



# Building real world solutions with No-Code / Low-Code using Liferay DXP 7.4

*John Paradias*

Liferay Consultant, Technopolis S.A.

# Agenda

- Needs on Business Areas
- Low-Code / No-Code Approach
- Liferay tooling for Low-Code / No-Code
- What if code is needed?
- Main Advantages

# Needs on Business Areas

# Main needs from Business Areas



## Ideation

Needs



Increase selling



Personalized Experiences



Improve Productivity



Unify Legacy Systems



# Main needs from Business Areas



Ideas



Long  
Time-to-Market

Developers



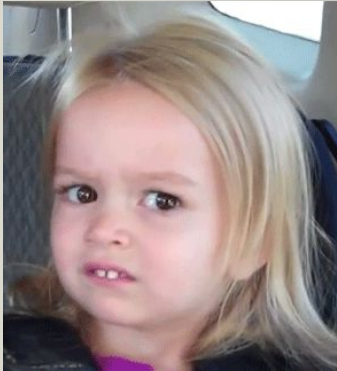
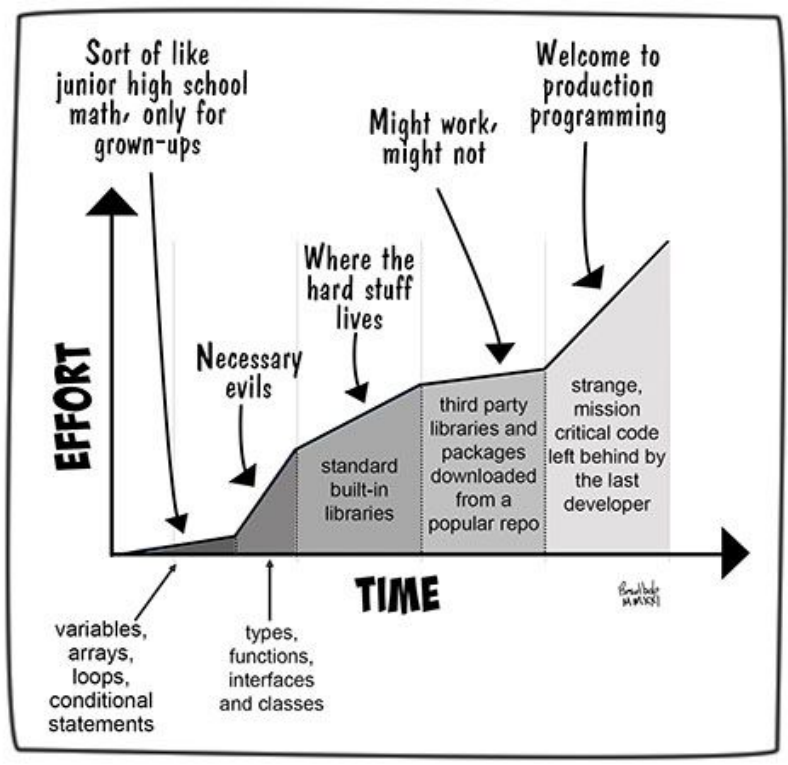
# Must be processed and well understood



## Ideas



# Business Areas to Develop the tools needed?



# Low-Code / No-Code Approach



# Low-Code / No-Code Approach

Extensions in the majority of products are typically coupled with core and mostly through coding.

To decouple extensions from code and to use low-code / no-code when possible to gain maintainability, security and innovation

# What can we expect from Low-Code / No-Code?

When following a Low-Code / No-Code approach, needs can be solved without complex programming and installations



