

Partner Bootcamp Training

Liferay 7 Platform

by Liferay Training

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Liferay Fundamentals



LIFERAY Training

1.1 What is Liferay?

1.1.1 What is Liferay?

- Liferay is a flexible platform that uses modern technology to create a tailored customer experience.
- The Liferay Platform is also used to aggregate applications in one place.

1.1.2 Liferay Core Concepts

Sites

- Sites contain and organize content.
- Content is Site-specific.
- Content created in a Site is stored in that Site.

Sites are the primary way to store and manage different types of content in Liferay. Each Site has its own repository that is independent of other Sites. For example, content created in Site A only exists within Site A. One exception is the "Global" scope, which allows other Sites content access.

- There are three types of Sites for User membership.
 - Open: Users can join and leave the Site.
 - Restricted: Users request access and the admin approves or rejects the request.
 - Private: Only the admin can add and remove Users.

The end User can join Sites using the Sites portlet found on their "My Dashboard." The User can only see open and restricted Sites in the portlet; private Sites are not displayed.

- Each Site has two sets of pages that can be configured.
 - Public Pages : Can be viewed by anyone
 - Private Pages: Can only be viewed by members of the Site
- Content and apps can be displayed on pages.

Site pages are the pages that the end User sees. We can populate the Site pages with content and portlets. One key aspect of Site pages is that the type of Site does not affect the behavior of the Site pages. If a private Site has public pages, the end User is able to navigate to the public pages (assuming they have the URL or a way to get there.)

Organizations

- Group Users in a hierarchy
- Model and represent real life Organizations
- Multi-Organizational membership

In Liferay, Organizations are the primary method of organizing and grouping Users. Using Organizations, the administration of Users can be delegated to the Organization admins. Administration of Organizations flows down (i.e., an admin of an Organization is also an admin of its suborganizations or child Organizations.)

- Organization can have Sites.
- Members of Organization become Members of the Org Site
- Locations model real life locations.
 - Locations represent the end of the hierarchy.

Organization Sites are Sites that are tied to the Organization. Organization Sites are optional, but all Organizations have the capability to add an Organization Site. A member of an Organization is also a member of the Organization Site that it is associated with.

Permissions

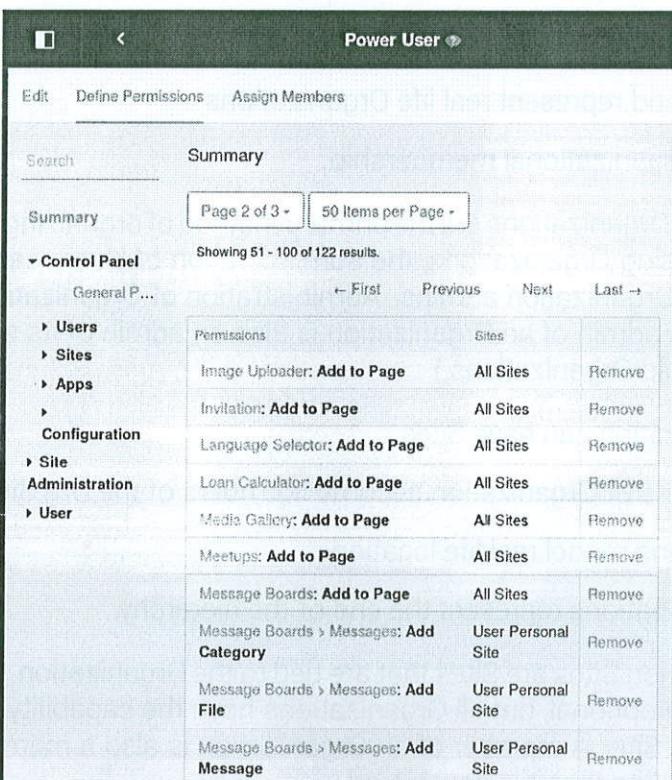
- The definition of a permission is an action upon a resource.
 - Actions: View, Edit, Delete, etc.
 - Resources: Users, Web Content, Blog Posts, etc.

Almost everything within Liferay has permission applied to it one way or another. The permissioning in Liferay is very fine-grained. For example, you can permission who is able to add or delete Users as well as permission who can delete or edit a specific User.

Users & Roles

- Permissions are contained within Roles.
- Users are assigned Roles and gain the permissions within the Role. (*Figure 1.1, page 4*) Roles are the vehicle to deliver permissions to

Figure 1.1:



| Permissions | Sites | |
|---|--------------------|------------------------|
| Image Uploader: Add to Page | All Sites | Remove |
| Invitation: Add to Page | All Sites | Remove |
| Language Selector: Add to Page | All Sites | Remove |
| Loan Calculator: Add to Page | All Sites | Remove |
| Media Gallery: Add to Page | All Sites | Remove |
| Meetups: Add to Page | All Sites | Remove |
| Message Boards: Add to Page | All Sites | Remove |
| Message Boards > Messages: Add Category | User Personal Site | Remove |
| Message Boards > Messages: Add File | User Personal Site | Remove |
| Message Boards > Messages: Add Message | User Personal Site | Remove |

Users. In order for a User to be given permissions to do something, the User must be given the Role with those specific permissions. Roles work similarly to real-life roles (consultant, parent, spouse, etc.) that give us specific rights and privileges.

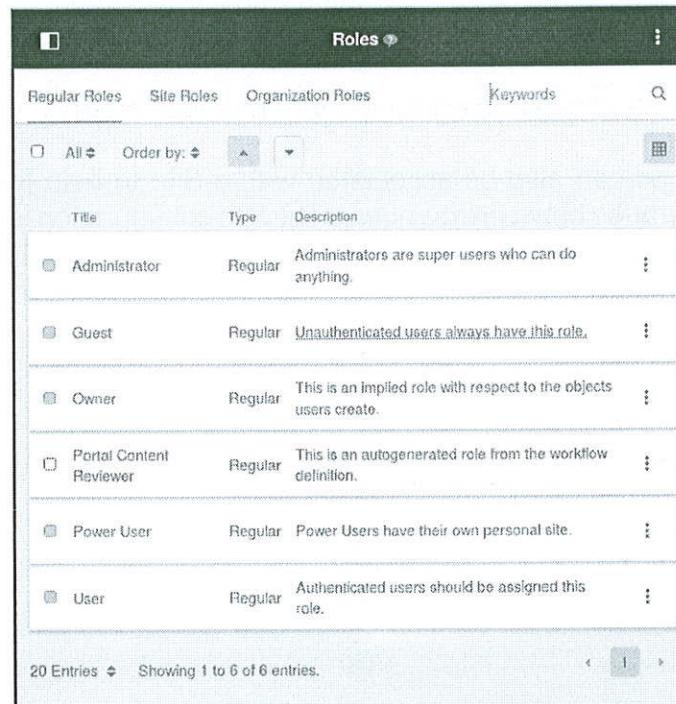
Users & Roles

- Roles exist in three scopes.
 - Regular: Applies everywhere in the Platform
 - Organization: Applies within Organizations

