available. The check will wait for a pause in the user typing to save on API queries and will check after a configurable amount of time since last change in the name input box.
 - Validity indicator – a message indicating issues with the entered channel name as it is being typed for conformance with the rules.
- *Channel Information* – the information provided will assist users in finding and making subscription decisions regarding the channel.
 - Description text box [Text: Message].
 - Channel External URL input box [Text: Line] +.
 - Keywords input box [Text: Line] +.
 - Adult content check box.
 - Initial Access Mode combo box – channel access controls and visibility settings are set in the Channel Administration page, however, since channel become active as soon as it is created in this page, this will allow the user to change the initial mode to something other than public to prevent others from seeing it or accessing it while it is being created or if it is meant to remain non-public. These modes are not actual channel settings but templates to allow quick configuration of the channel permissions. The available mode are:
 - Public – channel is public, can be searched by others and open for subscriptions. Users can read channel content without subscribing.
 - Protected – channel is public, can be searched by others and open for subscriptions. Users must subscribe to read channel content.
 - Private – channel is listed in the directory and searches but messages are hidden from non-subscribers, and subscriptions are restricted to specified users.

- Hidden – channel is completely hidden and is created with no permissions except for the channel owner. Any right must be explicitly granted.
- *Verification Image* – an image showing random letters and numbers used to prevent automatic channel creation by machines.
 - Image generated showing the non-machine readable text.
 - Verification Message input box – answer must match the displayed image content [Text: Word].
- *Clear* – button to clear form content.
- *Submit* – button to send the application for channel verification and creation. Checks to ensure fields are properly filled. If the channel name was available and the required fields are correct, the channel is created and the user is redirected to the **Channel Administration** page. If the name is not available or there is a problem with the entered data, the page refreshes with an error message explaining the problem, and the problematic fields are indicated.

Channel Administration

Channel administration provides both quick tools to manage the channel as well as advance settings for proficient users with very specific needs. Most of the work performed in this page involves setting roles and permissions for the channel. Channel name cannot be changed.

- *Channel Information*  – modification form which includes all general information about the channel. The form is filled automatically with the current settings when opened:
 - Description text box [Text: Message].
 - Channel External URL input box [Text: Line] .
 - Keywords input box [Text: Line] .
 - Update button – submit the changes and refresh the page.
 - Channel photo – Enabled check box, file browse input box and button, and upload button – See Style Customization section.
 - Channel Background – Enabled check box, file browse input box and button, and upload button – See Style Customization section.
- *Pending Requests*  - opens to a list of all pending subscription requests requiring attention (See User Subscription). If there are not pending requests the component is hidden.
 - Requests  – list of current requests. The list includes username, user quality rating, and request timestamp. At the end of each line, a link to ‘Approve’ will send a request to the server to grant access will refresh the list to reflect the change (and add Subscribe right). A ‘Deny’ link will send a deny request to the server and refresh the list. Both links will open a confirmation dialog before sending the request.

- *Invitation Entry Element* .
- *Smart Tags*  – channel posts can be tagged in order to allow better filtering and searching of data. Users can add tags to their channel, which will appear in the **Message Details** page, and when posting new messages on the **Channel Content** page. Each channel can have a maximum number of tags. See Smart Tags section.
 - Tags  - list of current tags. The list includes the tag name, type, a check box if required, and a check box if repeatable (multiple instances) allowed. If the tag type is List, a list button will open a dialog with the list of allowed values and button to add or remove them. The tag will include an edit button which will make all the fields editable (the edit button will then change to two buttons, apply and cancel), and a delete button to remove the tag (with a confirmation dialog).
 - Add tag button – adds a new tag to the list with name ‘Tag N’ where N is a sequential number to guarantee uniqueness, and type Text. The user can then edit the new tag. Tag name cannot be “Any Field” (case insensitive).
- *Channel Mode* – radio button selector allowing the user to choose how access to the channel will be granted or restricted (see Channel Creation for more details). Changing the mode will generate a warning and will ask for confirmation. Each mode will include a short explanation.
 - Public
 - Protected
 - Private
 - Hidden
- *Posting Right* – radio button selector allowing the user to choose how posting access to the channel will be granted or restricted.
 - Restricted
 - Subscribers
 - Open
- *Custom User Rights*  – component allowing the administrator to provide special rights (or lack of) to specific users. The most common activity is to grant Administer rights to users.
 - List of custom users  – Users are added to the list manually or when a subscription request is approved. The list includes username, user quality rating, user subscription timestamp, and a check box for each of the available rights checked or unchecked based on the current settings. At the end of each line, a link to ‘Remove’ user will send a request to the server to remove access and will refresh the list to reflect the change. The remove link will open a confirmation dialog to ensure the removal was intentional. If no rights are checked, the username will have an indication to show it is blocked.