# What can we expect from Low-Code / No-Code?

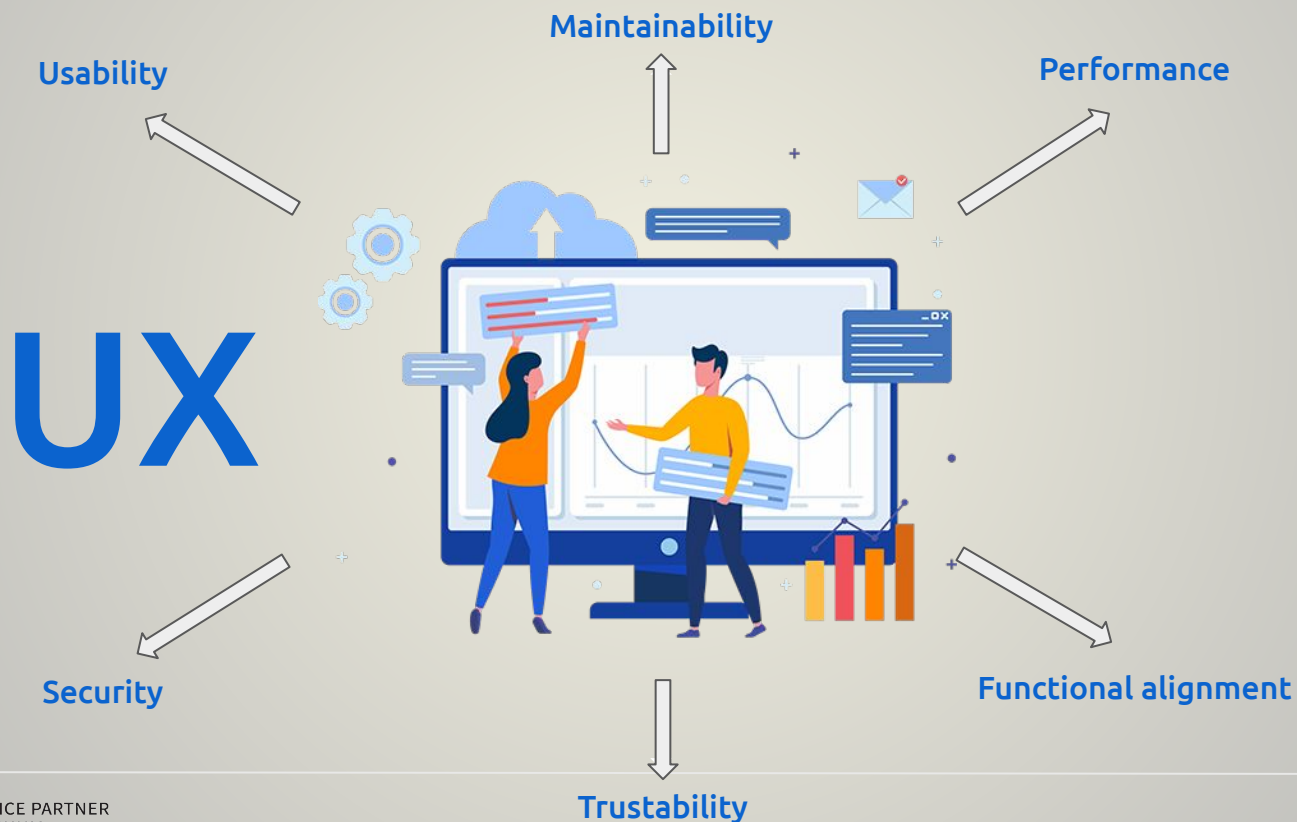
## Low Code

- Implementation is between 10% and 20% faster than in traditional programming languages
- Overall development is less because not all parts of the implementation require it

