

## CASE STUDY

# Newsroom: KSAT-TV

## About the newsroom

KSAT-TV is an ABC-affiliated local television station in San Antonio, Texas owned by Graham Media. The station also publishes on a variety of digital platforms. Among a multitude of duties, the station's digital producers repurpose existing content produced for television broadcasts. Separately, the station's photographers process much of their locally shot video through a commercial transcription solution.

## Project goals

The goal of the project was to create a system that would transcribe, categorize, and summarize video input of live news events such as locally shot interviews or press conferences and deliver that summary as a prewrite of a story to the digital CMS.

## Why is this project important to the newsroom?

KSAT-TV wants to increase local news coverage on its digital platforms with a limited number of staff. The AI assistant would help journalists by building out an article on events that would otherwise require significant amounts of time to put together, aiding with the station's long-term financial stability as well and allowing reporters to work on other stories.

## Engineering process

There was a significant effort to narrow down the scope of the project as development began. Using lessons from the separate Michigan Radio project, a mutual decision was made to use shorter videos as source material for the AI assistant. Additionally, work proceeded on testing summarization capabilities of generative AI technologies.

The work focused on building connections between multiple tools. As KSAT-TV already uses Trint for transcription, the developers planned to connect the Trint API to the OpenAI API for

summarization and ending with a connection to the Arc XP CMS API.

## Were the goals met?

The developed system met the goal of summarizing shorter videos and delivering it to the CMS. After deployment of the experimental system, the station started testing it on various types of videos to evaluate its performance.

## Major challenges

The accuracy of the transcripts was a major issue to be addressed as an inaccurate transcript leads to an inaccurate summary. As technology stands today, there is no such thing as a perfect AI-powered transcript. It was determined that a human would need to be in the loop in between the transcription and summarization processes. In the developed system, a journalist will review the accuracy of a transcript before allowing it to proceed to summarization.

Additionally, the accuracy of the summarizations provided by the generative AI system were questionable, and the system would sometimes make up quotes to use in the summary. However, the development team worked on this issue by testing out different prompts to see which would yield an accurate and comprehensive summary of the transcript, eventually landing on a few prompts that accomplished this.

The generative AI summarization system could also only intake a limited size clip at a time, so longer city council meetings could not all be summarized at once. But the team used a text chunker to split arbitrary length transcripts into chunks that the AI could process.

Further, there were delays in getting documentation for the Arc CMS, along with resolving unexpected behavior from the Trint API.

## Future work

The development team suggested working on a notification system through email that would alert reporters to when a transcript or summary was ready instead of making them wait on the web application.

Additional work should be done on integrating with other speech-to-text transcription technologies.

## STAKEHOLDER REACTION

“This new tool is astonishingly fast and accurate — more than I initially expected. It is an improvement to our operational efficiency that will help us create human capacity through automation. In general, we are all comfortable using AI tools to transcribe. This is taking that to the next logical step of summarizing the transcription. We have just scratched the surface of all that can be done, but so far, the results are impressive.”

KOLTEN PARKER  
DIGITAL EXECUTIVE PRODUCER

## Link to repository

[github.com/associatedpress/local-ai-ksat](https://github.com/associatedpress/local-ai-ksat)

## Development team

This project was led by Stanford University under the guidance of Professor Serdar Tumgoren.

For KSAT-TV: Bernice Kearney, Mario Orellana, Kolten Parker, Sean Talbot, Scott Shiotani

For Graham Media: Mike Katona, Kristen Tebo, Michael Newman

For Stanford University: Serdar Tumgoren, Kalyn Epps, Ryan Leahy (Gonzaga University), Ozge Terzioglu