- Authorize User – link to open a mini form to add another custom user. The form includes a username input box [Text: Word], an add button, and cancel button. New custom users are added with the rights of the All Users record for the channel.






Channel Content ↻

The page is the main content holder for the channel. It provides a quick view of the channel properties such as name, description, owner, and other fields, as well as access to the full history of messages posted to the channel. Users subscribe to channels from the page, and the page is the primary link from search results and other channel links.

Access to the page is controlled by the channel permission settings. If the visiting user's permissions do not allow the user access to the channel (or if the user is not signed-in) the page will display a message indicating that (and no other content).




The page contains the following components:

- *Background / Photo* – users can customize the look of their channel pages (**Channel Content** and **Message Details** pages) by selecting a photo and background image in the **Channel Administration** page. If images are enabled the photo is displayed (profile size) on the page at the top, and the background is set to the user-selected image.
- *Subscribe / Request to Subscribe* ↻🔒 – a link which opens a confirmation dialog to add the channel to the user subscriptions (See User Subscription). If the user is not authorized to subscribe to the channel, the link will show 'Request to Subscribe'.
- *Sign-In to Subscribe* ↻🔒 – a message indicating that in order to join the channel the user must be sign-in.
- *Post Message* ↻ – this form will only show for signed-in users with permissions to post to the channel (Channel Message Posting).
 - Message input box with a single line for text messages [Text: Message].
 - URL input to include a link with the message [URL].
 - Tags input boxes / combo boxes for each configured tag. Next to each box the name of the tag is displayed. If the tag is required, the name will appear bold (and posting will not be allowed without it). Tag content will be validated in type-type by the browser. If the tag is repeatable, it will be display: "Name [Input box]", but once the user enters a value in the box a '+' sign will appear to the right of the box "Name [value] +". Clicking the '+' will add another box "Name [value1][value2] +" (and the logic repeats). If the boxes reach the end of the line, a new line will be inserted to accommodate more input boxes (and push the rest of the page down).
 - Post button with confirmation dialog showing the channel name and message content before transmission.

- *Properties*  – channel name, description, quality, date-created, owner, keywords, and other such information. This component opens expanded and can be collapsed.
- *Message Browser element.*
- *Channel quality feedback element.* 
- *Quality memo input box* – input box with submit button [Text: Line]. 
- *Invitation Entry Element.*  







Message Details

Simple page used to show full properties of message postings to channels. The page shows time of posting, the full message content, author, channel posted to, the message quality parameters, and threaded comments. If the visiting user's permissions do not allow the user access to the message (or if the user is not signed-in) the page will display a message indicating that (and no other content).

- *Background / Photo* – users can customize the look of their channel pages (**Channel Content** and **Message Details** pages) by selecting a photo and background image in the **Channel Administration** page. If images are enabled the photo is displayed (icon size) on the page at the top, and the background is set to the user-selected image.
- *Channel* – link back to the **Channel Content** page.
- User photo if enabled (tiny size).
- *Message Text* – full message content.
- *URL* – a link to the URL if set.
- *Tags* – a formatted list of tags. The tags string for the message is formatted to show the tag's name in bold. Repeated tags show under a single name headline.
- *Timestamp.*
- *Threaded Comments*  – list of comments posted on the message. For each comment show the text, username (with link to the **User Profile** page), user photo (tiny size), timestamp, and a link to post a new comment in reply to the selected comment. At the bottom of the comments list, an input box allows entering a new top level comment.
- *Posting User* – link to the **User Profile** page. The user quality rating will appear next to the user name, as well we member-since date.
- *Message quality ratings* – current average overall feedback ratings.
 - *Message quality feedback element.* 
 - *Quality memo input box*  – input box with submit button [Text: Line].





User Profile



The page provides a public view on a particular user including channels owned and recent messages posted. Content on this page will be controlled by the visiting user's rights (if not signed in, the All Users channel permission applies). A note on the page will indicate that this is a custom view of the user profile based on the rights of the visiting user.

- *Background / Photo* – users can customize the look of their **User Profile** page by selecting a photo and background image in the **My Account** page. If images are enabled the photo is displayed (profile size) on the page at the top, and the background is set to the user-selected image.
- *Profile* – user name, member since, public description, and feedback ratings.
- *Channel list*   – full list of channels owned by the user. Each channel name is a link to the Channel Content page.
- *Recent messages*   - list of configurable size of recent messages posted by the user. Each message shows a preview and a link to the **Message Details** page.
- *User quality feedback element.* 
- *Quality memo input box*  – input box with submit button [Text: Line].