## No Code

- No code is for business users

# What can we expect from Low-Code / No-Code?



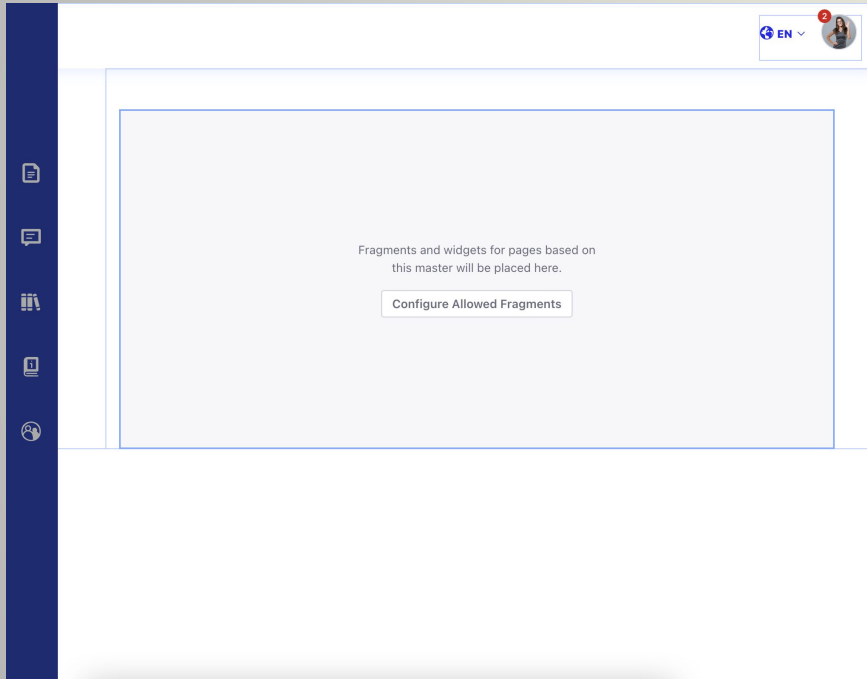
# Liferay tooling for Low-Code / No-Code

# Liferay tooling for Low-Code / No-Code

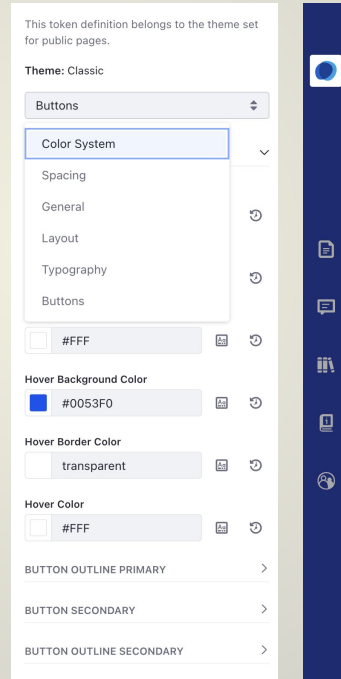
- Experience Management (Master Pages, Style Books, Collections)
- Fragments
- Forms & Workflows
- Search Configuration
- Liferay Objects

# Experience Management

## Master Pages



## Style Books



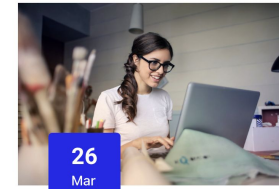
## Collections



**Back-End Development  
with Liferay DXP, Madrid**



**Customize Your Search  
Experience, Madrid**




**the Customer Journey with  
Liferay DXP, Barcelona**



**Frontend Development  
with Liferay DXP, Milano**



# Fragments

One Info Banner (Copy) | Kit de herramientas de fragmentos | 

Código Configuración  Almacenable en caché [Publicar](#)

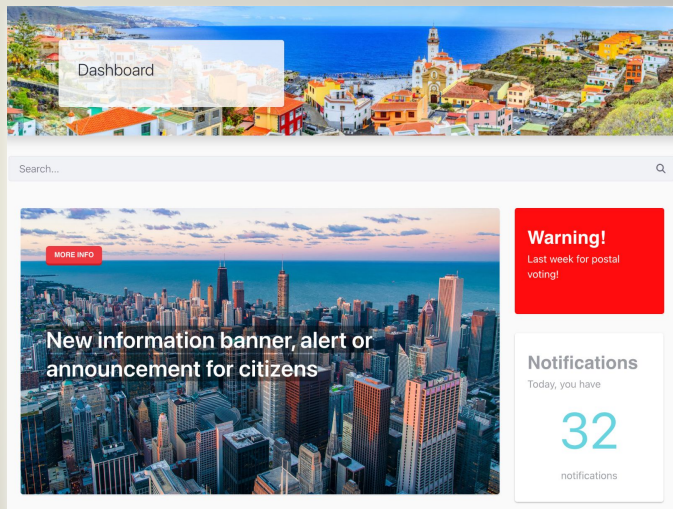
HTML	CSS
<pre>1 &lt;div class="fragment_536846"&gt; 2 &lt;div class="sc_section oib-banner text-white text-break"&gt; 3 &lt;div class="sc_section_overlay style=" padding:40px;"&gt; 4 &lt;div class="sc_section_content"&gt; 5 &lt;lfr-editable id="01-button-oib" type="link"&gt; 6 &lt;a href="#" 7 class="sc_button sc_button_square sc_but 8 &lt;/lfr-editable&gt; 9 &lt;h1 class="sc_title sc_title_regular oib-h1"&gt; 10 &lt;lfr-editable id="01-title-oib" type="rich 11 &lt;/h1&gt; 12 &lt;/div&gt; 13 &lt;/div&gt; 14 &lt;/div&gt; 15 &lt;/div&gt;</pre>	<pre>1 .fragment_536846 {} 2 .oib-banner { 3 background-image: url("data:image/png;base64,iVBORw0KGgoA 4 background-position: center; 5 background-size: cover; 6 border-radius: 4px; 7 box-shadow: 1px 2px #e8eae; 8 } 9 10 .oib-button { 11 color: #ffffff; 12 background-color: #ee3940; 13 box-shadow: 0 3px rgb(208,27,34); 14 } 15</pre>