- Site: Applies within Sites

(Figure 1.2, page 5)

Figure 1.2:



The screenshot shows a list of roles in the Liferay administration interface. The roles are:

| Title | Type | Description |
|-------------------------|---------|---|
| Administrator | Regular | Administrators are super users who can do anything. |
| Guest | Regular | Unauthenticated users always have this role. |
| Owner | Regular | This is an implied role with respect to the objects users create. |
| Portal Content Reviewer | Regular | This is an autogenerated role from the workflow definition. |
| Power User | Regular | Power Users have their own personal site. |
| User | Regular | Authenticated users should be assigned this role. |

At the bottom, it says "20 Entries" and "Showing 1 to 6 of 6 entries".

Using examples from real life again, just because one person is an owner of his house doesn't make him an owner of your house if you invite him over. Having a Site Admin Role doesn't mean you're the Site Admin for every Site, but only for the Site where that Role is assigned to you.

User Groups

- Contain specific groups of Users
- LDAP groups imported as User Groups
- Assign User Group to Roles

User Groups are very flexible. They were designed to be able to "transcend Organizations" or group Users outside the scope of the Organization. An LDAP group being imported into Liferay will be imported as a User

Group. User groups also streamline Role-assigning. Simply assign a Role to a User group, and everyone who is a member of that User group will have that Role. This becomes very useful when grouping together Users who have the same Role.

- User Groups can also be associated with a User Group Site.
 - Public Pages appear on a User's My Profile.
 - Private Pages appear on a User's My Dashboard.

User Groups can also be associated with a Site to help foster User Group collaboration between members. The Site configuration is the same as a standalone Site. The only difference is that a User Group Site isn't navigated like a standalone Site, but through a User's My Profile or My Dashboard.

Teams

- Delegate Permissions within a Site (*Figure 1.3, page 6*)

Figure 1.3:

| Permissions | | | | | | | | | | | | | |
|-------------|-------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Liferay | Role | Lock Thread | Subscribe | Add to Favorites | Add File | Printable | Add Message | Vote | Post Category | Unsubscribe | Post Reply | Ban User | Move Thread |
| | Guest | <input type="checkbox"/> |
| | Owner | <input checked="" type="checkbox"/> |
| | Portal Content Reviewer | <input type="checkbox"/> |
| | Power User | <input type="checkbox"/> |
| | Site Content Reviewer | <input type="checkbox"/> |
| | Site Member | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | User | <input type="checkbox"/> |
| | Message Board Moderator | <input type="checkbox"/> |

- Members of a Team gain the Permissions.

Teams are a way for Site Admins to create a vehicle to delegate permissions without using a Site Role. Delegating permissions to a team is all done through the permissions button found on the resource. A team that is created in a Site only exists in that Site. By delegating permissions to a team, that team will only have permissions for that specific resource to

perform that specific action. For example, if a team has the permission to delete posts on a message board, that action only applies to that specific message board. If there are multiple message boards on different pages, each one must be configured to allow the team to perform whatever action is desired.

1.2 Liferay's Content Framework

1.2.1 Feature Overview

- Web Content Management: Create, style, and manage content within Liferay
- Documents and Media: Store and organize files
- Workflow: Control the creation of content from start to finish
- Staging: Preview your work before publishing it live

Though there are many other features of the Asset Framework, these are the four biggest features that will be covered.

1.2.2 Web Content Management

Feature Overview

- Create content to be displayed on Site pages.
 - Use text, images, and videos
- Content created within a Site is stored in that Site.
- Workflow based on content types (Structures)

Content is what's used to display everything between plain text to a slideshow of images and everything in between. Liferay comes with many features that ensure content can be styled and personalized. Reviewing the web content creation can be done by enabling workflow.

Scheduling Content

- Define when and how long content goes live.
- Keep content up to date
 - Set dates for content to be reviewed
 - Expire content to prevent outdated/incorrect information from being displayed.

(Figure 1.4, page 8)

Figure 1.4:

| Schedule | |
|--|----------|
| Display Date | |
| 01/28/2016 | 05:51 PM |
| Expiration Date | |
| 01/28/2017 | 05:51 PM |
| <input checked="" type="checkbox"/> Never Expire | |
| Review Date | |
| 10/28/2016 | 05:51 PM |
| <input checked="" type="checkbox"/> Never Review | |

You can set a number of different dates upon the content for various different reasons. Content can have a date that determines when it will be displayed in production or a date that determines when it should be reviewed. If content is only relevant for a period of time, it can be expired so it's no longer displayed.

Structures and Templates

- Structures: Fields that are filled out in web content

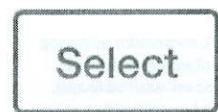
- Templates: Control the styling of Structures
 - Templating language (FTL, VM or XSL)
 - Multiple templates can be applied to one structure.

