# AMP: An Audiovisual Metadata Platform to Support Mass Description

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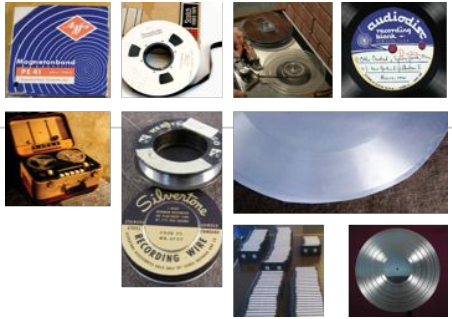
THE ANDREW W. MELLON FOUNDATION

# Outline

1. Background and context - Jon
2. Outcomes and next steps - Chris

# The Challenge

- Growing AV collections
  - Digitization
  - Explosion of born-digital
- Increased expectations for access




# The Challenge

- Many AV collections lack metadata
  - Discovery
  - Identification
  - Navigation
  - Rights
  - Accessibility
- Institutions lack resources for large cataloging/transcription/inventory/rights clearance  projects

# The Challenge: Indiana University

- MDPI: Media Digitization and Preservation Initiative
  - 280,000+ AV items; 25,000+ films
  - mdpi.iu.edu
- 80+ different units
- 20+ different physical formats
- Partnership with Memnon
- Variety of existing (or nonexisting) metadata
- Avalon Media System access platform


avalon
MEDIA SYSTEM

# The Opportunity

- Mass digitization approach extended to AV
  - “Digitize first”
- Emergence and continued improvement of machine learning and other automated tools
- How can we leverage the best of automated tools and human expertise?

# Existing Work in the context of AV Archives

- Application of specific machine learning tools
  - e.g. speech-to-text, named entity recognition
- “Black box” systems
  - One size fits all, brute force approach to automated metadata generation
- Customized workflows
  - e.g. MiCO Platform

## Existing Work: Indiana University

- Consulting engagement with AVP in 2016 to identify metadata and rights workflows
- Phased approach
- Identification of MGMs: Metadata Generation Mechanisms
- Need for platform to support workflows, metadata warehouse

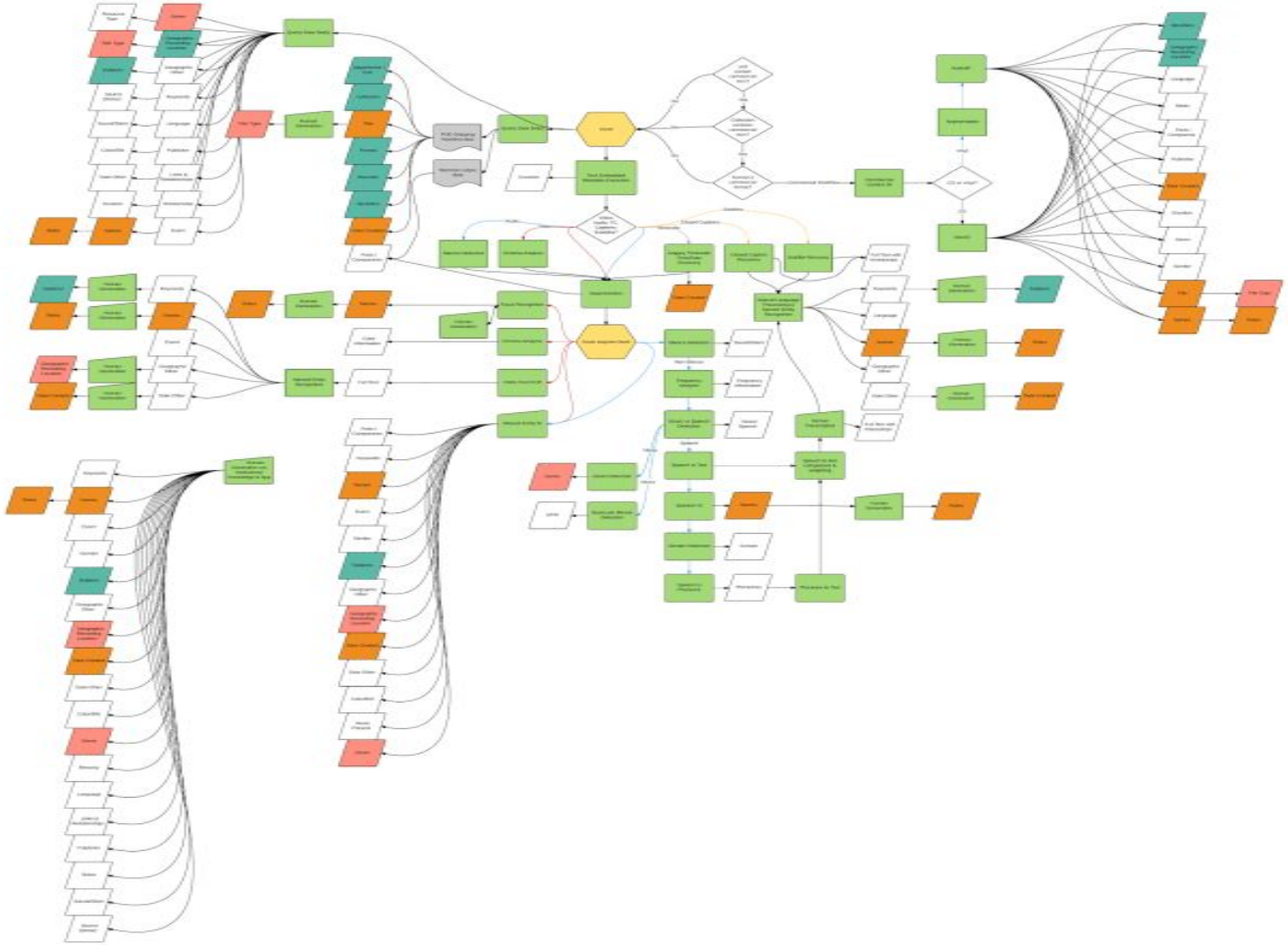
# Stakeholders, User Requirements, & Personas

