



TERA
Group



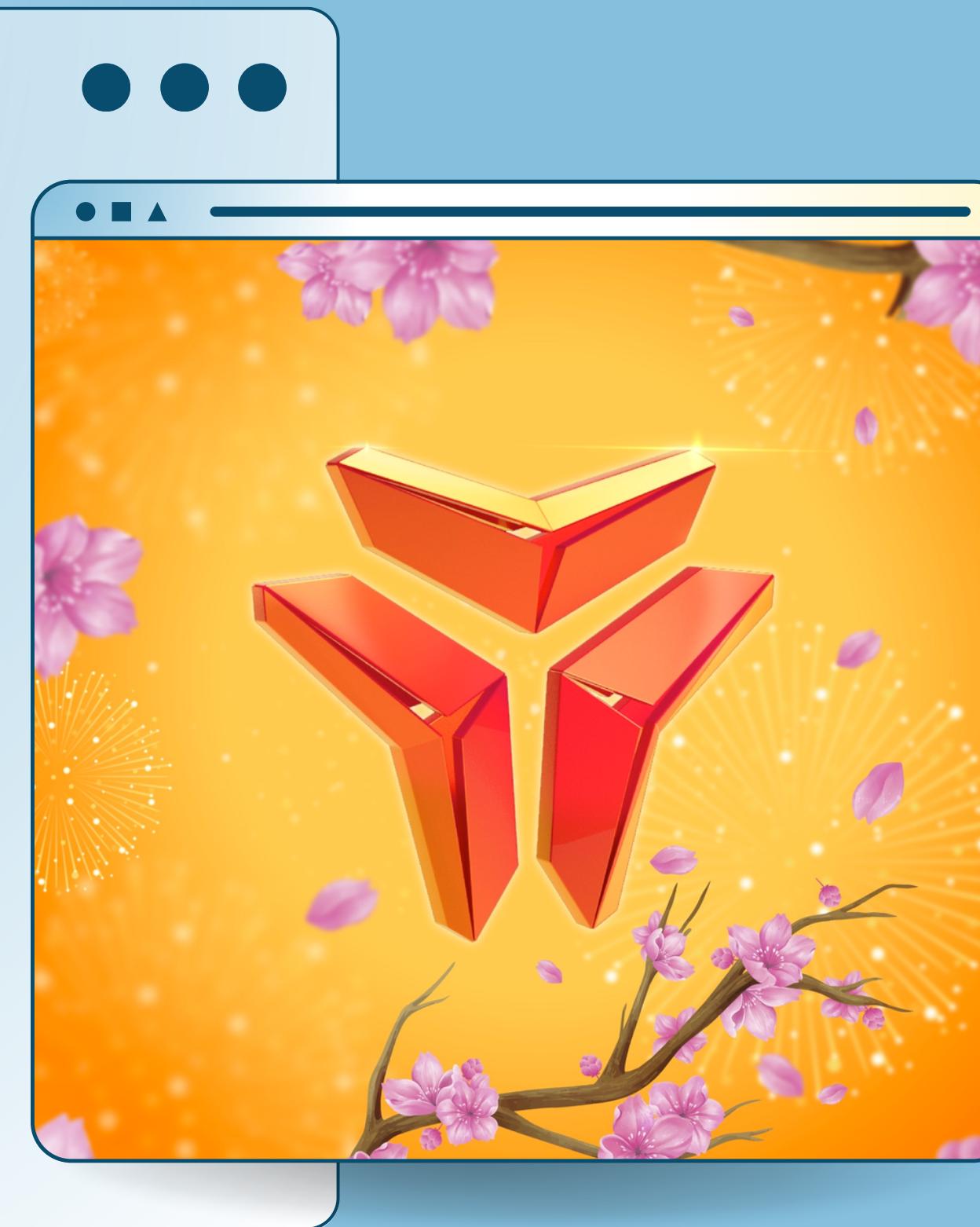
VCMS TERA TRAINING

Presented by: Phuoc Truong & Tuan Nguyen



TỔNG QUÁT

- Giới thiệu
- Thiết kế hệ thống
- Demo
- Kết luận, hướng phát triển





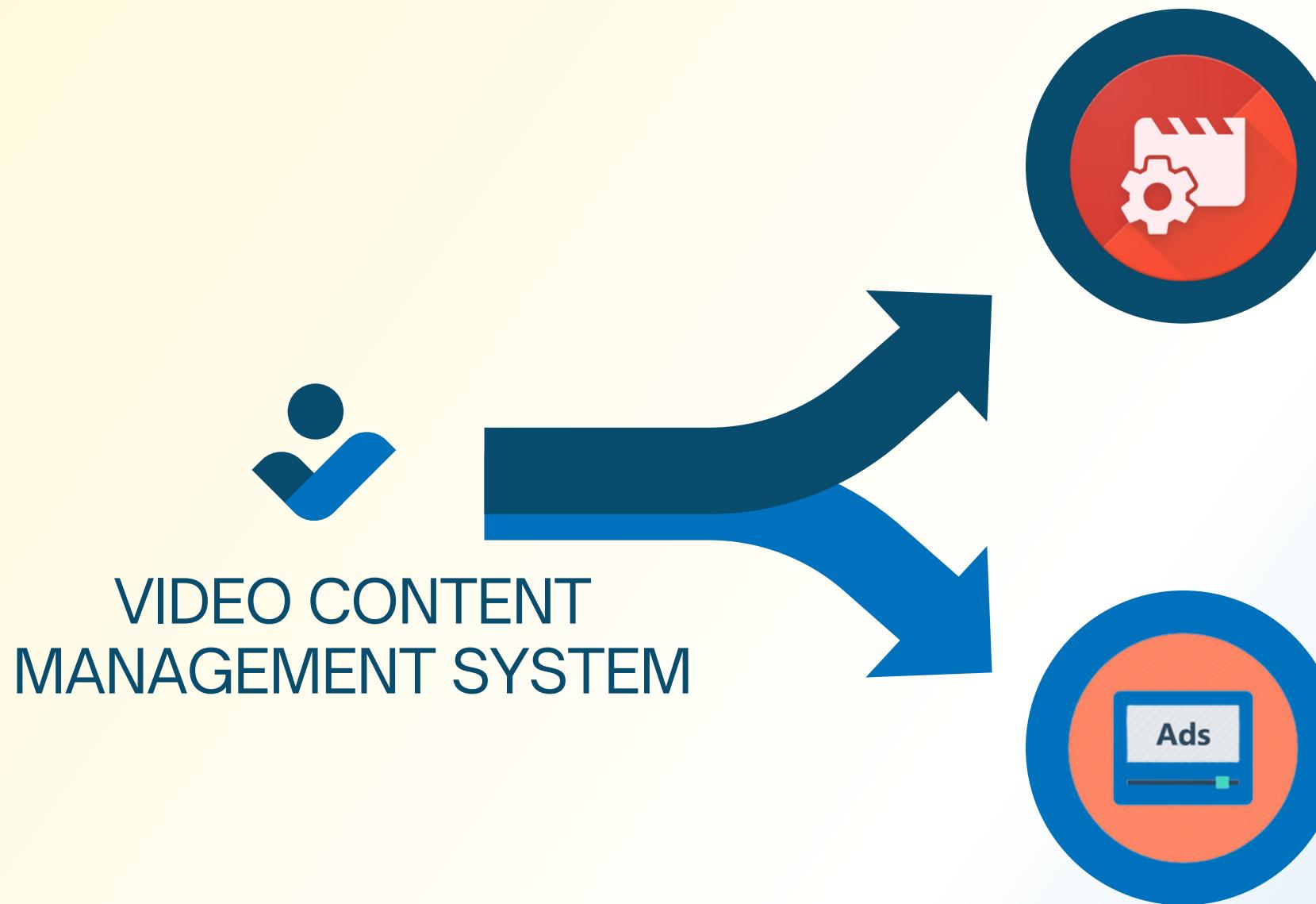
GIỚI THIỆU

- VCMS - Video Content Management System





USECASE



TRANSCODE AND DELIVERY

Từ một video gốc ban đầu, transcode nó thành các segment ngắn với nhiều độ phân giải khác nhau và cung cấp chúng đến client để preview.

PRODUCT ADS IN VIDEO

Thêm thông tin về sản phẩm xuất hiện tại một khoảng thời gian trong video để người dùng có thể tua đến xem.



