
AWS
re:Invent

AIM205

Using Amazon Transcribe to make content searchable and accessible

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NASCAR

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Agenda

The need for AI in media and entertainment

How Amazon Transcribe works

Media and entertainment use cases

Demo

NASCAR case study

Conclusion

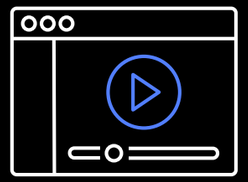


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Audio and video data is growing exponentially

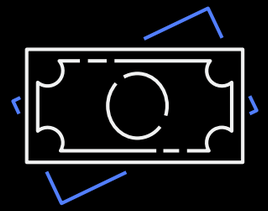
But . . .



What is it about?



How to expand reach?

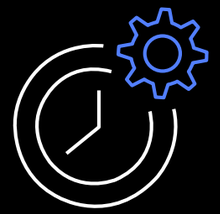


How to monetize?

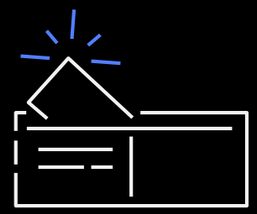
You can unlock the value with transcription, but . . .



Manual



Slow

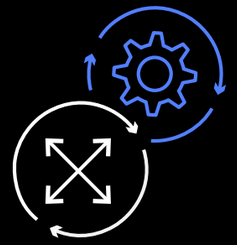


Expensive

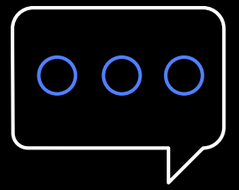
Amazon Transcribe: speech-to-text AI service



Fully managed and
continuously trained



Highly accurate,
efficient and scalable



Low latency for
live streaming

The benefits of Amazon Transcribe



Lower costs



Increase engagement



Drive revenues

Produce transcripts that are easy to read and review



Punctuation, capitalization



Speaker labelling / channel identification



Word-level time stamps



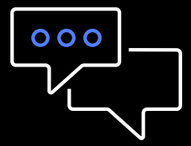
Word-level confidence scores



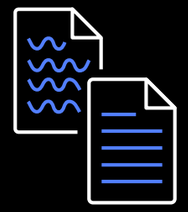
Language ID



Custom vocabulary



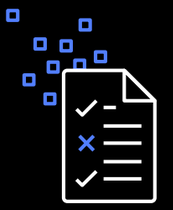
Custom Language Models (CLM)



Alternative transcriptions



Vocabulary filtering



PCI / PII content redaction

Customize transcripts to your domain and use case



Punctuation, capitalization



Speaker labelling / channel identification



Word-level time stamps



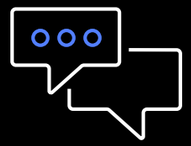
Word-level confidence scores



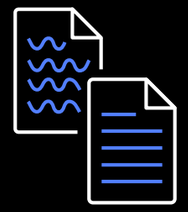
Language ID



Custom vocabulary



Custom Language Models (CLM)



Alternative transcriptions



Vocabulary filtering



PCI / PII content redaction

Enables content filtering and privacy



Punctuation, capitalization



Speaker labelling / channel identification



Word-level time stamps



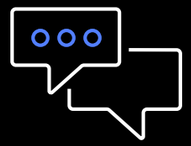
Word-level confidence scores



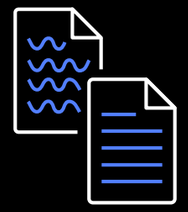
Language ID



Custom vocabulary



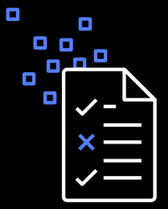
Custom Language Models (CLM)