Search Results

The search page includes links to information requested by the user. Similar to the **User Profile** page, it will show information based on the user permissions. The results include channels, users, and messages – if they were not requested in the search criteria, that component will not be visible on the page. If they were requested but no results found, a no results message will appear. Search requests will be stored in future enhancement for statistical analysis. Search results will include messages matching in the message or tags fields.

- *Messages*   – list of found messages.
 - Channel photo if enabled (tiny size).
 - Each message will display the first few words of its content. Preview length is configurable.
 - Message timestamp.
 - Posted by information with link to the **User Profile** page.
 - “More” link to the **Message Details** page.
 - Quality feedback element.
- *Channels*   – list of found channels.
 - Channel photo if enabled (tiny size).
 - Name link to the **Channel Content** page.

- First few words of channel description (configurable length).
- *Users*   - list of found users.
 - User photo if enabled (tiny size).
 - Name link to the **User Profile** page.
 - User quality ratings.

Privacy Policy

Display formatted version of the site privacy policy loaded by the server from a file.

Terms of Service

Display formatted version of the site terms of service loaded by the server from a file.

Copyright Policy

Display formatted version of the site copyright policy loaded by the server from a file.

About

Display a general page providing background about the site, the company, the team behind it, and insight into upcoming plans and ideas.




Contact


Provide contact information for the site and company.

Page Elements

Header

Every page on the site will include a standard header unless otherwise noted. The header will create a common navigation environment that will maintain a familiar interface even in new pages the user is visiting for the first time.

- *Logo* – image with a link to the **Home** page.
- *Sign-In*  – if the user has not signed-in already (has a valid session), an option to sign-in will appear on the front page. It will include:
 - Username / OpenID input box. If the user has signed-in before, the site can use a cookie auto-populate the input box with by the last used username / OpenID. The site can also display the username as text instead of the input box and next to the username a link to ‘sign-in as someone else’ which will clear the cookie and refresh the *Sign-In* component.
 - Login button to transmit the credentials to the server for authentication. See Session Management section for more information. Failed sign-in will refresh the page and will add a message above the *Sign-In* area with the text “Login failed: unknown username or OpenID”.
 - Sign-Up link to the **Sign-Up** page.
- *Sign-Out*  – a link to end the current session and refresh the **Home** page appears in place of the *Sign-In* component if the user has an active session.
- *Search* – a generic site search engine looking for keywords match within channel descriptions, channel content, and user profiles. The search facility will include:
 - Partial Search Warning  – a message indicating that search result will be incomplete and will include only public results. The search logic will exclude content that is restricted and requires some level of permission to view (such as messages posted in a private channel).
 - Search keywords input box [Text: Line].
 - Search Type selector (appears as tabs above the search input box):
 - Site – search all.
 - Channels.
 - Messages.
 - Users.
 - Search button performs the search and link to the **Search Results** page which will adjust the layout based on the type of search being performed.

- *My Account*  – link to the **My Account** page.
- *Help* – future link to the help system. Not implemented as part of these specifications.

Footer

At the bottom of every page (unless otherwise noted), a footer will be included with links to legal and other less frequently visited pages.

- *Copyright Notice* – information regarding the site copyright information.
- *Privacy Policy* – link to the **Privacy Policy** page.
- *Terms of Service* – link to the **Terms of Service** page.
- *Copyright Policy* – link to the **Copyright Policy** page.
- *About* – link to the **About** page.
- *Contact* – link to the **Contact** page.

Quality Feedback

Users will be able to rate other users, channels, and messages posted. Each object carries a system calculated quality score which is a positive number with a configurable maximum value (highest quality). Rating will be done by giving each object a number of stars (the actual image can be anything else to better fit the site graphics). In order to make voting quick and easy, a set of 5 dim stars will appear next to the object being voted. The user will be able to click on the number of stars reflecting the message quality to make a quick feedback vote. As the mouse hovers above the stars moving from left to right, more stars will be highlighted in a different color. When the user clicks on a star, the number of highlighted stars at the time will be recorded as the value of the vote. This mechanism is standard in audio rating and is also found on the Netflix™ website.



When viewing an object before placing a vote, the stars will show the current quality rating. The quality value will be adjusted to fit the star display capabilities (0 to 5 stars, with each star showing as empty, 1/3, 1/2, 2/3, or full). Actual quality will have color X.