THIẾT KẾ HỆ THỐNG



TERA Group

BACKEND



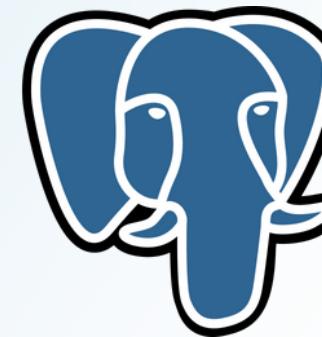
Spring Boot

REST API



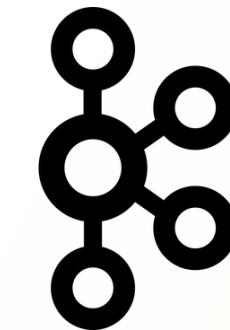
tus.io

Resumable Upload



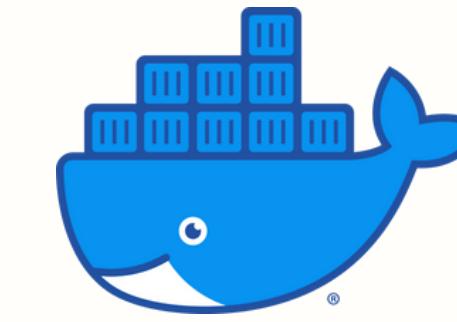
PostgreSQL

Database



Kafka

Message Broker



Docker

Container & Volume



FFMPEG

Transcode



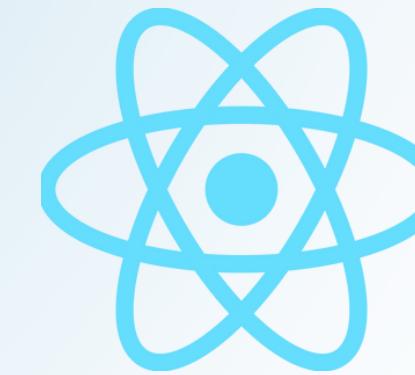


FRONTEND

...