Alternative transcriptions



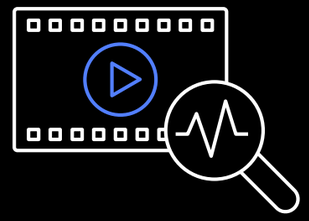
Vocabulary filtering



PCI / PII content redaction

4 common media and entertainment use cases

1



Content search and discovery

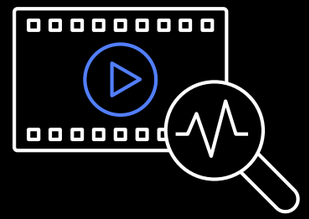
Create a rich metadata index

Offer content-based recommendations

Generate short clips and highlights fast

4 common media and entertainment use cases

1



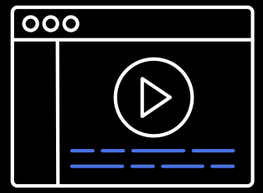
Content search and discovery

Create a rich metadata index

Offer content-based recommendations

Generate short clips and highlights fast

2



Subtitling and localization

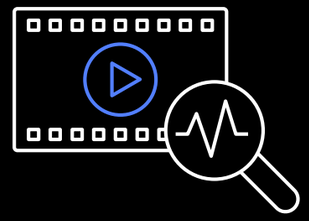
Boost user engagement

Reach a wider audience faster

Address captioning and accessibility requirements

4 common media and entertainment use cases

1



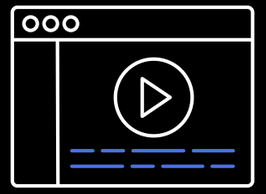
Content search and discovery

Create a rich metadata index

Offer content-based recommendations

Generate short clips and highlights fast

2



Subtitling and localization

Boost user engagement

Reach a wider audience faster

Address captioning and accessibility requirements

3