As the cursor hovers about the stars, only stars from the left-most to the one under the cursor will be highlighted in the vote color Y. While the cursor hovers above the stars, the actual quality value will not be visible.



An icon to the left of the first star will indicate a zero vote.



After the user clicked on the desired star (user can only vote in full stars but the actual quality value can be a fraction), the highlighted stars will be permanently

colored in color Y, but will still show either some visual mean, the current quality value as voted by all users (in color X).



If the user voted for zero stars, the zero-indicator will be highlighted in color Y and the rest of the stars will be blank, showing the actual vote.

Each user can only have one vote per object and if voted a second time, the later vote will override the first. If the user already voted, the stars will show the current vote. Actual quality calculation will be done by a background process and will not have an instant impact.

Users cannot vote on their own items. Individual votes can only be seen by the user voting and include an optional memo which will be accessible from the object detailed page. Setting a memo will override the current memo. If a user already posted a memo it will be the default value of the input box. Quality memos are used to keep notes on users, channels, and messages that are only visible to the user.

Invitation Entry



Site members will be able to invite others to subscribe to a particular channel. If the invitation is sent to an unregistered user, this will also serve as an invitation to join the service. More information about the invitation process can be found in the Invitation section under Implementation. This element implements the invitation entry form used to invite people. It always have a channel context which means it is located only in places where it is clear which channel the invitation is for. The form itself does not provide that option. Also, since only signed-in users can send an invitation, it is know who the invitation is sent from.

The element includes a form with the following fields:

- Username / Email input box – the server will know if the entered input is an email if it contains a '@' character, otherwise it is a username (which are not allowed to contain '@'). The field will be validated before submission. If it contains '@' [Email] otherwise [Username].
 - Privacy policy notice – appears for email entry and informs the user that entered emails will not be used by the site for any other purpose than to send a single invitation.
 - 'Add' link to add another Email/Username input box (Up to a configurable limit).
- Message – optional message to be added to the invitation email. Will also appear in the user invitation list [Text: Message].
- Invite button – send the invitation to the server which will follow the invitation workflow.

Message Browser

Channels are expected to have a large number of messages posted. The Message Browser element will allow simple navigation through the list by cutting it into more manageable pieces and allowing sorting and back and forth navigation. The list will initially include a configurable number of messages, and the user will be able to change the size of the list to another value. When the user makes changes to the list size, that new preference is saved to the user configuration profile.

- *List navigation* – back and forth links to navigate through the list. If the list reached its end, the forth link is disabled, and at the beginning the back link is disabled. Between the links the range is displayed (showing messages x-y out of z).
- *Message count preference* – combo box with provided list sizes [Enum].
- *Message list*  – partial list of the channel posts with ability to sort. Each message includes:
 - User photo if enabled (tiny size).
 - Message text (full content).
 - Message timestamp.
 - *Posting User* – link to the **User Profile** page. The user quality rating will appear next to the user name.
 - *Message quality ratings*.
 - “More” link to the **Message Details** page.
 - Message quality feedback element. 


Rules List


The rules list element allows utilizing message tags for search and subscription filtering. The element displays a list of the current rules (if any) and allows modifications and deletes, as well as adding new rules up to a configurable limit. See User Subscription section.


- *Rules* – list of current rules, for each showing the tag name, rule type, and value / range (for Range type) parameters.
 - Modify link – turns the field into editable form. Tag name into a combo box with available tags, rule type with a combo box of the rule types, and the value / range fields to text boxed. The modify links changes to apply and cancel links.
 - Add link – adds a new rule line to the list with apply and cancel links next to it. The tag name combo box is populated with the “Any Field” option, and the rule type with Equal. Apply saves the new rule to the server, while cancel remove it from the list.

Implementation

Forms & Lists

Most data entry and site interaction is done with forms. Forms come in two styles, a group of input fields and a submission button which refreshes the page, and a quick form inside a more complex page which only updates that small section of the page. For the scope of this document, all form fields are required and must pass field validation for the submission button to work. Optional fields are marked with  icon. In general, forms that can be completed and submitted without a page refresh are preferred as they simplify the user experience.

In pages that include more than one form (each form will appear as a separate component), the forms will be collapsible in such a way that when the page is loaded, only the form title will be visible with an expand icon next to it. Clicking on the title text or the icon will make the form appear by pushing down (expanding) the rest of the page and inserting the form fields. Clicking the form title or icon a second time will collapse it and make it hidden. Collapsible forms are marked with  icon.