(Figure 1.5, page 9) (Figure 1.6, page 9)

Figure 1.5:



Structure: Product Release



Template: Product Card

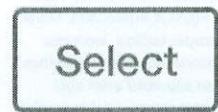


Figure 1.6:

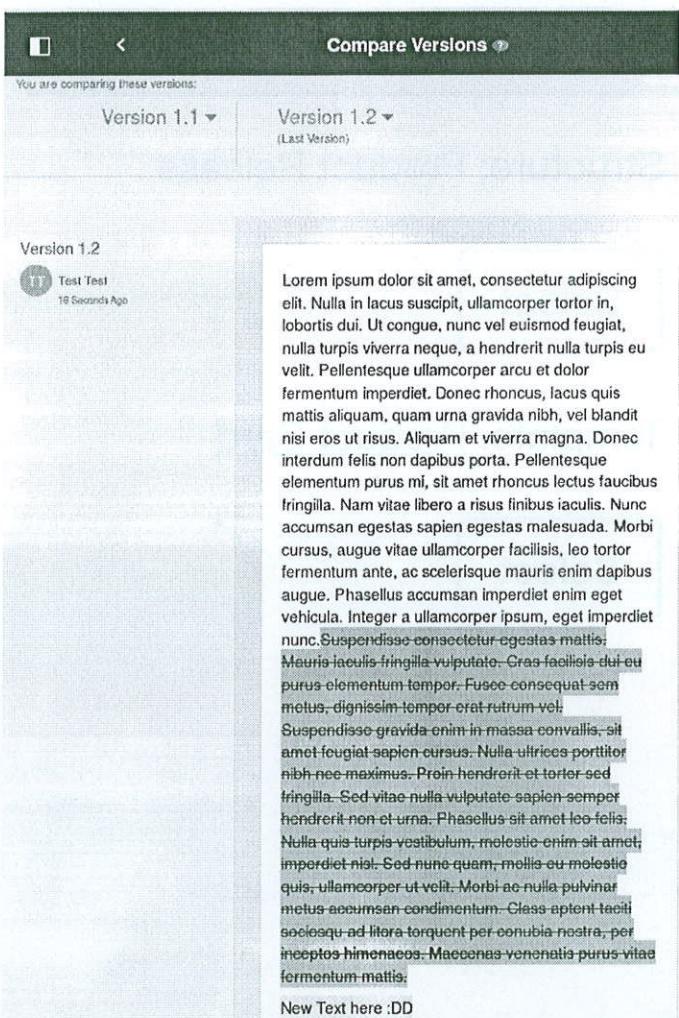
| Templates | | | | Search |
|-----------|----------------------|-------------|---------------|-------------------------|
| All | Name | Description | Modified Date | |
| 31307 | Product Summary | | 1 minute ago | <button>Choose</button> |
| 31311 | Product Feature Page | | 1 minute ago | <button>Choose</button> |
| 31316 | Product Card | | 5 minutes ago | |

Structures mean content creators only have to fill out the required files (e.g., title, sub-title, thumbnail, etc.) without having to worry about styling. The template takes care of the web content styling by controlling the look and feel of each element of the structure.

7.0 Features

- Differences
 - Compare different versions of Web Content
 - See the exact edits of each version (*Figure 1.7, page 10*)

Figure 1.7:



- Alloy Editor
 - Liferay 7's improved editor

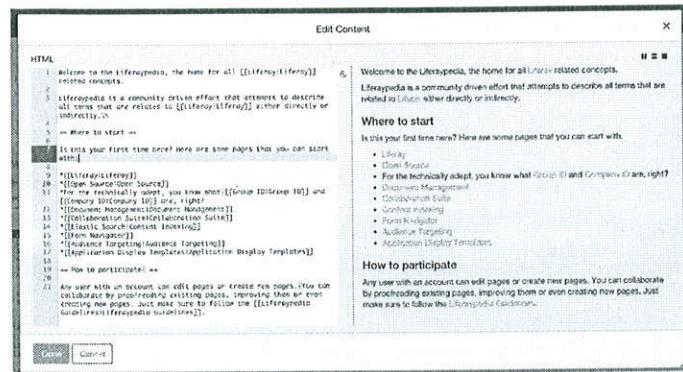
- Edit and Format Text just by Highlighting it (*Figure 1.8, page 11*)

Figure 1.8:



- Create content using HTML within Developer Mode
- Full Screen mode with Preview (*Figure 1.9, page 11*)

Figure 1.9:



- Image Uploader

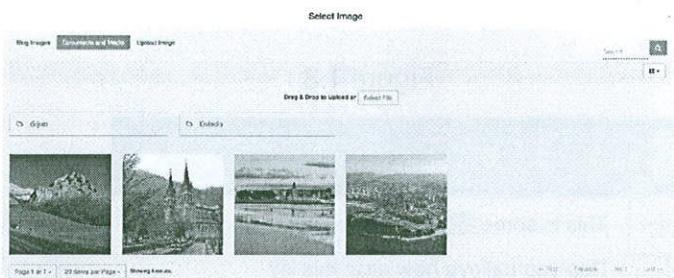
- Drag and drop Uploading (*Figure 1.10, page 11*)

Figure 1.10:



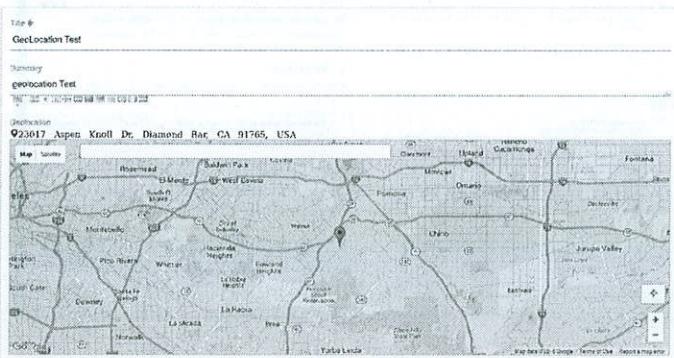
- Search for images already uploaded (*Figure 1.11, page 12*)
- Drag and drop a Blog cover image

Figure 1.11:



- Add an image inline in Blogs or Web Content to use the uploader.
- Geolocation
 - Add a location to web content (*Figure 1.12, page 12*)

Figure 1.12:



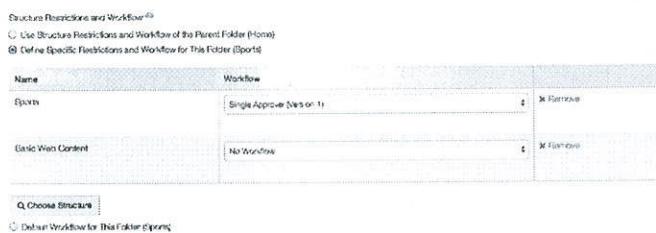
- Display web content on a map via asset publisher
- Geolocation is available as a Structure field.
- A geolocation field creates an interactive map with a pin located at your IP address.
- The user can drag the pin to a new location and record it.
- With a new Web Content type that contains a geolocation field, you can set the Asset Publisher to filter content based on geolocation.
- Workflow and Web Content Folders

Figure 1.13:



- Specify folders to contain specific structures (*Figure 1.13, page 13*)
- Enable workflow for web content folders (*Figure 1.14, page 13*)

Figure 1.14:



- Allow content teams to work on specific types of content
- Different types of web content can go through a different workflow process.