Content monetization

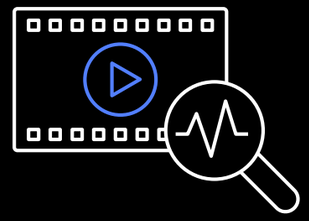
Increase revenues with metadata

Optimize ad placement

Deliver personalized ads

4 common media and entertainment use cases

1



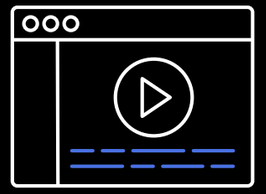
Content search and discovery

Create a rich metadata index

Offer content-based recommendations

Generate short clips and highlights fast

2



Subtitling and localization

Boost user engagement

Reach a wider audience faster

Address captioning and accessibility requirements

3



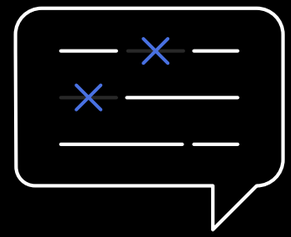
Content monetization

Increase revenues with metadata

Optimize ad placement

Deliver personalized ads

4



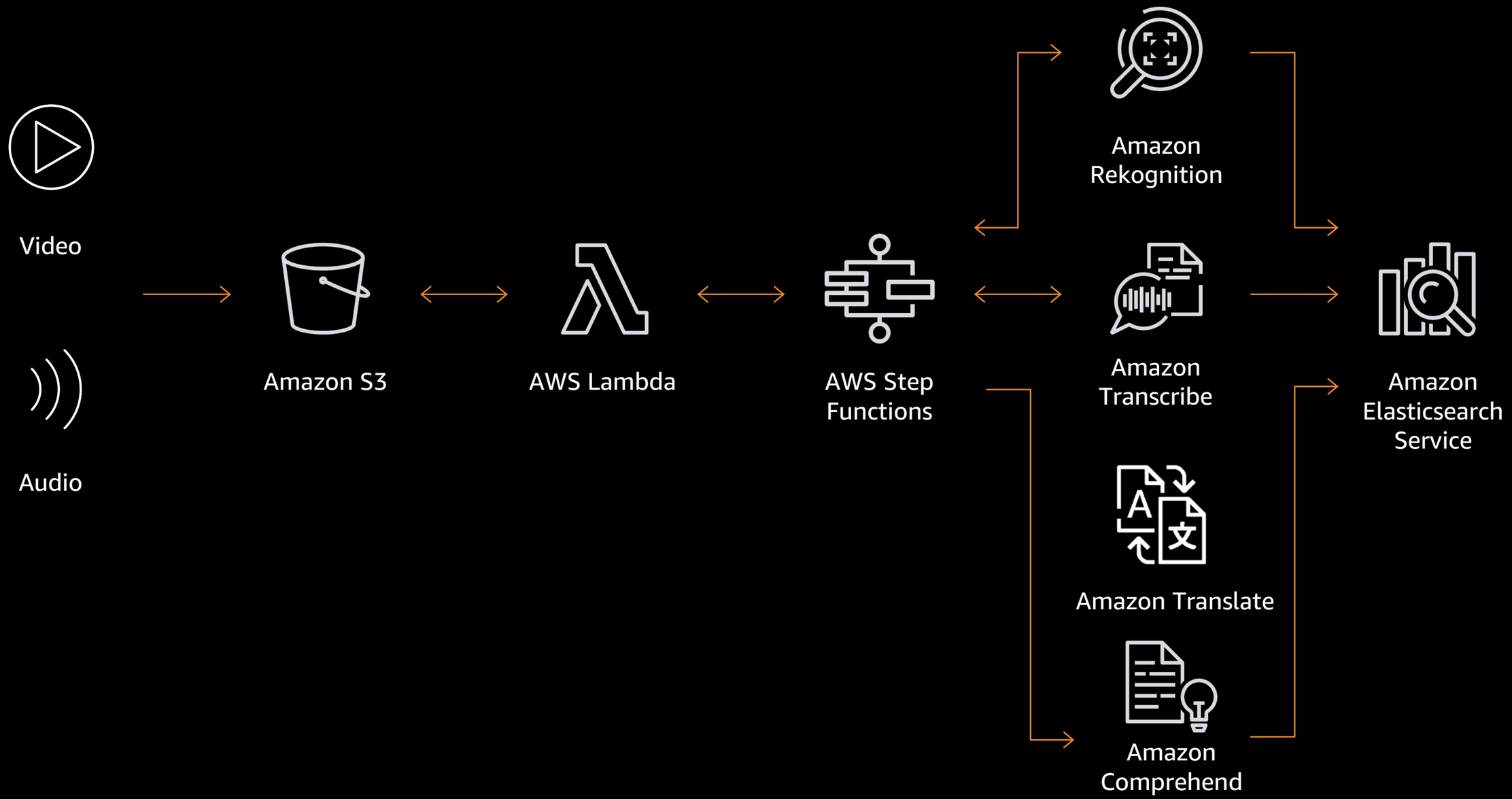
Moderation and compliance

Detect inappropriate content

Increase brand safety

Adhere to compliance standards

Demo architecture

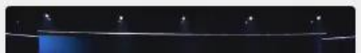


Media Collection

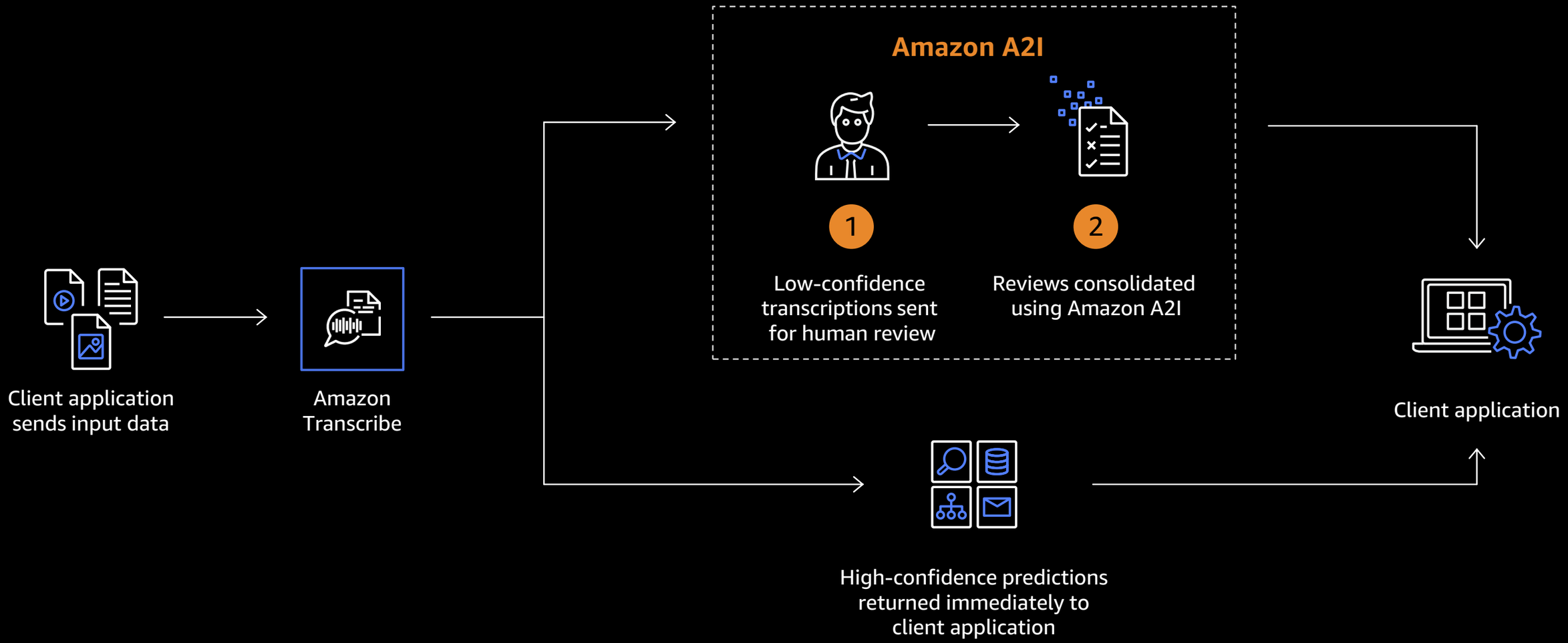
Discover insights in your media by searching for keywords, objects, or even people.

Search Collection...

Search

Thumbnail	File Name	Status	Asset ID	Created	Actions