Channels, subscriptions, user settings, news, and other objects are presented in lists. Most lists include items with a link and a collapsible form. List will be displayed in a tabular format with the columns tabulated to line up. Some lists are expected to contain large number of records (such as subscriptions and search results) in which case, the list will be sortable and will be indicated by  icon.

Sortable lists will include a header row with the field names on top. Clicking a field name will sort the list based on the selected column in ascending order. Clicking the same field name twice will sort the list in descending order. If no default sort field and order is given, the list will appear sorted alphabetically in ascending order based on the first field.

Links & Buttons


Throughout this document, links and buttons are specified in an attempt to help visualize the pages and elements. However, the actual decision if an activity should be represented by a button or text link is up to the site graphic designer.

Field Validation

Most form fields must pass some basic validation logic on the client side (within the browser) before being allowed to be submitted to the server. Fields that require validation have the validation rule appear within []. If the provided input fails the validation rule, a tooltip will open to indicate the issue (such as no letters allowed in number field). Any field that requires validation is also validated on the server side for security and data integrity (as forms can be manipulated by hackers on the client side to disable validation protections).

- Date – valid calendar date.
- Time – valid time.
- Phone – digits, space, dash, and parentheses.
- Email – ‘name @ domain’. Letters, digits, dash, underscore, and period (provided that it is not the first or last character of either part).
- Text – no HTML tags allowed. Text length limitation is controlled by a configurable value for each of the three levels (Word, Line, and Message). All forms must limit input to the allowable size and display a remaining characters count for all Message type input boxes.
- Number – digits only (no decimal point or negative sign). A valid range can be provided.
- HTML – Text with HTML tags.
- Enum – a predefined list of allowed values.
- Birth Date – must be older than a configurable number of years (meant to prohibit children under a certain age from using the site).
- URL – valid HTTP URL.
- Filename – valid UNIX style filename (full path or relative).
- Username – see valid username characters and rules.
- Boolean – true (1) / false (0).

Context-Sensitive Pages

Pages with an object context, such as pages showing channel properties, user profile, and message details, must use a URL that provide easy access to the specific content. These pages will use a URL that will include an identifier able to link directly into the specific object. For example, a user will be able to view a message, and then save the link to the message and send it to friends. The link will include all the needed information to retrieve the page. Context-sensitive pages are marked with  icon.

Username and Passwords

Nouncer uses OpenID for user authentication. The site does not store passwords but each user has a unique username which must comply with certain rules. The rules are to ensure both high level of security, and also a safe community where offensive names are forbidden. The rules will be validated twice, first when entered on the page as the entry is being typed (by making an API call – no need to implement the rules). Second after the form is being submitted to the server, the entry is evaluated again. The reason for the double verification is that while the script prevents the user from sending the requests, users can potentially modify the script to allow any value being transmitted to the server, or a username can become unavailable by the time the user submits the form.

Username rules are listed here in the order in which they should be validated, going from the quick to the slow in terms of computing time. The username validation stops at the first failure. Usernames must follow these rules:

- Minimum and maximum number of characters.
- Must start with a letter.
- Can only include letters (**A-Z**), numbers (**0-9**), and underscores (**_**).
- Must be unique. Comparison is not case-sensitive, but case is allowed and will be remembered.
- Cannot contain certain restricted words. The way the rule is validated, is by replacing all zeros with the letter 'o', removing all non-letters characters from the username, then performing a case-insensitive lookup for the restricted words. The list is not expected to be very long as to allow client-side scripting of the rule.
- Cannot be certain restricted usernames. The rule is validated by performing a case-insensitive comparison of the entire entry.


Session Management



Nouncer uses OAuth for its session management which means each service built on Nouncer must first establish a Consumer Key and Secret used to identify the service when making API requests. When a user signs in using their OpenID, the Nouncer server generates an OAuth Access Token which is used as a session identifier. Any API call made on behalf of the user includes the Access Token.

In order to make the site more usable and convenient, users will be able to login once, and maintain an active session for a configurable time period before having to authenticate again on the same computer. In order to achieve this, the service will need to store the Access Token and use it for user interaction. The token can be stored in a cookie or file (in case of a client-only service), or a cookie that points to a session ID which is mapped to the token (in case of a server-based service).

When a user provides sign-in information, besides validating the credentials, the server will also check for other conditions. At this point, the only condition is to check if the user has a verified primary email address. If the user does not have a verified primary address, the token is created with a limitation allowing access only to the **Primary Email Verification** page. The service should restrict the user to that page as no other API calls will be allowed until the primary email has been verified.

Checks for limitations are performed only when the user actively signs-in (enters OpenID), not every session lookup.