NEXT.JS



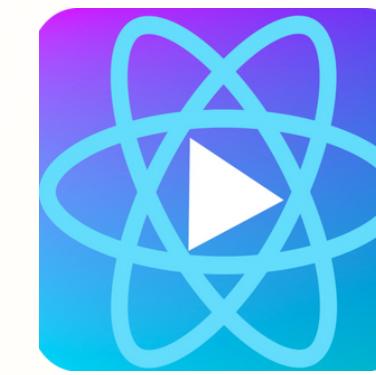
React

Framework



Uppy

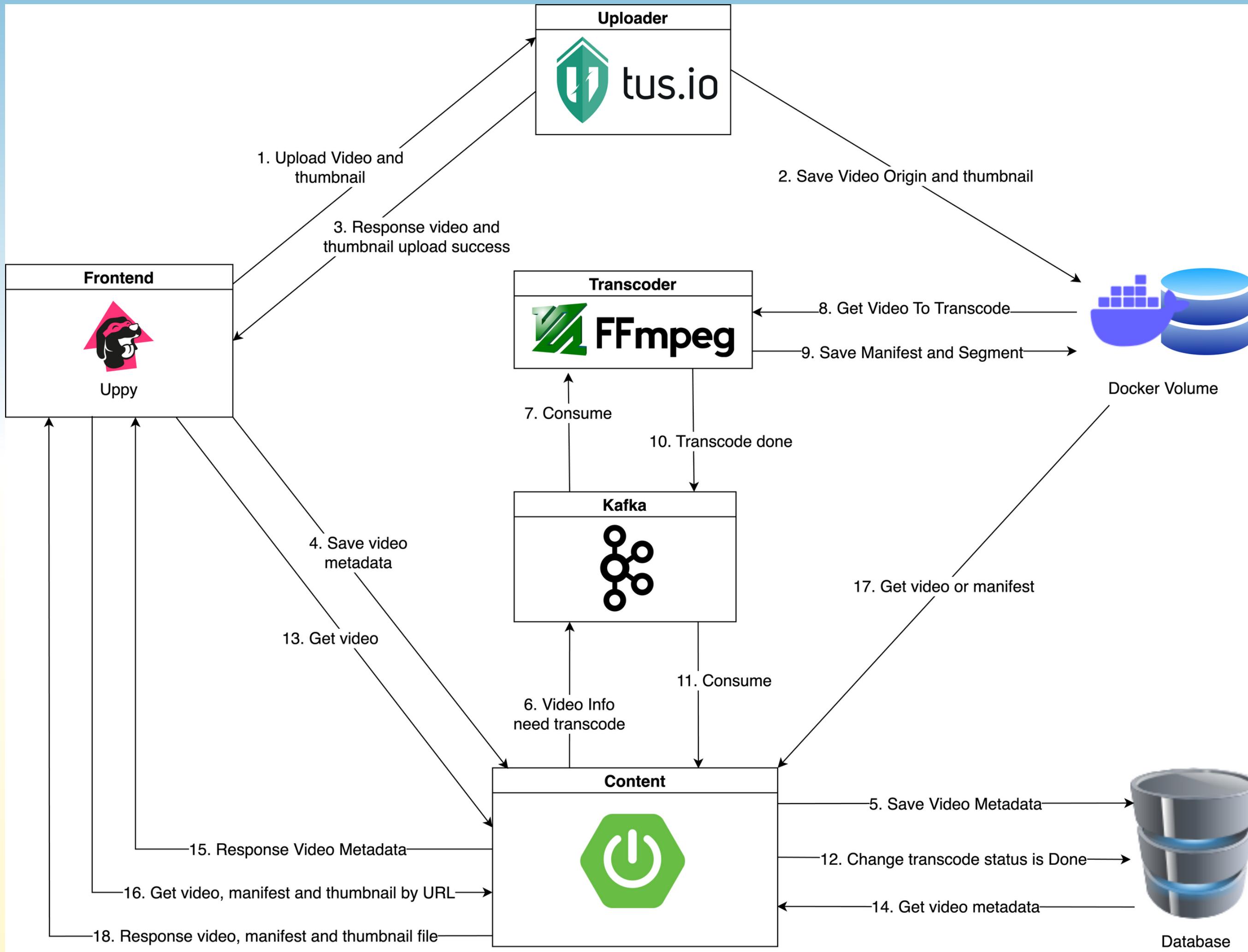
Uploader



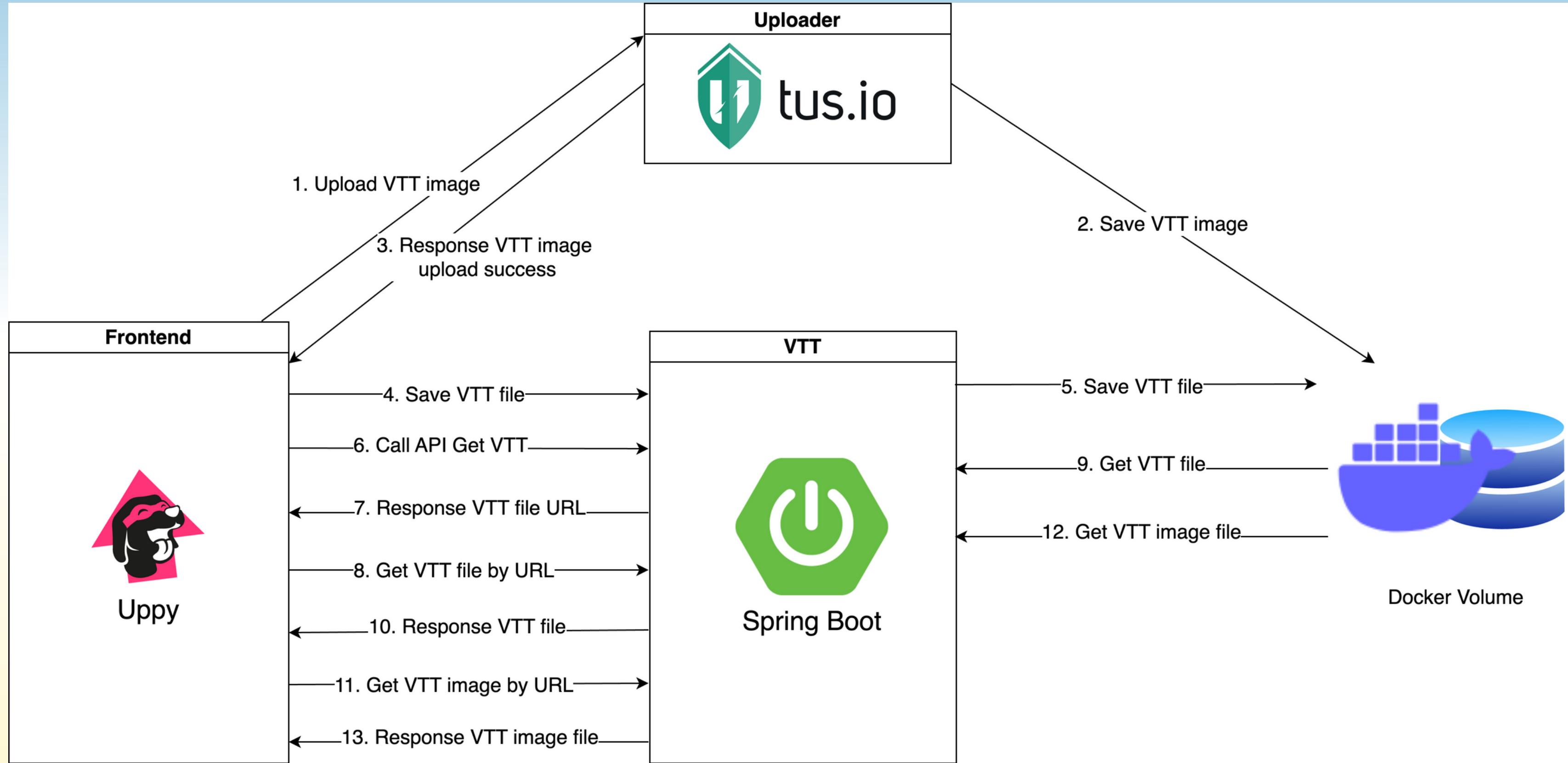
React-player

Player

TRANSCODE AND DELIVERY



PRODUCT ADS IN VIDEO



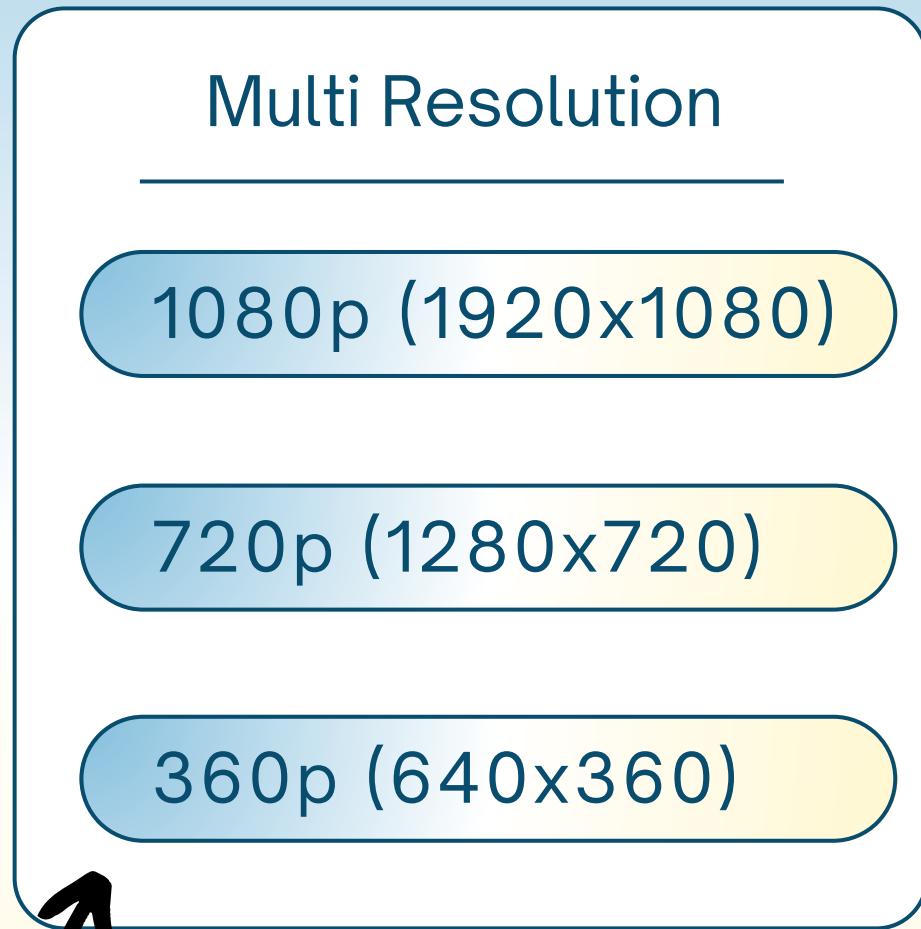
FFMPEG



Original Video