	Fargate for Kubernetes.mp4	Complete	05cb54bd-fc95-49b7-8fd1-1f304e887c15	19/10/2020 22:51:19	Analyze Delete
	Sagemaker Studio.mp4	Complete	ee0ab0c4-4653-4750-8ef1-c932a946488a	19/10/2020 22:51:29	Analyze Delete
	Redshift.mp4	Complete	21a67951-890d-4039-ac88-871077eb489b	19/10/2020 22:51:31	Analyze Delete
	Kendra.mp4	Complete	c4bc2006-0441-4173-ba25-cf6c48afeacf	19/10/2020 22:51:32	Analyze Delete
	S3 Access Points.mp4	Complete	66eceb73-67be-4748-85b5-5317a3cae5	19/10/2020	Analyze Delete

How Amazon Augmented AI (Amazon A2I) works



NASCAR case study



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NASCAR is . . .

- 6 continents
- 29 languages
- Covering 195+ countries
- 475M households





Problem statement

- Publishes hundreds of short-form video content each month
- Needs a tool that allows captions to be added for all VOD content
- Allows multi-site, multi-language captioning
- Enables live captioning to be added later



NASCAR video: vendor selection process

Evaluation process



- Evaluated multiple vendor solutions
- Assessed feasibility of building a custom in-house solution
- Wanted to maintain control and manage costs