JavaScript

```
function(fragmentElement, configuration) {
1
}
```

[MORE INFO](#)

**New banner information, alert or announcement for citizens**





# Forms & Workflows

• Basic Information

• Financial Information

• Portfolio Goals

## Let's start with the basics.

Create an account with your email address and a strong password

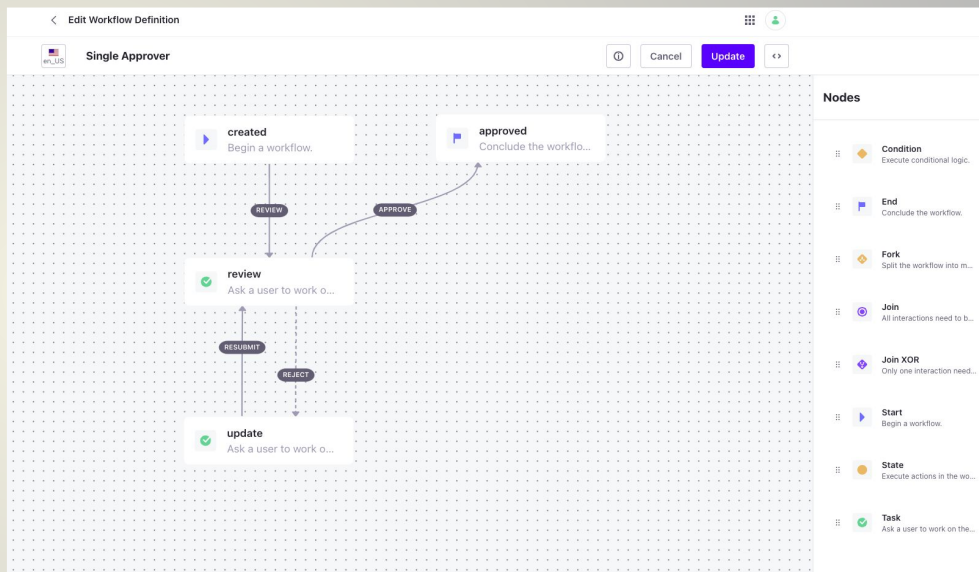
First Name

Last Name

Email Address

Password

Next >



# Search Configuration

**Customize Results**

Active

Cancel Save

**Query**  
liferay

**Aliases**

liferay X

Type a comma or press enter to input an alias.

**Results**

Visible Hidden

Select Items Add Result

- Welcome [Page]  
William Williams - Jan 13, 2022 4:41 PM  
Air Quality Access to real-time data and historical data, daily reports, schedules, graphs, etc. More details ...
- Events [Page]  
admin istrator - Jan 13, 2022 4:03 PM  
Recommended Events NOV 15, 2021 11:43:23 AM Prevent 75% of visitors from...
- News [Page]  
admin istrator - Jan 13, 2022 4:03 PM

**Create Synonym Set**

Broaden the scope of search by treating terms equally using synonyms.

**Synonyms**

tickets X tiquets X

Type a comma or press enter to input a synonym.