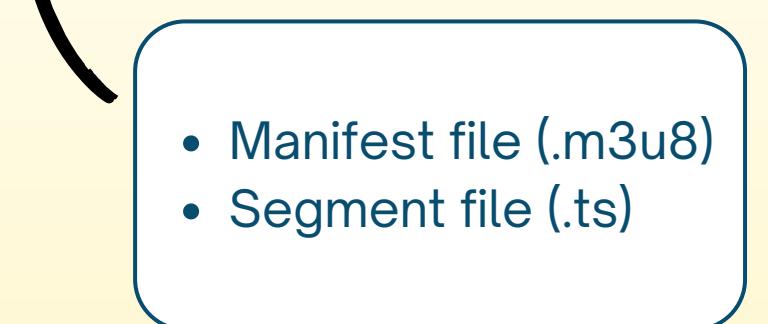
Transcode



Combine



Master HLS Manifest



HLS MANIFEST



nowayhome_1690355145801-manifest.m3u8 X

Users > mac > Downloads > nowayhome_1690355145801-manifest.m3u8

```
1 #EXTM3U
2 #EXT-X-VERSION:6
3 #EXT-X-STREAM-INF: BANDWIDTH=5605600, RESOLUTION=1920×1080, CODECS="avc1.640028,mp4a.40.2"
4 nowayhome_1690355145801_1080p.m3u8
5
6 #EXT-X-STREAM-INF: BANDWIDTH=3405600, RESOLUTION=1280×720, CODECS="avc1.64001f,mp4a.40.2"
7 nowayhome_1690355145801_720p.m3u8
8
9 #EXT-X-STREAM-INF: BANDWIDTH=1152800, RESOLUTION=640×360, CODECS="avc1.64001e,mp4a.40.2"
10 nowayhome_1690355145801_360p.m3u8
```