Outcome



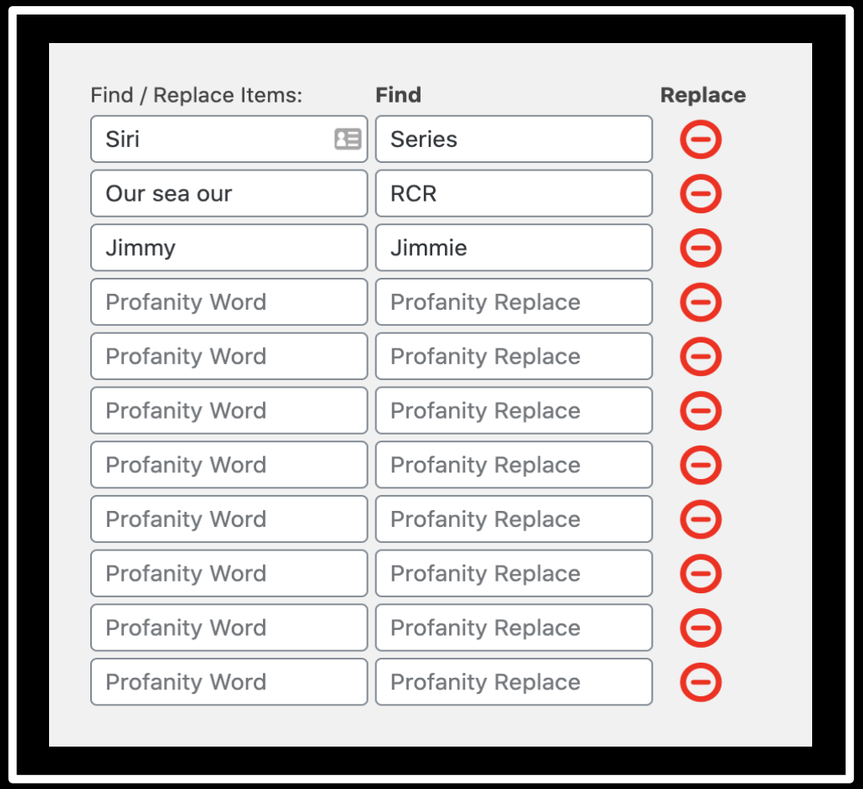
- Selected Amazon Transcribe – accurate, cost effective and flexible
- Build an in-house solution using Amazon Transcribe
- 29 languages