For The Associated Press: Aimee Rinehart, Ernest Kung

## Core components of the system

Input: Pre-edited video clip

Code: Python, HTML, CSS

Database: PostgreSQL

Integrations: Trint via API, OpenAI GPT 3.5 via API, Arc XP via API

Output: Web portal, Arc XP CMS

Hosting: Google Cloud Platform

# Appendix

Figure 1. Process map

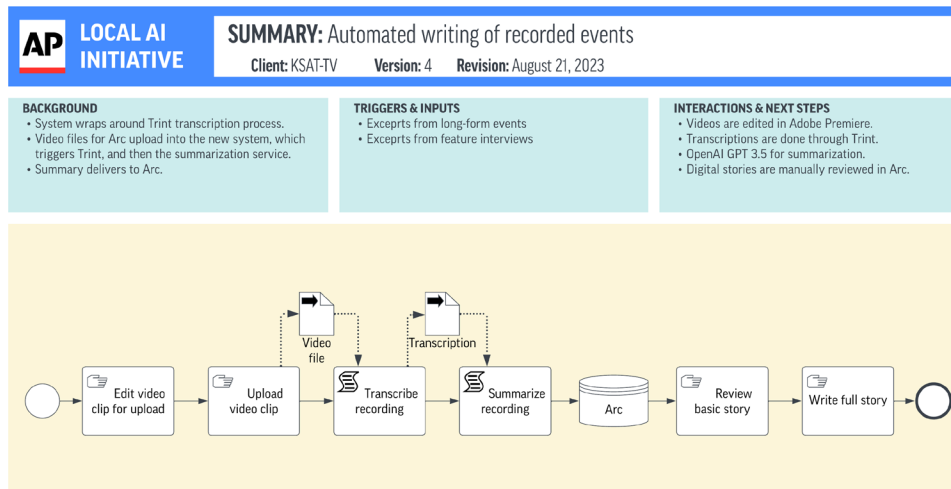


Figure 2. Database entity relationship diagram

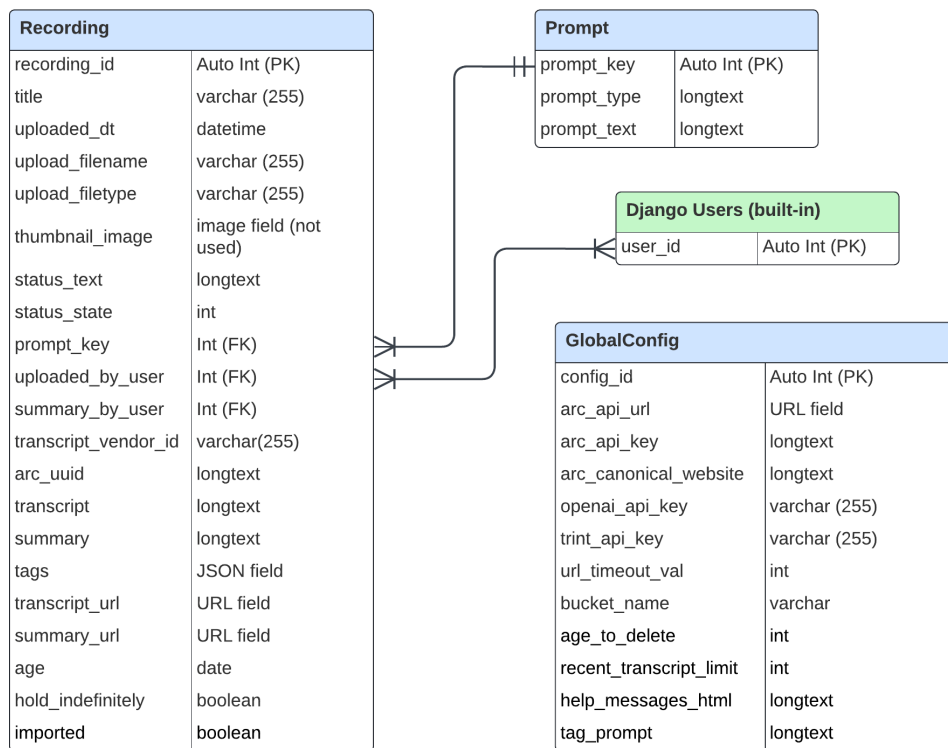


Figure 3. Generative AI prompting

Change prompt

**General category prompt**

**Prompt type:**

**Prompt text:** You are an AI tasked with summarizing a news story. Your goal is to provide a concise summary that captures the main points of the story while being smaller in length than the original text. If you believe the original text is already concise enough, you can leave it unchanged. Please generate a summary that retains as much important information as possible while reducing the length.

Original News Story:

500 word limit for prompts.