Master HLS Manifest

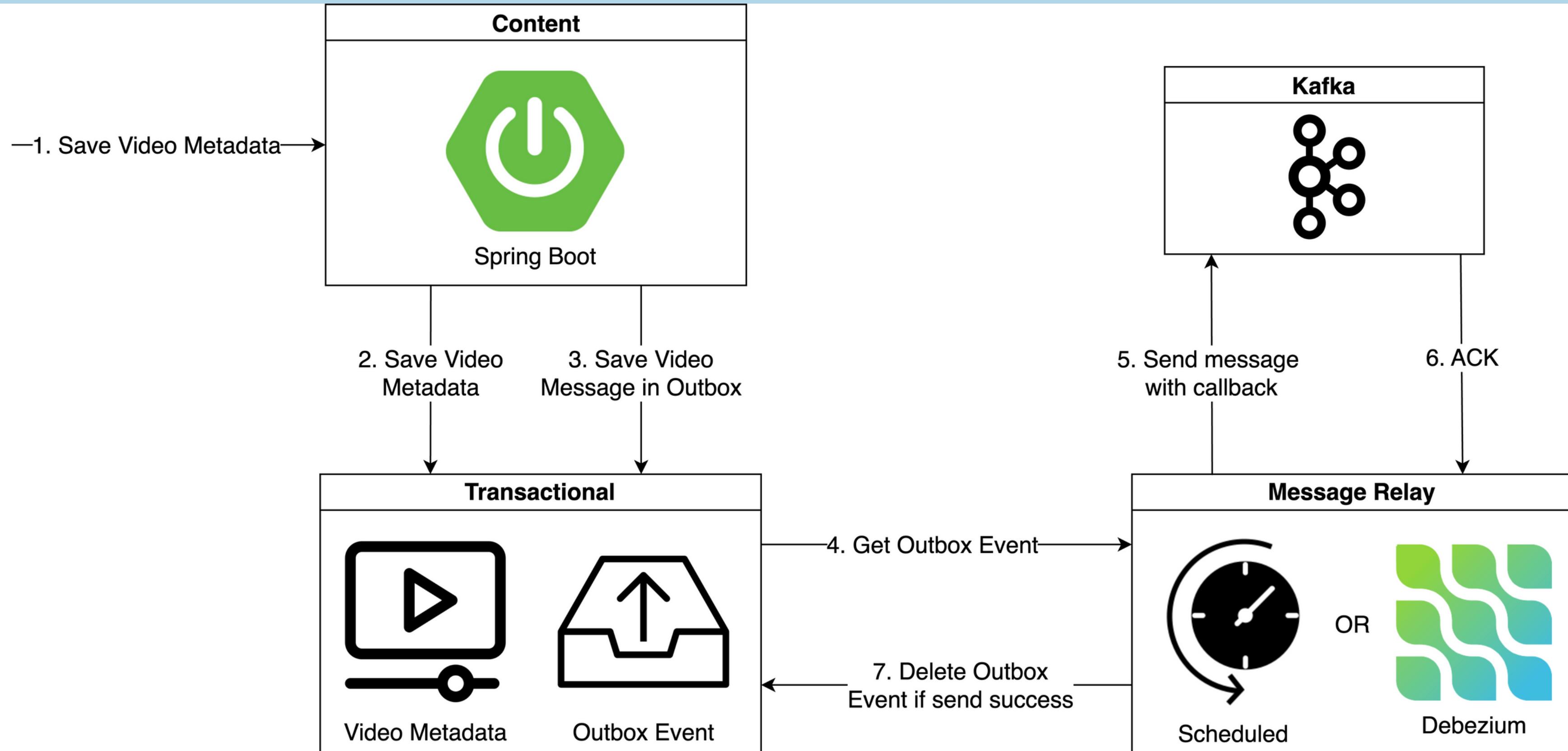
nowayhome_1690355145801_1080p.m3u8 X

Users > mac > Downloads > nowayhome_1690355145801_1080p.m3u8

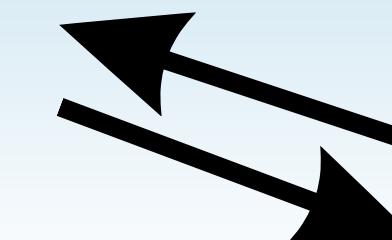
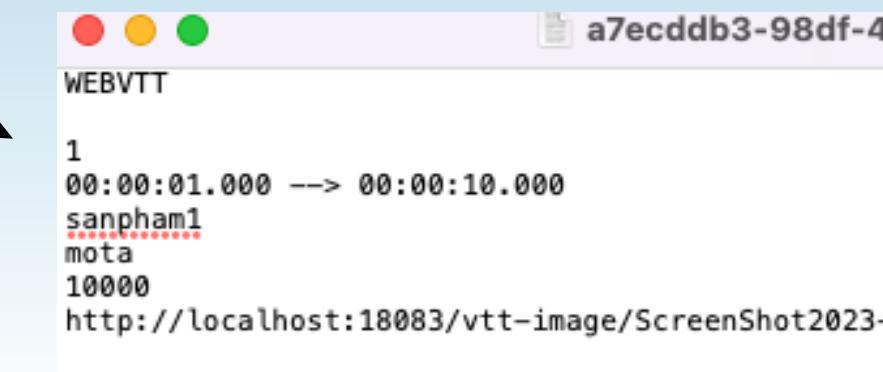
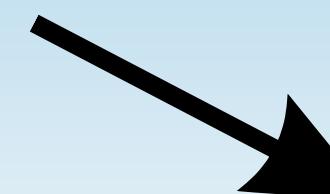
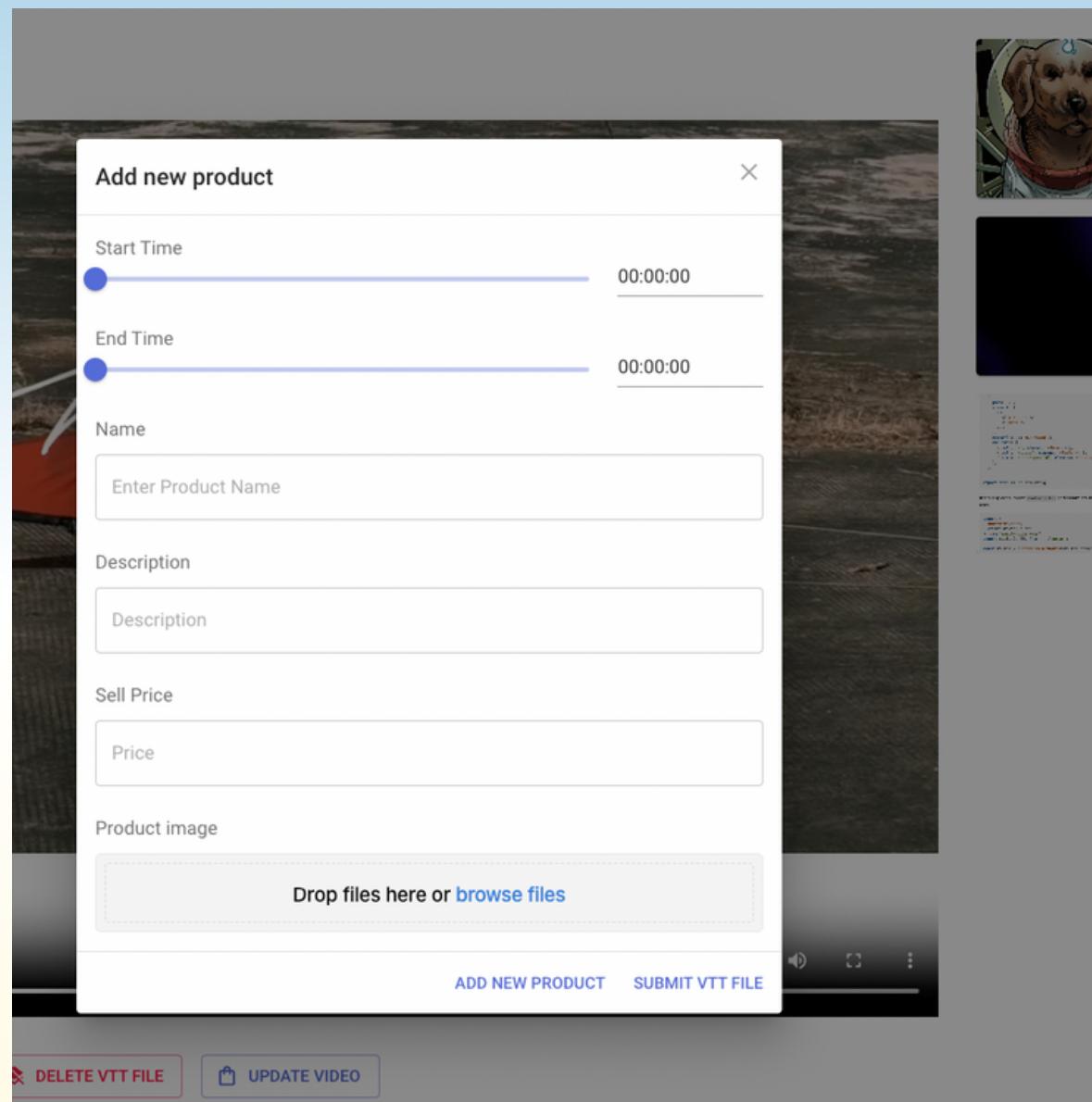
```
1 #EXTM3U
2 #EXT-X-VERSION:6
3 #EXT-X-TARGETDURATION:6
4 #EXT-X-MEDIA-SEQUENCE:0
5 #EXT-X-PLAYLIST-TYPE:VOD
6 #EXT-X-INDEPENDENT-SEGMENTS
7 #EXTINF:6.006000,
8 nowayhome_1690355145801_1080p_000.ts
9 #EXTINF:4.004000,
10 nowayhome_1690355145801_1080p_001.ts
11 #EXTINF:6.006000,
12 nowayhome_1690355145801_1080p_002.ts
13 #EXTINF:4.004000,
14 nowayhome_1690355145801_1080p_003.ts
15 #EXTINF:6.006000,
16 nowayhome_1690355145801_1080p_004.ts
```

Resolution manifest

OUTBOX PATTERN



HANDLE VTT FILE (FRONTEND)



BACKEND



DEMO



TERA Group

KẾT LUẬN & HƯỚNG PHÁT TRIỂN



TERA Group