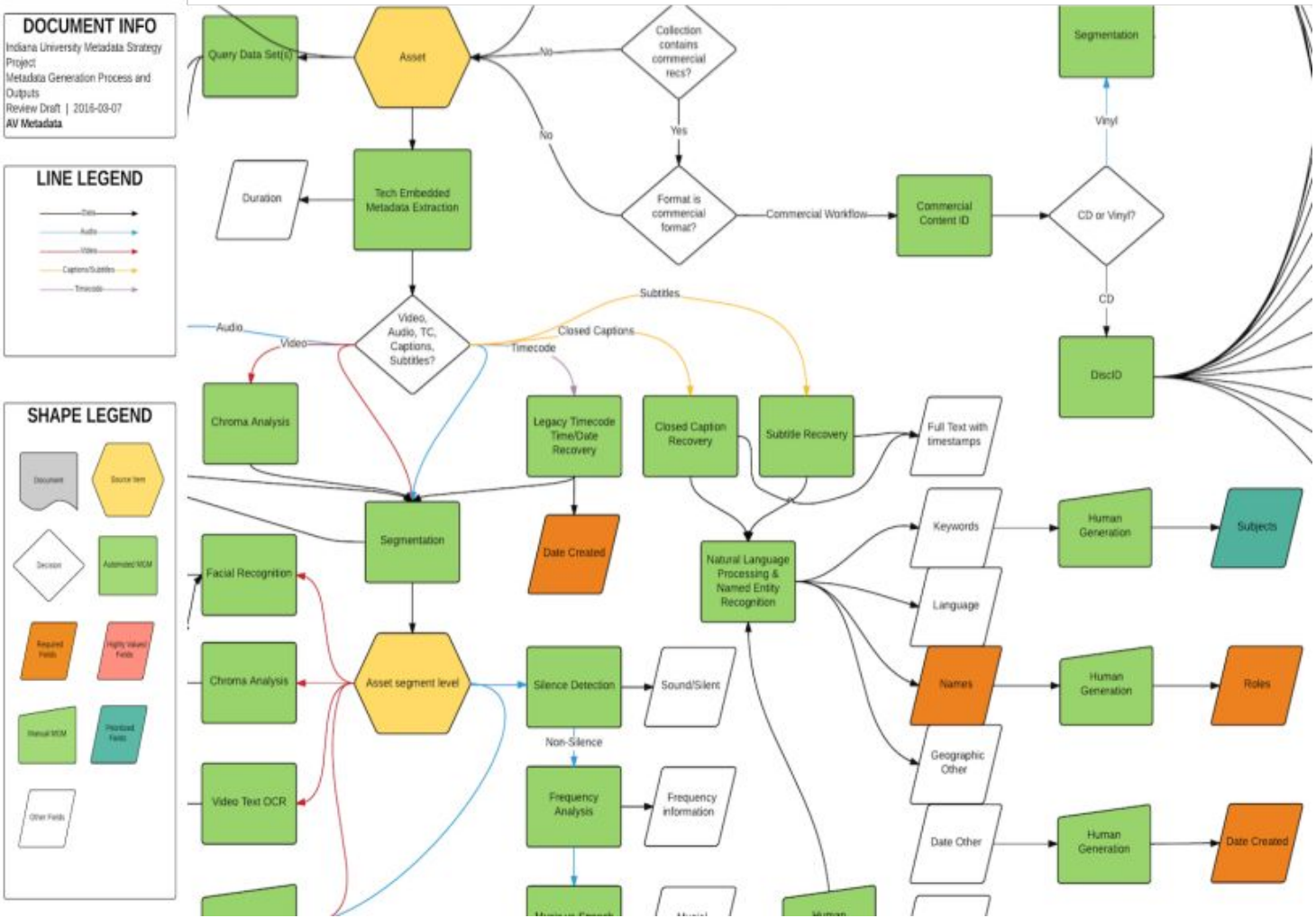
**DOCUMENT INFO**

Indiana University Metadata Strategy Project:
Metadata Generation Process and Outputs
Review Draft | 2016-09-07
**AV Metadata**

**LINE LEGEND**

**SHAPE LEGEND**

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Query Data Set(s)
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No
Collection contains commercial recs?
Yes
Segmentation
Vinyl
Duration
Tech Embedded Metadata Extraction
Format is commercial format?
Commercial Workflow
Commercial Content ID
CD or Vinyl?
CD
DiscID
Subtitles
Audio
Video
Video, Audio, TC, Captions, Subtitles?
Closed Captions
Timecode
Chroma Analysis
Legacy Timecode Time/Date Recovery
Closed Caption Recovery
Subtitle Recovery
Full Text with timestamps
Segmentation
Date Created
Natural Language Processing & Named Entity Recognition
Keywords
Human Generation
Subjects
Facial Recognition
Language
Chroma Analysis
Asset segment level
Silence Detection
Sound/Silent
Names
Human Generation
Roles
Non-Silence
Geographic Other
Video Text OCR
Frequency Analysis
Frequency information
Date Other
Human Generation
Date Created

# Existing Work: Indiana University

- AMIA 2016:
  - Chris Lacinak and Jon Dunn. “From Mass Digitization to Mass Description: Indiana University’s Strategy To Overcome The Next Great Challenge.”
- go.iu.edu/1Pvj

## Context: UT/HiPSTAS

- *High Performance Sound Technologies for Access and Scholarship*
- An assessment of scholarly requirements for analyzing sound
- An assessment of technological infrastructures needed to support discovery
- Preliminary tests that demonstrate the efficacy of using such tools in humanities scholarship
- Developing a freely available, open-source, API-driven application for general use