To make these specifications easier to read, pages or components with special access requirements will have a colored  icon next to them. Elements default to the page access-requirements unless they have their own settings. The site contains the following access-requirements options:

- None – any user can visit the page or see the component. This is the default behavior if no other is explicitly indicated.
- Signed-Out / Guest  – the page or component is only visible to users that are not signed-in.
- Signed-In  – the page is available to users who signed-in by providing their OpenID (and by that established an active session).

Connection Management

Connections are ways for the site and other users to reach each other. A connection can be any transport that can deliver text messages (such as email, mobile phone, instant message, etc.). Each user can have multiple connections, and all connections must be verified before they can be used. This is to ensure proper ownership of the connection by the user, to prevent the site from spamming other users.

The connection management workflow is simple. A new connection is added to the user profile and is issued a token (a unique and hard to guess string). The token is then sent over to the user using the connection and the user must receive the token and enter it back into the site to prove they own the connection. At that point the token is revoked and the connection is marked as verified.

When an email connection is verified, pending invitations (based on the verified email address) will be moved to the user's invitation list.

Invitations

Site users can invite others to subscribe to a channel. Invitations can be sent to site members or potential members. This is a valuable service as it will help to increase the site's user-base. It is also valuable information to find out which users are more successful than others in getting people to sign-up and which channels have the highest invitation success rate. Invitations carry a timestamp and have a configurable lifetime.

The invitation submission workflow includes the following steps:

1. A user sends an invitation to another person from the **Channel Content** page, the **Channel Administration** page, or other pages including the invitation element. The recipient can be indicated using their username or email address. An entered username is verified to belong to an existing user.
2. If an email address is used, a lookup is performed to find all matching user connections. If users are found, the email is replaced by the list (internally – usernames are not revealed) and each username will follow the same workflow from here on.
3. If no users are found from an email lookup, the invitation is stored in the pending queue. Before storing the invitation, a lookup is performed to see if the email address has already been invited to join that channel. If so, the inviting user is notified that an invitation is already pending and the process ends. If a new invitation is created, an email is sent to the provided email address with quick introduction to the site, a link to the home page for registration, and the custom message entered by the inviter, and the channel name.
4. Registered users are notified of the invitation via their primary connection if they choose to receive invitations via email.
5. Once the user is registered and signed-in, active invitations will appear in a list in the **My Account** page, and allow the user to accept or decline the invitation.

There is a configurable maximum number of invitations allowed per user or email address. This is to prevent flooding the user with too many invitations. An attempt to invite someone with the maximum number of invitations allowed will generate a message informing of the limitation reached.

In the same manner, there is a configurable limitation of how many invitations a user can send out per channel. The idea is that a user will not be able to flood the system with invitation to their channel. For example, a limitation of 10 means each user can send no more than 10 invitations for each channel (even over time).

There is no limit to the total number of invitation sent across channels. As the invited users accept or decline the incoming invitations, the sending users will be allowed to send more invitations (however they will not be notified of this).

Channel Creation

Creating channels is an most important activity as it establishes a placeholder for new content and a way to link with other users. The process is meant to be quick and to hide the advance configuration from the user. Future versions might expose more of the channel mode to user control but initially the idea is to keep things as simple as possible. Channel creation involves 2 main steps:

- Creating channel placeholder (name) – the most important part of the creating a channel is choosing a unique name. Together with a name, the channel is assigned an initial mode which can be modified later. Names must pass a set of rules to be allowed in the system:
 - Obey Minimum and Maximum characters limits.

- Is not case-sensitive.
- Cannot be certain restricted words.
- Can only include letters, numbers, and underscores.
- Must start with a letter.
- Administrating channel properties (on-going) – using the **Channel Administration** page, channel owners will be able to make changes to the channel settings. New channels will be created with a very basic set of properties and it is up to the user to enhance it by making changes on the administration page. However, the channel is fully functional and ready to be used after the first step.

In general, channels are expected to have a single owner, a limited number of posters, and many read-only users. The reason for that is that having many people post to the channel will create too much unusable noise. With that in mind, the channel controls were designed to be optimized for one of three situations, few, all, or none. Keeping a channel where everyone can read, one can write, and few can administrate is easy. Creating a channel where many (but not all) can write will be hard to maintain. This is a known limitation of the design (which can be improved by introducing groups later on).

The channel mode is defined in the channel permission definition. The definition holds a record for each channel/user combination indicating the rights. A special record indicated the All Users rights which is the channel default permissions. All rights must be explicitly set and lack of settings implies no rights.