NASCAR video: transcription process

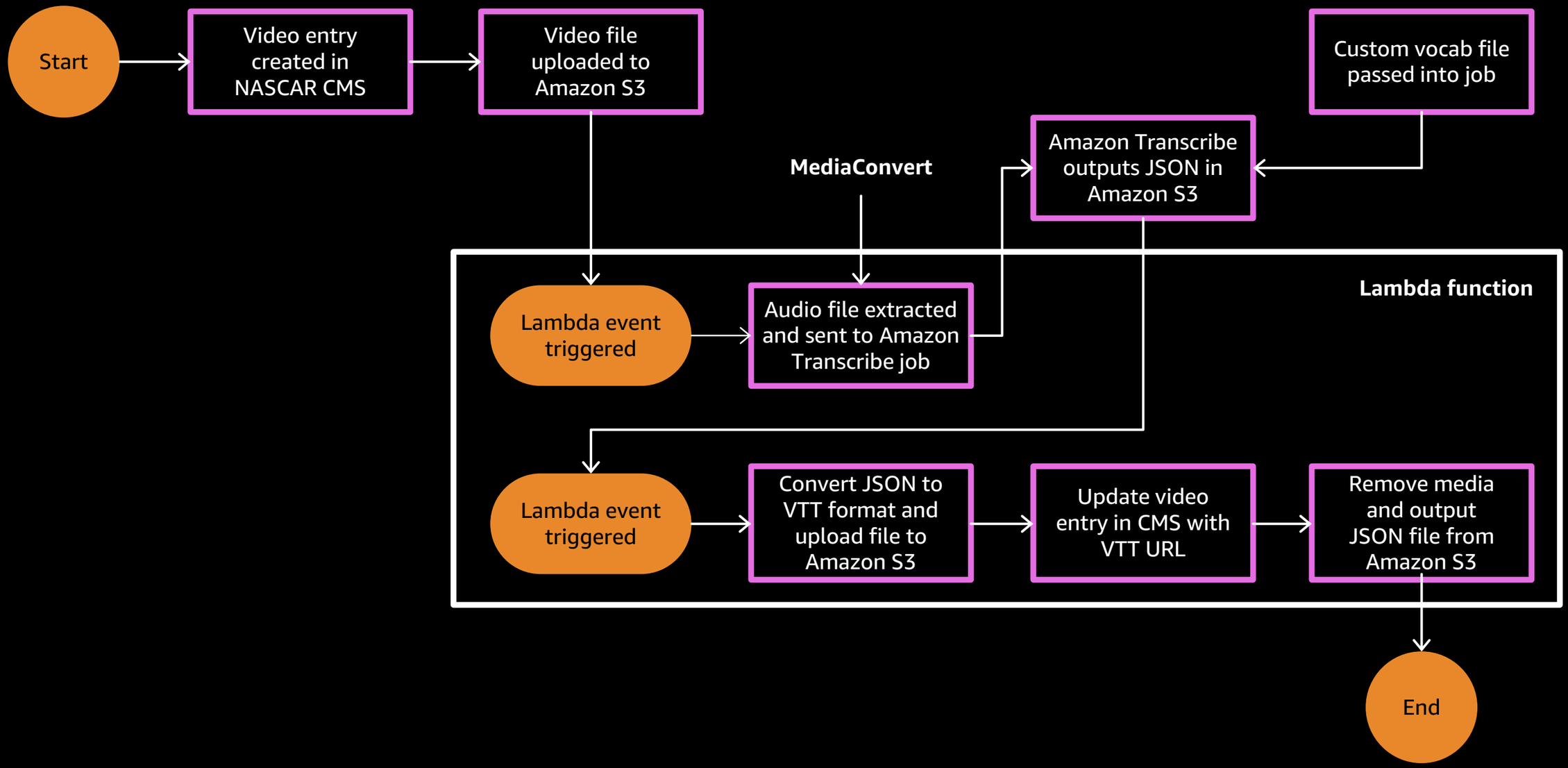


Custom vocab examples

- RCR
- CGR
- SERIES
- DEGA
- DQ
- BUMP DRAFTING
- ALMIROLA
- BUESCHER
- KESELOWSKI



NASCAR video transcribe workflow



Lessons learned / post-launch improvements

FILE SIZE (MAX 2GB)