Publish Cancel

**Default Search**  
Searching into the entire LiferayCity

Query Builder Configuration

Query Elements Collapse All +

Query Settings

- Boost Tagged Contents**  
Boost contents having at least one of the given tags.  
Asset Tags: [select] X  
Boost: 1
- Boost Tagged Contents**  
Boost contents having at least one of the given tags.  
Asset Tags: [select] X  
Boost: 1
- Hide Tagged Contents**  
Hide contents with a given tag.  
Asset Tag: about
- Limit Search to PDF Files**  
Limit the search to PDF files, as recorded in the mimeType field.
- Hide Users**  
Do not search for users.  
JSON:

```
1 {
2   "description_line": {
3     "en_US": "Do not search for users."
4   },
5   "elementDefinition": {
6     "category": "hide",
7     "configuration": {
8       "queryConfiguration": {
9         "queryTypes": [
10          {
11            "clauses": [
12              {
13                "context": "query",
14                "operator": "filter",
15                "query": {
```
- Hide Comments**  
Do not search for comments.
- Hide Hidden Contents**  
Hide assets which are marked not searchable. This Element duplicates the functionality of a Liferay Search Framework query clause.
- Limit Search to Published Contents**  
Limit the search to contents that are published.
- Limit Search to These Sites**  
Limit the search scope to the given sites.

Group IDs: 39602 X 46872 X

**Services Configuration**  
No Description

Query Builder Configuration

Query Elements Collapse All +

Query Settings

- Limit Search to PDF files**  
Limit the search to PDF files, as recorded in the mimeType field.
- Boost All Keywords Match**  
Boost contents if the search keywords match in the given fields.  
Field: localized\_title User's Language 2 X  
content User's Language 1 X  
Match Type: Best Fields  
Boost: 10  
Text to Match (Optional):
- Boost Tags Match**  
Boost contents with an exact keyword match to a tag.  
Boost: 40
- Filter by Exact Terms Match**  
Filter results by one or multiple terms. At least one must match.  
Field: assetCategories  
Values: 43743 X
- Limit Search to Published Contents**  
Limit the search to contents that are published.
- Limit Search to the Current Site**  
Limit the search to the current site.

# Showing Records

Event Registrations

Filter Search

ID	Company ↑↓	Email ↑↓	First ↑↓	Job title ↑↓	Last ↑↓	Telephone ↑↓	Status	Author	
54468	Liferay	jsmith@liferay.com	Jane	Sr Sales Engineer	Smith	432617289	APPROVED	William Williams	
54470	Liferay	sanderson@liferay.com	Sophia	Support	Anderson	456378290	APPROVED	William Williams	
54472	Animals	kperry@testing.com	Katy	HR	Dog	987604983	APPROVED	William Williams	
54474	M&Ms	arambo@think.com	Aurelio	Director	Rambo	0	APPROVED	William Williams	

20 items Showing 1 to 4 of 4

# Liferay Objects

## Objects & Field definition

ATTENDEE

First \* Last \*

Jane Smith

email \* Telephone

jsmith@liferay.com 432617289

company \* Job title \*

Liferay Sr Sales Engineer

Event

Product Design Bootcamp Info

Save Cancel

# Permissions

Site Procedure Reviewer

Details Define Permissions

event

Summary

Site and Asset Library Administration

Content & Data

Event Registrations

Events

Applications

Event Registrations

Event Registrations

GENERAL PERMISSIONS

- Action
- Access in Site and Asset Library Administration
- Add to Page
- Configuration
- Permissions
- Preferences
- View