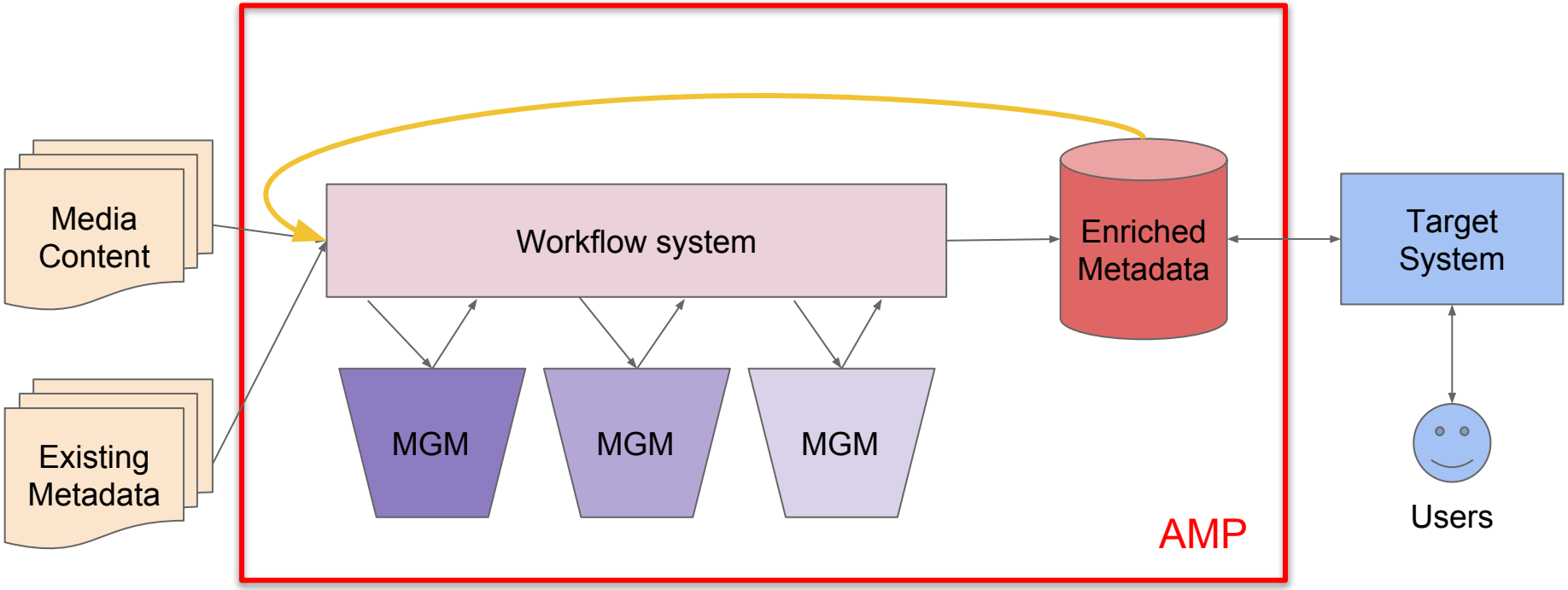
# AMP: Audiovisual Metadata Platform

- *Audiovisual Metadata Platform*
- Planning grant from Andrew W. Mellon Foundation (July 2017 - January 2018)
  - Focus on technical architecture
- In-person workshop (September 2017)
- Deliverables:
  - White paper: go.iu.edu/ampreport
  - Draft proposal for implementation and pilot test

# AMP: Audiovisual Metadata Platform

- Open source software platform to support metadata creation for AV collections
- Design and execute workflows combining automated and human steps
- Integrate multiple MGMs
  - Automated, manual
  - Local, HPC, cloud

# AMP Conceptual Diagram



# Core AMP Team

- Indiana University Libraries
  - Jon Dunn
  - Julie Hardesty
- University of Texas at Austin School of Information
  - Tanya Clement
- AVP
  - Adeel Ahmad
  - Chris Lacinak
  - Amy Rudersdorf