The available users' rights are:

- List – view channel listing, general properties, include channel in search results, and directories. Access to **Channel Content** page but without any access to posted messages.
- Subscribe – ability to subscribe, and if subscribed, read channel postings.
- Read – read channel postings on the site without a subscription.
- Participate – post messages to the channel if subscribed.
- Post – post messages to the channel regardless of subscription status (requires signing-in).
- Administer – access the **Channel Administration** page and change its settings.
- Moderate – reserved. Not implemented in this specification.

When trying to determine the rights of a particular user, first the channel/user combination is searched, and then if not found, the channel/All Users combination is searched. If none found the user permission is none. While it may seem obvious that a user with Read rights also have List rights, the implementation must be explicit and not grant users any additional rights they don't explicitly have.

Channel owners always have full rights which are explicitly set when the channel is created (cannot be changed by the user):

User	List	Subscribe	Read	Participate	Post	Administer	Moderate
Owner	✓	✓	✓	✓	✓	✓	✓

To simplify channel management, 4 basic channel modes are provided. When creating a channel, the user chooses an initial mode which creates a set of permission records to implement the restriction applicable to that mode (one for the owner and another for All Users). These are the modes and their initial All Users record:

- Public – channel is public, can be searched by others and open for subscriptions. Users can read channel content without subscribing.

User	List	Subscribe	Read	Participate	Post	Administer	Moderate
All Users (0)	✓	✓	✓				

- Protected – channel is public, can be searched by others and open for subscriptions. Users must subscribe to read channel content.

User	List	Subscribe	Read	Participate	Post	Administer	Moderate
All Users (0)	✓	✓					

- Private – channel is for closed membership, but can be searched by others and open for subscription requests (a request must be approved by the channel owner before the user is officially subscribed). The channel is open for subscriptions to pre-approved users. Users cannot read channel content without subscribing.

User	List	Subscribe	Read	Participate	Post	Administer	Moderate
All Users (0)	✓						

- Hidden – same as private but the channel does not appear in any directory or search. Only pre-authorized users can enter the **Channel Content** page or find it in searches. Users will be able to find the channel if they are authorized but usually join from an invitation.

User	List	Subscribe	Read	Participate	Post	Administer	Moderate
All Users (0)							

If the owner changes the channel mode, only the record for All Users is reset to the values listed above (for the new mode). Individual user records are unchanged. This is to allow easy switching between modes without losing all the existing settings.

Each channel has a posting rights policy which builds on top of the channel mode. The posting rights policy adjusts the All Users record by adding or removing the Participate and Post rights. The provided posting rights policies are:

- **Restricted** – this is the default mode for channels. Users must be given explicit right to Participate or Post before being able to do so. Selecting this option removes both Participate and Post rights from the All Users record.
- **Subscribers** – only subscribers can post to the channel. Selecting this option adds the Participate right to the All Users record and removes the Post right from it.
- **Open** – anyone can post to the channel, regardless of their subscription status. Selecting this option adds the Post right to the All Users record and removes the Participate right from it.

When entering the **Channel Administration** page, the site determines the channel mode and posting rights policy by examining the permissions of the All Users record. If the channel has an unfamiliar combination of rights, the page will only show the Custom User Rights component, and will include a special record (which cannot be removed) for All Users. Otherwise, the All Users record will not appear in the custom rights component.

The owner also has the ability to add specific users and set their rights. Adding a user with no rights is equal to blocking the user. However, if the All Users record allows public (unsubscribed) access to the channel, sign-out users can bypass the custom blocking.

When a user with List rights but without Subscribe rights attempts to subscribe, the subscription is marked as pending approval. If approved, the user is also granted Subscribe rights automatically.

User Subscription

Users subscribe to channels in order to read and receive posted messages, and if permitted, post new messages to the channel. The users' abilities in regard to channel activities are defined by the channel permissions detailed in Channel Creation. Channel activities are based on the user status (listed rights must be explicitly granted, but are shown here to provide a context of each status):

- **Guest** – user is not signed-in and can only have List and Read rights. The user must sign-in in order to have Subscribe right (if granted).
- **Sign-in & Unsubscribed** – user is signed-in but have not subscribed to the channel. The user can subscribe if granted Subscribe right. If not granted Subscribe right, but have List right, the user can request to subscribe which will then be pending approval from the channel administrators.
- **Subscribed** – user is subscribed and can access all granted rights.

Subscription activities are typically performed from the **Channel Content** page or by accepting an invitation. If the user does not have Subscribe right, the subscription is marked as pending. Pending subscriptions must be approved by a channel administrator before they are considered complete and are not counted when reviewing user access rights (user cannot read without Read right, and cannot post without Post right – Subscribe and Participate are inactive).