Figure 4. Dashboard view with test video clips

Upload/Import clips Clip2Story Help Logout koparker

All Uploads Search for uploads

Title	Category	Status	Transcript	Summary	ARC	User	Date Uploaded	Time Uploaded	Hold clip indefinitely	Delete
ZOOM TREES	General	Exported to ARC				sshotani	08/18/2023	04:52:32 PM	<input type="checkbox"/>	<input type="button" value="Delete Clip"/>
081523 City Public Safety Committee Mtg-01	General	In Progress				stlbot	08/18/2023	04:50:11 PM	<input type="checkbox"/>	<input type="button" value="Delete Clip"/>
Sot	General	Exported to ARC				stlbot	08/18/2023	04:35:21 PM	<input type="checkbox"/>	<input type="button" value="Delete Clip"/>
SALAZAR SOT 1	General	In Progress				sshotani	08/18/2023	04:34:20 PM	<input type="checkbox"/>	<input type="button" value="Delete Clip"/>
Kitty Hawk Rd	General	Exported to ARC				stlbot	08/18/2023	04:28:09 PM	<input type="checkbox"/>	<input type="button" value="Delete Clip"/>
UTSA INTERVIEW HALEE	General	Exported to ARC				sshotani	08/18/2023	03:59:49 PM	<input type="checkbox"/>	<input type="button" value="Delete Clip"/>
OR-Air KSAT-HD_2023-08-06T23_22_00_1711333-05_00D166633	General	Exported to ARC				stlbot	08/07/2023	11:41:37 AM	<input type="checkbox"/>	<input type="button" value="Delete Clip"/>

Figure 5. Trint transcript of test video clip

**trint** < Off-Air KSAT-HD\_2023-08-06T23\_22\_00\_1711333-05\_00D166633\_CLIP2STORY\_1691426500422\_stalbo...

Find & Replace Undo Redo Highlight Strike Add Marker Comment Add to disc... Translate Add to Story Export Create Capti...

[Version History](#)

**Speaker 1** <sup>00:00:06</sup>  
Welcome back to Instant Replay, the KSAT Pigskin Classic 2023 presented by your San Antonio area. Chevy Dealers is right around the corner. Last week we took a look at Holy Cross and Anthony in. Let's take a look now at the first game on Saturday in the Alamo Dome between Southside and Somerset. The Southside Cardinals are back after going ten two last year with an undefeated record in District eight. And oh, that's pretty impressive. The Cardinals have 19 returning lettermen this season and they've Campbell's Texas football magazine has named defensive tackle Aaron Abrego, the preseason defensive MVP. ✓

**Speaker 2** <sup>00:00:48</sup>  
I mean, it was just an exciting opportunity, you know, like getting to play in the Alamo Dome. And I know we're fired up because last year it doesn't turn out how we wanted them to. But I think we're more prepared this year. ✓

**Speaker 3** <sup>00:00:58</sup>  
It's going to be great, you know, and it does give me a great atmosphere, pretty much, you know, and we're going to come out support. Say we're going to put on a show. ✓

**Speaker 4** <sup>00:01:07</sup>  
Can we find, you know, some somebody say they like to talk, they like to bring it. It's going to be it's going to be a nice goodbye. And it's for, you know, people. We're going to go out there, want to hear, hey, he's going to take some school, you know, and it makes them make some noise for people to hear in the don't. ✓

**Speaker 1** <sup>00:01:21</sup>  
The Somerset Bulldogs are looking for even more this season after going ten and three in 2022 with a 14 one district record. The Bulldogs made it all the way to the Class AA Division one regional semifinals before losing to Corpus Christi, Kelan 3117 in Bellville. The Bulldogs have 18 ✓

0:00 / 2:46

Playback speed: x1.0 Timecode: Adjust Total duration: 00:02:46 Highlights duration: 00:00:00 Paragraphs verified: 7 / 7 (100%)

Figure 6. Arc view of summarized test video clip

[Add internal memo note](#)

## Off-Air KSAT-HD\_2023-08-06T23\_22\_00\_1711333-05\_00D166633 CLIP2STORY GENERATED [View headlines](#)

Enter subheadline

The Southside Cardinals are set to play against the Somerset Bulldogs in the Alamo Dome. The Cardinals had a strong season last year and have 19 returning lettermen. Defensive tackle Aaron Abrego has been named the preseason defensive MVP. The Bulldogs are looking to continue their winning streak against Southside. The game will be part of the KSAT Pigskin Classic 2023.

Story tags

Southside Cardinals x Alamo Dome x Aaron Abrego x preseason defensive MVP x Somerset Bulldogs x KSAT Pigskin Classic 2023 x Holy Cross x Anthony x Jefferson x

Uvalde x O'Connor x Brandeis x

Add a tag



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