# Mellon-funded workshop

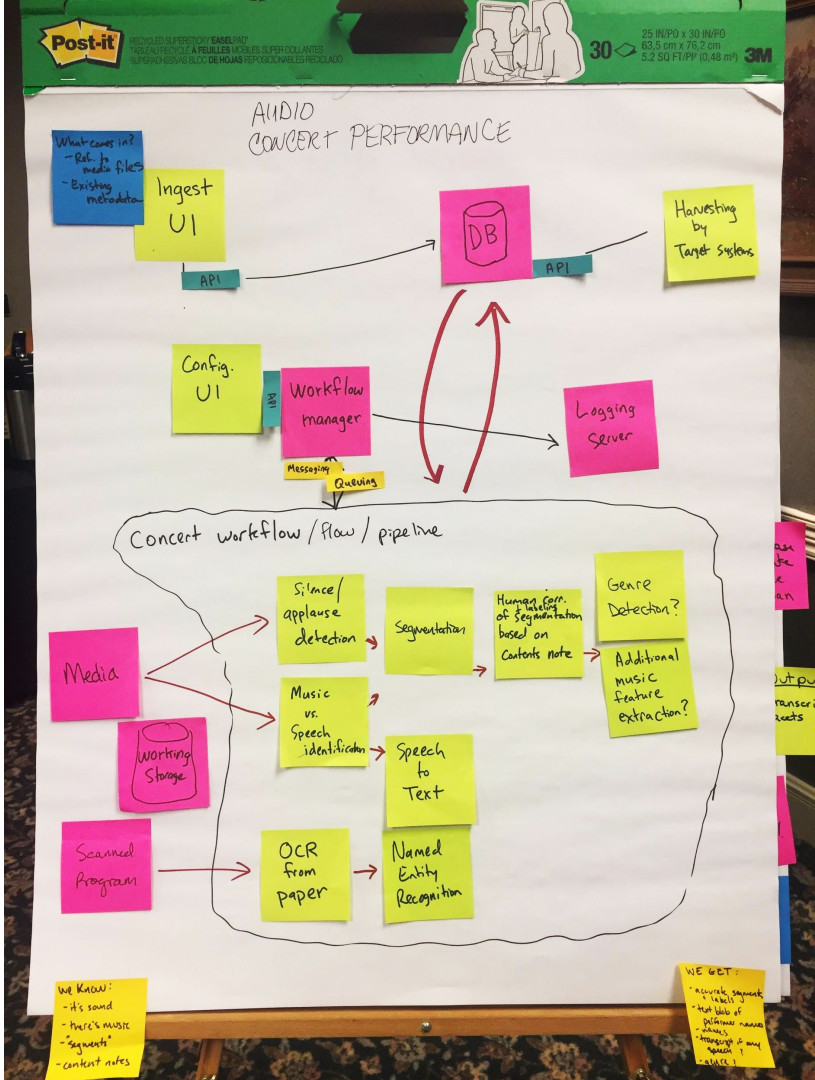
3 Days
16 People
1 Tech Platform Plan

# Workshop Participants

- Kristian Allen, UCLA Library
- Jon Cameron, IU Libraries
- Maria Esteva, Texas Advanced Computing Center, UT at Austin
- Mike Giarlo, Stanford University Libraries
- Brian McFee, Music & Audio Research Laboratory, NYU
- Scott Rife, Packard Campus for AV Conservation, Library of Congress
- Sadie Roosa, WGBH Media Library & Archives
- Felix Saurbier, TIB/German National Library of Science & Technology
- Brian Wheeler, IU Libraries
- Maria Whitaker, IU Libraries

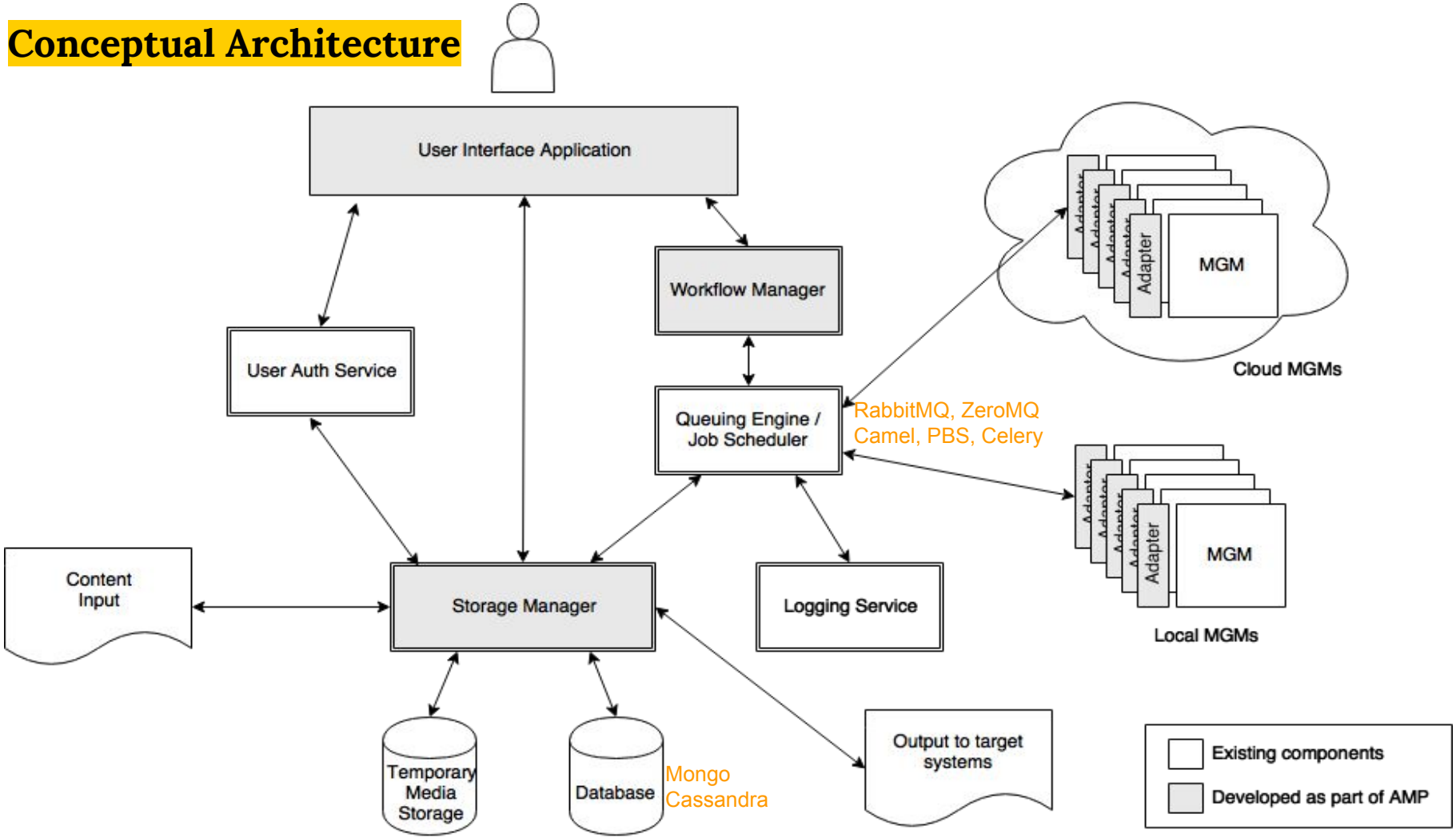
# Workshop Overview

- Day one:
  - Overview, scope, background, & goals
  - Requirements development
- Day two:
  - Components & candidates
  - MGMs
- Day three:
  - Scenarios