RESOURCE PERMISSIONS

EVENT REGISTRATIONS

- Action
- Add Object Entry
- Permissions

EVENT REGISTRATION

# Headless (Rest & GraphQL)

Liferay API Explorer

REST Applications Headers GraphQL

Object <sup>NEW</sup> <sup>CRUD</sup>

http://localhost:8080/ocw/registrations/openapi.json

Servers

http://localhost:8080/ocw/registrations/

EventRegistration

- DELETE /scopes/{scopeKey}/by-external-reference-code/{externalReferenceCode} deleteScopeKeyByExternalReferenceCode
- GET /scopes/{scopeKey}/by-external-reference-code/{externalReferenceCode} getScopeKeyByExternalReferenceCode
- PUT /scopes/{scopeKey}/by-external-reference-code/{externalReferenceCode} putScopeKeyByExternalReferenceCode
- GET /scopes/{scopeKey} getScopeKeyPage
- POST /scopes/{scopeKey} postScopeKey
- DELETE //{eventRegistrationId} deleteEventRegistration
- GET //{eventRegistrationId} getEventRegistration
- PATCH //{eventRegistrationId} patchEventRegistration
- PUT //{eventRegistrationId} putEventRegistration

# Liferay Objects

## Actions

**Trigger**

When

**Condition**

Enable

Add an Object Entry  
Add entry on related or unrelated objects.

Notification  
Send a notification template.

Update an Object Entry  
Update the current object entry.

Webhook  
Trigger a webhook with a payload.

**Action**

Then

## Relations

**New Relationship** ✕

**Label \***

**Name \***

**Type \***

One to Many

**Object \***

Choose an Option

- Raylife Goal CUSTOM
- Raylife Policy CUSTOM
- Raylife Quote CUSTOM
- Raylife Sales Goal CUSTOM
- Commerce Order SYSTEM
- User SYSTEM
- PTO Request CUSTOM
- Quote Comparison CUSTOM
- Quote Retrieve CUSTOM

## Direct Execution of Actions

Open	<span>⋮</span>
Reviewed	<span>👁</span> View
Close	<span>🗑</span> Delete
	Permissions
Open	Close

## Managing States & Validations

**Select the State Flow**

State Name	Next Status
Bound	Incomplete <span>✕</span> Rejected <span>✕</span> Quoted <span>✕</span> Open <span>✕</span> Reviewed <span>✕</span> Underwriting <span>✕</span>
Incomplete	Bound <span>✕</span> Rejected <span>✕</span> Quoted <span>✕</span> Open <span>✕</span> Reviewed <span>✕</span> Underwriting <span>✕</span>
Rejected	Bound <span>✕</span> Incomplete <span>✕</span> Quoted <span>✕</span> Open <span>✕</span> Reviewed <span>✕</span> Underwriting <span>✕</span>
Quoted	Bound <span>✕</span> Incomplete <span>✕</span> Rejected <span>✕</span> Open <span>✕</span> Reviewed <span>✕</span> Underwriting <span>✕</span>
Open	Bound <span>✕</span> Incomplete <span>✕</span> Rejected <span>✕</span> Quoted <span>✕</span> Reviewed <span>✕</span> Underwriting <span>✕</span>
Reviewed	Bound <span>✕</span> Incomplete <span>✕</span> Rejected <span>✕</span> Quoted <span>✕</span> Open <span>✕</span> Underwriting <span>✕</span>
Underwriting	Bound <span>✕</span> Incomplete <span>✕</span> Rejected <span>✕</span> Quoted <span>✕</span> Open <span>✕</span> Reviewed <span>✕</span>

# Integration with Liferay Forms & Fragments

## Form and presentation

**Sign up for a specific event!**

\* Indicates Required Fields

First name \*  Last name \*

Email \*

Job title \*  Telephone


Company \*

[\\* Select Form](#)

Event Registration William

### Attendee details

Event		Project Manager Certification Info	
First name	Katy	Last name	Dog
Job title	HR	Company	Liferay
Email	kperry@testing.com	Telephone	987604983



# Complete Application

Dashboard Data Objects

Search

## Data Storage & Publication

ID	Label
52613	North
52615	North West
52617	North East
52619	Center
52621	South
52623	South West
52625	South East

Impactful Data from Specific Areas

Specific data for each area

Area	Data Points (OMDP)
North	400K
North West	400K
North East	280K
Center	250K
South	150K
South West	180K
South East	150K