When a user subscribes to a channel, the invitations list is checked for pending invitations for that channel. If an invitation is found, it is removed. This is to remove invitations the user chose to ignore or not accept directly.

After a subscription is added, it shows under the **My Subscriptions** page and section of the **Home** page. If it is pending approval an icon will indicate that. From the **My Subscriptions** page the user can customize the subscription and add a quality filter to it as well as choose to receive updates via the provided connections.

When a new subscription record is created, the filter fields are set to the system defaults unless the user has customized settings to override them. The user default values are configured in the **My Subscription** page.

Channel posts can be tagged for better filtering and search capabilities. The Rules List element allows utilizing these tags for search and subscription filtering. The user can create rules for each tag and provide a condition for the rule to be successfully validated. All rules must pass their condition in order for the message to be delivered or appear in search results (AND relationship).

There are 3 kinds of rules:

- Equal – a given tag must include an exact match of the provided value (case insensitive). Takes a value parameter which can contain a comma separated list of values, ONE of which must match the tag's value (OR relationship).
- Contain – a given tag must include (but can contain more than) a match of the provided value (case insensitive). Takes a value parameter which can contain a comma separated list of values, ONE of which must be contained within the tag's value (or relationship).
- Range – a given tag's value must be within a given range. Available for Number and Date Time tag types. Takes two parameters, value which indicates the beginning of the range (inclusive) and range which indicates the end of the range (inclusive). Each parameter can only include a single item (no commas allowed).

The user can apply rules to a special tag called "Any Field" which will cause rule validation against any of the message fields and tags (text search). The "Any Field" rule can only be of Equal or Contain types.

Style Customization

Users can customize the way their **User Profile**, **Channel Content**, and **Message Details** pages look. This is done by going to the user to channel administration pages and selecting an image to be used for either the photo or background of the page. Upload images will:

- All uploaded images will first be resized to a configurable limit.
- Photos are used as icons to identify a user or channel. Background images are used as wallpaper under the page elements.
- New images will override older images.
- When an image is uploaded, the profile is set to enable it (separately for photo and background). The user can also disable a photo or background which does not erase the files, only turns off displaying the image. If the user turn the images back on, or uploads a new file, the images are displayed again.

Smart Tags

Channel posts can be tagged for better filtering and search capabilities. Tags are usually text words added to a post to allow other tools to retrieve relevant information. Smart tags are tags with their own set of properties used to limit the allowed data in the tag, and to enable the creation of better rules. For example, a channel containing special deals can have a smart tag for price range, item type, and time when the deal expires. This cannot be done with simple tags as there is no standard way to contain this information with unstructured text.

User can add tags definition to a channel, and those will become available when posting messages and displayed with the message in various pages. Tags can have the following types:

- Text – free text used for keyword, name of places, Zip codes, people names, etc. A typical example is a tag called 'Keyword' with Text type, allowed to be repeated – this is the usual tag implementation on most sites.
- List – similar to Text, but with a pre-defined list of values. Values can include any character except for comma (,). List types show in entry forms as a combo-box with the list values available for selection.
- Number – text limited to digits, period (.), and leading negative sign (-).
- Date Time – can contain date, time, or date time combination. The allowed formats are YYYY-MM-DD, HH:MM:SS, and YYYY-MM-DD HH:MM:SS.

This is an example of tags used for a channel about real-estate listings:

- Neighborhood – required List with values (Lower East Side, Chelsea, West Village)
- Asking Price – Number
- Time Listed – Date Time

- Bedrooms - Number
- Features – repeatable List with values (Terrace, Elevator, Doorman)

Tags can be repeatable, meaning that the same tag can be used multiple times on one message. An example is the above configuration, where a single listing (post) can have two features. Tags can also be required which means the site will not allow postings without the tag set to a valid value. If a channel has a required tag, posting a message from the **Channel Content** page will be blocked unless the tag is set. If the user is posting using the **Home** page Quick Message component, the post button will redirect the user to the **Channel Content** page (with the message already populated in the form) to complete the posting.

Channels are created with no default tags and users use the **Channel Administration** page to manage tags and their properties. If a tag is deleted from a channel after messages already include it, the tag will remain available but will no longer be present in filters and searches based on specific tags. If the tag will later be reintroduced, the existing values will be included again. If a tag of type X is removed and a tag of type Y is added with the same name, the old values will be included as long as they have valid values for the new type, otherwise ignored.