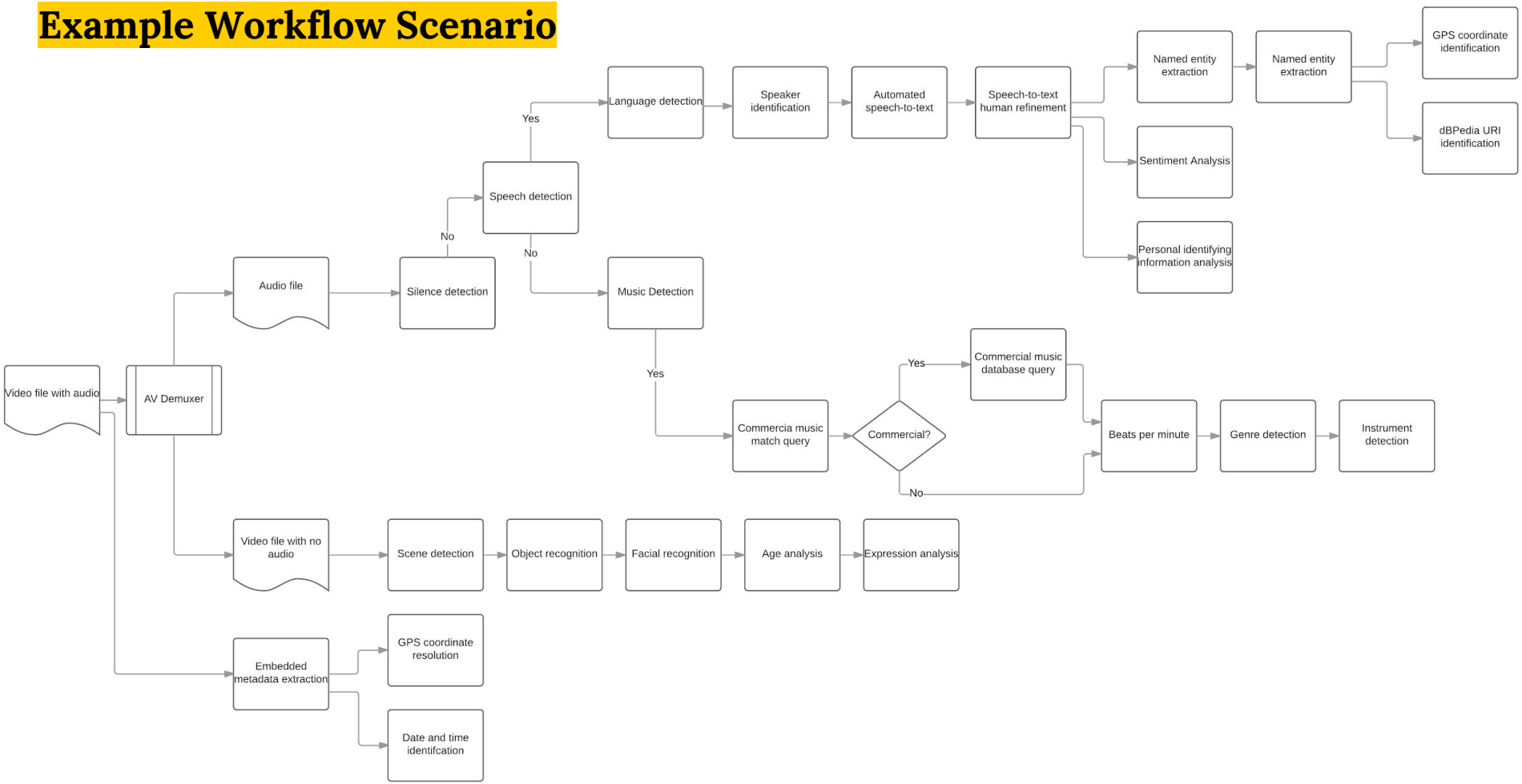


# Next Steps

# Conceptual Architecture



# Example Workflow Scenario



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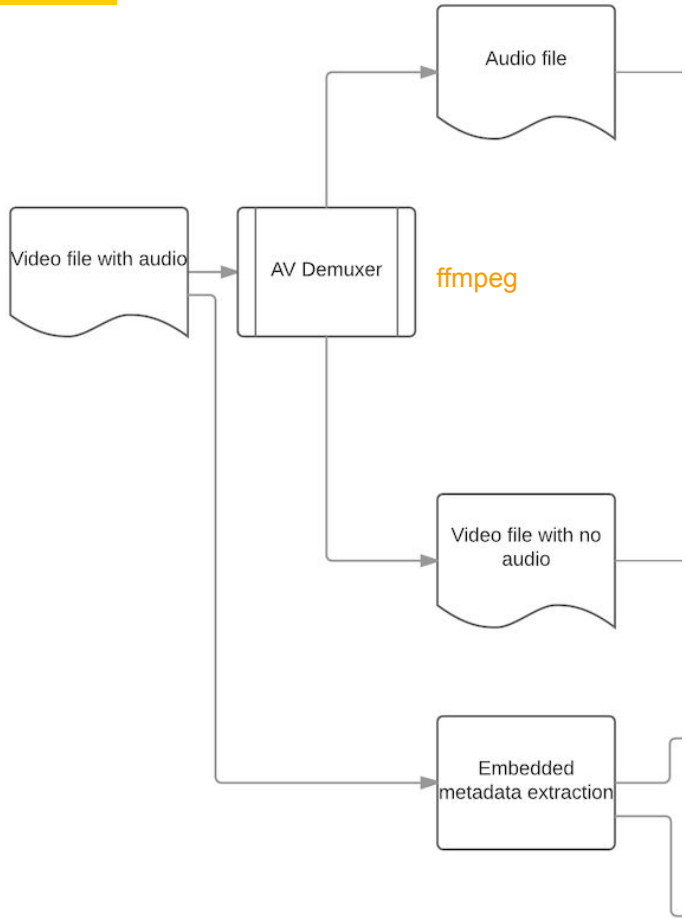