Reservations center

Search

## Management

ID	Author	Center	Room	Date
186232	William Williams	Business School	Coordination activities room	Feb 2, 2023
162572	William Williams	Foundation Vocational Training Center	Library	Dec 15, 2022
158503	William Williams	Fundación Centro de Formación Profesional	Aula de actividades de coordinación	Dec 15, 2022
150306	Sophia Smith	Foundation Vocational Training Center	Classroom orientation	Nov 23, 2022
149672	William Williams	Foundation Vocational Training Center	Staff room	Nov 25, 2022
145357	William Williams	Foundation Vocational Training Center	Classroom orientation	Oct 28, 2022

Traffic Tickets

Search

## Application Logic

ID	Car Registration Number	Reason for Traffic Violation	Amount	Discount for Prepayment	Traffic Violation Address
161262	4536hjk	Speed	100	10	280 Castellana Street, 28046 Madrid
167416	1234opt	Traffic Light	500	5	280 Castellana Street, 28046 Madrid

20 items • Showing 1 to 2 of 2

Meeting room reservation

Date

Make a reservation

- Traffic Ticket Data  
Please, look for a traffic ticket providing the registration number of your vehicle and Traffic Ticket registration number  
   
[CONTINUE](#)
- Traffic Ticket Information Confirmation
- Payment
- Payment Confirmation
- Receipt  
Final step

# Liferay Objects: Some real examples

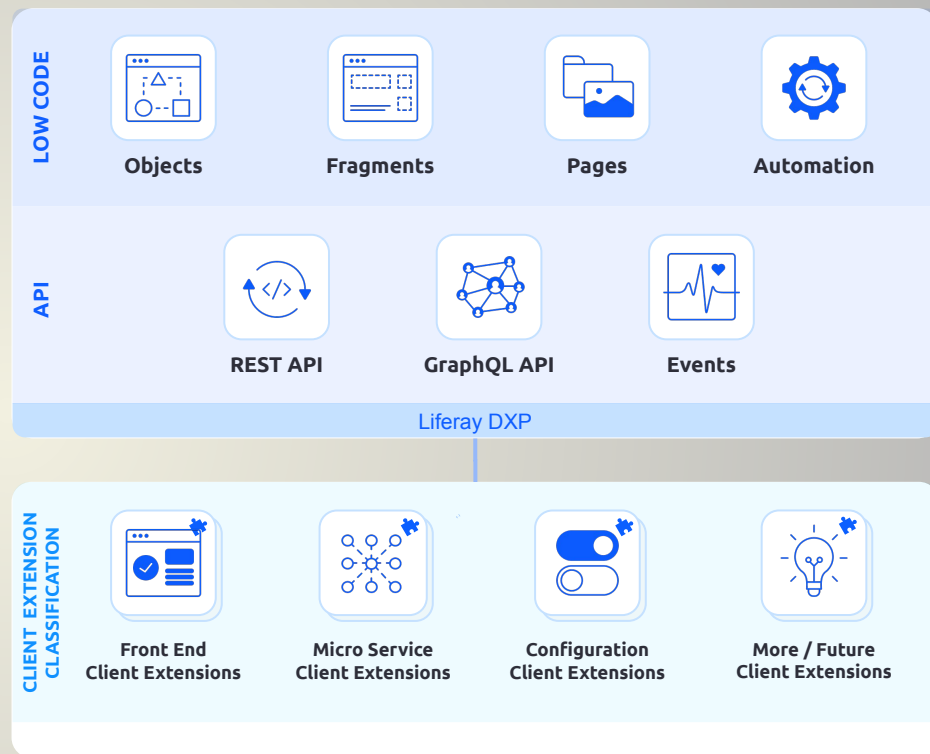
- Ticketing system on private sites
- Modeling events and their subscription
- To manage offerings / projects and their associated entities
- External entities to be synchronized with Liferay (ex. CRM, ERP, ...)
- Insurance policies, quotations, etc.
- Asking for Services
- Etc.

What if code  
is needed?



# Client Extensions

Provides the **key customization capabilities** needed to meet highly specific business requirements, **without modifying Liferay**



# Main Advantages

# Main benefits of new Development Approach



**Improve  
Time To Market /  
Time To Value**



**Decrease  
development  
times**



**Easier to find  
Developer  
Profiles**



**Savings and  
simplification**



Building real world solutions with  
No-Code / Low-Code using Liferay DXP 7.4

*Thank you!*