There are a number of new features in Liferay 7 that improve the content creation experience. **Web Content Diffs:** The most significant feature is the ability to track changes to web content. This feature, called “web content diffs”, allows a content creator to compare different versions of content in order to see what has changed.

The Alloy Editor is an inline editor that allows the editing of text just by highlighting it. When highlighted, a popup appears with editing options for the highlighted portion. If a content creator knows HTML, developer mode enables the use of HTML to create web content. Making developer mode fullscreen allows the content creator to see exactly what is happening as HTML is entered.

With a new image uploader, the content creator is able to drag and drop the desired image into the image uploader. There is also a search function for images that have already been uploaded.

Geolocation allows content to have a specific location or address associated with it. Combined with the asset publisher, content can be displayed

on a map showing the end User content that is relevant to their current location.

Additional Features

- Add additional metadata to web content using tags and categories.
- Permission individual web content ensuring the right people have access

Adding tags to web content as well as other assets allows them to be searched easily using Liferay's search. Many other portlets use tags as a means of filtering content. Each piece of content has its own set of permissions that can be configured to control which Roles are able to do what to a specific piece of web content.

1.2.3 Documents and Media

Feature Overview

- Full-feature repository allowing storage and management of files
- Each Site has its own docs and media
- Compatible with other repositories:
 - Sharepoint, Alfresco, Amazon S3, etc.

The Documents and Media portlet is where all files within a Site are stored and managed. The admin of the platform can determine what file types are allowed and what the max file size is. Each Site has its own Documents and Media repository that is independent of other Sites. Other well-known repositories can be integrated into Liferay.

Doc Types

- Document Types add additional metadata to uploaded files.
 - Enables file searching based on metadata
- Folders can be created to contain only a specific document type.
 - Easier to organize different file types

- Folders can have workflow applied to them.

Document Types make it possible to add additional fields (metadata) to a file that is being added. The fields of the document can be configured to be searchable, making it easier to find uploaded files. Adding folders within Documents and Media allows for better organization and control of file management. Folders can be configured to contain only a specific doctype and a workflow can be applied to the folder to ensure that files of a certain type are placed within the folder.

Liferay Sync

- Share files from Documents and Media across different platforms.
- Propagate changes made to a file.

Liferay Sync is Liferay's very own enterprise file "sync and share", allowing files from Liferay to be shared among all different platforms. Changes that are made to a file are propagated across all devices and platforms using Liferay Sync. Liferay's permissioning system is still implemented when Liferay Sync is in use, ensuring that the same security within the platform is applied everywhere.

7.0 Features

- Google Docs
 - Add and access links from Google Docs into Liferay

Files from Google Drive can now be linked into Liferay. Files uploaded from Google Docs into Liferay can be edited within Liferay.

1.2.4 Forms

Overview

Forms are a new Liferay feature used to create forms. These forms can be used to collect information from Users. The collected data can then be exported and analyzed.

Why a new form extension?

- Dynamic Data Lists and Kaleo forms are already Liferay form engines. Forms is different enough that Liferay decided to create a new framework.

Form components

- Forms editor
- Form portlet
- Data providers

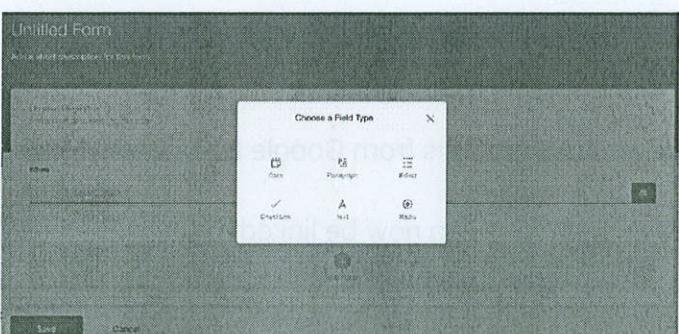
Form portlet

The form portlet displays the form for the end User and allows the end User to fill the form and submit it. The form can be multiple pages long.

Form administration

Allows the administrator to create new forms and also export the results
(Figure 1.15, page 16)

Figure 1.15:

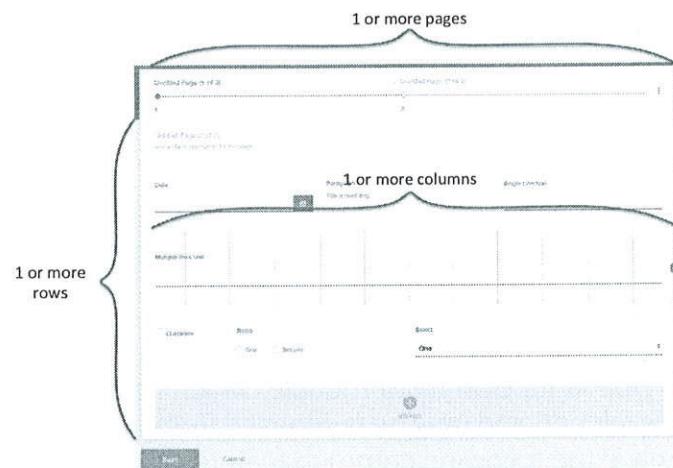


Form editor

(Figure 1.16, page 17)

- The form editor allows you to create multipage forms.

Figure 1.16:

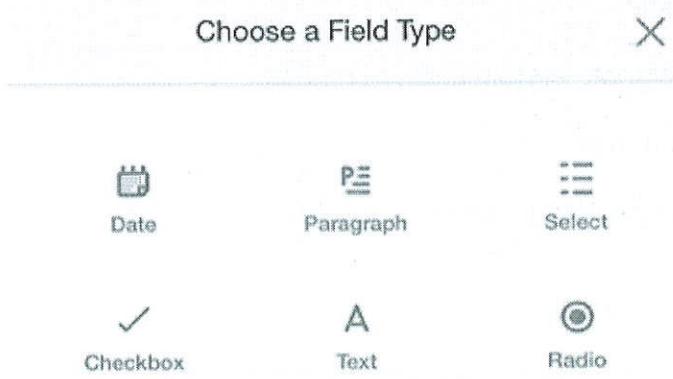


- Form layout is a grid of 12 columns with rows.
- Fields are placed within the grid and can be repeatable.
- A form can be split into multiple pages.