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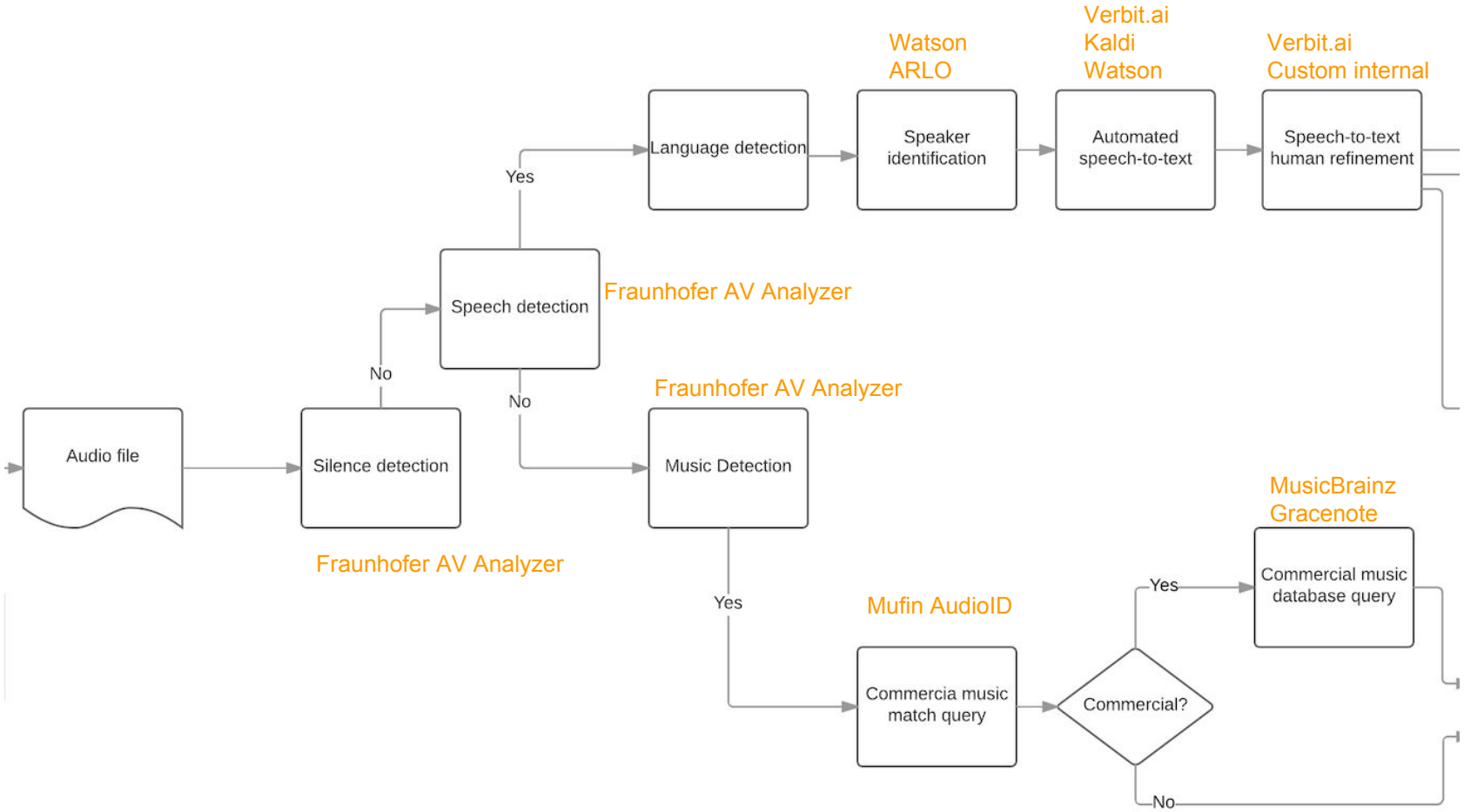