Originally sending full video file

Enhanced to pass in audio only file

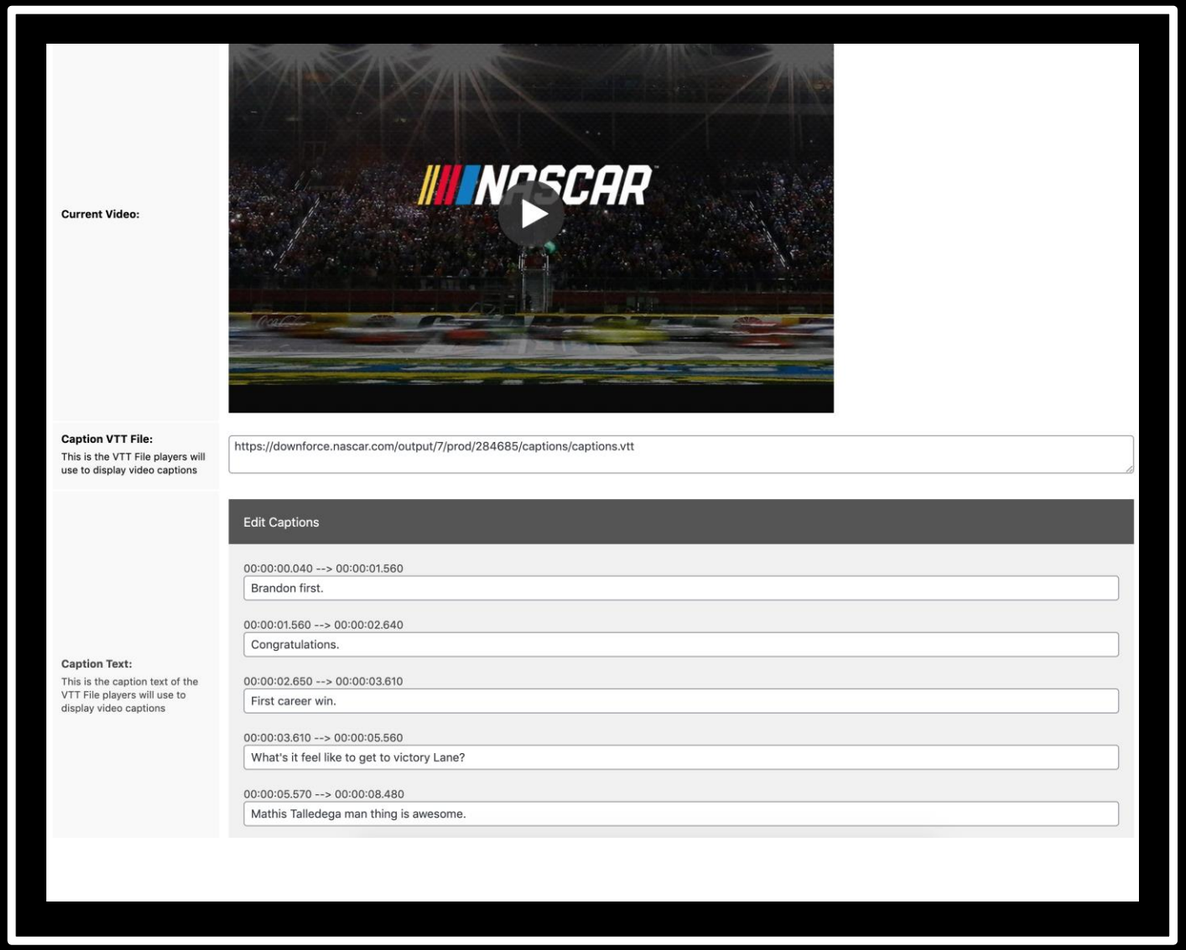
ADDITIONAL CUSTOMIZATION

Needed to add both a find and replace during the transcribe process, as well as ability for post transcribe editing

