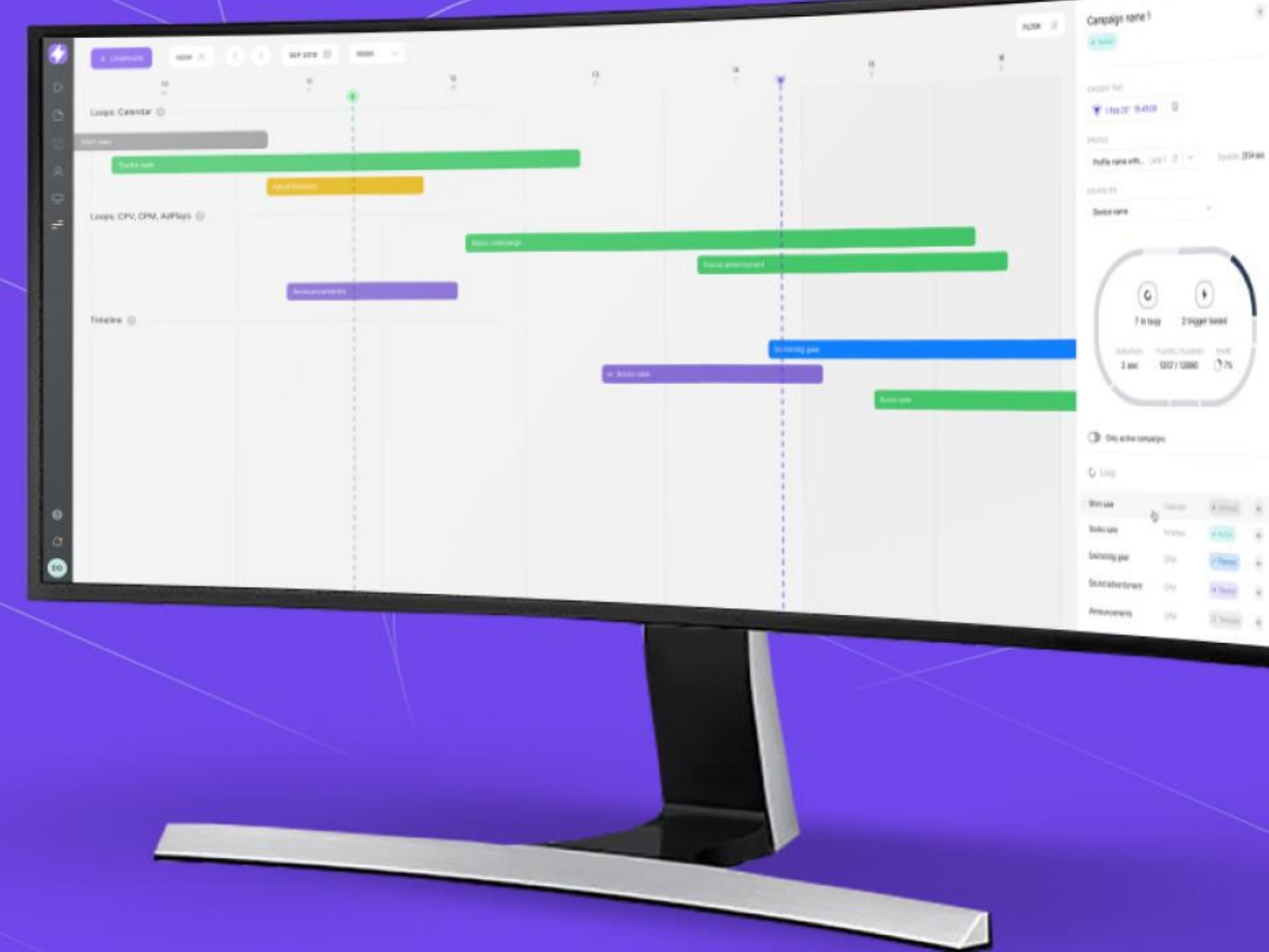




**Revenue boosting
and DOOH advertising
automation for retail
media and ad
networks**



Contents

01

All components for retail media in one platform

02

Schedule and automate your own marketing

03

Automate direct ad sales, price management, reporting

04

Maximize ad revenue with self-service programmatic ads

05

All necessary reports for ad sales and audience analysis

06

Save budget with a no-code visual editor

07

Control and manage your hardware network with real-time monitoring

08

Play on any digital surface, even on self-service POS, scales, or kiosks

09

Appendix: technical requirements, features for enterprises, architecture



Full #AdTech stack for retail media

Marketing Content Management

Direct Ads Sales automatization

Self-service portal by your Brand

Demographic targeting

Audience-based Campagins

Programmatic ad selling

Hyper-local GEO targeting

Audience analytics

Yield management

Ad reports automation

Visual template editor

Interactive kiosks

Cross-channel inventory

Network IoT management

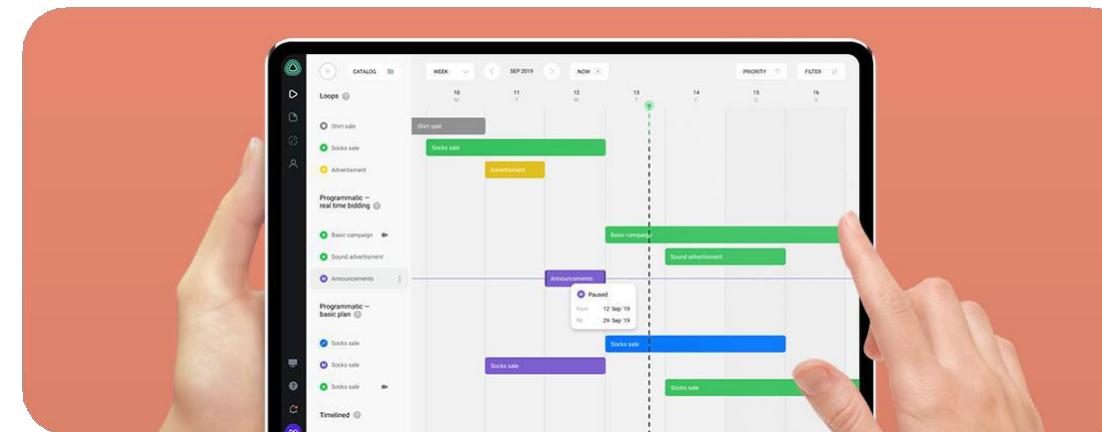
All components in one platform

The platform takes a unique approach, employing ground-breaking technological innovations to break down barriers that until now have made digital out-of-home a time-consuming medium to manage.



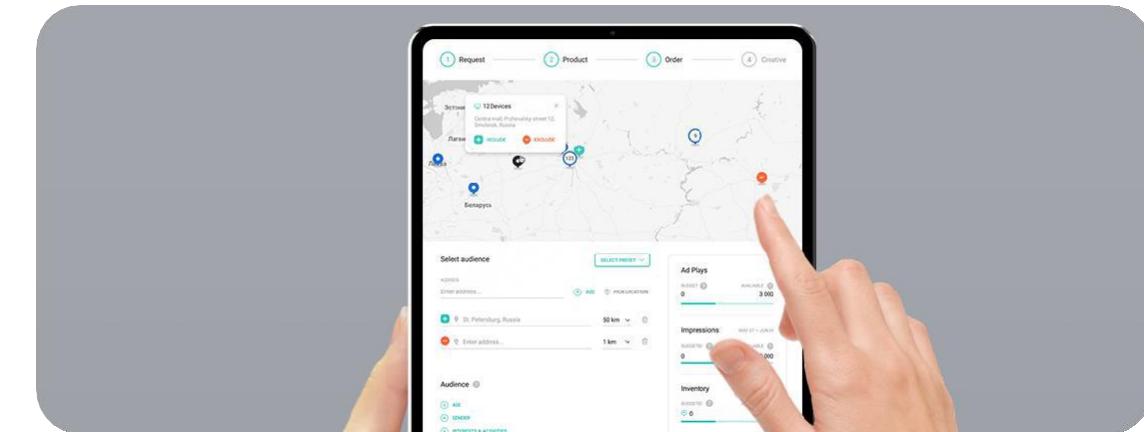
1. Know your audience

GDPR-compliant tool for customer tracking and audience analytics



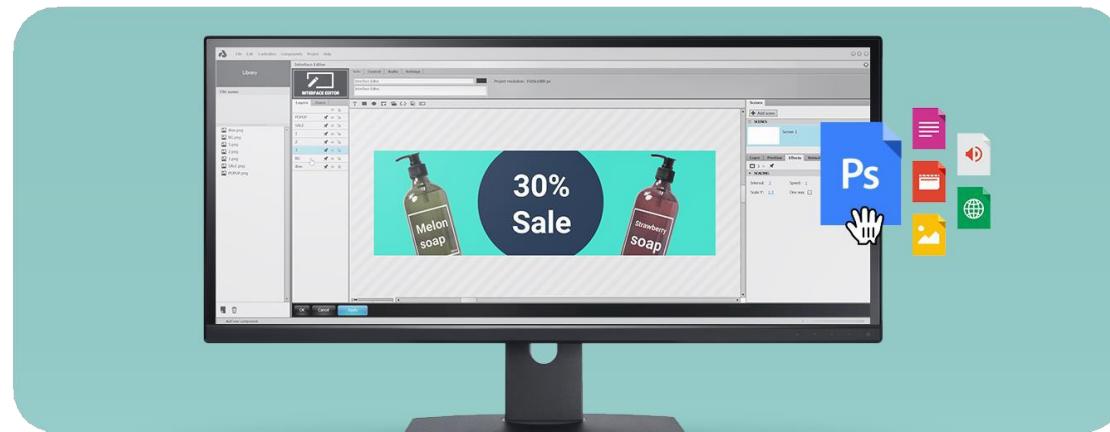
2. Be relevant

Media planning tool with campaigns management based on real audience



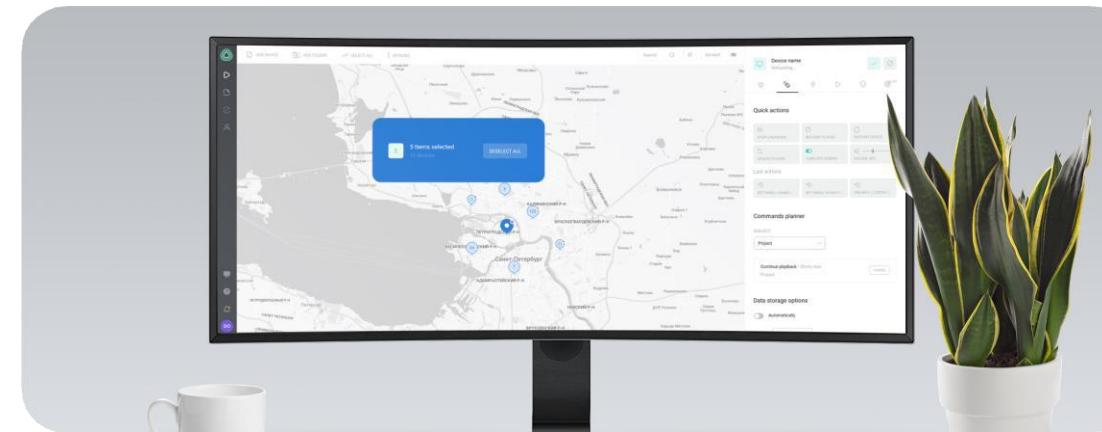
3. Maximize your ROI

Access to SSP and DSP extensions for selling programmatic ads



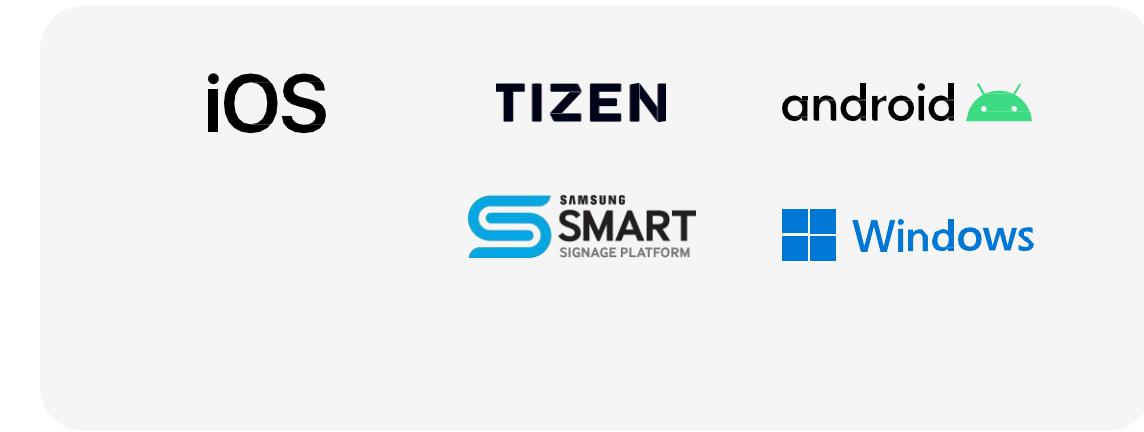
4. Reduce costs

Visual designer tool for content creation and integration without coding



5. Be sure it works

Infrastructure management and control of IoT network with real-time monitoring



6. Connect any channels

Cross-platform SW players for audio, video and interactive broadcasting

Sell to up to 100% of your audience with AI and new #AdTech

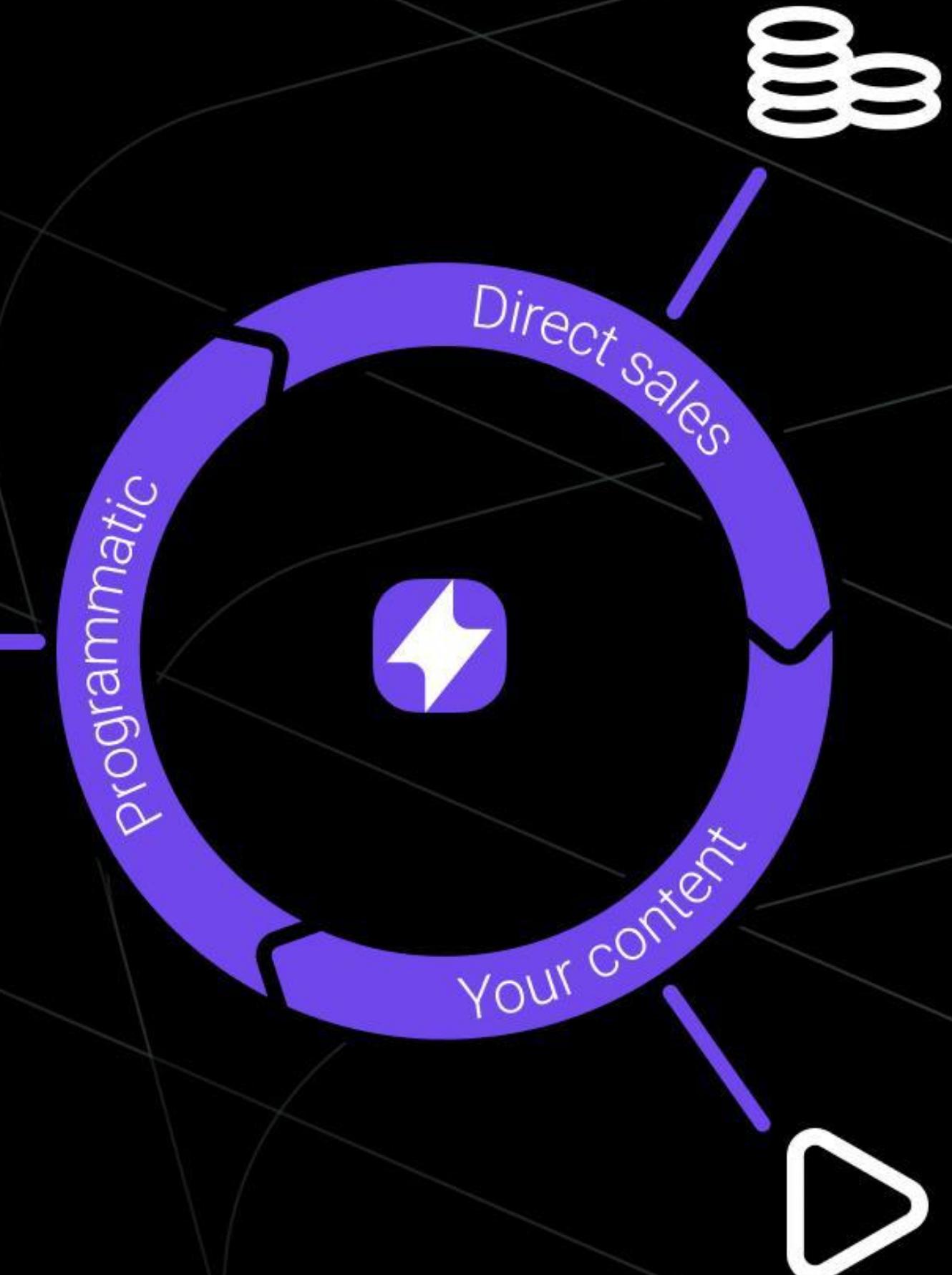
 Marketing Content Management
and Network Health Manager

 Programmatic Sell-Side Platform
and Demand-Side Platform

External DSPs
& Agencies

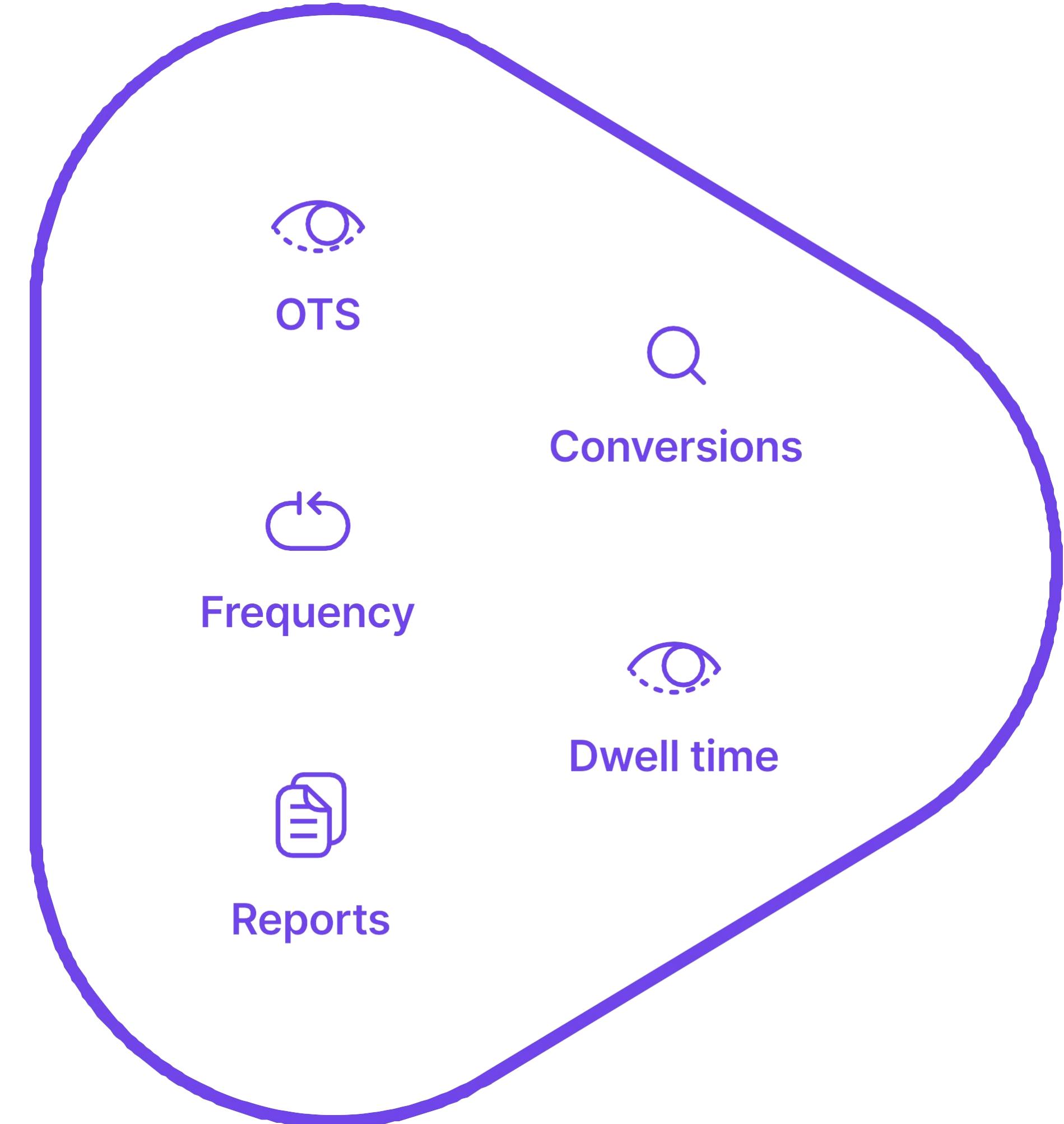
DISPL Ads

Self-service
DSP on your
website



Advertisers require metrics for performance

Now you can provide them with accurate
and confirmed numbers in real time.



What will advertisers pay for?

DISPL CMS and the DISPL Ads platform help to maximize ad network revenue and optimize the budget of ad campaigns based on the chosen models.

01

Calendar

Guaranteed ads from date to date with a fixed price

02

AdPlays

Cost per 1000 ad plays

03

CPM

Cost per 1000 impressions

04

CPV

Cost per targeted contact



Confirmation of contact with face recognition technology

Sell what they want to buy

Priority ↑

1



Campaigns
in loops

Calendar campaigns

Direct with fixed price

2



AdPlays, CPM, CPV

Programmatic direct with
fixed or auction

3



AdPlays, CPM, CPV

Programmatic Ad Exchange with open auction (OpenRTB SSP).

4



Timeline
(filters)

Media plan priority

Campaigns are guaranteed to be played back in the highest priority according to the media plan rules.

Campaign 1

Campaign 2

The higher the bid, the more likely that ad will play in the loop. The algorithm calculates a single impression price among all models for selecting the winner.

Campaign 3

\$ 5 per 1000 plays

Campaign 4

\$ 2 per 1000 impressions

Campaign 5

\$ 0.1 per view

If bids are equal or zero, campaigns will be played according to the priority setup in the media plan.

Campaign 6

Campaign 7

The higher the bid, the more likely the ad will be played in the loop. The algorithm calculates a single impression price among all models for selecting the winner.

Campaign 8

\$ 5 per 1000 plays

Campaign 9

\$ 2 per 1000 impressions

Campaign 10

\$ 0.1 per view

Playlists will play according to the priority setup in the media plan.