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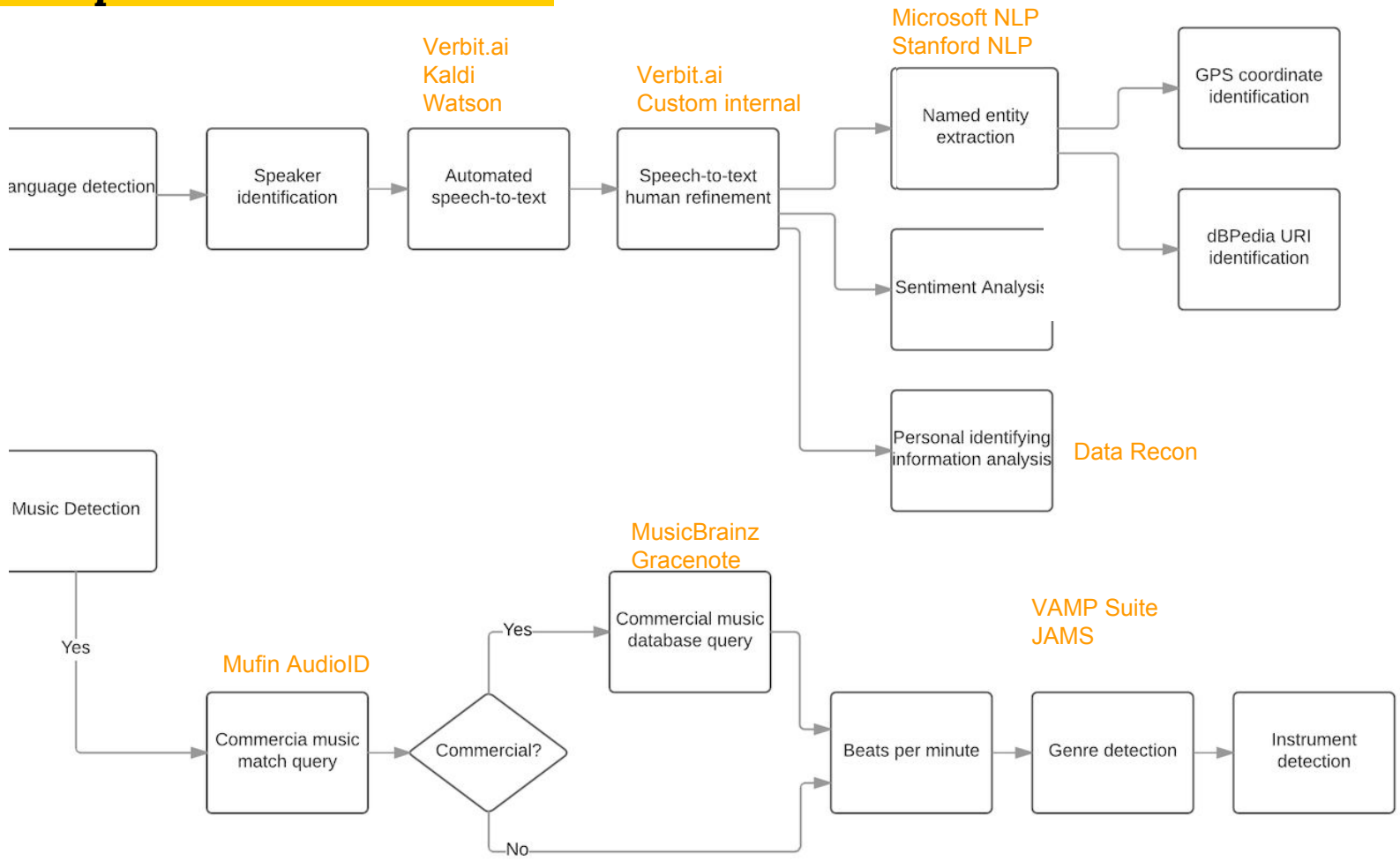

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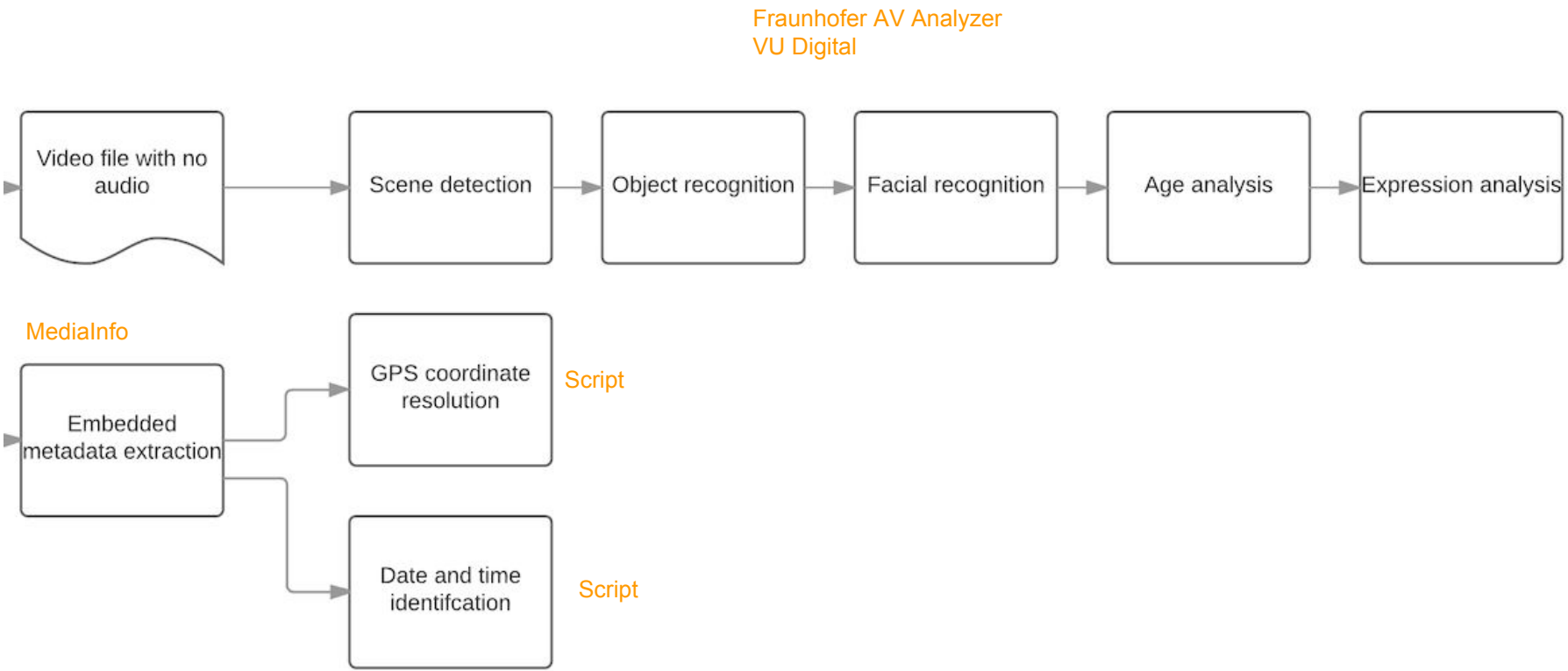