Field types

(Figure 1.17, page 17)

Figure 1.17:



By default there are 6 different field types:

- Checkbox
- Date
- Paragraph
- Radio
- Select
- Text (Single line / multiple lines)

Every field type is its own OSGi module, which means that new field types can be developed and may be purchased from Liferay Marketplace. All field types have the following common features:

- Field visibility
 - Show fields based on conditions met
- Required field
 - Determine which fields are required
- Show label
 - show or hide the label of any field
- Repeatable
 - Designate certain fields to repeat
- Validation rule
 - Provide validation for any field

Form data providers

- Form data providers allow certain form components to connect back-end services to read data. Form data providers are modular extensions, and new extensions can be created. By default, only the REST data provider has been created.

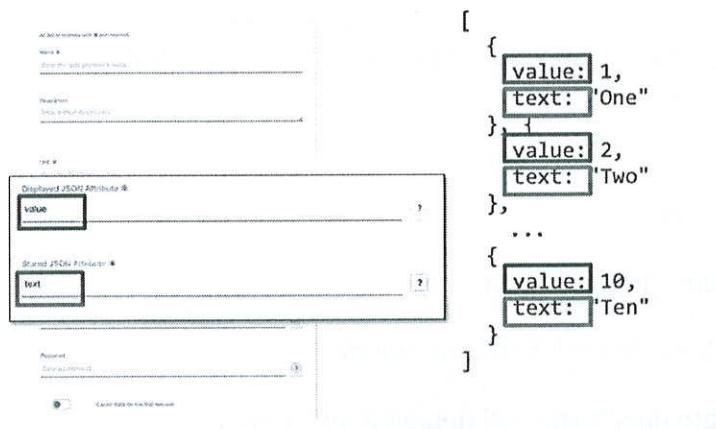
Rest data provider

The REST data provider is able to read information from REST services and is currently only available with Select field types.

The REST data provider has the following fields:

- Name:
 - Name of the data provider that can be seen from the Select list
- URL:
 - URL for the rest data service. REST data services need to return JSON Array. See *(Figure 1.18, page 19)*

Figure 1.18:



- Displayed JSON attribute:
 - Field to be displayed by example Select field type
- Stored JSON attribute:
 - Attribute to be stored in the database with the form field

1.2.5 Hands On Exercise

Create Rest data service

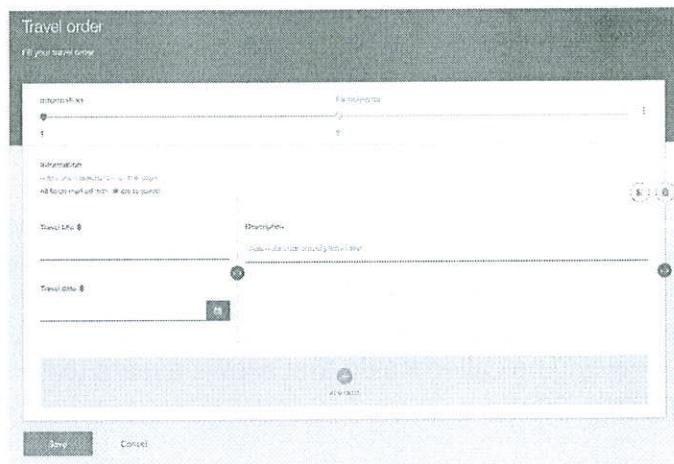
- Go to Site menu and choose Forms

- Click : sign and choose "Data providers"
- Click + sign to create New REST data provider
- Fill the form
- Name: All Users
- URL: `http://localhost:8080/api/jsonws/user/get-company-users/company-id/20202/start/-1/end/-1`
- Displayed JSON Attribute : screenName
- Stored JSON Attribute: emailAddress
- User name: `test@liferay.com` or your administrative User name
- Password: test your administrative User password
- Click Save

Create form

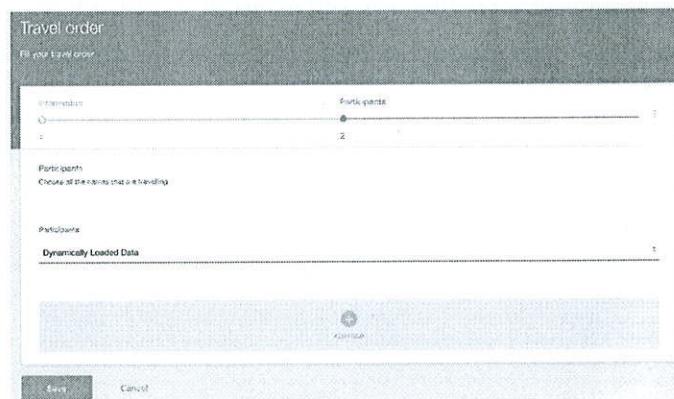
- Go back to the forms
- Click + sign and new form window
- Create new form and design it as follows:
 - Name page 1 *Information*. (Figure 1.19, page 21)
 - Add a Text field type labeled *Travel title* and make it mandatory, single line.
 - Add a Date field type labeled *Travel Date* and make it mandatory.
 - Name page 2 *Participants*. (Figure 1.20, page 21)
 - Add a Select field type labeled *Participants*. Make it mandatory and select the All Users data provider.
 - Click Save to save form.

Figure 1.19:



The screenshot shows a 'Travel order' form titled 'Fill your travel order'. It has two main sections: 'Participants' and 'Travel date'. The 'Participants' section contains dropdown menus for 'Intermediary' and 'Final destination', both currently set to 'None'. Below this is a note: 'Choose all the names that are traveling'. The 'Travel date' section contains a date input field with the value '2016-02-01'. Below this is a note: 'Dynamically Loaded Data'. At the bottom are 'Save' and 'Cancel' buttons.

Figure 1.20:



This screenshot shows the same 'Travel order' form after the user has filled it. The 'Participants' fields now show 'Intermediary' and 'Final destination' as 'None'. The 'Travel date' field shows '2016-02-01'. The 'Participants' dropdown now shows 'Dynamically Loaded Data'. The rest of the interface is identical to Figure 1.19.