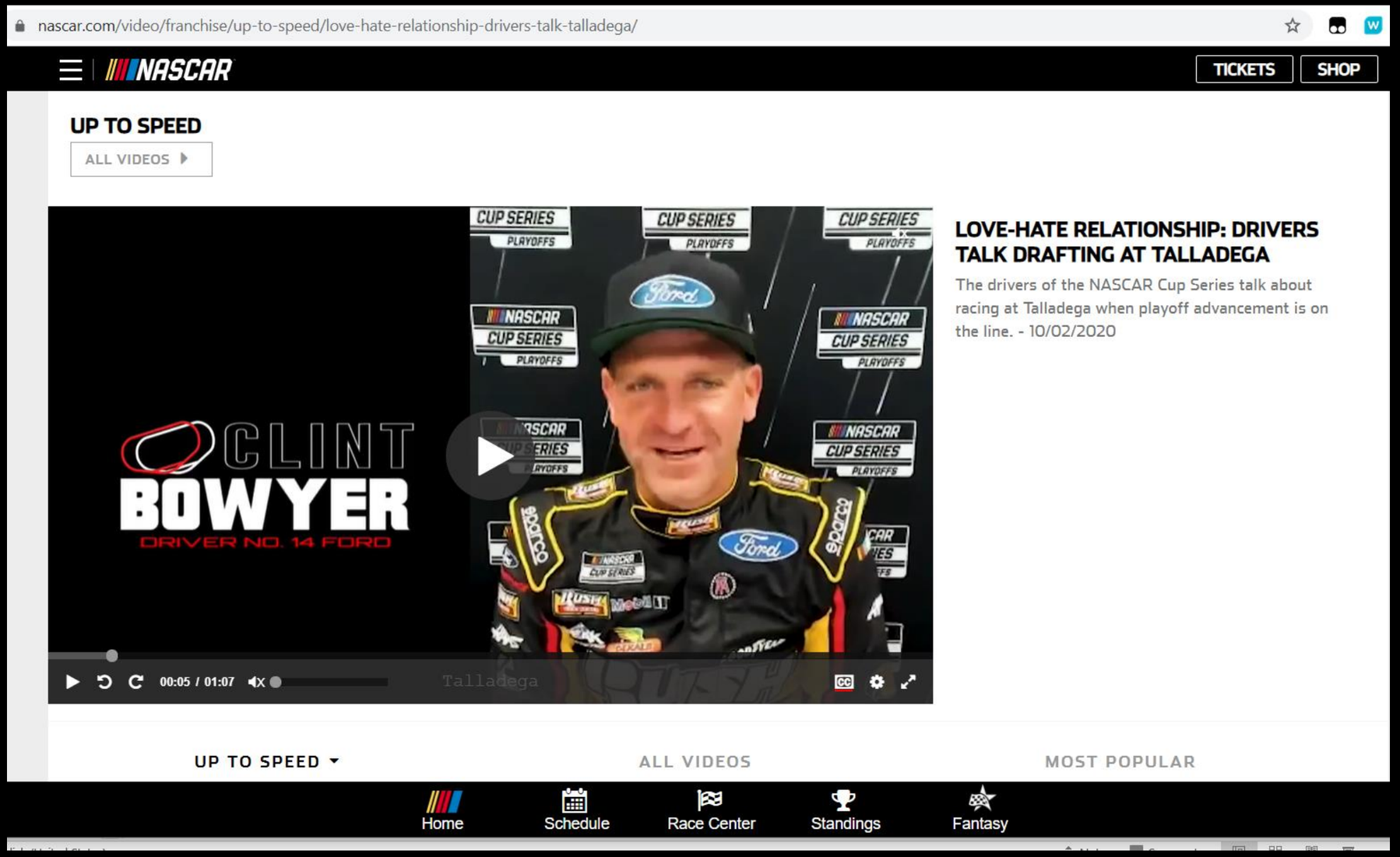
MULTI LANGUAGE

Added ability in CMS to call job and pass in required language

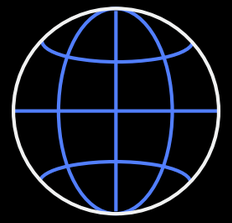
Sites currently only transcribe in one language



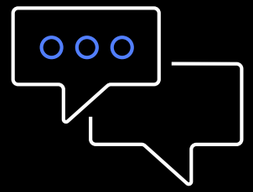
NASCAR example



NASCAR roadmap



Multi-language captions on single site (user can choose caption language)



Custom language models to further improve accuracy



Real-time captioning for live content



“We selected Amazon Transcribe to power the captioning of NASCAR’s VOD content on our multi-site website spanning 195 countries and 29 languages. Since implementing Amazon Transcribe, we automatically add captions to 99% of our VOD content and spend 97% less than what we had originally estimated.”

Patrick Carroll

Senior Director, Development
NASCAR

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Next steps: AWS Open Source Solutions

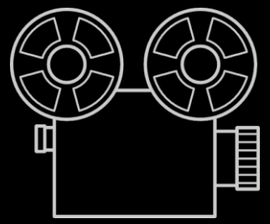
Ingest media to cloud with metadata tagging
https://github.com/awslabs/media2cloud

Create and edit subtitles for your videos
https://github.com/awslabs/aws-video-transcriber

Create captions for live video streams
https://github.com/awslabs/live-streaming-with-automated-multi-language-subtitling

Discover insights in your AV files
https://github.com/awslabs/aws-media-insights-engine

Media intelligence solutions with AWS partners



AWS media intelligence solutions

Content search and discovery

Subtitling and localization

Content monetization

Compliance and moderation



How we can help

Solution architects



- Engage with a solution architect dedicated to your account
- Brainstorm use cases and get support for solution implementation
- https://aws.amazon.com/contact-us/

ML solutions lab



- Identify key areas where machine learning could help you with an AWS AI expert
- Let AWS experts build POCs and custom solutions for your use case

AWS partner network



- Let AWS certified partners help you with the POC and build integrations with your current systems to productionize

Immersion day, workshops, training and certification



- Conduct training workshops and hackathons for builders in your organization
- Practical education on ML for new and experienced practitioners
- Based on the same material used to train Amazon developers

Thank you!



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