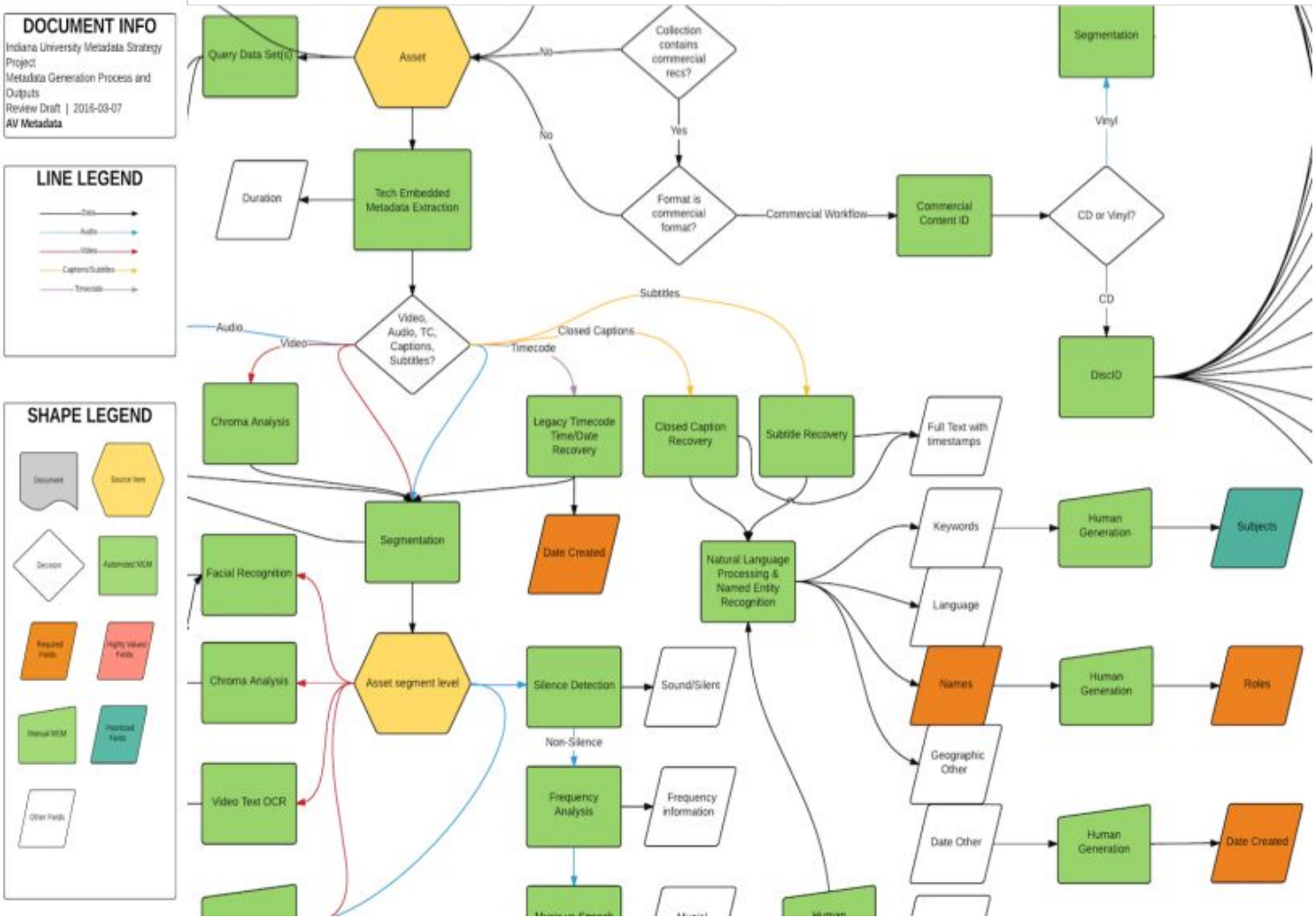
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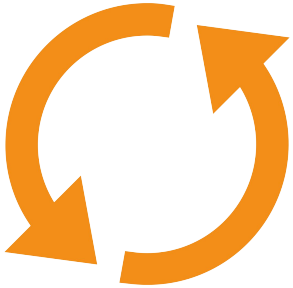
# Borrow, Build, Buy Considerations

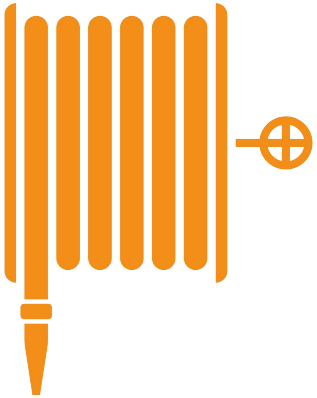
- Ownership of “the machine”
- Black boxes

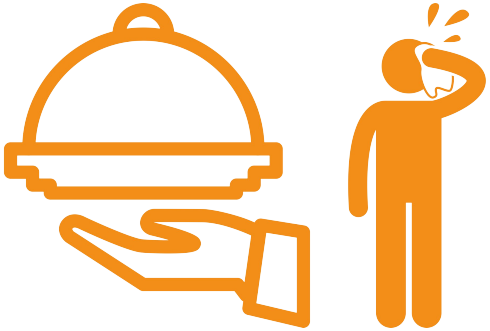
- Limited capabilities demonstrated
- Exploring building on top of MiCO

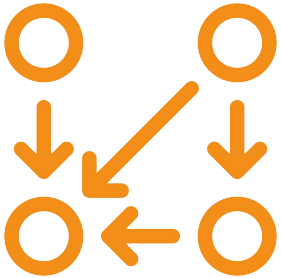
- Very limited options
- Metadata cultivation concept
- Focal point

# Anticipated Challenges & Considerations










Stay
Tuned!

## Thanks!

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White paper

go.iu.edu/ampreport