Add for the page fill the form

- Create new page called **Travel** and add Form portlet to page.
- Fill the form and Save

Export results

- Go to Site administration and Content and export your data.
- Investigate exported data.

1.2.6 Workflow

Feature Overview

- Series of steps needed to finish a task
- Built-in workflow engine called Kaleo

Workflow is used to control a process from start to finish. There can be any number of people who have to either approve or reject the work (web content, blog post, etc.) that is going through the workflow. Once everyone who is required to approve approves, the process is complete. Liferay has a built-in workflow engine called Kaleo that allows assets to be subjected through a workflow.

Workflow Definition

- Workflow definitions control the direction of the process.
- Workflow definitions specify which Role can approve or reject the steps of the workflow.
- Workflows set for a specific resource have to have a definition.

(Figure 1.21, page 22)

Figure 1.21:

| Resource | Workflow | |
|------------------------|-------------|---|
| Blogs Entry | No Workflow | ⋮ |
| Calendar Event | No Workflow | ⋮ |
| Comments | No Workflow | ⋮ |
| Message Boards Message | No Workflow | ⋮ |
| Page Revision | No Workflow | ⋮ |
| Wiki Page | No Workflow | ⋮ |

The workflow definition defines what the process looks like and what steps need to be taken to complete it. The workflow definition can, for instance, specify who approves and who rejects the content in a workflow. For example, you could make a workflow definition that requires both the Content Reviewer Role and the Content Approver Role to approve what's been put in the workflow. Only after both Roles have reviewed and approved the content can it be marked as finished.

Workflow Scope

- Workflows can be set at the Site level or platform level. (*Figure 1.22, page 23*)

Figure 1.22:

| Resource | Workflow | Actions |
|------------------------|-------------|---------|
| Blogs Entry | No Workflow | |
| Calendar Event | No Workflow | |
| Comments | No Workflow | |
| Message Boards Message | No Workflow | |
| Page Revision | No Workflow | |
| User | No Workflow | |
| Wiki Page | No Workflow | |

- Workflows set at the platform level apply to all Sites.
- Allows for both a general and specific workflow for different assets
- Workflow at the Site level takes priority.

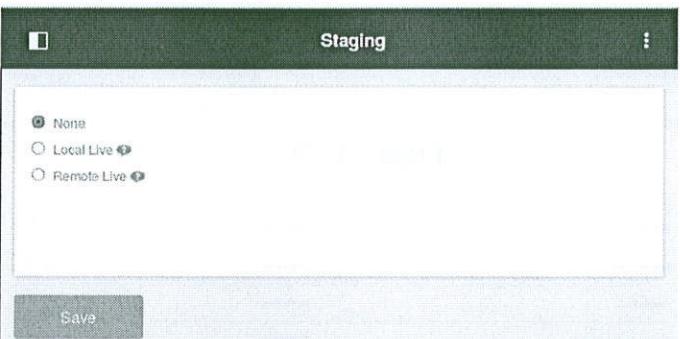
A workflow can be set on specific assets in an individual Site as well as throughout the whole platform. This allows for flexibility—you can set a different workflow on different Sites or set one overarching workflow for a specific asset.

1.2.7 Staging

Feature Overview

- Creates sandbox environment to test changes
- Separate from live environment
 - Local Live
 - Remote Live (*Figure 1.23, page 24*)
- Page versioning creates multiple versions of a page

Figure 1.23:

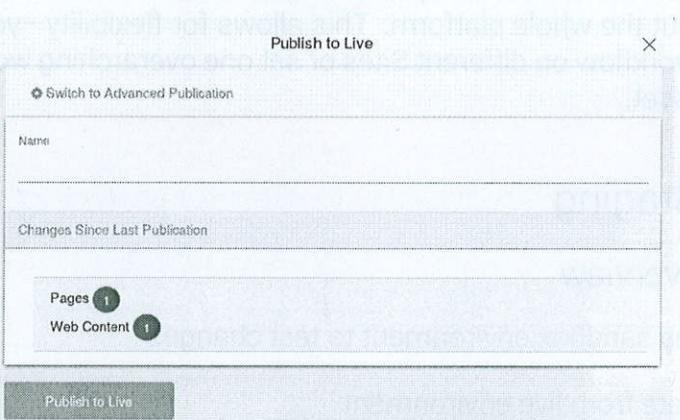


Staging creates a safe environment to add, edit, configure, delete, etc. without affecting the live production Site. There are two separate modes—local live, which places the live version of the Site on the local machine, and remote live, which places the live Site on a remote server. Different versions of a page can also be created to allow working on multiple version of a page without affecting the others.

7.0 Features

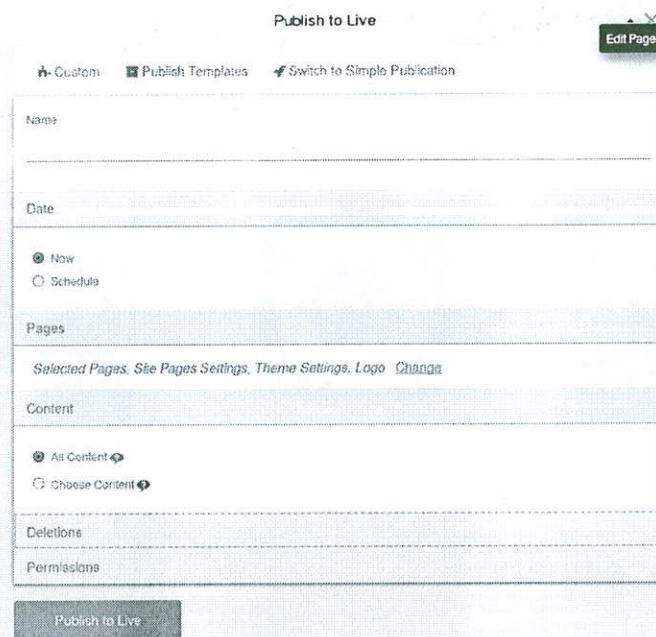
- Simplified Publish to Live (*Figure 1.24, page 24*)

Figure 1.24:



- More options found within advanced configuration (*Figure 1.25, page 25*)
- Save staging configurations

Figure 1.25:



- Multi Step Staging
 - Go from Content Dev to UAT to Prod / Live

In Liferay 7, publishing to live has been simplified. Now, you can push all of the changes in the staged environment to live. This reduces worry about options or configurations. Advanced configuration allows for the possibility of configuring additional options. Staging can also be a multi-step process now. By remote publishing from a "content dev" to a UAT server, you can then publish from the UAT server to production/live.

