

# CDS

## VIDEO SUBMISSION (BACKEND)

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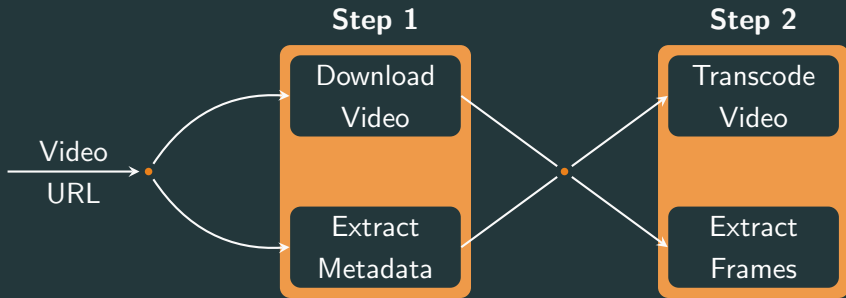
# Overview

- Currently, submission is handled externally
- Moved towards an in-house solution
- Single page with multiple deposits (i.e. **Project**)
- Specific workflow in the background for each project

# The AV Workflow

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# Workflow



# Invenio Video Toolkit

*(Name in Progress)*

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# Video Processing API

- Transcoding
  - *start\_encoding*
  - *stop\_encoding*
  - *get\_encoding\_status*
- *extract\_metadata*
- *extract\_frames*
- Configured as import strings, in order to allow **multiple backends**

## Invenio Framework

This work will lead to the creation of a general video toolkit for *Invenio*, which will include the wrappers for **FFmpeg** and **Sorenson**.

# Server-sent Events (SSE)

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# Motivation

- A way to update the UI **asynchronously**
- Better alternative to polling
  - Responsive
  - Data-driven



# Usage

- Channel per project
- Type per task
- Access rights

## Invenio Framework

Basic SSE functionality and integration with *InvenioDeposit* is implemented on the new *Invenio* module *InvenioSSE*.

# Tasks

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# Webhooks

## Extended REST API of *InvenioWebhooks*

- `hooks/receivers/<rid>/events/<eid>/tasks/<tid>`
- Allows fine-grained control of individual tasks on a single event
- **DELETE** → cancel
- **PUT** → restart

# SSE Tasks

Extended *Celery*'s task base class for SSE integration.

Overloaded some task methods to additionally send appropriate SSE:

- *update\_state*
- *on\_success*
- *on\_failure*
- *on\_revoke*

# Cancelable & Undo-able Tasks

Extended *Celery's* task base class for safe cancel/undo.

- Every task must implement the **clean** method, which should undo any side-effects from its execution.
- Imposes explicit resource management

# Miscellaneous

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# File Tags

- Store video's metadata
- File relationships (e.g. *master file*)
- File types (e.g. *video*, *frame*)

## Invenio Framework

Tags were added as an extra feature in [InvenioFilesRest](#).

# Data Model

- Defined new schemas for **Project** and **Video**
- Inspired by widely-used solutions (e.g. [schema.org](https://schema.org/))



# Report Number Generation

- **Project**
  - Report number is automatically generated on publish
  - Uses the record's metadata (i.e. *category*, *type*, *year*)
- **Video**
  - Utilizes hierarchical sequences
  - Child sequence of *Project*

## Invenio Framework

Complete rewrite of **InvenioSequenceGenerator**.

# Demo

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