Campaign 11

Campaign 12

Campaign 13



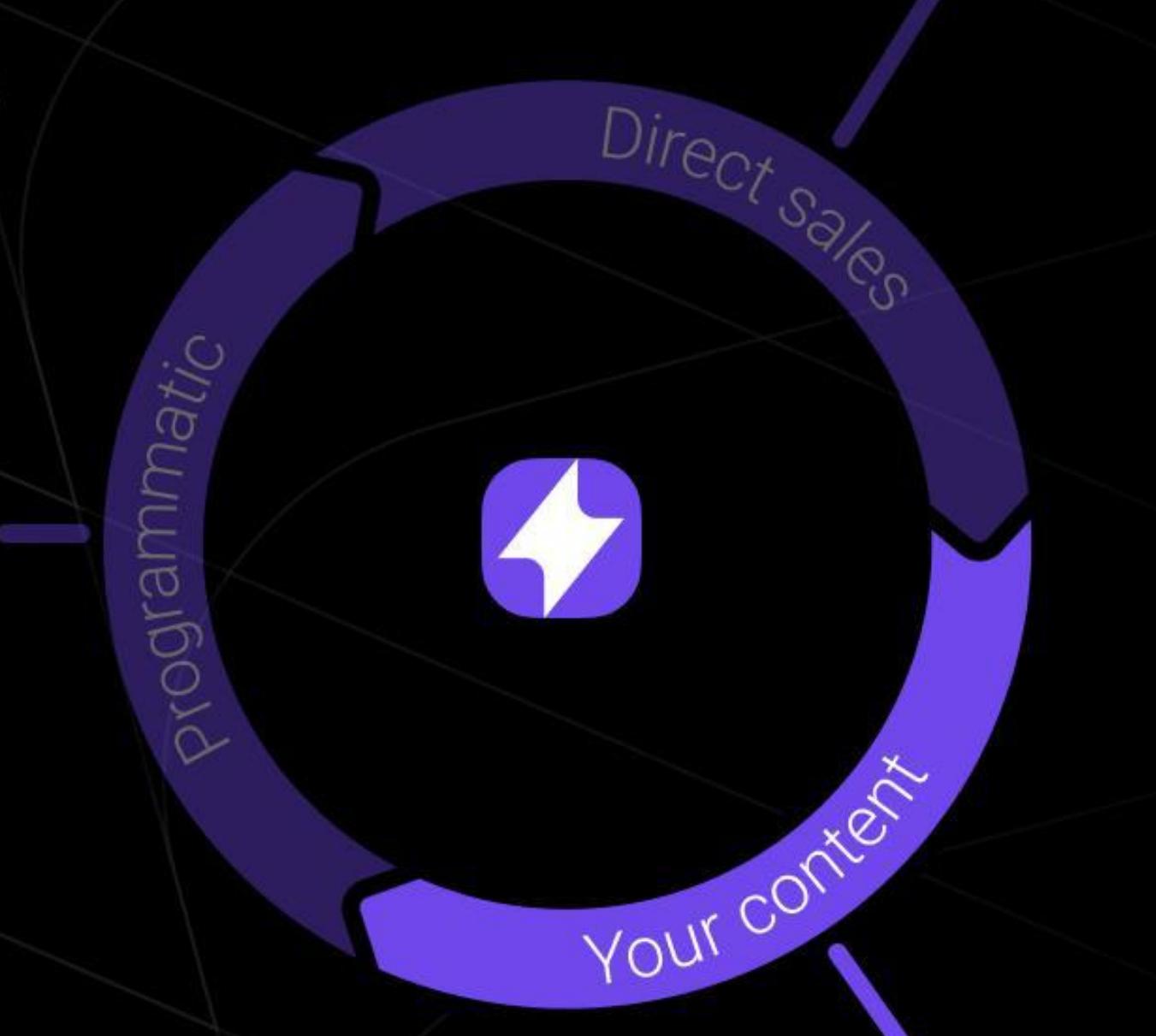
Marketing Content Management

**Schedule and
automate your own
marketing through
any touchpoint**

External DSPs
& Agencies

DISPL Ads

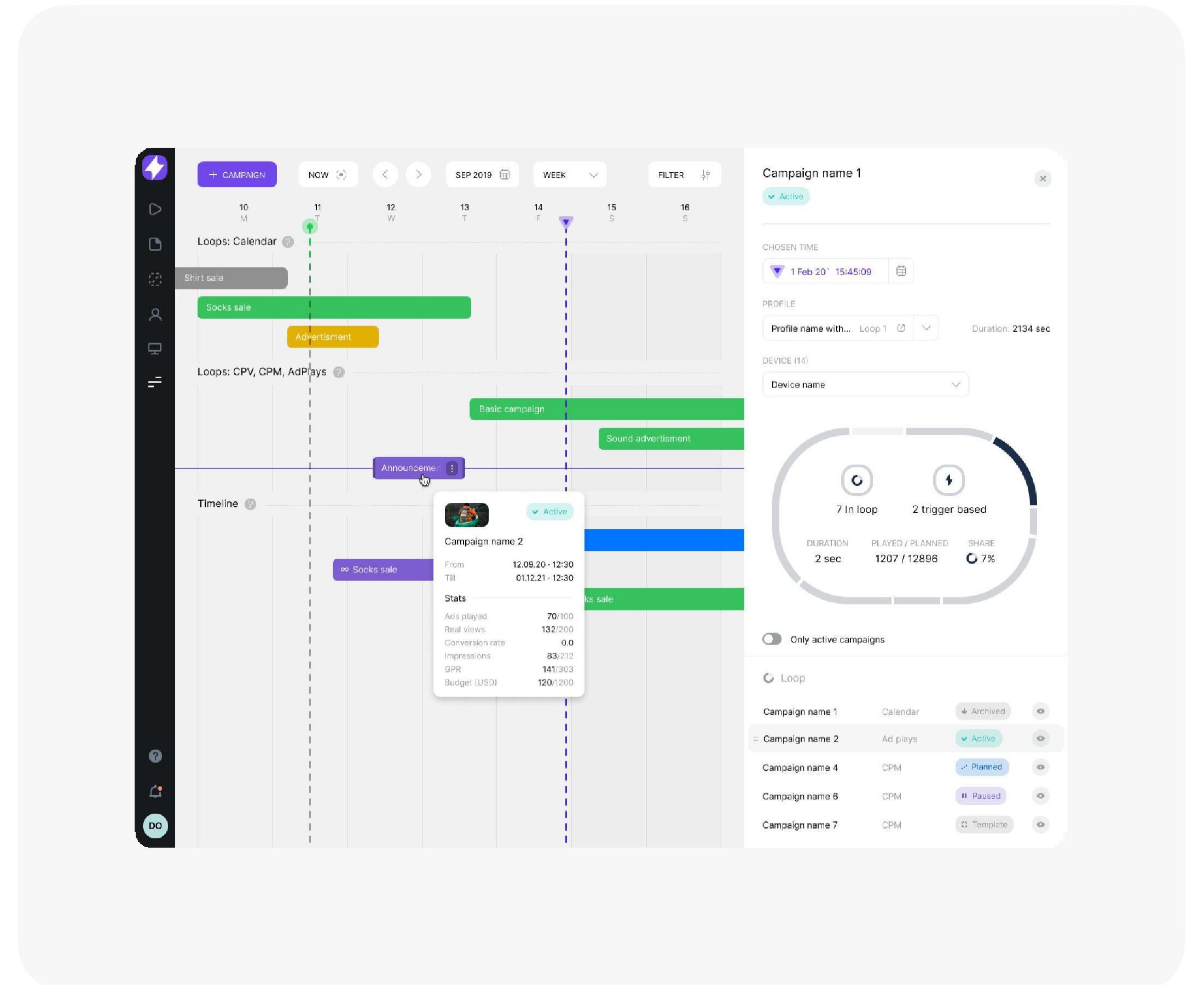
Self-service
DSP on your
website



Marketing Content Management

Save 90% more time with centralized content management

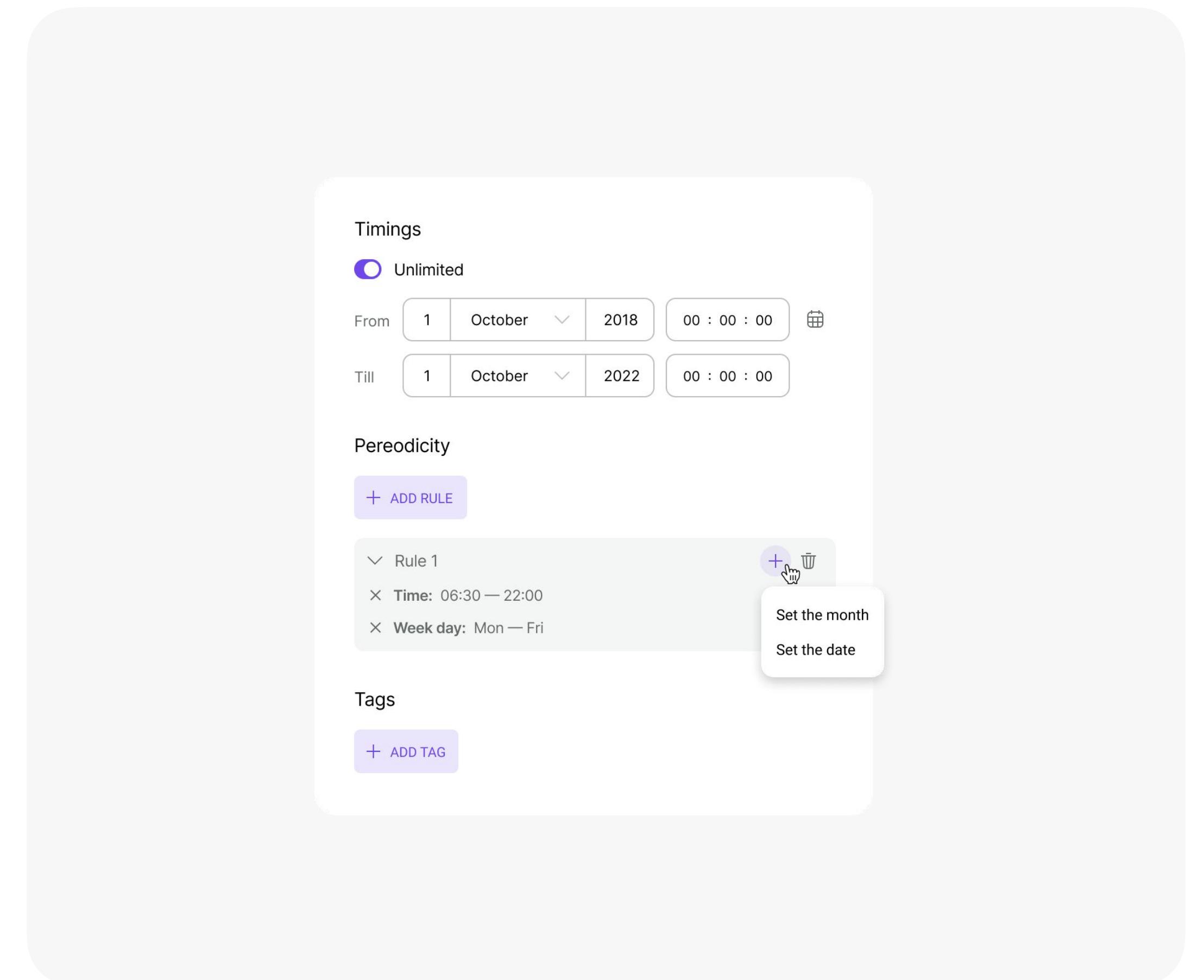
- _MEDIA_ Media on any digital screen
- _MUSIC_ In-store background music
- KIOSK Dynamic & interactive content on kiosks



Marketing Content Management

Automate schedule with flexible rules

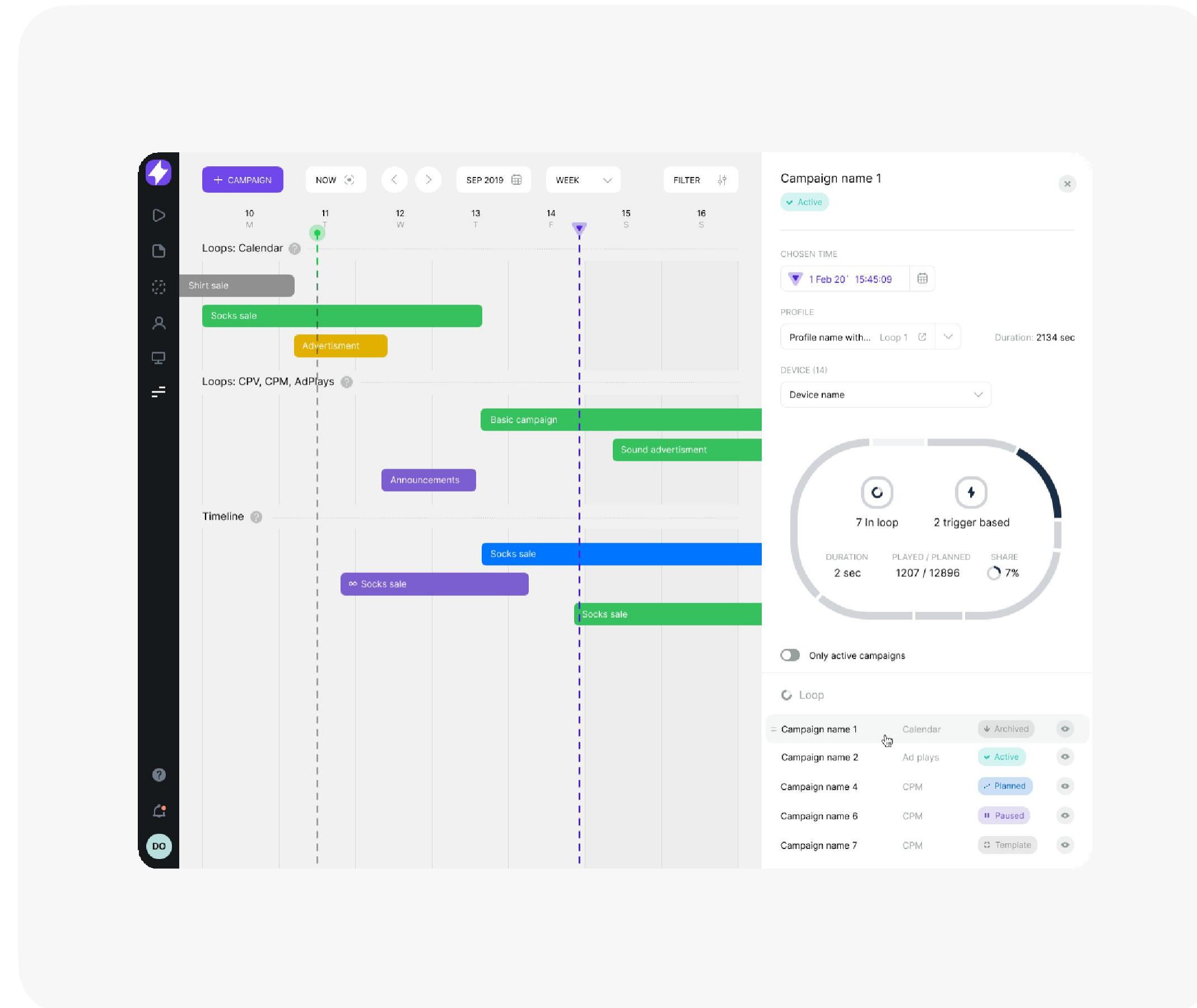
- 📅 At the right time and dates
- ⌚ By triggers from CRM, POS, etc.
- 👤 By attributes of audience in front of the screen



Marketing Content Management

Keep control with an interactive schedule

- ⌚ Dynamic visual charts
- 🕒 Zoned timeline
- 📝 Planning system



Marketing Content Management

Targeted rule-based automation

Set the rules and the broadcast points
will be selected automatically.



Marketing Content Management

Visual template editor

Reduce costs with auto-generated content

- Animated template library
- Visual template editor
- Data from E-com, RSS, JSON, XML, etc.

Headphones with active noise suppression

Special price

\$ 135 ~~\$ 220~~

Database





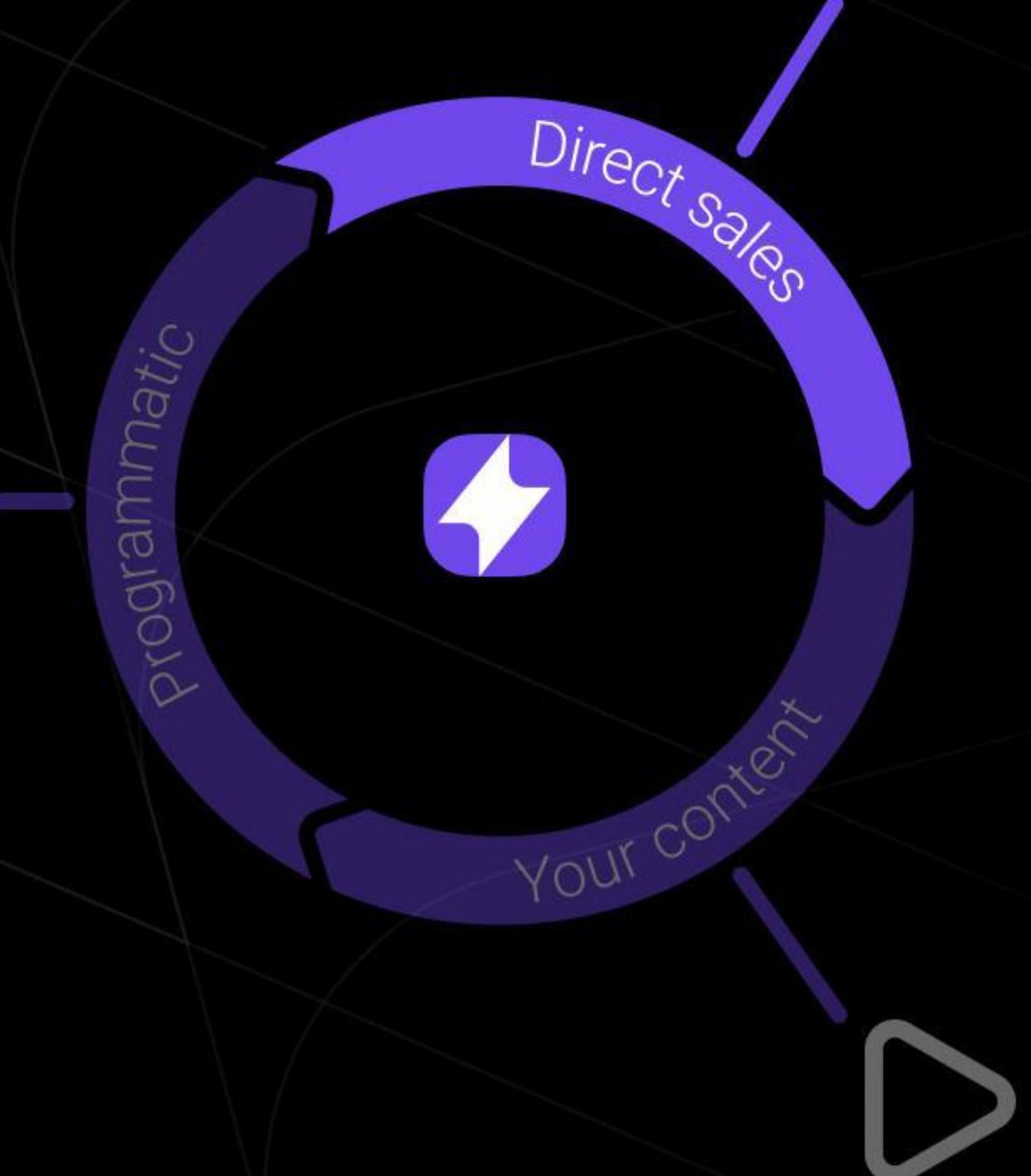
Direct ad sales automatization

Automate direct ad sales, price management, reporting processes

External DSPs & Agencies

DISPL Ads

Self-service DSP on your website



Use audience and time-based selling models for 100% sell-out

- ⌚ Fixed or flexible loops
- _LOOP Direct & programmatic selling models
- ⌚ Performance marketing targets

Direct ad sales automatization

Audience-based Campaigns

The screenshot displays a user interface for managing advertising campaigns. At the top, there are buttons for 'CAMPAIN' (with a delete icon), 'CREATE FOLDER' (with a folder icon), and 'CREATE FOLDER' (with a folder icon). On the right, there are 'SORT BY' and 'FILTER' dropdowns. The main area shows various campaign options:

- Basic broadcasting for the main content:** Includes 'Video playlist' (Image and video playback), 'Audio playlist' (Music and other sound files playback), and 'From a template' (Playback of your or template from our library).
- Ads in Dynamic loops that inserted in the basic broadcasting (Beta):** Includes 'Calendar advertising' (Classical ad broadcasting according to the set period) and 'Goal: number of shows (Ad Plays)'.
- Programmatic Ads in loops based on audience data that inserted in the basic broadcasting (Beta):** Includes 'Goal: number of impressions (CPM)' and 'Goal: number of guaranteed views (CPV)'.
- CLOTHING CAMPAIGN (NOT ACTIVE):** Shows a woman in a yellow dress.
- SUNGGLASSES ADVERTISEMENT CAMPAIGN (1 OCT - 20 DEC):** Shows two women wearing sunglasses.
- NOT READY CAMPAIGN (1 OCT - 20 DEC):** Shows a grid of colored bars (yellow, cyan, green, magenta, red, blue, black).
- NEW CAMPAIGNS (23 CAMPAIGNS):** Shows a woman's face.
- MY NEW FOLDER (0 CAMPAIGNS):** Shows a grey folder icon labeled 'M'.

A vertical sidebar on the left contains icons for navigation: a play button, a folder, a person, a search bar, a camera, a gear, and a bell. A 'DO' button is located at the bottom of the sidebar.

What kinds of targeting are available?

Demographic targeting

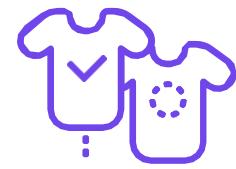
Hyper-local GEO targeting

Direct ad sales automatization



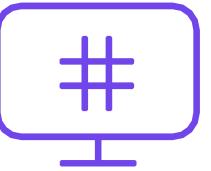
GEO

City, country



Tags or Venues

Supermarket, pharmacy,
clinic, etc.



Touchpoint Type



Audience Attributes

Gender, age, etc.



Day and Time

Schedule



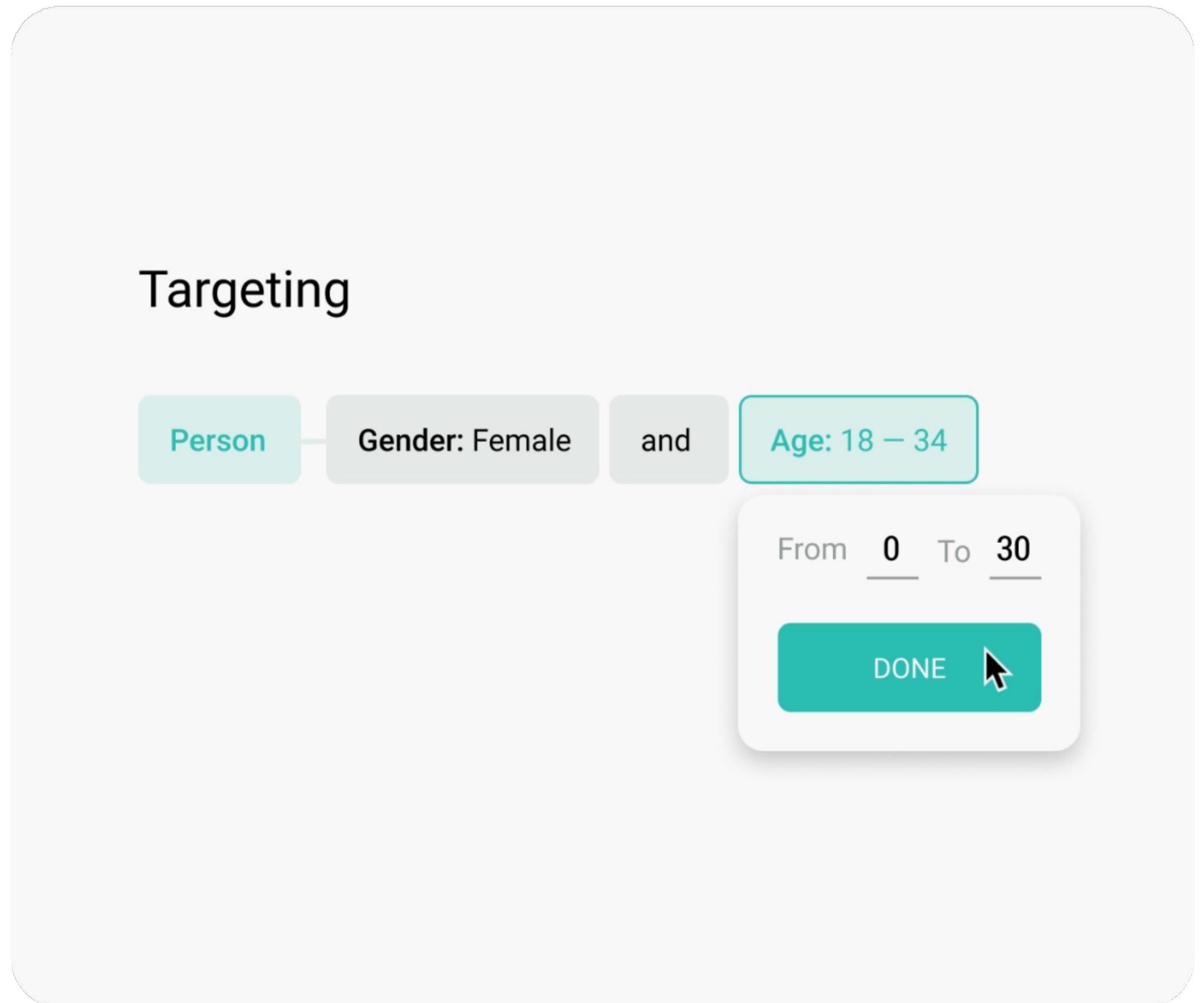
Additional Attributes

Smile, headwear,
etc.

Demographic targeting # Audience-based campagins
Direct ad sales automatization

Target a specific audience

- ⌚ Play a campaign when they're paying attention
- 👫 Demographic triggers: Age, gender
- ⌚ Behavior triggers: Dwell time, smile



Programmatic ad selling

Audience-based campagins

Direct ad sales automatization

Sell what advertisers want to buy

- ▷ Programmatic: AdPlays
- ⌚ Programmatic: Cost per Mille (CPM)
- ⌚ Programmatic: Cost per Real View (CPV)
- ⌚ Classic fixed campaigns in loops

01

Calendar
in Loops

Guaranteed ads
from date to date
with a fixed price

02

AdPlays

Cost per 1000
Ad Plays

03

CPM

Cost per 1000
Impressions



Confirmation of
contact with face
recognition
technology

04

CPV

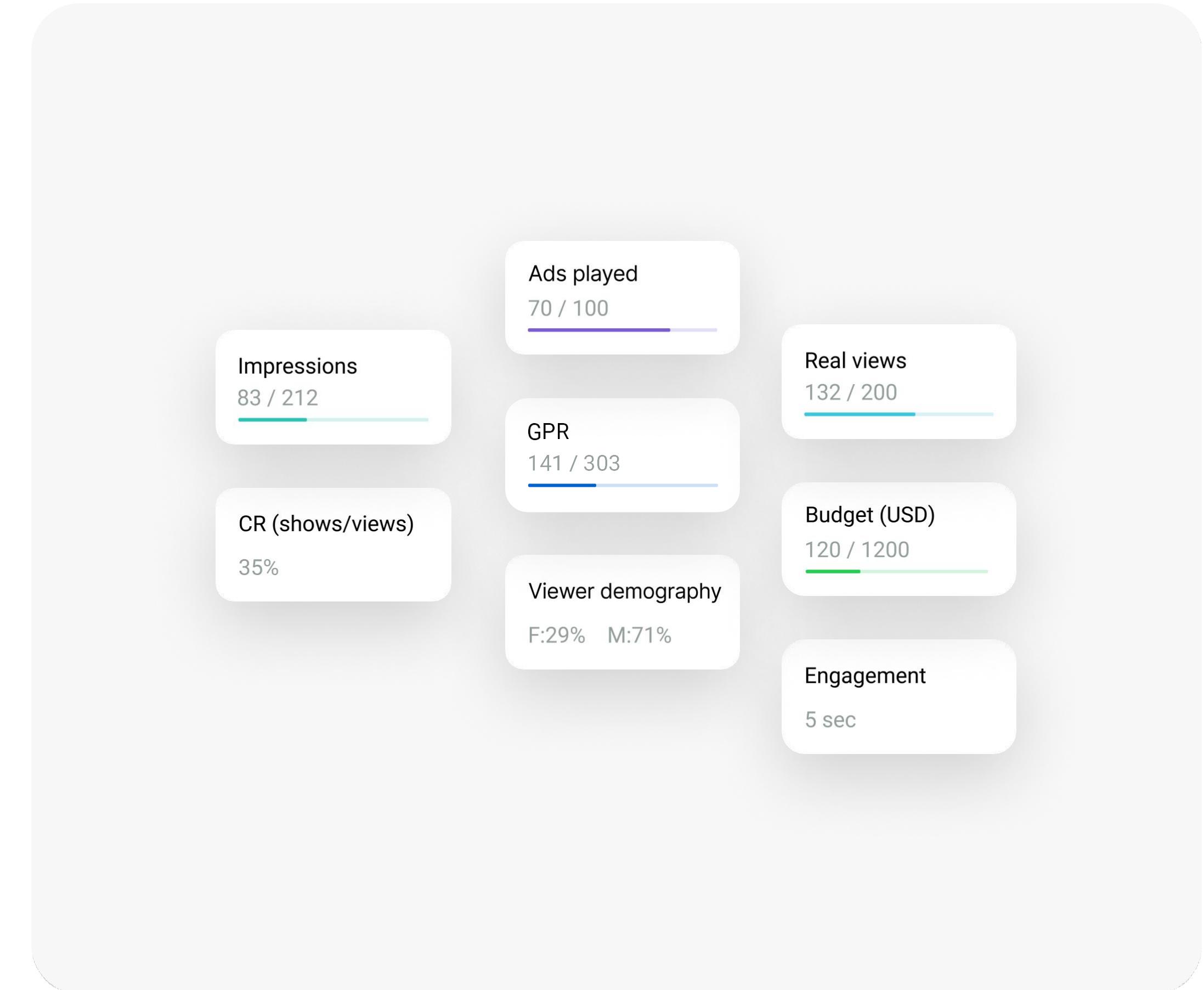
Cost per
targeted contact

Direct ad sales automatization

Configure campaign parameters before they start to hit the target

⌚ Metrics prediction at setup stage

⌚ Real-time status



Campaign content separation or grouping

You can loop different content in one campaign to maintain audience engagement.

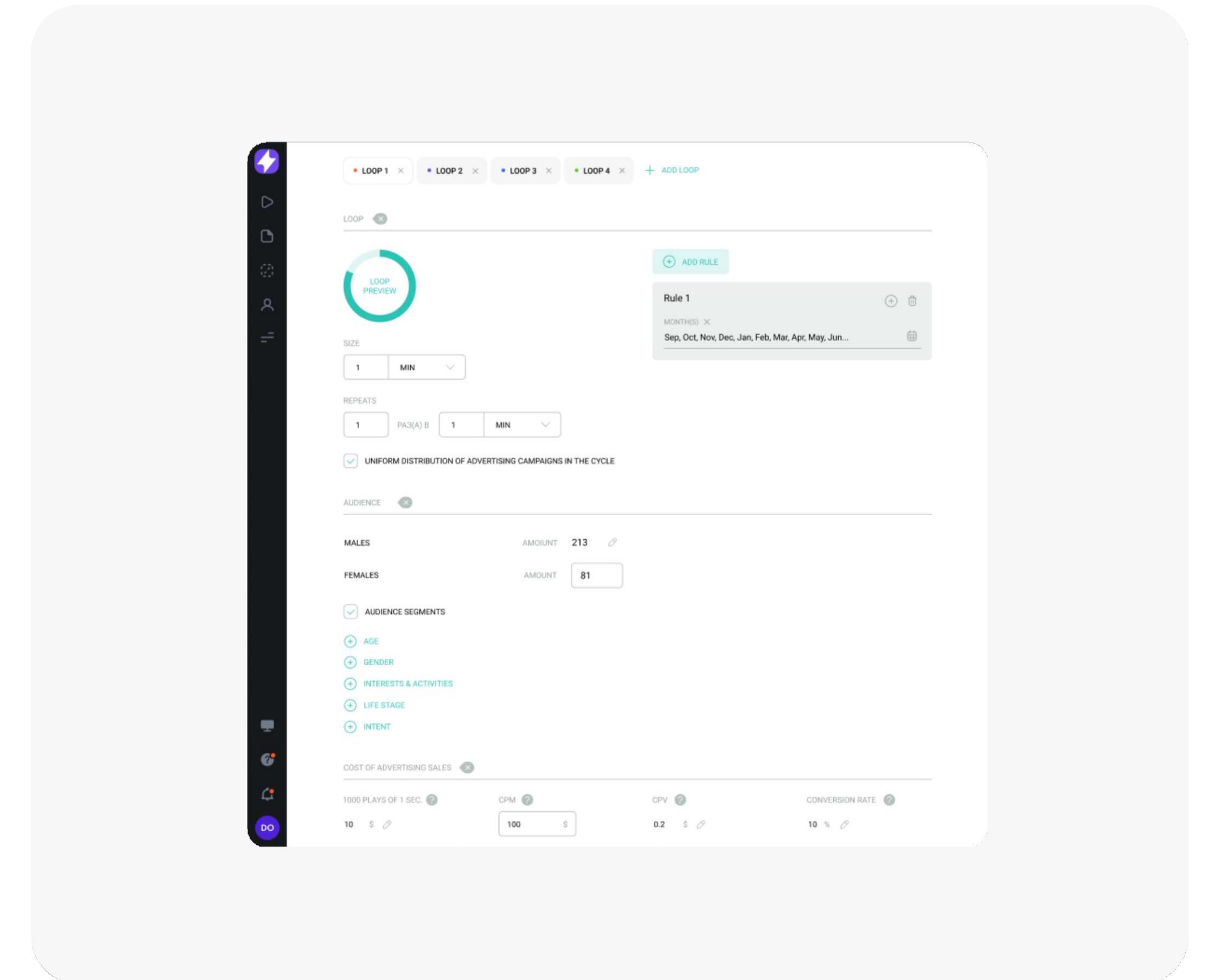
Direct ad sales automatization



Inventory management with profiling

- ⌚ Creating advertising products
- ฿ Pricing management
- 👤 Address program settings
- ▷✗ Black and white lists

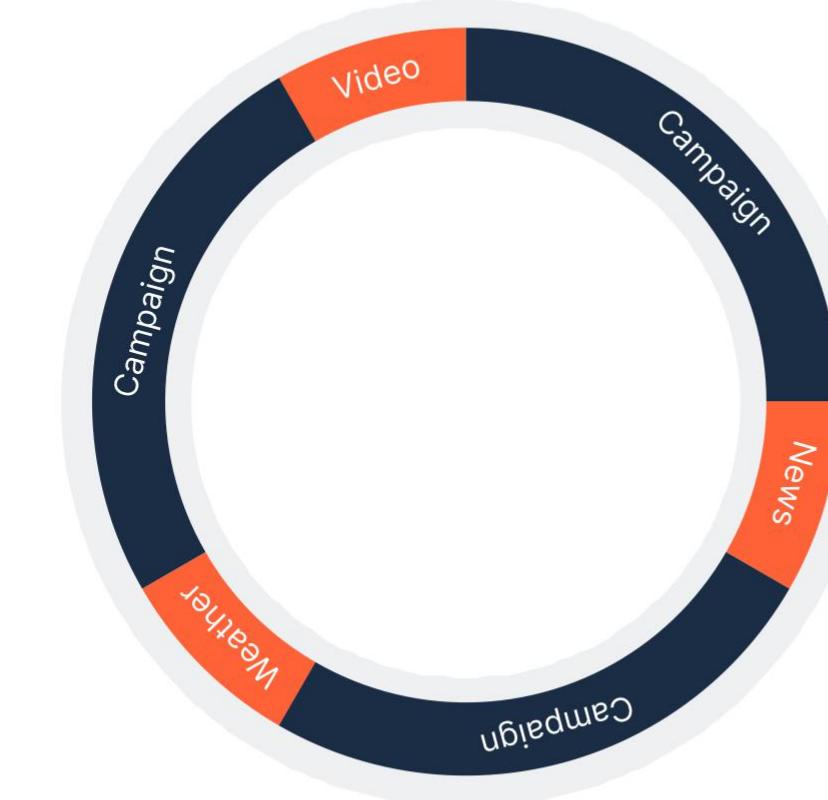
Yield management
Cross-channel inventory
Direct ad sales automatization



Direct ad sales automation

Any type of filler content

Add any type of content that you find useful to be played between ad campaigns in the background.



Campaigns

Campaign 1
Campaign 2
Campaign 3

Campaigns

Video
Data-driven templates
Live streamings

Ad report automation

Campaign plan for advertisers

Report with information about a scheduled campaign before starting.

Campaign "Cycle test"					
Screens/Devices	Broadcasts	Maximum duration in the loop	Start time	Platform	ise2022
12	178	15,966	2022-07-06 14:00:00	Contact person	Serge
AdPlays	CPM	CPV	End time	Phone	79991233678
177	78	98	2022-08-06 23:59:59	E-Mail	support@displayforce.com
Date	Screen/Device	Playback time in loop			
11.06.2022	Test	9:36:05; 10:56:02; 11:24:09; 12:28:09; 13:17:34; 14:41:54; 15:09:42; 16:18:17; 17:03:15; 18:44:21; 19:56:01; 20:54:31; 21:56:01; 22:09:06;			
12.06.2022	Test2	9:36:05; 10:56:02; 11:24:09; 12:28:09; 13:17:34; 14:41:54; 15:09:42; 16:18:17; 17:03:15; 18:44:21; 19:56:01; 20:54:31; 21:56:01; 22:09:06;			
13.06.2022	Test3	9:36:05; 10:56:02; 11:24:09; 12:28:09; 13:17:34; 14:41:54; 15:09:42; 16:18:17; 17:03:15; 18:44:21; 19:56:01; 20:54:31; 21:56:01; 22:09:06;			
14.06.2022	Test4	9:36:05; 10:56:02; 11:24:09; 12:28:09; 13:17:34; 14:41:54; 15:09:42; 16:18:17; 17:03:15; 18:44:21; 19:56:01; 20:54:31; 21:56:01; 22:09:06;			



Ad report automation

Broadcasting report for advertisers

Real-time analysis report about the campaign status.

A	B	C	D	E	F	G	H	I	J	K
1										
2	Platform name	test1								
3	Owner's email	support@displayforce.ai								
4	Campaign	Filler								
5	ID campaign	1244								
6	Customer:									
7	Requested	13-06-2022 00:00 - 13-07-2022 23:59								
8	Devices:	3								
9										
10	By campaigns per day									
11	Date	Campaign	Campaign	Impressions	Views	Males	Females		CR	
12	13-06-2022	1244	Filler	14396	1236	1111	123	234	15%	
13	14-06-2022	1244	Filler	14295	3456	2689	1543	278	67%	
14	15-06-2022	1244	Filler	14290	4567	3451	800	444	89%	
15	16-06-2022	1244	Filler	13817	4326	3000	1326	498	94%	
16	17-06-2022	1244	Filler	13828	9876	4509	5001	125	96%	
17	18-06-2022	1244	Filler	13696	5566	1237	3890	334	100%	
18	19-06-2022	1244	Filler	13275	4567	3457	789	981	73%	
19										
20	By content per day									
21	Date	Campaign	Campaign	File's name	Impressions	Views	Males	Females		Duration
22	13-06-2022	1244	Filler	320x192_k	1312	1236	1111	123	234	15% 2:11:32
23	13-06-2022	1244	Filler	320x192-k	1310	3456	2689	1543	278	67% 2:11:18
24	13-06-2022	1244	Filler	320x192-k	1310	4567	3451	800	444	89% 2:11:19
25	13-06-2022	1244	Filler	320x192-k	1309	4326	3000	1326	498	94% 2:11:13
26	13-06-2022	1244	Filler	320x192-k	1308	9876	4509	5001	125	96% 2:11:07
27	13-06-2022	1244	Filler	320x192-k	1307	5566	1237	3890	334	100% 2:11:01
28	13-06-2022	1244	Filler	320x192-k	1306	4567	3457	789	981	73% 2:10:55



Self-service portal by your brand

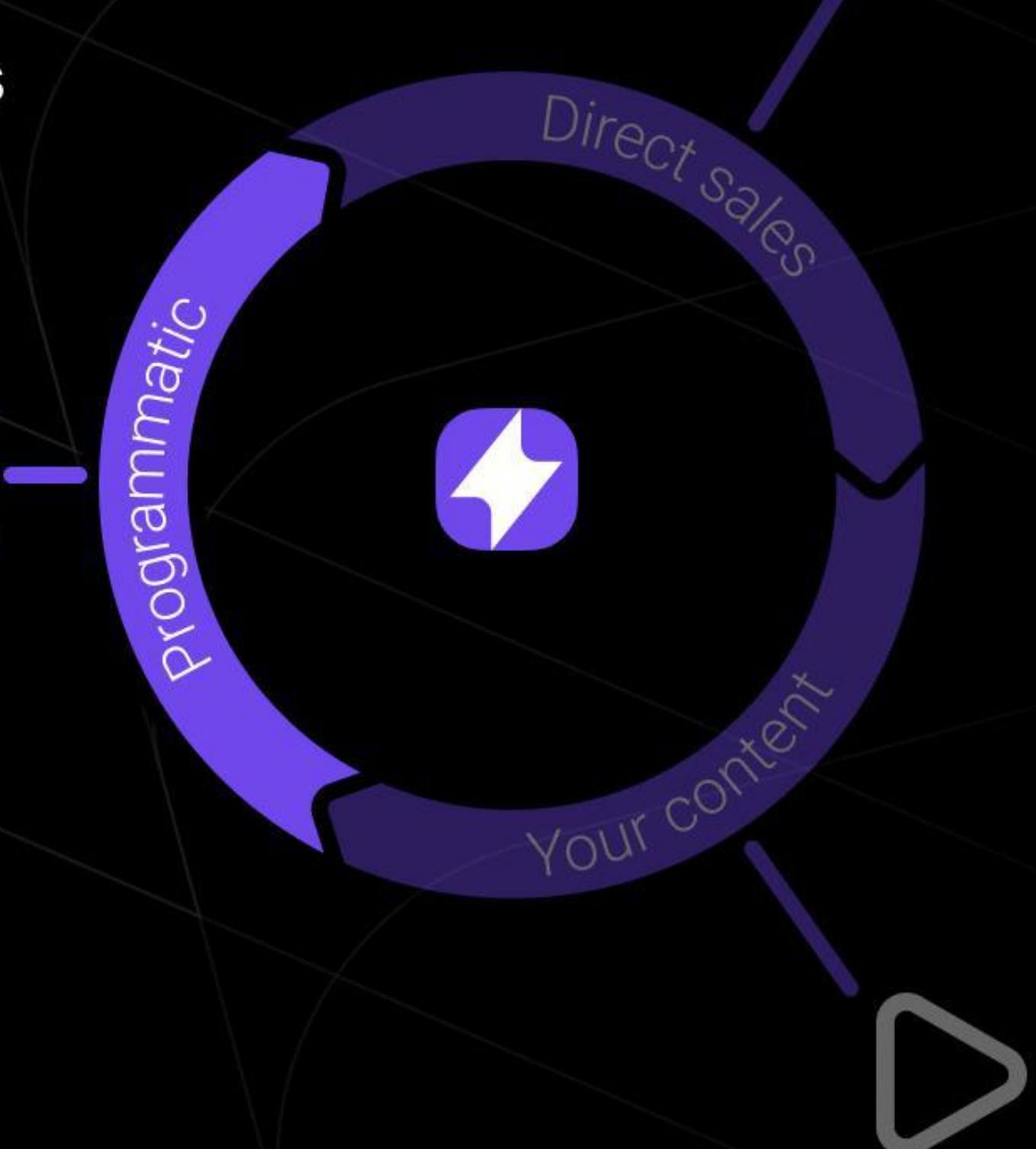
Programmatic ad selling

**Maximize your ad
revenue via
programmatic ads
with self-service**

**External DSPs
& Agencies**

DISPL Ads

**Self-service
DSP on your
website**



Programmatic ad selling

Self-service portal by your brand

Run your own self-service portal for advertisers

- ⌚ 100% white labeled by your brand
- 🌟 Simple wizard for advertisers
- 🌐 API for 3rd-party DSP connections
- 🔑 Price and order control

The screenshot displays a user interface for a self-service advertising portal. At the top, there are two tabs: '# Programmatic ad selling' and '# Self-service portal by your brand'. Below these tabs, the main title 'Run your own self-service portal for advertisers' is centered.

The interface includes a navigation bar with four steps: 1 Request, 2 Product, 3 Order, and 4 Creative. Step 3 Order is currently selected, indicated by a green circle.

A large map of Europe shows various locations with green circles containing numbers representing ad placements. Some of the visible numbers include 124 (London), 150 (Berlin), 10 (Moscow), 61 (Paris), 42 (Paris), 89 (Vienna), 29 (Bucharest), 43 (Milan), 34 (Lisbon), and 28 (Barcelona).

Below the map, there are several input fields and controls:

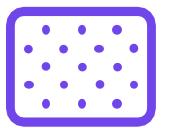
- An 'Advanced settings' toggle switch.
- An 'Address' field containing 'Schützengasse 4, 8001 Zürich, Schweiz' with an '+ ADD' button.
- A 'Set budget and schedule' section.
- Two summary sections on the right:
 - 'Ad Plays' with 'ORDERED' at 1 790 and 'AVAILABLE' at 3 000.
 - 'Impressions' with 'ORDERED' at 112 457 655 and 'AVAILABLE' at 356 100 000.

Monetize any touchpoint

- 👤 New revenue stream of audience-based advertising
- ⌚ Self-service for advertisers by your brand
- ⚖️ Algorithmic real-time-bidding auction

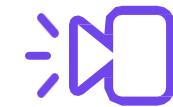
Programmatic ad selling

Self-service portal by your brand



Screens

Maximize your ROI from any screen or videowall.



Projectors

Connect new and non-standard broadcast points.



Kiosks

Any touch surface will also generate revenue as long as there are no active users nearby.



Audio advertising

The channel with the maximum audience is audio advertising.

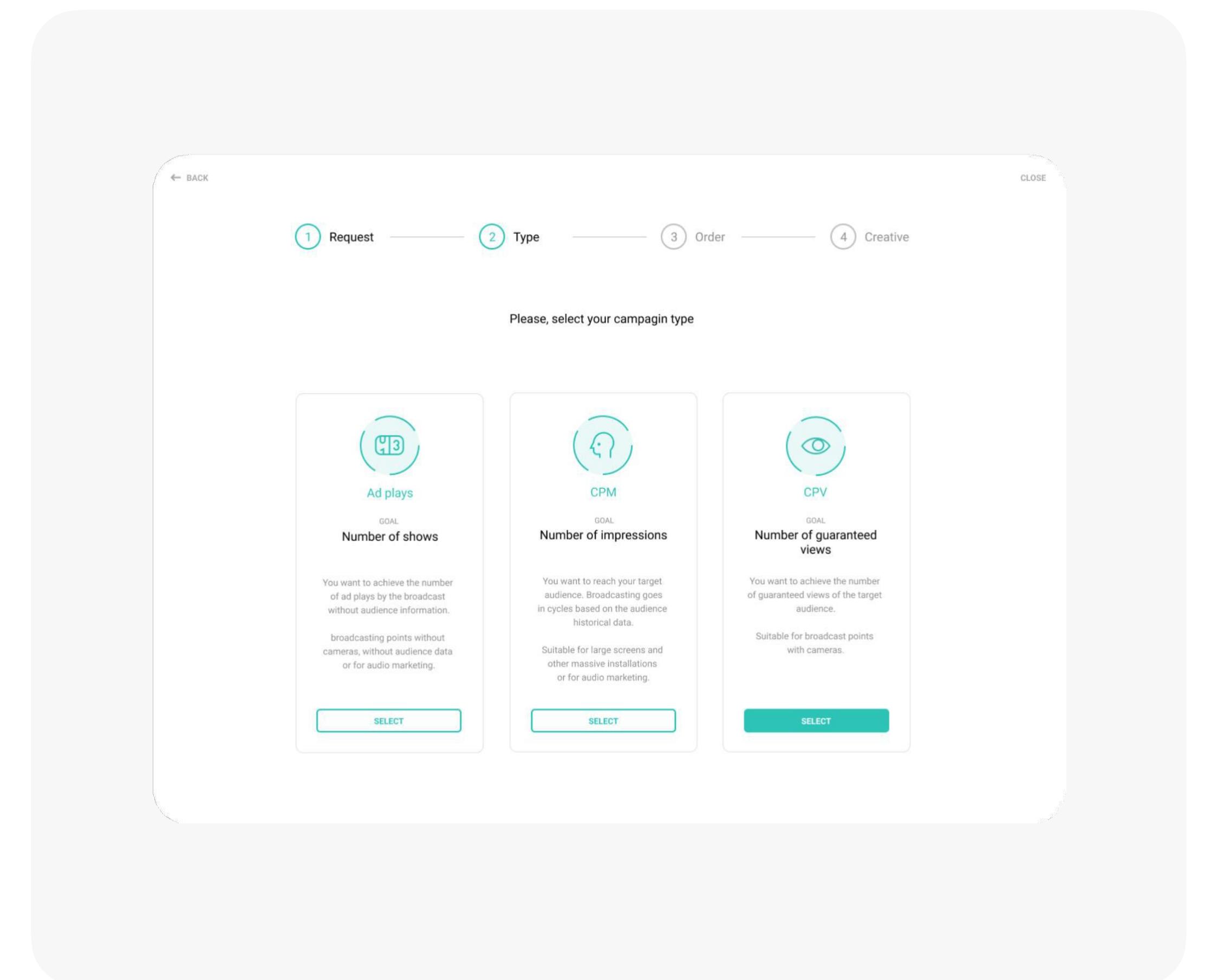
Programmatic ad selling

Self-service portal by your brand

Get extra revenue via programmatic audience-attention- based deals

Over 90% of brands buy an audience. Now you can
combine time-based models with:

- ⌚ CPM model (1000 OTS)
- ⌚ CPV model (confirmed contact with the target audience
using computer vision technology)

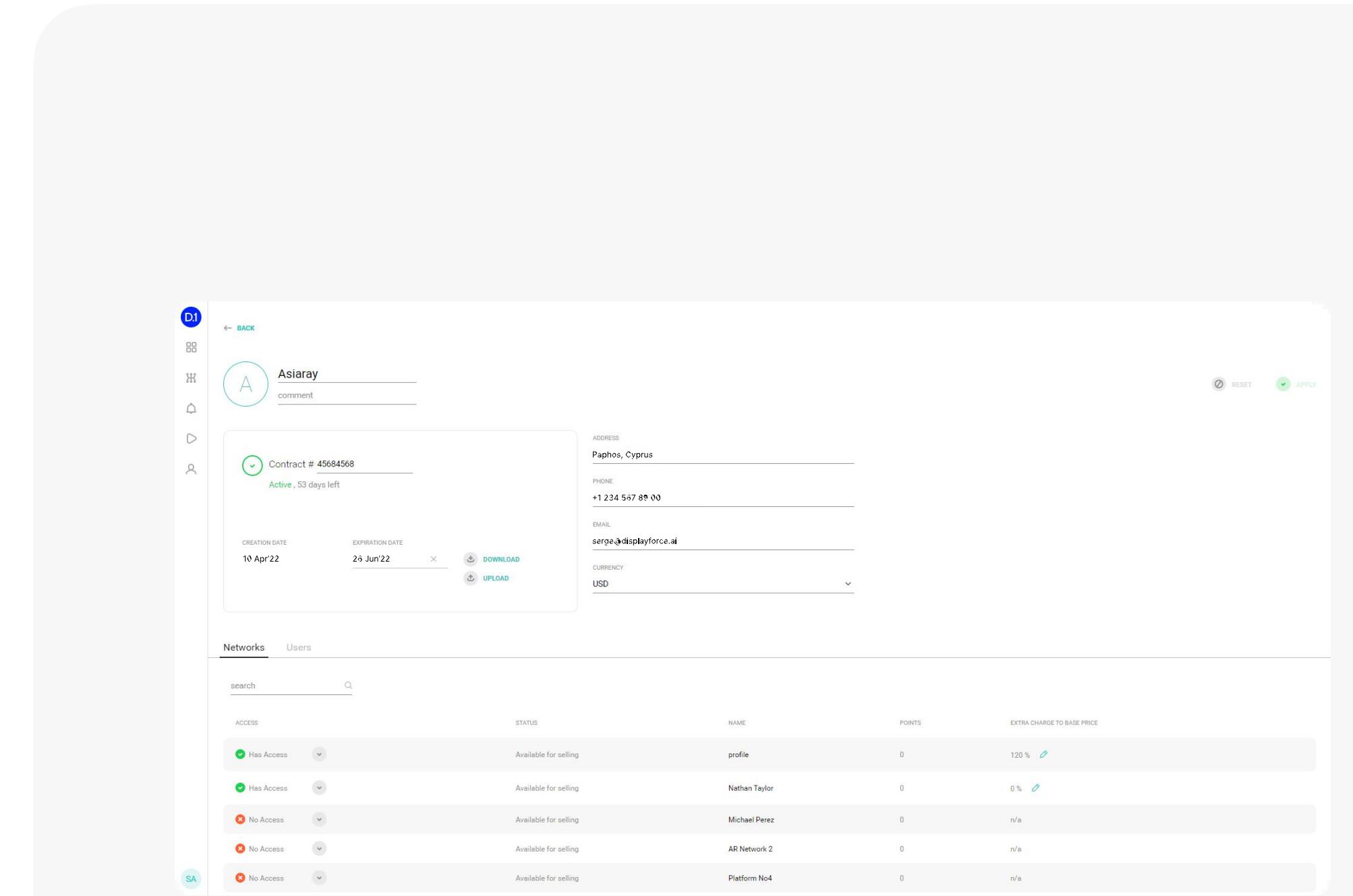


Add agencies and DSPs in a few clicks

- ⌚ Forbid or open access to a specific inventory with specific prices.
- ⌚ Set up margins for a specific partner.
- ⌚ Share via API to connect third-party DSPs.

Programmatic ad selling

Self-service portal by your brand

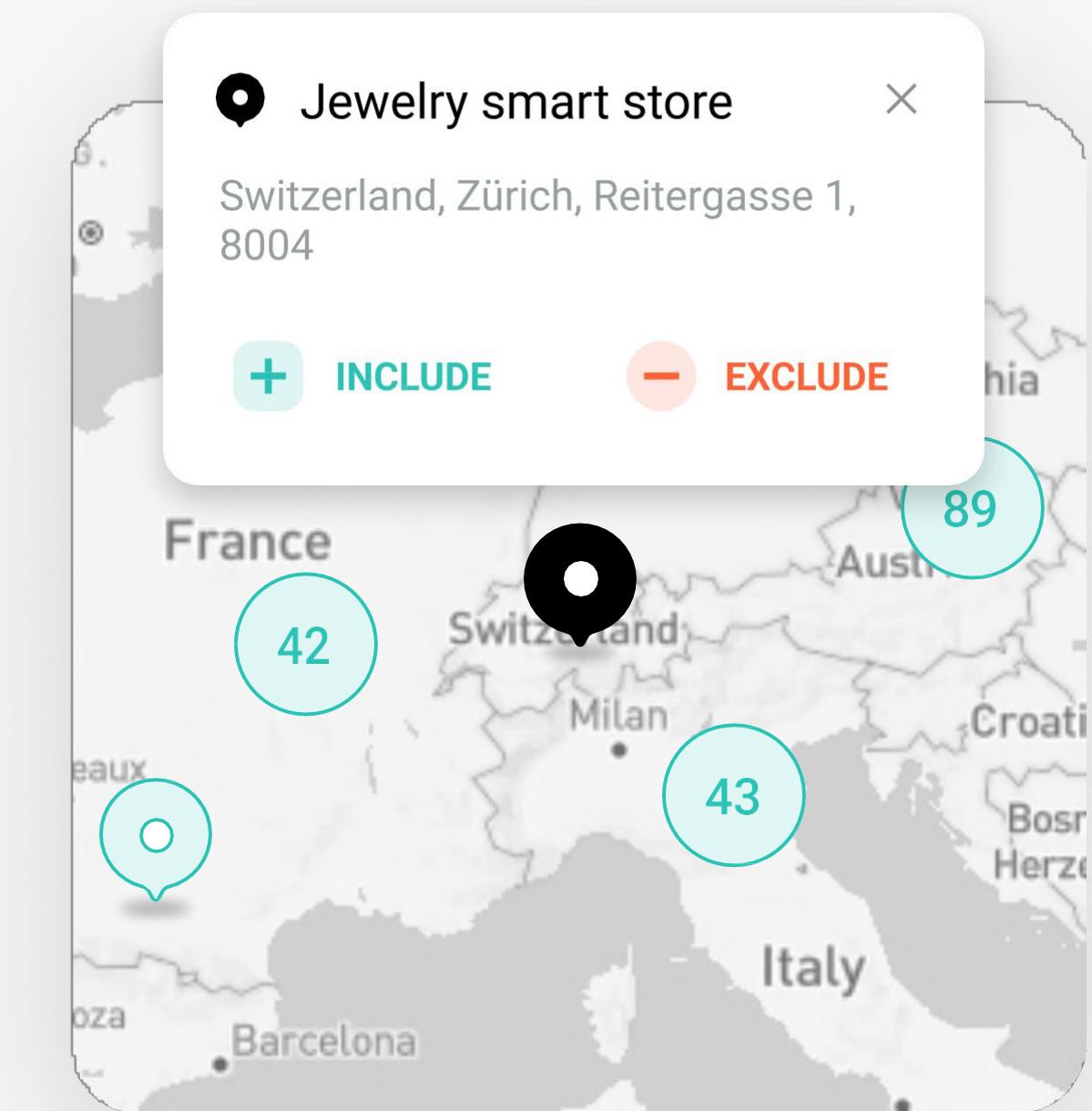


Programmatic ad selling

Self-service portal by your brand

Activate an Uber-based model with your media partners

- Your partners will be part of your network, in which you will act as an aggregator.
- ⌚ Partners will see income only for their network segment.
- ₪ At the same time, partners will be able to sell ads throughout the network.



Moderate promotional materials

- ☒ Reject or apply content
- ☒ Specify the reason for the refusal

Programmatic ad selling

Self-service portal by your brand

The screenshot shows a digital interface for managing promotional materials. At the top, there's a navigation bar with four steps: Request, Product, Order, and Creative. Below this, there are two sections for uploading content: '1920x1080 horizontal' and '1080x1920 vertical'. Each section has a 'UPLOAD CONTENT' button. Below these are three preview cards for uploaded templates:

- Template name 1:** Approved by Aleksei Alekseev on 3 Jul 2018 / 11:23. Company: ABC media. File size: 12 mb. Upload date: 3 Jul 2018 / 11:23. Actions: SEE DETAILS, DELETE.
- Template name 2:** Awaiting approval. Company: Scales up media group. File size: 12 mb. Upload date: 3 Jul 2018 / 11:23. Actions: ADD DETAILS, DELETE.
- Template name 3:** Rejected Reason. Company: Advertisement company. File size: 12 mb. Upload date: 3 Jul 2018 / 11:23. Actions: SEE DETAILS, DELETE.

Programmatic ad selling

Self-service portal by your Brand

Keep pricing control via a sell-side platform

- ♂ Keep the content and price under your own control.
- ☑ Mediate requests from 3rd-party DSPs on your side.

BUDGET

12.000 USD

You'll spend up to **12.000.00 USD** for this line order.
The current maximum estimated budget for this line order is **111.000.000.00 USD**.

MAX BID

7 USD

CPM for a 15 seconds creative

The effective bid range is **6.30 USD – 9.30 USD**.
Your max bid will be adjusted to your creative duration.

Programmatic ad selling

Self-service portal by your brand

Provide campaign reports

AdPlays

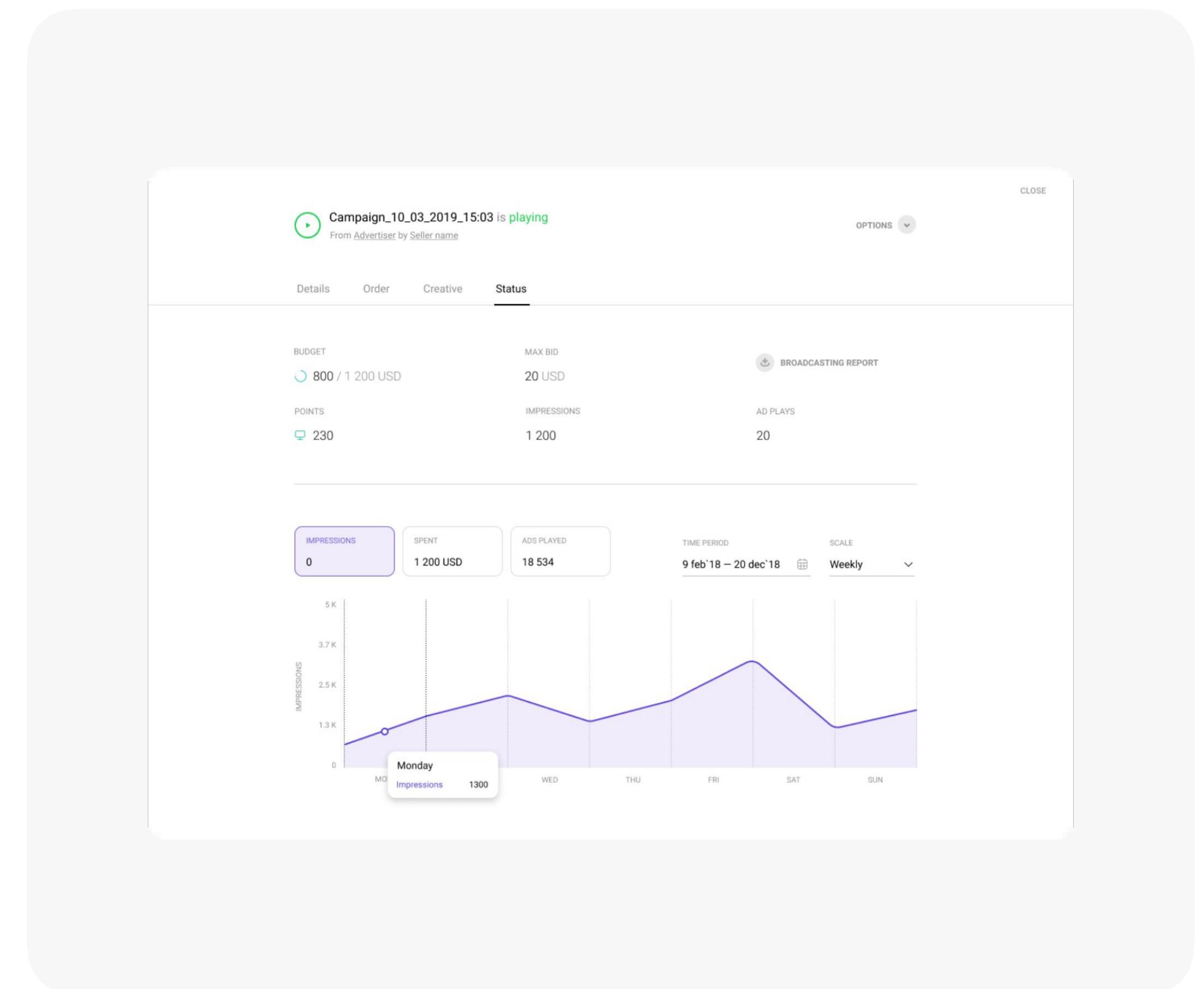
Number of ad plays. Current data.

Budget

The total budget for the current model and the actual expenses for today.

Impressions

OTS — opportunity to see (impressions) based on historical or entered data about screen profiling, targeting rules, timings, and campaign schedule.
Current data and forecast.



All data unpersonalized and GDPR compliant

Historical data from publishers

For audience prediction, DISPL Ads takes data from people counters and POS terminals.

Non-personalized face detection

Audience attention, age and gender as triggers for campaigns.

Audience

- + AGE
- + GENDER
- + INTERESTS & ACTIVITIES
- + LIFE STAGE
- + INTENT

Broadcasting points

- + RESOLUTION

Environment

- < All
- > Restobar
- > Office
- Convenience Store
- Subway



Audience analytics

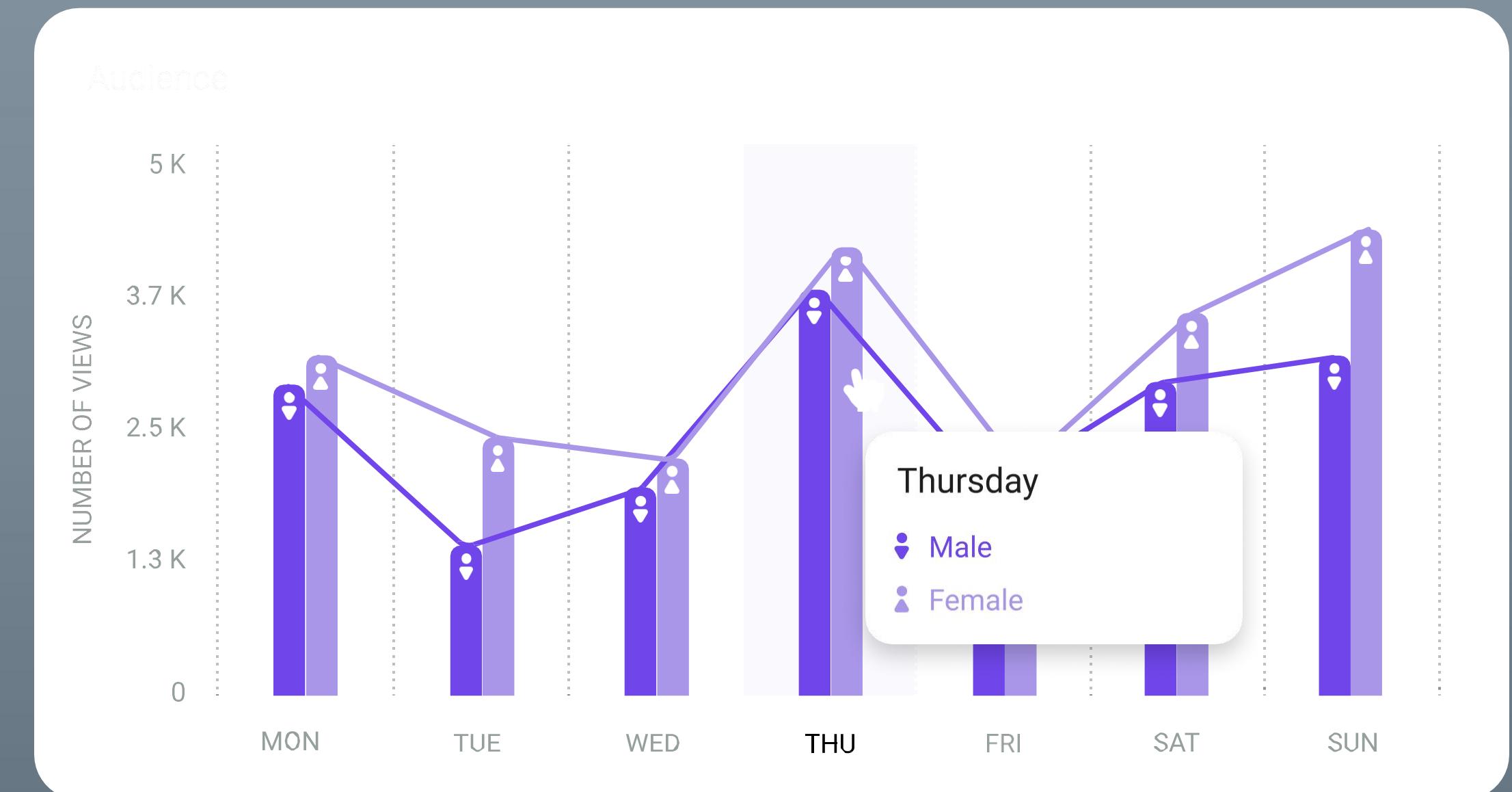
Ad report automation

All necessary reports for ad sales and audience analysis

Status of campaigns

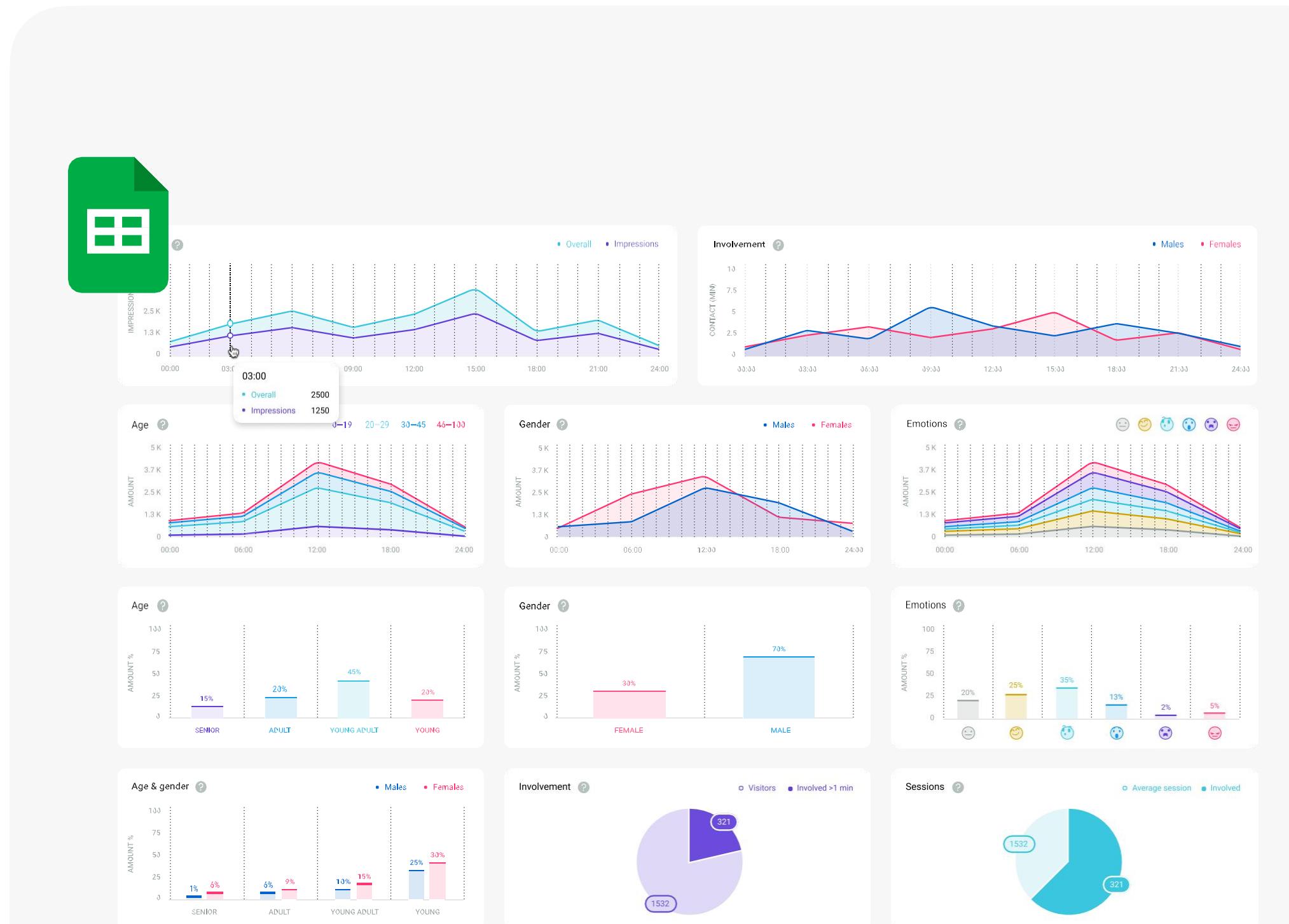
Campaign audience

System Events Viewer



Performance metrics for in-store marketing

Audience analytics

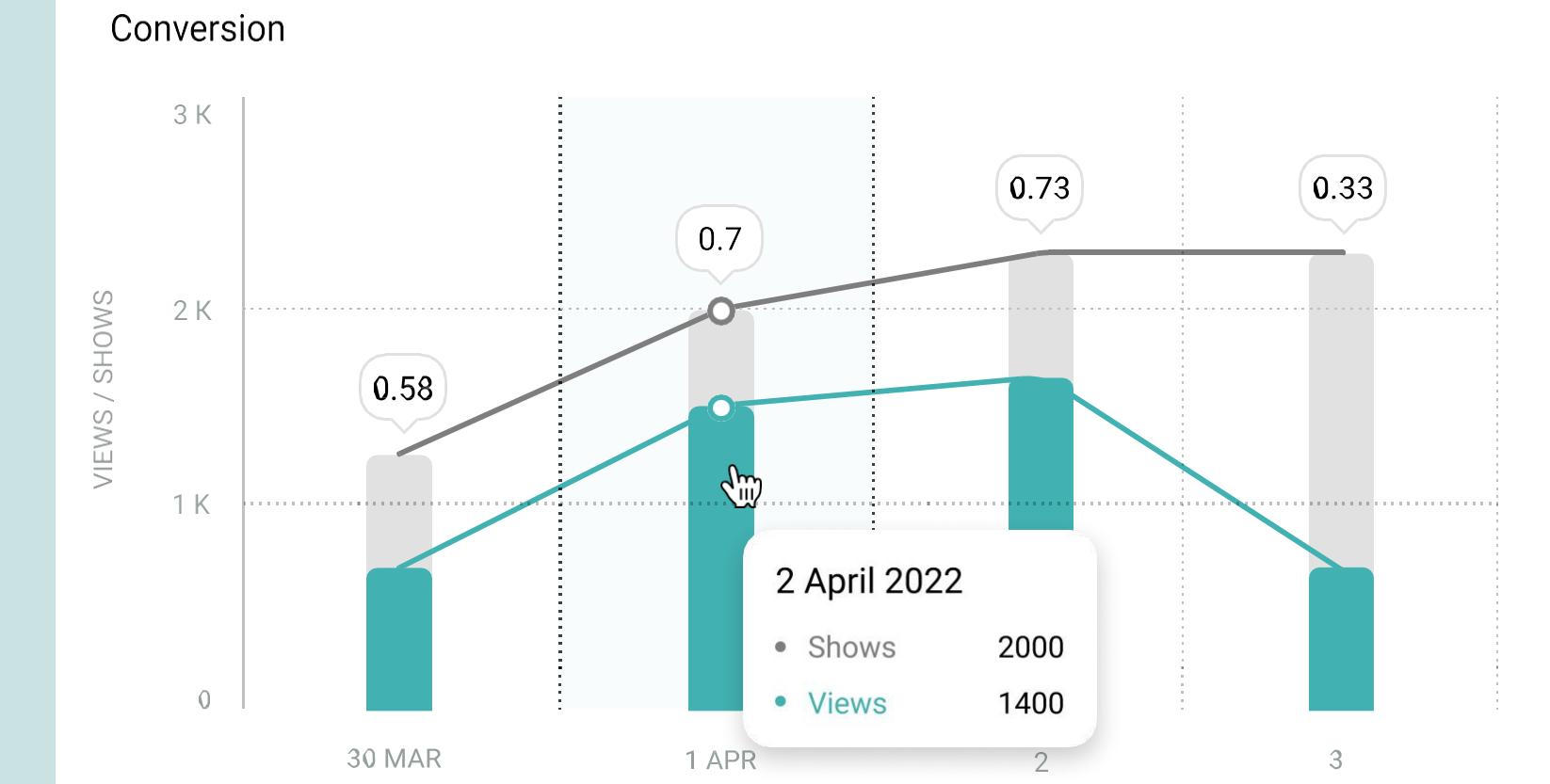


Dashboard is coming in 2022

Conversion in real views

For performance marketing, know the real number of views of your campaign in comparison with the number of impressions

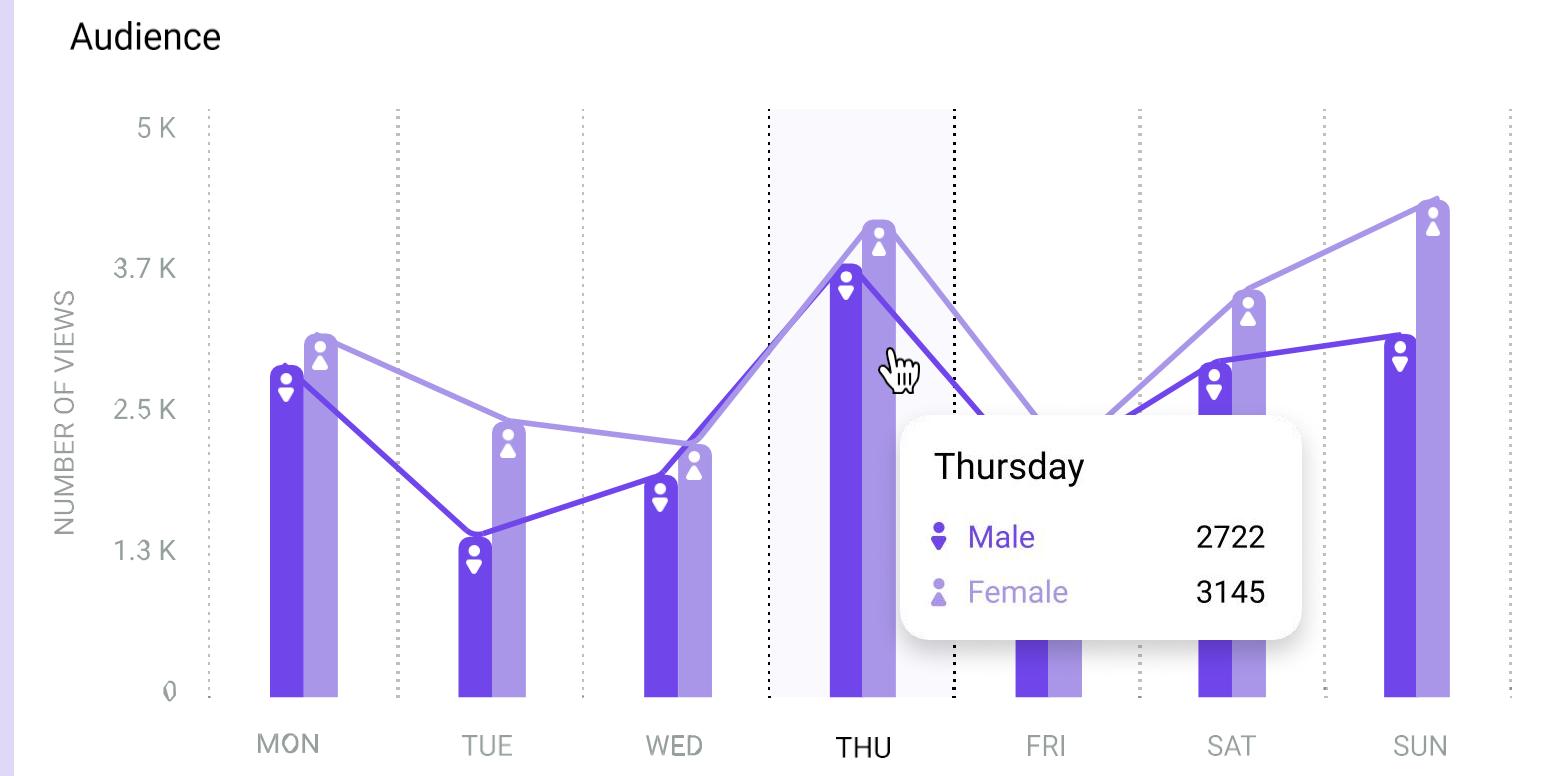
Audience analytics



Audience analytics

Audience portrait

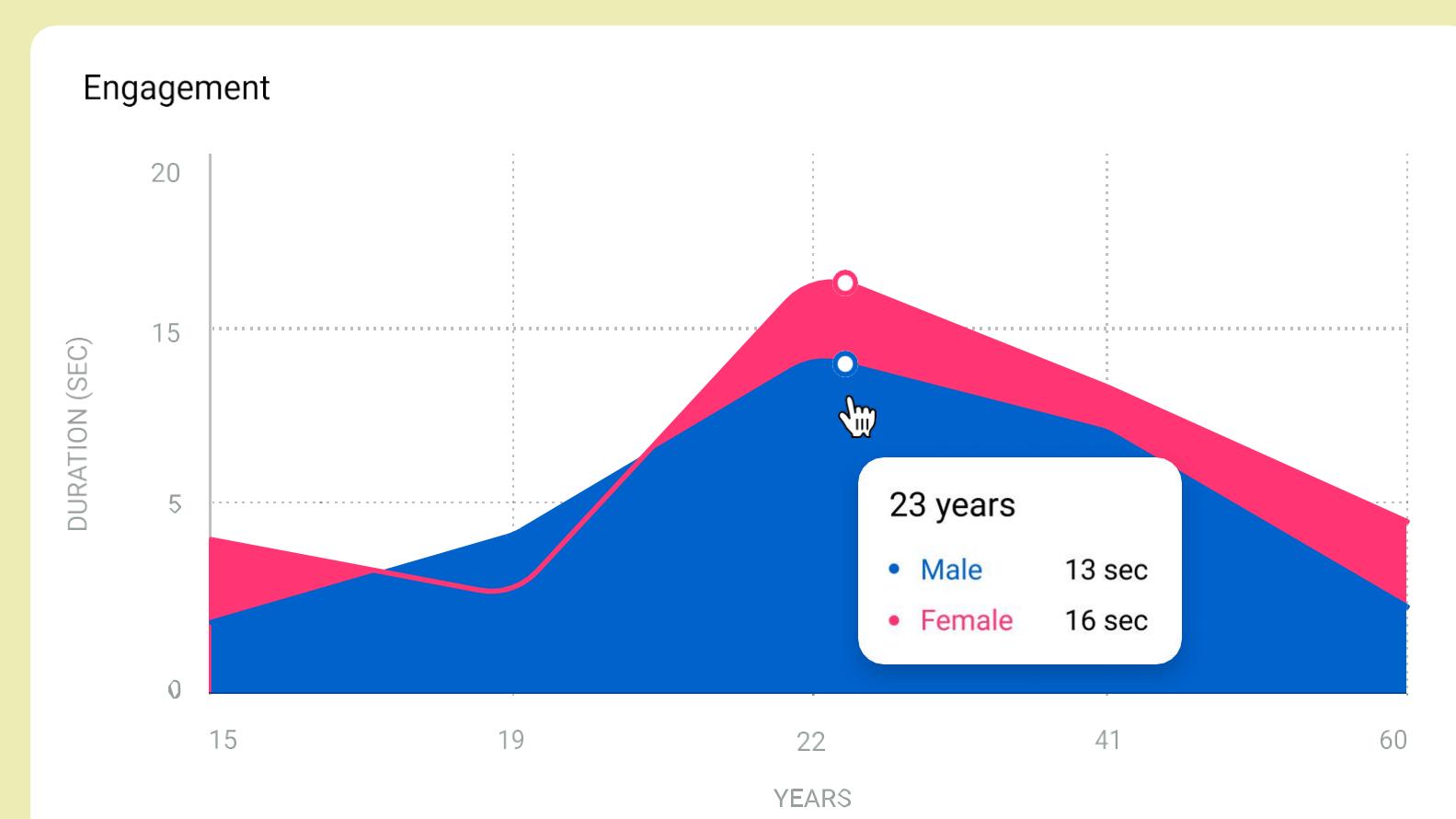
Knowledge of demographic data helps to understand the portrait of the real audience of the campaign and draw conclusions about changes in the message.



Audience analytics

Ad dwell time (engagement)

If your target audience is watching content for 50% of the campaign time, then you are probably playing the right content.



Audience analytics

Emotion tracking

Allows you to find out how the emotional state of people affects the decision to purchase.



Emotion tracking	Start time	End time	Dwell time	Age	Gender	Device	Campaign
Smile	2022-06-24 12:37	2022-06-24 12:39	0:00:03	29	Female	143685	Ad_campaign_brand_1
Smile	2022-06-25 12:37	2022-06-25 12:39	1:00:03	29	Male	143685	Ad_campaign_brand_2
Smile	2022-06-26 12:37	2022-06-26 12:39	2:00:03	29	Female	143685	Ad_campaign_brand_3
Surprised	2022-06-27 12:37	2022-06-27 12:39	3:00:03	29	Male	143685	Ad_campaign_brand_4
Smile	2022-06-28 12:37	2022-06-28 12:39	4:00:03	29	Female	143685	Ad_campaign_brand_5
Neutral	2022-06-28 12:37	2022-06-27 12:39	5:00:03	29	Male	143685	Ad_campaign_brand_6
Smile	2022-06-28 12:37	2022-06-28 12:39	6:00:03	29	Female	143685	Ad_campaign_brand_7

Audience analytics

Customer journey

The most popular routes around touchpoints. Find out where most shoppers go and how long they stay in front of touchpoints.



Customer Journey	Start time	End time	Dwell time	Age	Gender	Device	Campaign
Track_35142	2022-06-24 12:37	2022-06-24 12:39	0:00:03	29	Female	143685	Ad_campaign_brand_1
Track_23514	2022-06-25 12:37	2022-06-25 12:39	1:00:03	29	Male	143685	Ad_campaign_brand_2
Track_83481	2022-06-26 12:37	2022-06-26 12:39	2:00:03	29	Female	143685	Ad_campaign_brand_3
Track_18418	2022-06-27 12:37	2022-06-27 12:39	3:00:03	29	Male	143685	Ad_campaign_brand_4
Track_04329	2022-06-28 12:37	2022-06-28 12:39	4:00:03	29	Female	143685	Ad_campaign_brand_5
Track_43559	2022-06-28 12:37	2022-06-27 12:39	5:00:03	29	Male	143685	Ad_campaign_brand_6
Track_23123	2022-06-28 12:37	2022-06-28 12:39	6:00:03	29	Female	143685	Ad_campaign_brand_7

Audience analytics

AI that works out of the box

The most popular routes around touchpoints. Find out where most shoppers go and how long they stay in front of touchpoints.



Only real faces

Algorithms trained against face spoofing (faces on POS materials, video walls, other screens and so on). All computations made locally



GDPR

Fully compliant with privacy. Our algorithms comply with GDPR and CCPA. We do not store personal identifiers, and we do not send photos and videos from devices.



Staff exclusion

Separate staff from statistics data. Staff will be marked to exclude them from the main analytics data. No selling ad content to them if you don't want to.

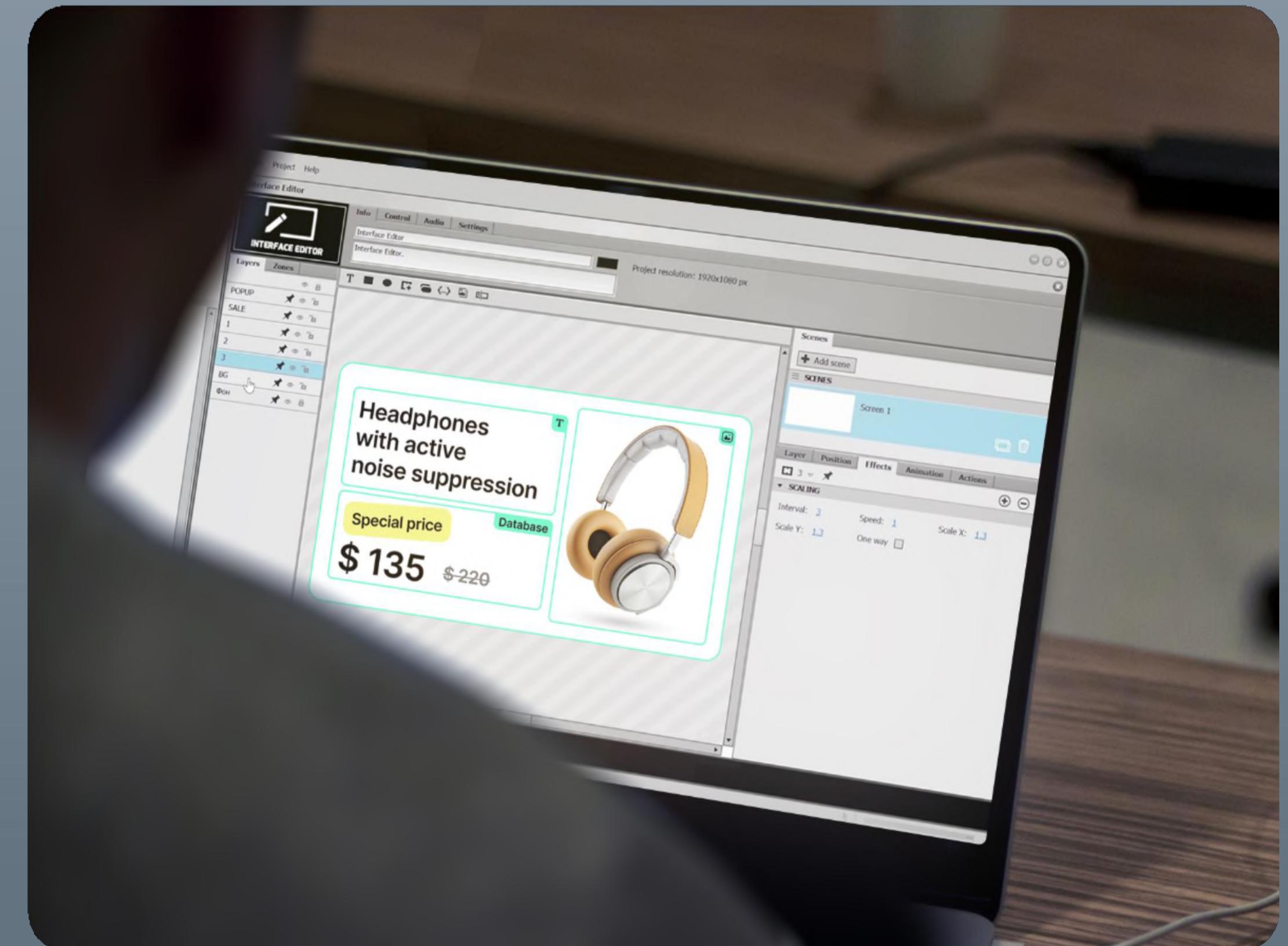


Visual template editor

Interactive kiosks

Save budget with a no-code visual editor

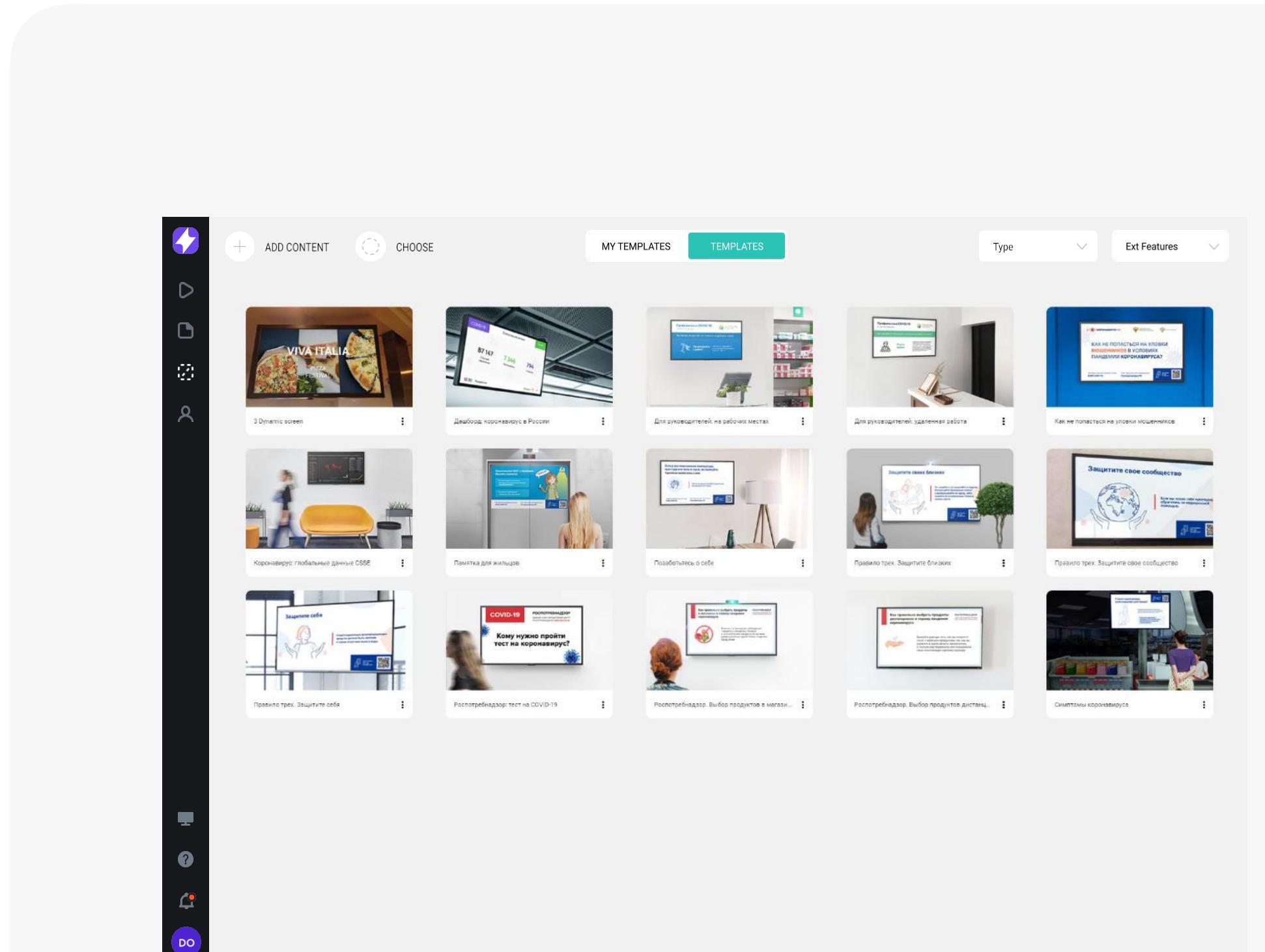
- Visual template editor
- Visual data integration
- Interactive app creation



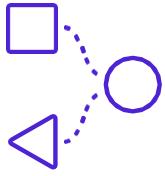
Visual template editor

Start with the library or create a template from scratch

- ⊕ Add text and media in templates
- ⌚ Change the animation
- 👉 Add buttons in interactive interfaces

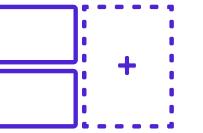


Visual template editor



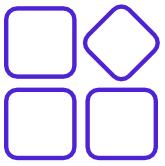
Visual editor

Easily create complex and beautiful templates which use dynamic external data, effects, and animations without programming.



Zones and layers

Create templates with multiple zones, layers, and widgets. Share templates with other users and use version history.



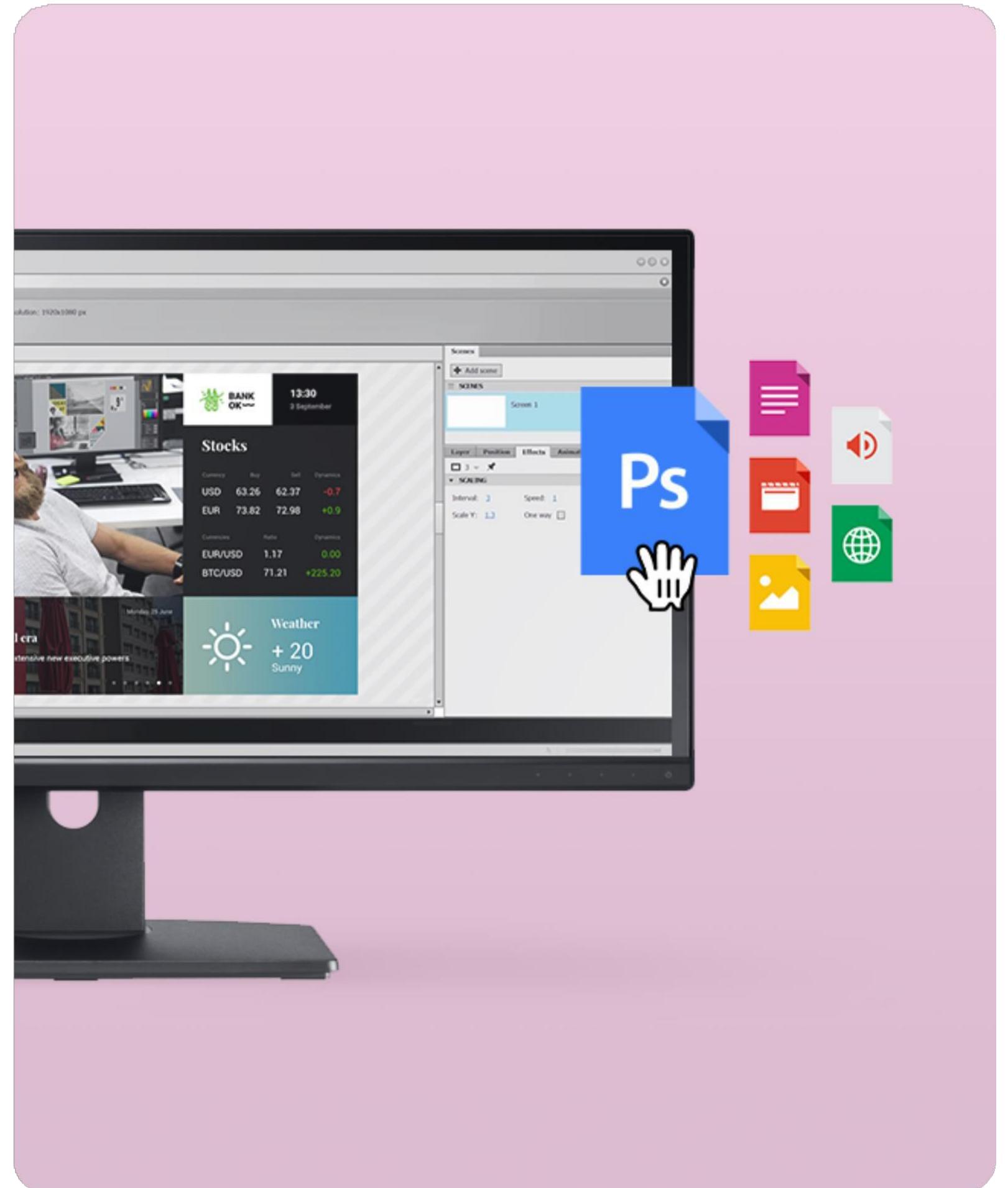
Widgets

Use various widgets (media galleries, text fields, web frames, camera/TV tuner output, etc) to create what you want.



Parsing PSD files

No need for special knowledge to create templates. Just drag and drop a PSD file and the designer will make a template with graphic layers automatically.



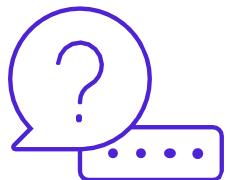
Visual template editor



Interactive kiosks

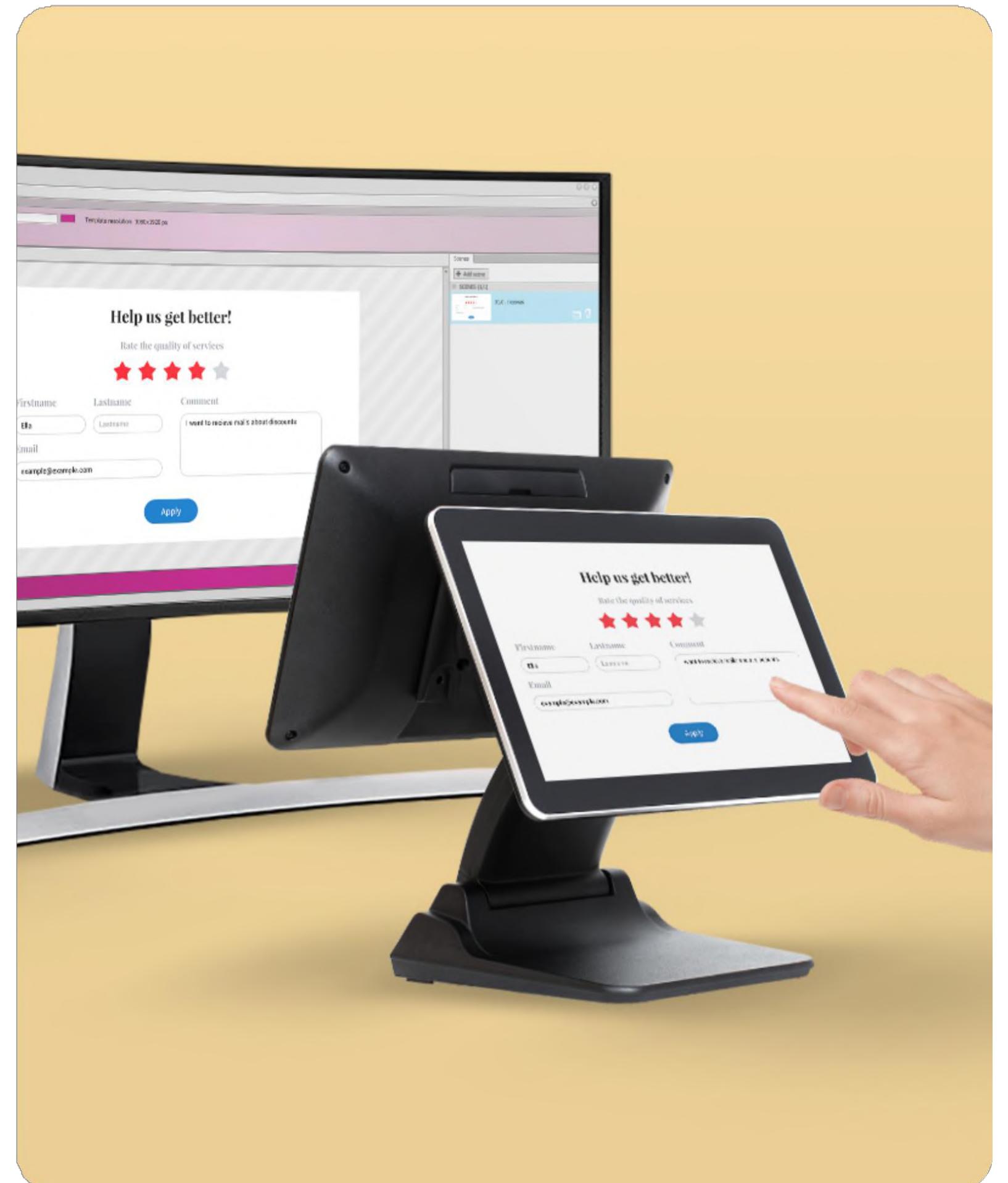
Interactive app editor

Create touch and interactive templates that can be used in self-service kiosks, interactive video walls, and tablets.



Data gathering

Text inputs, buttons, and feedback forms can be used for interactive mechanics and getting data from your audience.

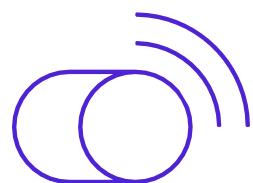


Visual template editor



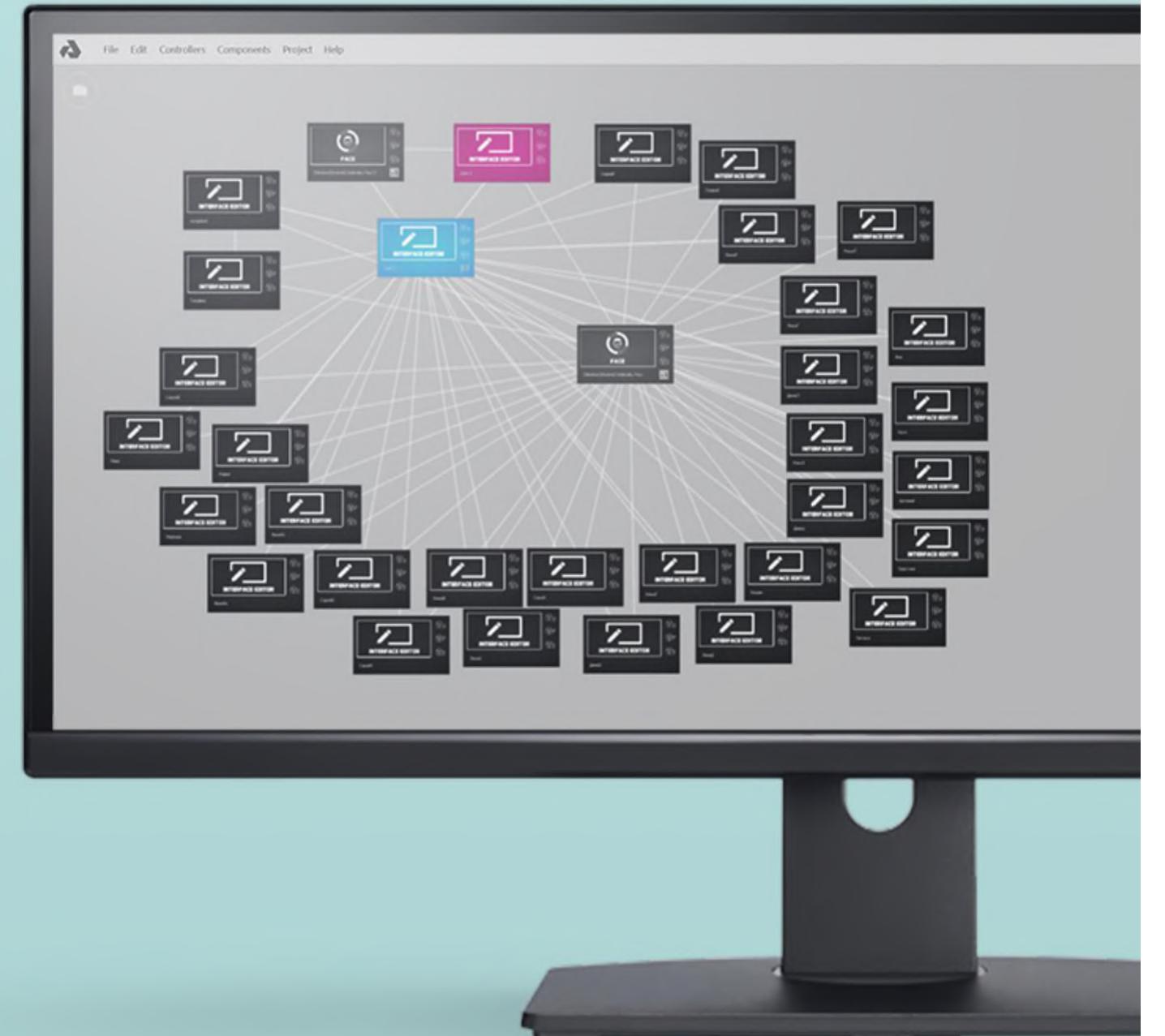
Scheduled scenarios

The interface screens will change depending on time-based scenarios as time, data, repeats and frequency.

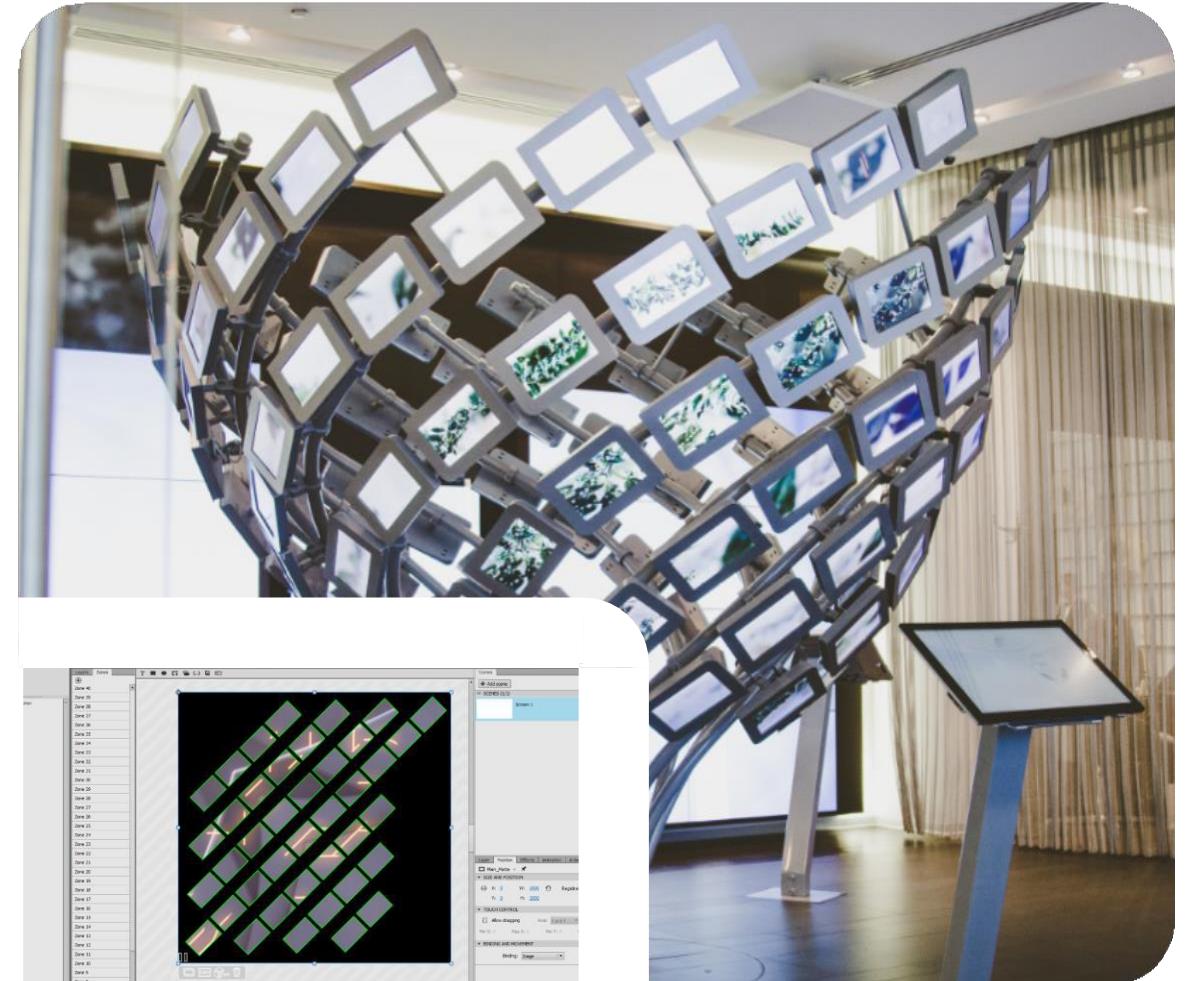
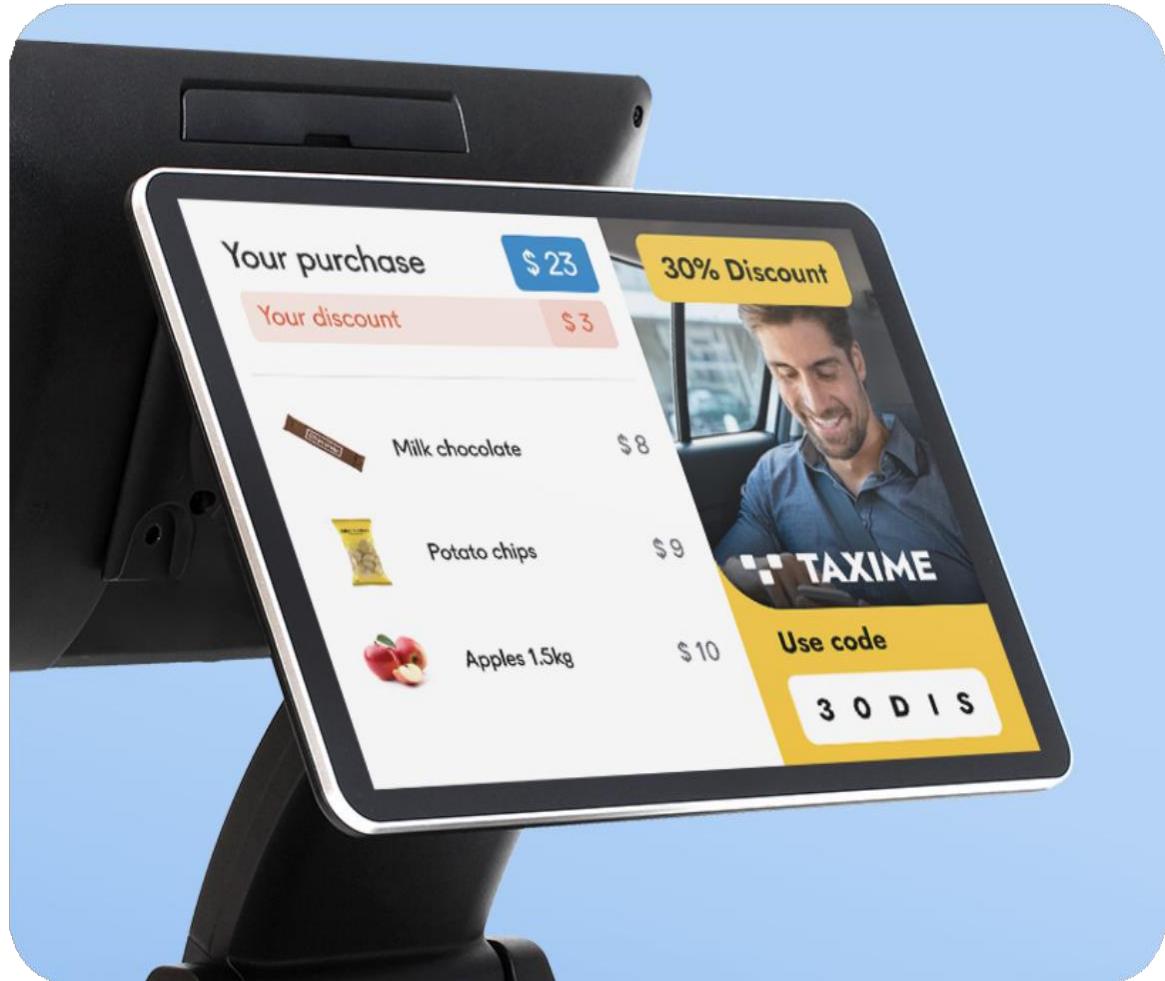


Triggers

Trigger-based scenarios depend on external peripheral devices, face recognition, audience behavior, changes in XML/JSON, local/remote files, etc.



Visual template editor



External data sources

Connect external sources, databases, and services to grab texts, media content, weather, currency rates, and a queue management system. Set up fallback scenarios when one or more of those services go out of service.

Effects & animations

Set up multiple effects and animations to make your templates attractive.

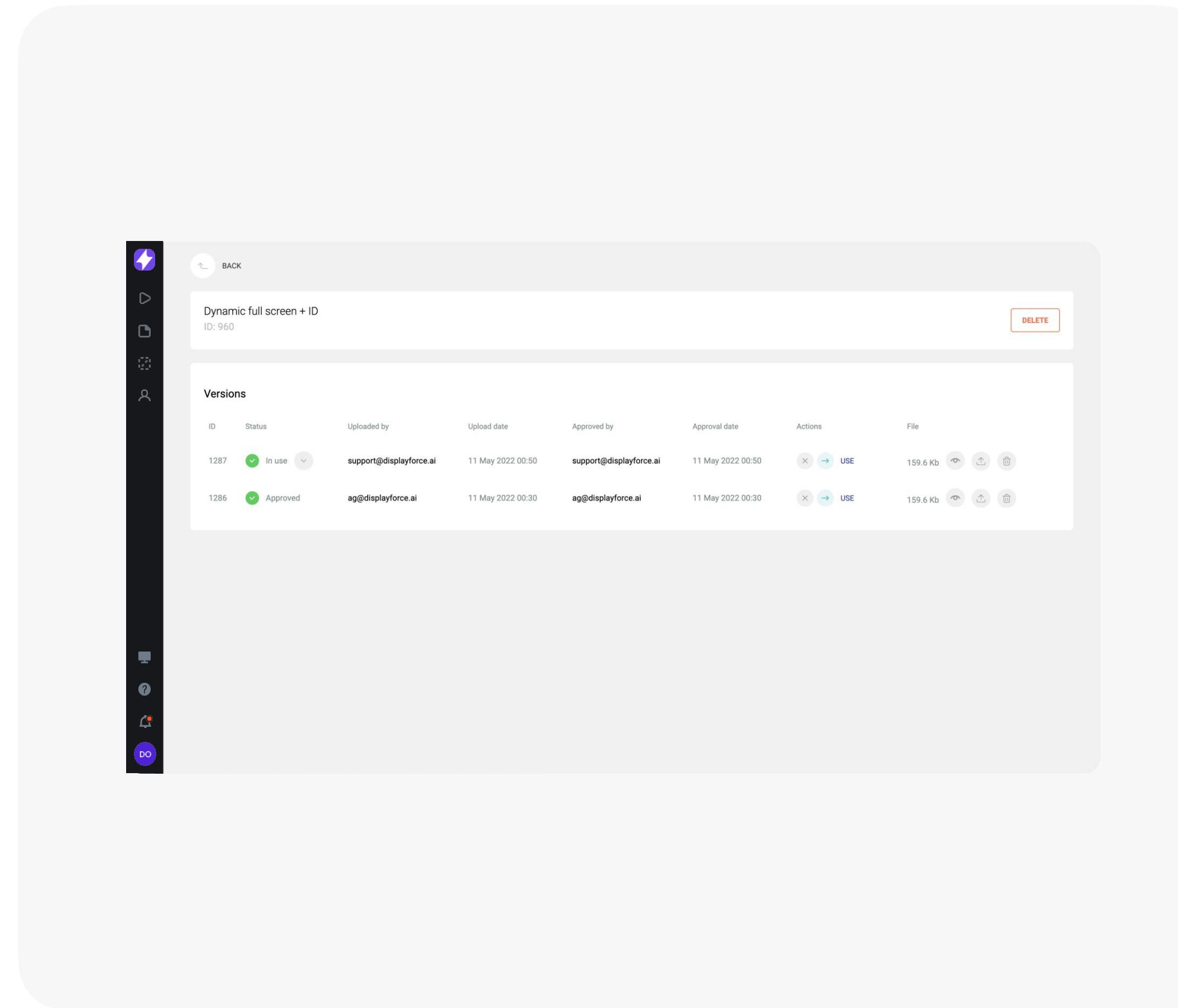
Create videowalls

Specify zones for playback on different devices from one big template and synchronize them.

Visual template editor

Manage template versions

- ⟳ Go back to previous versions
- ▷✗ Approve or reject new versions
- 🔗 Know who made changes





Network IoT management

Control and manage
your hardware
network with real-
time monitoring

The screenshot displays a user interface for managing a network of devices across various locations. The top navigation bar includes icons for adding a device or folder, selecting all, options, search, filter, and map. The main left sidebar features a tree view of device hierarchies, including 'Item (254)', 'Folder name 1', 'Folder name 2' (containing 'Device name 1'), 'Folder name 3', 'Folder name 4', 'Folder name 5', and 'Folder name 6'. The central area shows a map of the Paris region with numerous location markers. Each marker contains two numbers: a blue location pin and a purple video camera icon followed by a number. The right side provides a detailed view of a specific shop named 'Times square shop 76' located in France, Paris, Rue Jarie, building 24a. This view lists seven devices with their names, current status (e.g., 'Player online'), and playback/pause options.

Device name	Playback
Device name 1	Player online
Device name 4	Pause
Projector name	Offline
ATM name	Not connected
Device name 4	Playback
Device name 4	Offline
Device name 4	Playback

Network IoT management

Manage your broadcasting points remotely

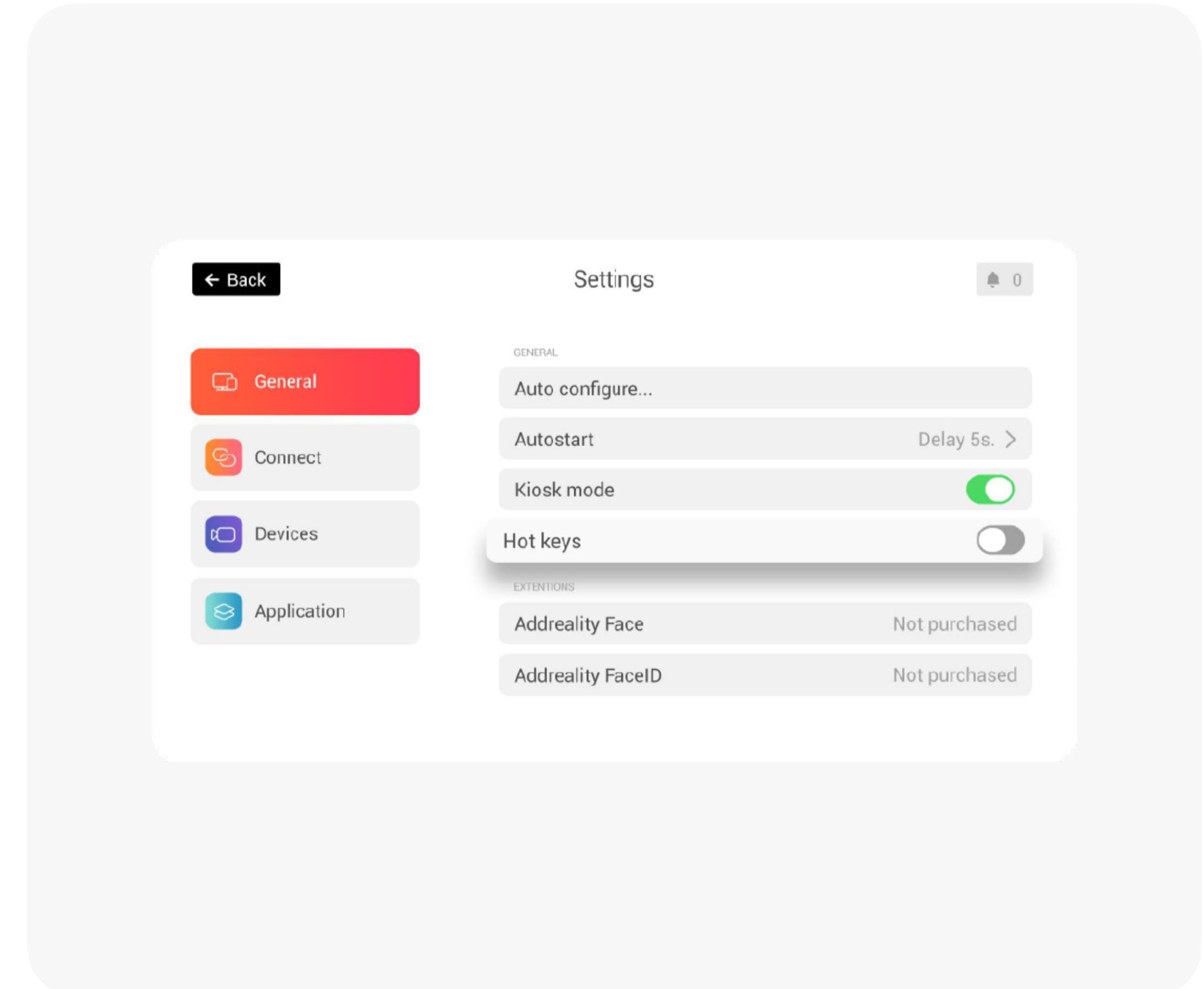
Control different types of devices from one place:
create catalogs and tags, collect logs, update
players, and schedule commands.

- ✓  Folder opened
-  Undefined
-  Sound
-  Screen
-  Screen with camera
-  Kiosk
-  Table
-  LED
-  Videowall
-  Projector
-  Tablet
-  Shelf screen
-  ATM
-  Cash machine
-  Mirror

Network IoT management

Automatically configure OS at broadcasting points

- ⌚ Auto-configuration of the device's operating system for best Displayforce Player performance.
- 🔧 More than 1000 settings to improve performance and stability.

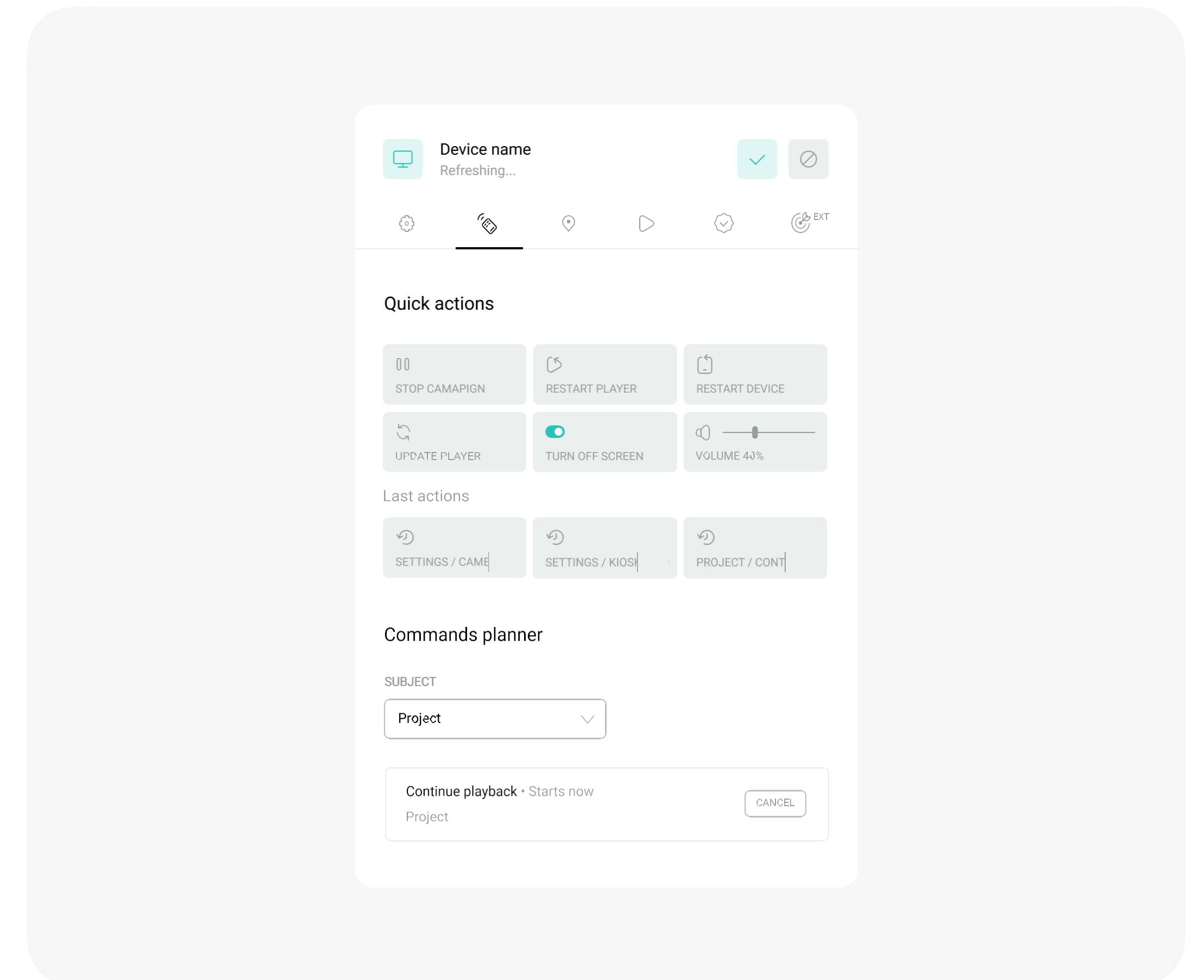


Network IoT management

Schedule working commands for months in advance

Set the time of command execution including different time intervals during a day.

Turn the devices on / off according to the schedule, considering holidays



Network IoT management

Save and manage traffic with smart shaper

Set up a time period for every device to download advertising campaigns and content. Time intervals within every day of the week and speed limit in KB/s to download.

Data loading intervals

Intervals

Allows you to set specific intervals at which it is allowed to download data to devices

Mon Tue Wen Thu Fri Sat Sun

Saturday

- 08:00 – 13:00 · 124 kb/s
- 15:00 – 19:00 · 124 kb/s
- 21:00 – 00:00 · 124 kb/s

13 : 30 — 14 : 30

124 kb/s

Manage roles and user groups

Add, edit, and remove platform user roles,
including turning on/off access to individual
platform features

Network IoT management

Managers

The team that is responsible for filling the content.

8 members

Users Rights Campaigns Content Templates Devices

All

Devices	Devices	Devices
<input checked="" type="checkbox"/> Access control	<input checked="" type="checkbox"/> Access control	<input checked="" type="checkbox"/> Access control
<input checked="" type="checkbox"/> Editing	<input checked="" type="checkbox"/> Editing	<input checked="" type="checkbox"/> Editing
<input checked="" type="checkbox"/> Editing root folder	<input checked="" type="checkbox"/> Editing root folder	<input checked="" type="checkbox"/> Editing root folder
<input type="checkbox"/> View	<input type="checkbox"/> View	<input type="checkbox"/> View

Content	Content	Content
<input checked="" type="checkbox"/> Approving	<input checked="" type="checkbox"/> Approving	<input checked="" type="checkbox"/> Approving
<input checked="" type="checkbox"/> Editing	<input checked="" type="checkbox"/> Editing	<input checked="" type="checkbox"/> Editing
<input checked="" type="checkbox"/> View	<input checked="" type="checkbox"/> View	<input checked="" type="checkbox"/> View

Planning	Planning	Planning
<input checked="" type="checkbox"/> View	<input checked="" type="checkbox"/> View	<input checked="" type="checkbox"/> View

My templates	My templates	My templates
<input type="checkbox"/> Approving versions	<input type="checkbox"/> Approving versions	<input type="checkbox"/> Approving versions
<input type="checkbox"/> Downloading	<input type="checkbox"/> Downloading	<input type="checkbox"/> Downloading

DELETE GROUP CANCEL SAVE

Logging, filters, audit

Different types of logs, filters and search subsystem. Initiator linking and audit mechanisms.

Device logs

Device logs register all operations and situations with OS, software and hardware that could be used in maintenance and audits.

System logs

System logs register internal events about metrics, quality, component availability and so on. Necessary for system administrators.

User logs

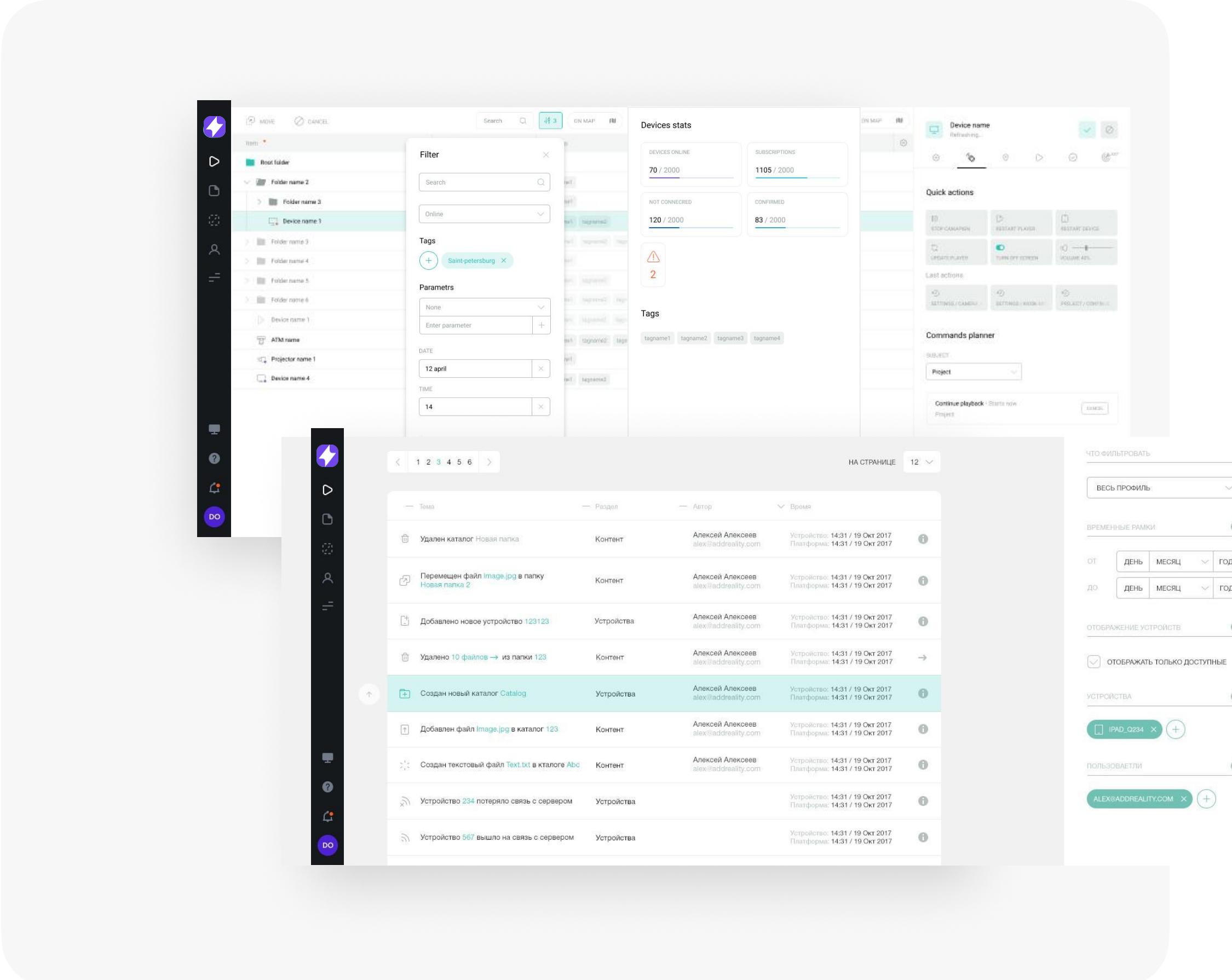
User logs record actions performed by every user.

Reports for audit

Reports for audit for any duration by any filters with initiators of specified operations, time and links.

Filters and search engine

Filters and search engine to quickly get the results of your requests in gigabytes of data.



The screenshot displays a complex web-based interface for managing network IoT devices. On the left, there's a sidebar with icons for navigation and a tree view of folder structures. The main area is divided into several sections:

- Devices stats:** Shows counts for online devices (70/2000), subscriptions (1105/2000), not connected devices (120/2000), and confirmed devices (83/2000). It also includes a 'Tags' section with a 'Saint-petersburg' tag and a 'Params' section with a dropdown set to 'None'.
- Quick actions:** A row of buttons for common tasks like stopping a campaign, restarting a player, turning off a screen, updating a player, setting a camera, and more.
- Last actions:** A list of recent actions such as 'SETUP / CAMERA', 'SETUP / KIOSK', and 'PROJECT / CONFIRM'.
- Commands planner:** A section for scheduling projects.
- Logs table:** A large table listing various log entries. Each entry includes columns for 'Тема' (Topic), 'Раздел' (Category), 'Автор' (Author), and 'Время' (Time). Examples of entries include 'Удален каталог Новая папка' (Catalog removed) and 'Добавлено новое устройство 123123' (New device added).
- Filtering and search:** On the right, there are sections for filtering logs by date (from 12 April to 14 April), selecting profiles, and applying temporary filters for specific users like 'ALEX@ADDREALITY.COM'.



Cross-channel inventory

Play on any digital surface, even on self-service POS, scales, or kiosks

Use DISPL Kit or install on



Windows



android

TIZEN



SAMSUNG
SMART
SIGNAGE PLATFORM

iOS



Web-based





Have a question?
Contact us!

Appendix →

Technical requirements for equipment

Display Type

LCD, LED, as a part of complex solutions — interactive kiosks and furniture, shelf displays

Hardware

Android 5.1+ OS, CPU — Cortex-A53, 2 GHz Octa-core, RAM — 2 GB, GPU — Mali-T820

Windows OS, CPU — Core i3 and higher RAM — 4 GB, SSD / HDD — 128 GB+

Camera Resolution

1280 × 720px (720p) and higher,
USB connection, no autofocus

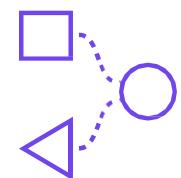
OS

Windows 8.1 x64 Professional;
Windows 10 IoT Enterprise; Android

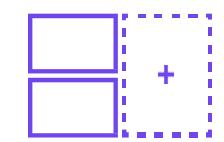
Network

Player Internet connection from 2 Mbit/s

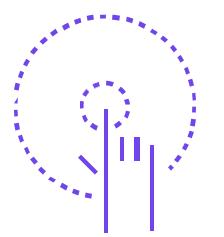
Rich feature set



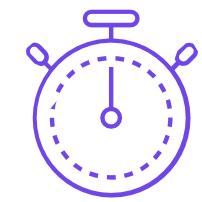
Visual content editor



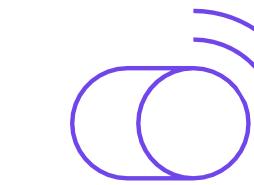
Templates



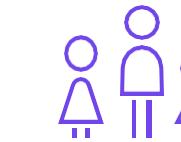
Touch apps



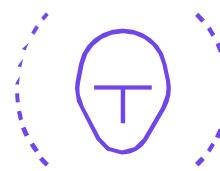
Scheduler



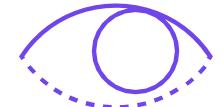
Triggers



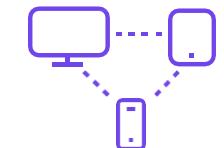
Audience detection



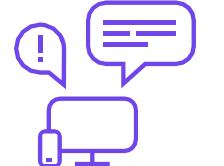
Attention capture



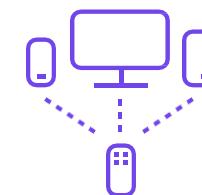
Audience measurement



Peer-to-Peer data transfer



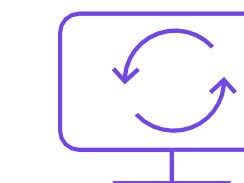
System logs



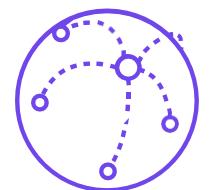
Commands between devices



Proof of play



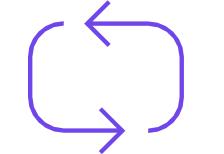
Screen synchronization



Network management



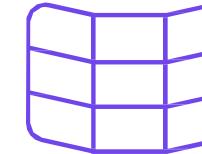
Security



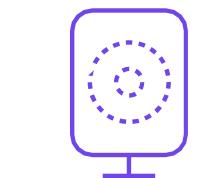
Remote updates



Background music management



Custom video walls



Kiosk mode



Email notifications

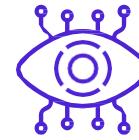


User and role management

Major features of our computer vision

Audience analytics

Computer vision and machine learning algorithms intended for advertising and digital signage purposes.



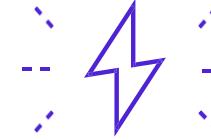
Marketing applicable

Our own computer vision algorithms with 9+ years of development designed for real-world usage at retail locations and any indoor points.



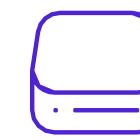
Top-ranked

Algorithms in the top of NIST Computer Vision rankings. One of the best in speed and accuracy.



Fast response

Very fast algorithm in real-world usage. Up to 300 ms for age/gender detection and up to 1 second to recognize attributes. Less than a second to show relevant message to customer.



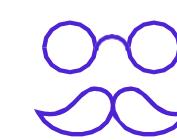
Out of the box

Local computations without transferring video streams or images to a server. Work without extra devices or traffic out of the box.



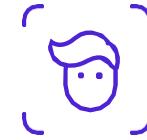
Face detection & match

Even as people move and turn their faces, our algorithm still recognizes the same faces.



Facial attributes

Recognizes 14+ facial attributes for targeting or use in statistics/analytics. Age, gender, ethnicity, headwear, etc.



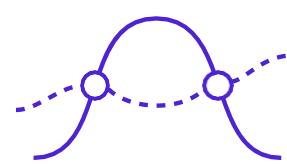
Identification (on-demand)

Face identification works with or without personalization (on-demand). Communicate with people individually.



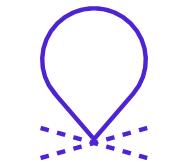
Real-time triggers

Content triggering by any attribute, fact of presence, social demographic features, etc. to influence your audience at the right moment.



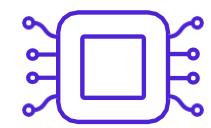
Data enrichment

Collects a lot of statistics data for audience and behavior analytics.



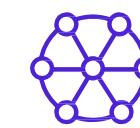
Customer heatmap (on-demand)

Decentralized face tracking between different devices to create a customer journey for each person in a retail location and learn more about their preferences.



Low-quality face recognition

Our neural network and data sets are trained to work in real cases (not ideal "passport-like" photos with good light and so on).



Machine learning

Auto-training neural network. The more faces it sees, the better identification quality it gets.

Face identification features (on-demand)

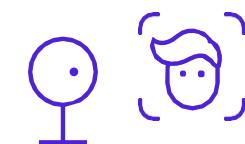
Audience analytics

Functionality access after checking the client's legality and compliance with the GDPR



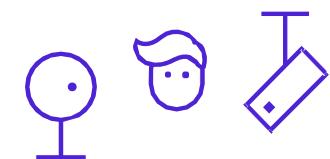
CRM integration (on-demand)

Face identification by photo to use in interactive scenarios or in statistics, CRM or other services.



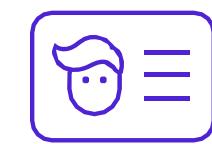
Face match

Face identification by previous history to recognize a person who appears again in front of the same camera.



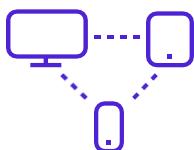
Face match inherit

Face identification by previous history from other devices to recognize a person who appears again in front of a different device.



Face match tracking

Track each person by one ID in a location without collisions and recognize them as a new person. Identify unique people.



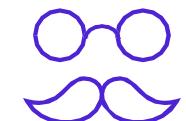
P2P synchronization

P2P algorithms for exchanging anonymous face hashes between devices to perform cluster analysis of the entire audience inside the location, know their history and interests, and use it to show relevant messages.



Customer heatmap

Customer journey algorithms create a person's entire path in a location with their attributes, interests (POI), mood changes and so on. It can then be matched with a cashier deck, CRM and other data.



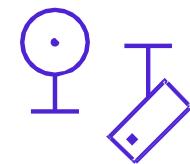
Safe & hyper-personalized

Face identification works with or without personalization (depends on client). Communicate with people individually.

All computer vision features

Audience analytics

Our computer vision algorithms are designed to work in real-life situations locally even without a network using basic cameras, and can recognize 14+ different attributes.



Mass devices

Our own computer vision algorithms with [SEP] 9+ years of development designed for real-world usage at retail locations and any indoor points.



Only real faces

Algorithms in the top of NIST Computer Vision rankings. One of the best in speed and accuracy.



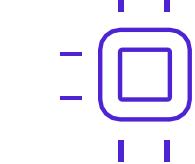
Privacy compliant

By default, no photos, videos, etc. are sent from devices to comply with GDPR, CCPA, and other regulations.



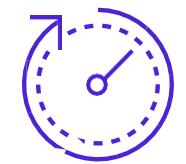
No internet

Algorithms work locally on devices without an internet connection. No servers needed for computer vision. No server or traffic costs.



Optimized

Optimized for low-end devices with simultaneous content playback. Support for different CPUs: x86, 64-bit, ARM, ARMv8.



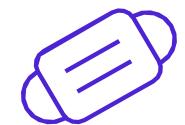
Real-time

Trigger on audience right away without delays or remote processing.



Staff exclusion

Staff will be marked to exclude them from the main analytics data.



Mask detection

Face detection works even for people in masks. Don't lose your audience, even during COVID.



Hair detection

Facial hair, hairstyle and hair color recognition.



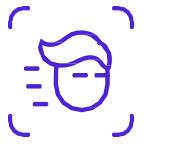
Accessory detection

Glasses and headwear recognition.



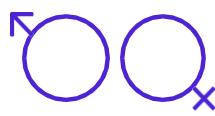
Group recognition

The algorithm can recognize and track 20+ faces simultaneously. It depends only on the hardware.



Face movement

Facial movements are recorded in the timeline.



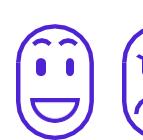
Gender recognition



Age recognition



Smile detection



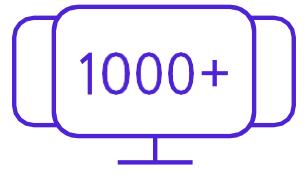
Mood recognition



Ethnicity recognition

Support for big networks and high load

Enterprise networks



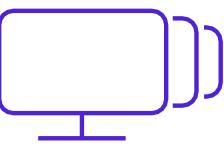
10,000+ devices

Networks support thousands of devices.



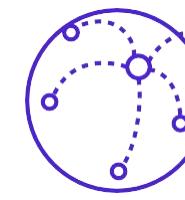
Sustainable architecture

High-load architecture with 10K+ RPS.



Horizontal scaling

Seamless scaling without development.



Around the world

Works around the world with multiple users simultaneously from any point on the globe.



Mass operations

Mass operations support to manage multiple devices simultaneously.



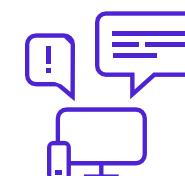
Remote operations

Operations without physical (sometimes even remote) access to devices.



Audience data

Gigabytes of data about shows and audience.



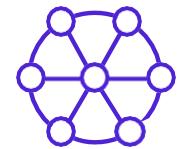
Device metrics

Hundreds of devices' metrics are constantly monitored to notify you about hardware problems.

Peer-to-Peer algorithms

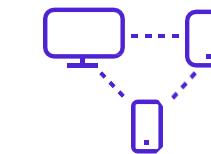
Enterprise networks

P2P algorithms are used for different mechanics, from complex interactive templates on multiple devices and content playback synchronization to robust face data exchange without a server.



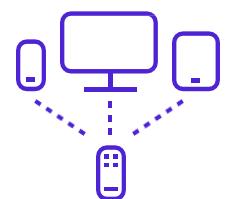
P2P algorithms

P2P algorithms with implemented transport layer^[1] and auto lookup to enable various serverless mechanics.



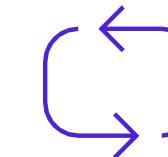
P2P data transfer

Peer-to-peer data transfer is used between devices to speed up face hashes and their history inside the location without a server. Only final aggregated data is sent to the server.



Serverless commands

Serverless commands between devices provide a lot of opportunities to create interactive mechanics and communicate with customers in stores. Change shop decor on LED: audio and target layouts on screens depend on what clients or staff choose on a tablet, for example.



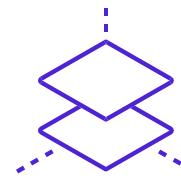
Synchronized playback

Synchronize content playback on different screens to create seamless^[2] delivery across the location and launch content from different channels^[3](audio, screens, LED) simultaneously.

Real-time render on end devices

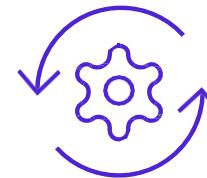
Enterprise networks

Optimized to show dynamic content with real-time changed data for any types of devices and platforms.



Real-time rendering

Real-time rendering engine that composes layers and chooses the best approaches for visualizations on different types of devices.



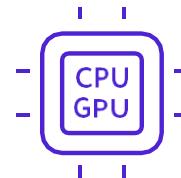
Low-end device support

Optimizations for low-end devices to support content playback, monitoring, reporting, working with video analysis and peripherals.



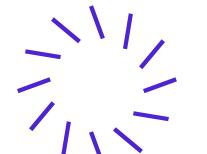
Extreme resolution support

Support extreme resolutions over 12K for video walls and LED to show content on billboards, museums, exhibitions and other non-standard cases.



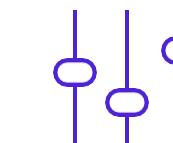
Balanced performance

Combined CPU and GPU render to balance between performance and hardware capabilities.



Smart preloads

Smart preloads and cache to speed up smooth content playback without black screens or long transitions.



Manual graphics settings

Graphics settings can be manually configured to avoid occasional problems with GPU drivers or hardware.

Telemetry and monitoring

Enterprise networks

Simply know what is going on with your network, perform preventive maintenance, and get useful reports.



Real-time rendering

Real-time telemetry is collected to provide actual information to network operators. Huge network of IoT devices.



Problem reports

Devices send information about critical situations and errors.



Event monitoring

Events are monitored with all necessary information about devices, playback interruptions, etc. Reports, filters and audit-ready solution.



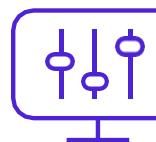
Email notifications

Email notifications are sent to specific administrators (depending on department and region) about errors for immediate reaction.



Server monitoring connected

Use Graphana, Prometheus, Zabbix or similar solutions for infrastructure monitoring and solution health checks.



Monitor device configuration

Do an audit of your network, including CPU, RAM, ROM, screens, cameras, and peripheral devices.

Watchdogs, kiosk mode and auto configuration

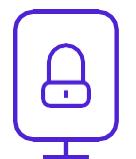
Enterprise networks

Don't worry about black screens, hardware/OS/software faults, vandalism, and unacceptable popups. Our software automatically does the best.



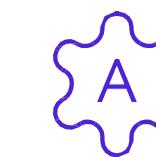
Watchdog mechanisms

Watchdog mechanisms will auto restart the player or device when hardware/OS/software/driver faults are detected to restore correct operation automatically without human involvement.



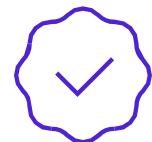
Kiosk mode

The kiosk mode blocks popups from the OS, other software, and error/update windows, and disables features and gestures that prevent playback or are used by vandals.



Auto configuration

The auto configuration mechanism applies more than a thousand OS/hardware/service tweaks to prepare the device for stable single-purpose work.



Long-term software expertise

We have years of experience supplying software for huge networks, which shows in our software, processes and recommendations.



Reliable network

Protected against traffic spoofing and network interference.



Prevention of user intervention

Automatically block hardware and software buttons and ports to prevent user intervention.

Security

Enterprise networks

Enjoy an advanced set of security features to stay protected.



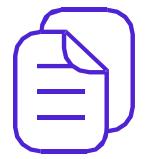
Encrypted data

Encrypted data transmission by HTTPS protocol and strong TLS certificates to prevent data theft and spoofing.



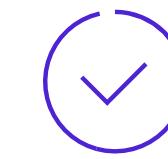
Protection checks

Headers, tokens, cookies, storage, IPs and other protection checks against multiple attack vectors.



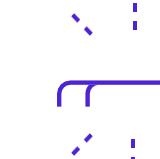
Logs

The system logs every access, operation request and session for security purposes.



Integrity check

Integrity check with file operations to prevent data corruption from device storage faults and sudden power-offs.



Encrypted keys

Encrypted keys on end devices to prevent theft of tokens and sensitive data.



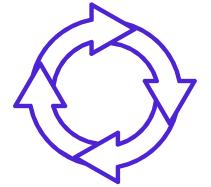
Change confirmation

Content/campaign change confirmations for users without approved rights. Necessary for critical content changes.



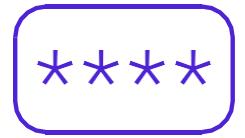
Two-factor authentication

Two-factor authentication to improve security level and prevent credential theft.



CAPTCHA

CAPTCHA implemented to improve security level and prevent attack vectors by password guessing.



Strong encrypted passwords

Strong passwords with encryption to prevent password theft, decryption, and brute force by dictionary.



Session controls

Session controls to improve security level and close opened sessions on other devices.

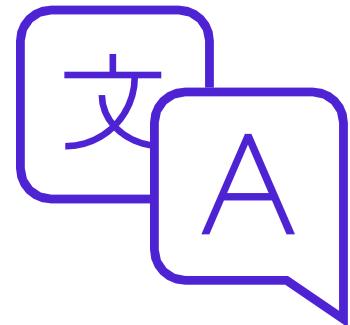


Expertise

Multiple successful security audits with many years of expertise.

Localization and global support

Enterprise networks



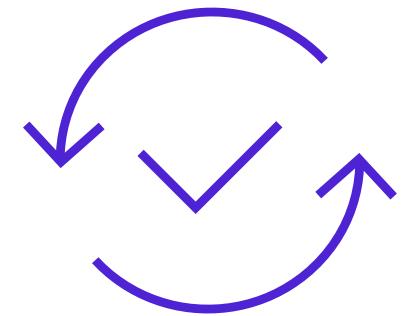
Localization provided

The interface is localized into 22 languages. You and your colleagues from other countries can use your native language.



No firewall restrictions

Servers are based in Europe (Azure). This allows you to control marketing without the restrictions of a firewall.
On-premise deployment available.

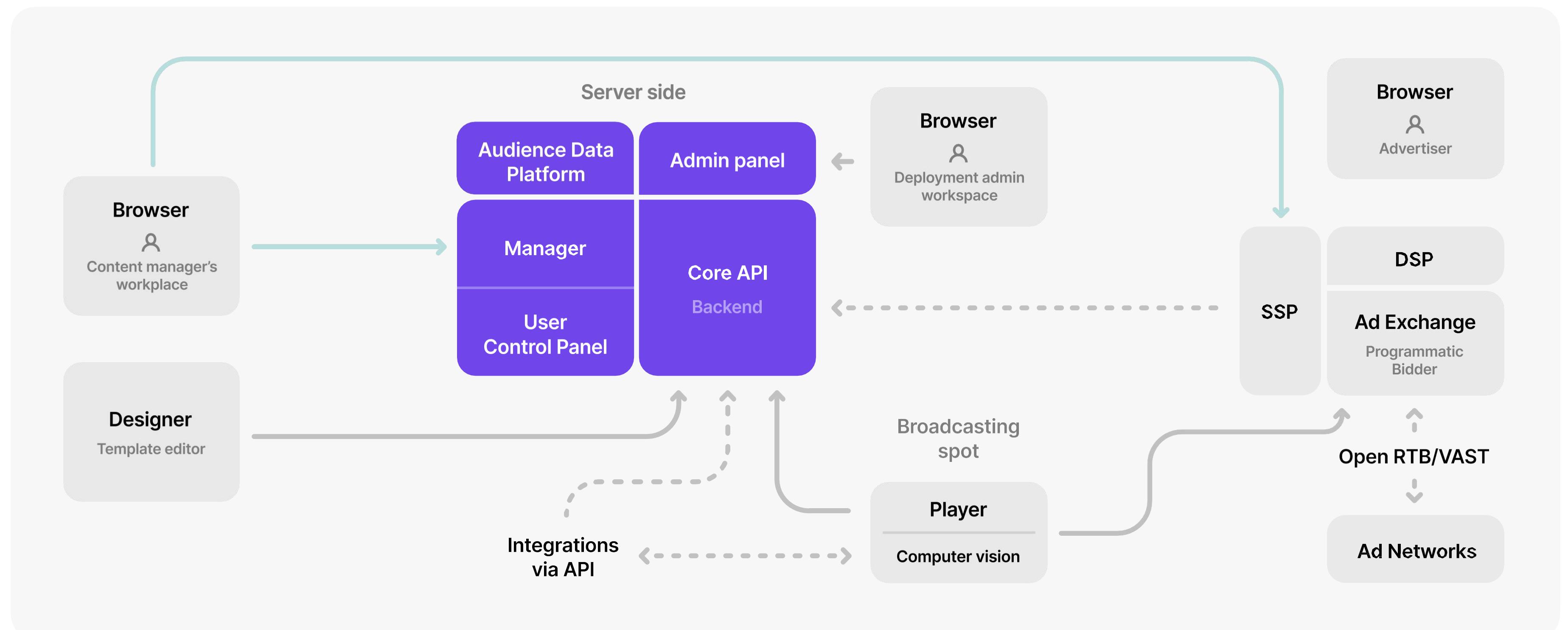


Partners & support

50+ partners in 18 countries around the world. Ready to provide support and assistance with equipment selection.

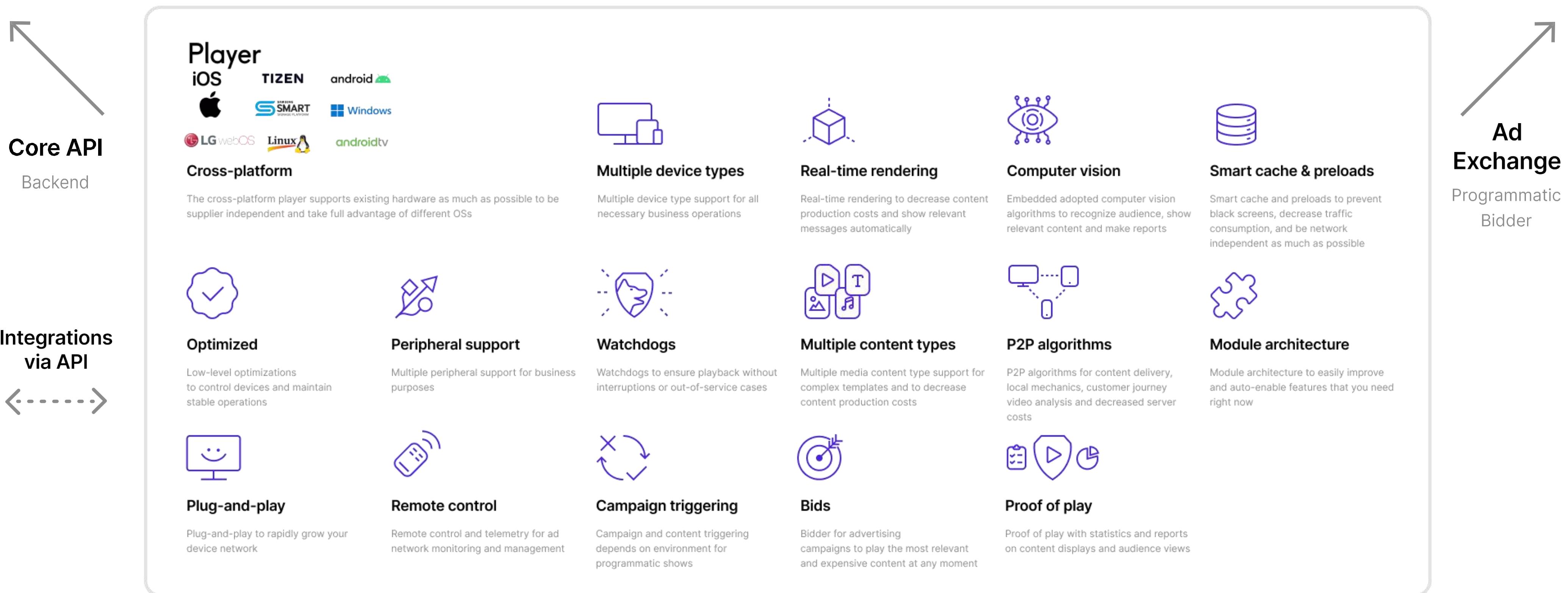
Architecture — General

The architecture is designed for business and IT departments with different approaches for their needs. Communication between components is performed via REST API.



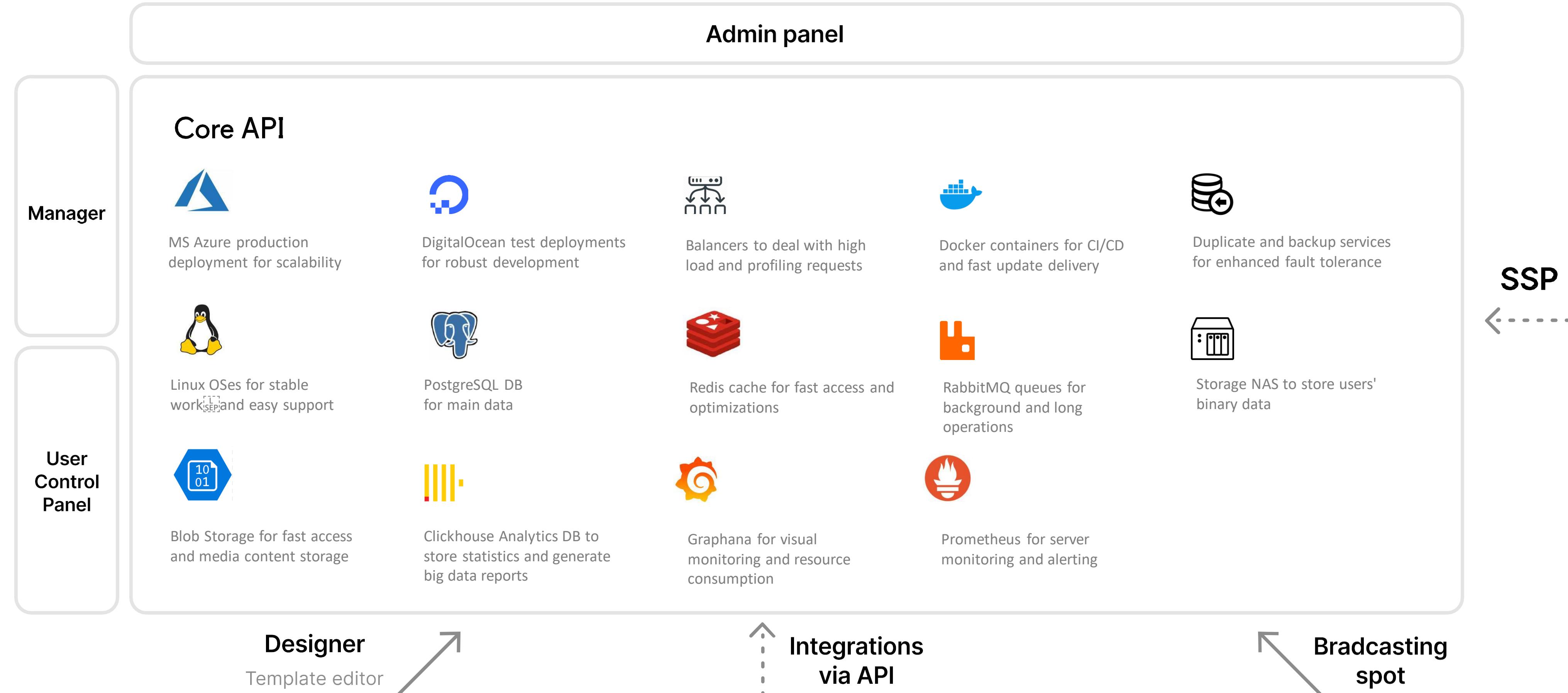
Architecture – Player

The player uses the complete capabilities of the OS, hardware and peripheral devices to provide stable playback and meet the end client's needs.



Architecture – API (Server/Backend)

The backend is designed for high performance, security, easy deployment and high load



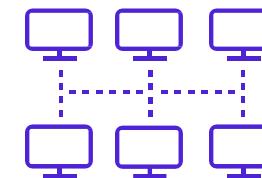
Architecture — Manager

The Manager is designed to provide fast and easy control to users from any device for any network scale

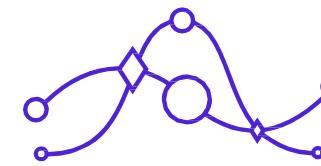
Manager



Support for different OSs to meet any client's requirements



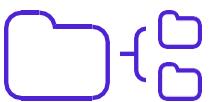
Designed to easily control thousands of devices



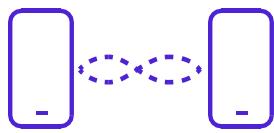
Dynamic visual charts for marketers and analytics to see how campaigns or content really work and how they influence the audience



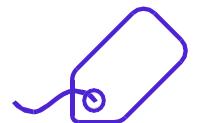
Cross-browser support to fit any client's preferences without any plugins, etc.



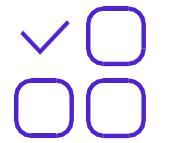
Groups and directories with any nesting depth for fast navigation



Mobile device support to manage the network even without a computer



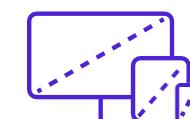
Tag and filter to group devices by attributes, categories, display types, etc.



Point and bulk operations for easy network maintenance



Mature and intuitive UI/UX with user-friendly operations for any management role

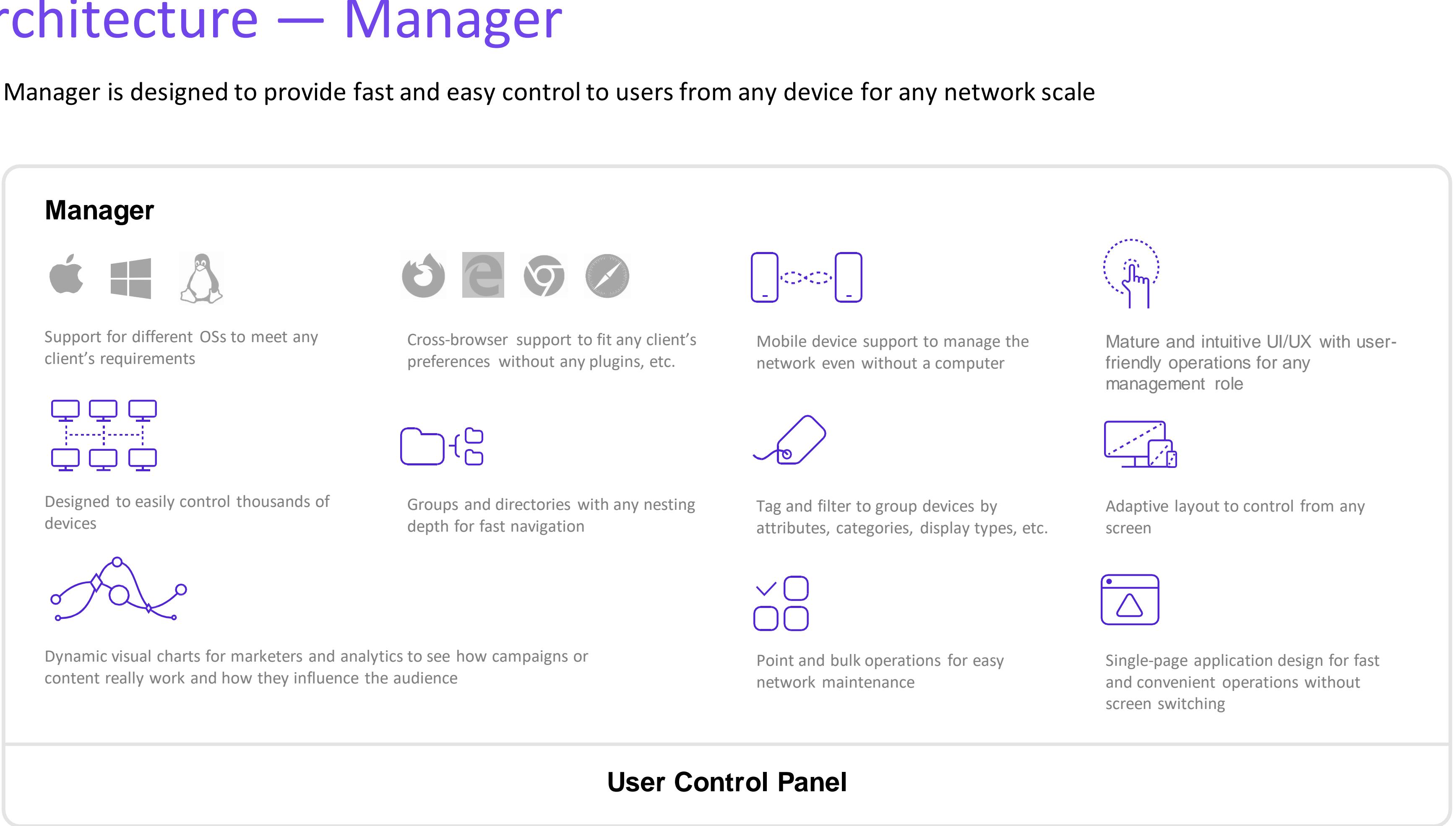


Adaptive layout to control from any screen



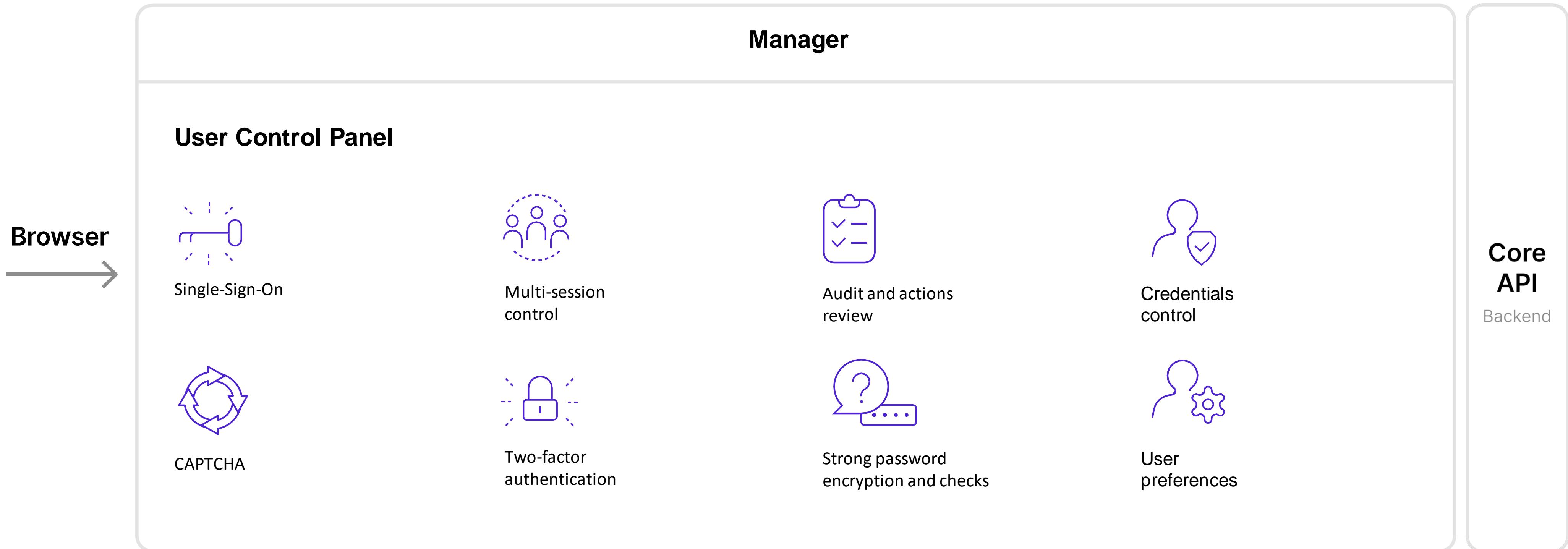
Single-page application design for fast and convenient operations without screen switching

Browser



Architecture — User Control Panel

The User Control Panel is designed to provide secure access to any platform from one account using user preferences. Essential for enterprise-quality products.



Architecture – Admin Panel

The Admin Panel contains global control features, deployment settings, system logs, platforms, and licensing management.

Admin Panel



Administrative tool

Special administrative tool for support and maintenance with specialized utilities and features that are required for any big deployment.



Network overview

MAU, WAU and other business metrics about every platform's usage. Know how users work with their networks.



Metrics-driven

Platform, user and device metrics for owner and service desk, proactive user help and upsales.



License management

License and subscription plan management to work with money and payments.



Financial clarity

Payment and bill history for client management and financial department needs.



Key generation

License key generation for client and partner subscription activations and flexible payment models.



Administration

Administrators with SSO access for easy role management and permission restrictions.



System logs

System logs for maintenance, audit, IT department and support needs.



Deployment management

Manage global settings, limits, notifications, main rules, etc. to configure and improve your solution.

Browser



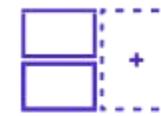
Core API

Backend

Architecture – Designer (Template Editor)

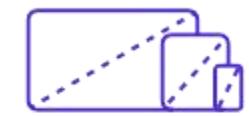
The Designer allows you to create any type of template with integrations, layouts for video walls, interactive interfaces, and more.

Designer



Module architecture

Module architecture with widgets, screen setups, layers and links provides opportunities to assemble application-level templates without programming.



Universal templates

Create templates for your screens, audio systems and interactive solutions in one place. Easy to update, make changes and share results with other users.



Visual editor

Visual desktop editor in the style of Photoshop or PowerPoint. Manage layers and layouts with familiar approaches.



Font management

Font management without problems with lost files or installation issues. You don't need to install fonts on end devices for your templates. We do it automatically.



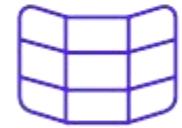
Content parsing

Media content parsing features. Use any type of media content to build a template or just drag and drop a Photoshop PSD file to parse design layers automatically.



Various integrations

Various integrations are available to connect external resources and services to fit your business needs.



Video walls

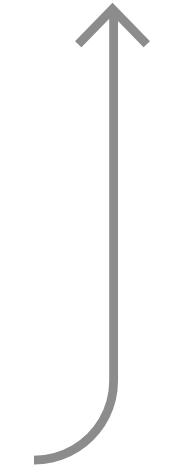
Video wall engineering features allow you to create any custom layout for 12K and higher resolution screens.



Fast preview

Immediately preview and test how your template works on your device without special hardware.

Core API
Backend



Architecture – Computer Vision

AI algorithms specially designed and developed to fit the market and work in real-life situations with easy setup.

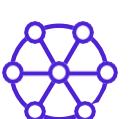
Player

Computer Vision



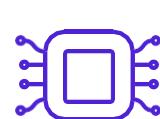
Video analytics algorithms

Unique video analytics algorithms without open-source or third-party licenses. 10+ years of development especially for digital signage.



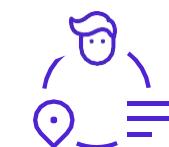
Best recognition algorithms

One of the best algorithms in the world confirmed by multiple global independent tests. Extremely robust and accurate. 98%+ accuracy of gender recognition, 95%+ accuracy of age group recognition.



Data sets

Proprietary data sets and neural network that uses machine learning to train on millions of real-world images.



Full cycle

Full cycle of algorithms to work with the audience. Detection, tracking, recognition and identification. All the necessary technical solutions work together in one place.



Self-sufficient

No need for custom integrations with third-party tools. Video analytics work out-of-the-box simultaneously for content playback without extra devices. Just plug in a camera.



Big Data

Big Data for dozens of advertising and marketing reports based on the recognized audience.



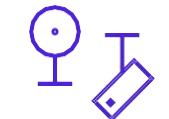
Works locally

Works locally without internet and is ready to be used for real-time ad campaign targeting.



Audience detection

Algorithms to identify unique visitors, not just views. Know the customer journey of your visitors.



No special hardware

No special hardware or preparations to start. Just use simple USB cameras to work with your audience.

Architecture – APIs and integration mechanisms

Documented APIs and integration mechanisms to extend functionalities and connect external services, CRMs, hardware, etc. for business purposes.

API and integrations



APIs for custom player development to support specialized hardware or custom outputs



Billing APIs to integrate with third-party licensing systems



XML/RSS/JSON, plain text parsing to get data in real time from external sources



Webframe support for embedded web content and various external and custom services



File statuses to communicate with different retail locations and industrial systems



Telnet server to communicate directly with devices



Web resource status checks to automatically switch between services and fallback screens



Server monitoring to provide continuous SLA and preventive alerts



External device monitoring to integrate with a united client landscape



Ad campaign data to create different digital channel outputs



Invisible mode for seamless operations with other software on the device



Application container to integrate third-party applications

Core API

Backend

Player