1.3 Audience Targeting

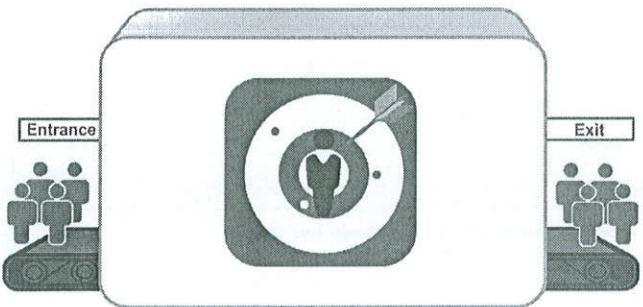
1.3.1 Overview

- Liferay's Audience Targeting allows you to:
 - Divide your audience into User segments
 - Target specific content to different User segments

- Create campaigns for different User segments

(Figure 1.26, page 26)

Figure 1.26:



1.3.2 Classification

Rules

- Audience Targeting provides rules based on a User's Facebook profile, location, device used, and many other pieces of data in order to create User segments.
- "Some of these rules are more static, like gender, but others are more dynamic, like having visited some specific content more than 3 times."

(Figure 1.27, page 27)

User Segments

- User segments allow you to configure your website to display different assets to different Users.
- Users are grouped together based on shared data pulled from multiple locations.
- "With Audience Targeting, our Users, registered or not, can be classified dynamically in User segments, which are created based on the types of rules already mentioned."

(Figure 1.28, page 27)

Figure 1.27:

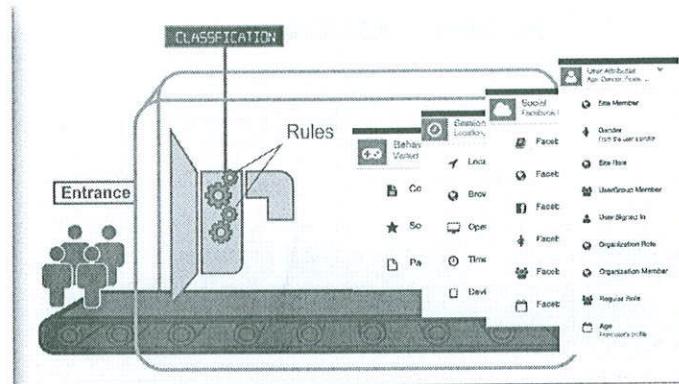


Figure 1.28:

| Audience Targeting | | |
|--|-------------|----------------|
| User Segments | Campaigns | |
| Order by: Modified ... | | |
| Name | Description | Modified Date |
| Men over 40 | | 2 Hours Ago |
| Millenials who use Android | | 22 Minutes Ago |
| Women over 40 | | 21 Minutes Ago |
| Users with Chrome on Linux | | 18 Minutes Ago |
| Ses members who are visiting the site during dinner time | | 18 Minutes Ago |
| Users who have visited the Homepage and viewed the video | | 18 Seconds Ago |
| 20 Entries Showing 1 to 5 of 5 entries | | |

1.3.3 Targeting

- With Audience Targeting, we can create content to target specific User segments.

(Figure 1.29, page 28)

Configuring targeted content

- Content can be tailored to specific User segments. This means that Users in a specific User segment will see content relevant to them.

(Figure 1.30, page 28)

Figure 1.29:

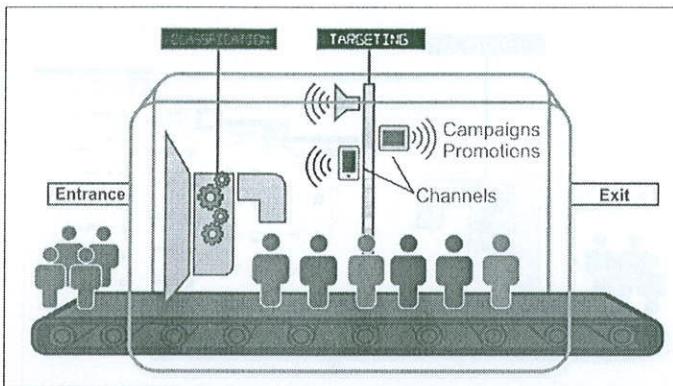
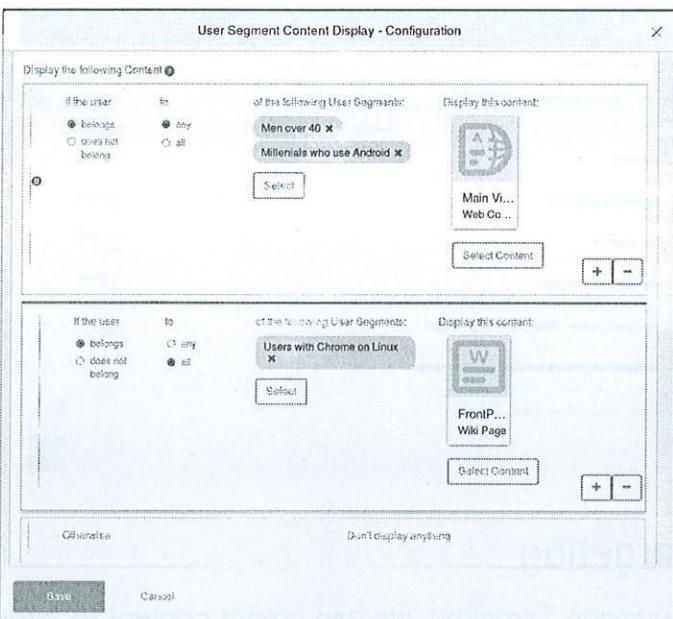


Figure 1.30:



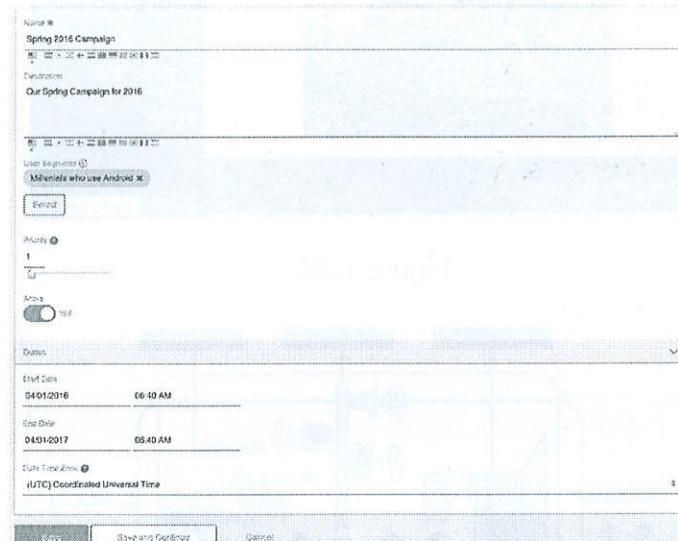
Campaigns

- Campaigns allow you to display specific content to different User segments for fixed periods of time.
- They also allow you to measure the interaction of the targeted User segments with the chosen content.
- Concurrent campaigns can be prioritized configuring their attribute

priority.

(Figure 1.31, page 29)

Figure 1.31:



Simulating User segments and campaigns

- The Audience Targeting Simulator allows administrators to preview the way platform pages appear to different Users.
- It does so by allowing Site administrators to modify the matched User segments or campaigns.

(Figure 1.32, page 30)

1.3.4 Monitoring

- Once the campaign is active, we can set metrics in order to get reports about the behavior of the User segments involved.

(Figure 1.33, page 30)

Figure 1.32:

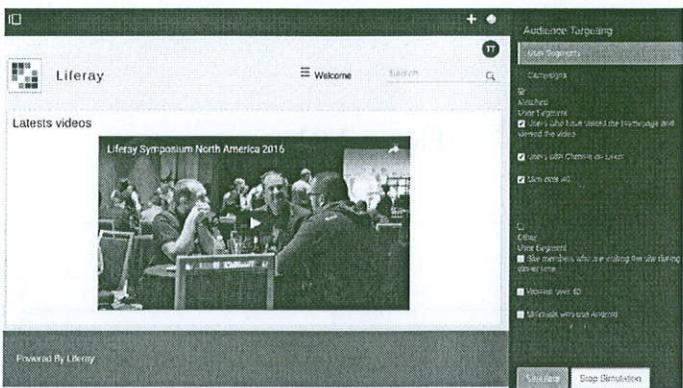
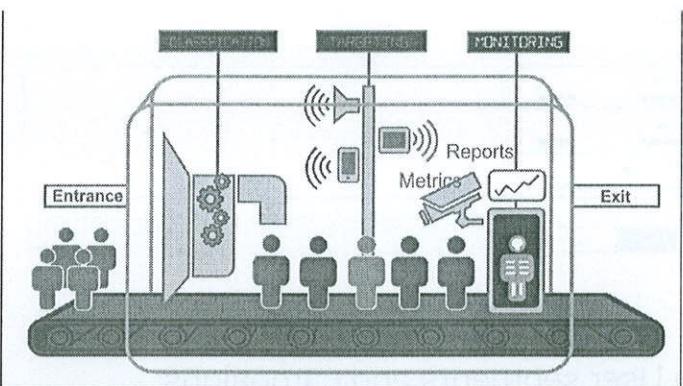


Figure 1.33:



Metrics

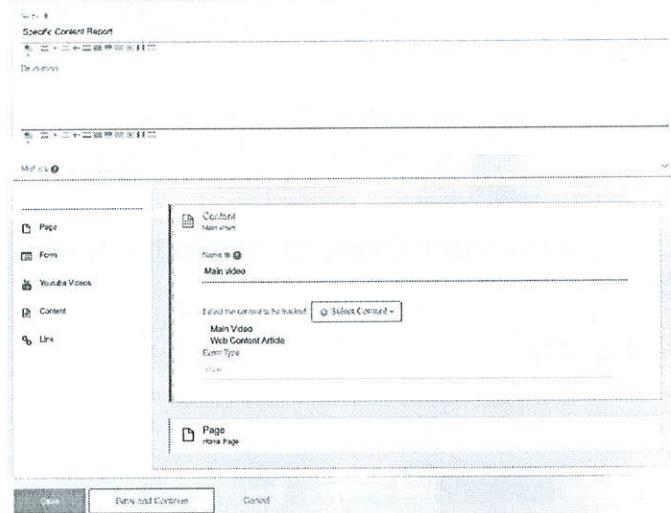
- Audience Targeting allows us to configure metrics about certain Users' actions such as:
 - Whether a video has been watched
 - How many times a link has been clicked
 - How many times content has been viewed

(Figure 1.34, page 31)

Reports

- Once we have our metrics configured, we can obtain data reports.

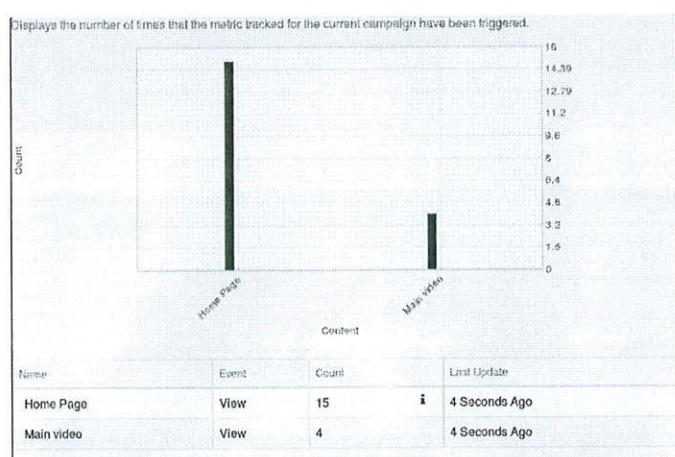
Figure 1.34:



- This information allows you to quickly measure the effectiveness of your campaigns.

(Figure 1.35, page 31)

Figure 1.35:



1.3.5 Summary

- Liferay Audience Targeting allows us to show custom content based on User segments defined by us.
- User segments are dynamic: depending on the behavior of each User, individual Users can be assigned to or unassigned from any User segment we define.
- Audience Targeting keeps tracking on, enabling us to retrieve useful, analyzable information.

(Figure 1.36, page 32)

Figure 1.36:

