

# Platform frameworks and tools our development team use

## Frontend

### Delegate FE (User)

- **Angular 17:** Core framework for the web application.
- **Ionic 7:** UI framework which provides "native" style components for iOS and Android.
- **NGRX:** State management library providing maintainable patterns for development.
- **Ably:** Allows for realtime websocket messages which are used for engagement, messages, alerts and notifications.
- **Capacitor:** Allows for compiling the web app to an Android & iOS native app using web view technologies.
- **Mux:** Provides components for a smooth user experience when viewing livestreams and on demand videos.
- **OneSignal:** Used for native push notifications to devices (when installed as native app).

### New CMS (Admin)

- **Angular 17:** Core framework for the web application.
- **NX:** Monorepo build system enhancing maintainability over the codebase.
- **Angular Material UI:** UI framework providing core elements such as form inputs and buttons.
- **Ably:** Allows for realtime websocket messages which are used for updating stats in realtime.
- **LiveChat:** Provides the embedded 'Chat to support' widget.

### Registration Suite (User)

- **Angular 17:** Core framework for the web application.
- **NX:** Monorepo build system enhancing maintainability over the codebase.

- **Angular Material UI:** UI framework providing core elements such as form inputs and buttons.

## Video Break Outs (User)

- **Angular 17:** Core framework for the web application.
- **NX:** Monorepo build system enhancing maintainability over the codebase.
- **Angular Material UI:** UI framework providing core elements such as form inputs and buttons.
- **Ably:** Allows for realtime websocket messages which are used for updating the view in realtime.
- **LiveKit Video:** Realtime video library to allow the publishing and receiving of video and audio tracks in calls.

## Kiosks (User)

- **Angular 17:** Core framework for the web application.
- **NX:** Monorepo build system enhancing maintainability over the codebase.
- **Angular Material UI:** UI framework providing core elements such as form inputs and buttons.
- **Electron:** Framework to generate native desktop applications, used for the printer tray software with kiosks.

## Legacy CMS (Admin)

- **Angular 9:** Core framework for the web application.
- **Angular JS:** Legacy Core framework for the web application.
- **Ably:** Allows for realtime websocket messages which are used for updating stats in realtime.
- **LiveChat:** Provides the embedded 'Chat to support' widget.

## Smart Sessions (User)

- **Angular 15:** Core framework for the web application.
- **Angular Material UI:** UI framework providing core elements such as form inputs and buttons.
- **Ably:** Allows for realtime websocket messages which are used for updating the view in realtime.
- **Twilio Video:** Realtime video library to allow the publishing and receiving of video and audio tracks in calls.
- **PixiJS:** Core rendering engine to display users, bubbles and graphics to users.
- **NGRX:** State management library providing maintainable patterns for development.

# Backend

## Main API

- **Django 4.2.11**: Core framework for the API.
- **Amazon SES**: Email service for all delegate and admin communication via the platform and CMS.
- **Amazon RDS**: Relational database management system.

## Smart Sessions API

- **FastAPI 0.x.x**: Core framework for the API.
- **ably 1.2.1**: passing actions (eg leaving a bubble) between FE and API

## Mettings API

- **FastAPI 0.70.0**: Core framework for the API.

## Public API

- **FastAPI 0.100.1**: Core framework for the API.

## Analytics Microsite

- **Amazon Glue**: main powerhouse for processing and retrieval of big data

# Infrastructure

- Backend projects are hosted on AWS ECS, Frankfurt Data Centres.
- Frontend projects are hosted on AWS S3 and distributed via AWS CloudFront.
- Livestreams and on demand videos are served from Mux.
- Realtime video calling (VBO & SS) is provided from Twilio.

Associate Terminology

*Codebase*

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