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

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: General

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

<table>
<thead>
<tr>
<th>Title</th>
<th>Category</th>
<th>Status</th>
<th>Timecode</th>
<th>Summary</th>
<th>Ave</th>
<th>User</th>
<th>Date Uploaded</th>
<th>Time Uploaded</th>
<th>Hard clip markability</th>
<th>Delete</th>
</tr>
</thead>
<tbody>
<tr>
<td>J509897_898200</td>
<td>General</td>
<td>In-Progress</td>
<td>00:00:00.000</td>
<td>Good weather</td>
<td>88</td>
<td>student</td>
<td>09/10/2023</td>
<td>12:30 PM</td>
<td></td>
<td>Delete</td>
</tr>
<tr>
<td>GPMSC City Parks Committee Meeting</td>
<td>General</td>
<td>In-Progress</td>
<td>00:00:00.000</td>
<td>Park clean-up</td>
<td>88</td>
<td>student</td>
<td>09/10/2023</td>
<td>12:30 PM</td>
<td></td>
<td>Delete</td>
</tr>
<tr>
<td>So</td>
<td>General</td>
<td>In-Progress</td>
<td>00:00:00.000</td>
<td>Snow cleared</td>
<td>88</td>
<td>student</td>
<td>09/10/2023</td>
<td>12:30 PM</td>
<td></td>
<td>Delete</td>
</tr>
<tr>
<td>SALT 2021-01-01</td>
<td>General</td>
<td>In-Progress</td>
<td>00:00:00.000</td>
<td>Snow cleared</td>
<td>88</td>
<td>student</td>
<td>09/10/2023</td>
<td>12:30 PM</td>
<td></td>
<td>Delete</td>
</tr>
<tr>
<td>Kitty News PM</td>
<td>General</td>
<td>In-Progress</td>
<td>00:00:00.000</td>
<td>Kitty from PM</td>
<td>88</td>
<td>student</td>
<td>09/10/2023</td>
<td>12:30 PM</td>
<td></td>
<td>Delete</td>
</tr>
<tr>
<td>UTSA NISKAHA VALVE</td>
<td>General</td>
<td>In-Progress</td>
<td>00:00:00.000</td>
<td>UTSA news</td>
<td>88</td>
<td>student</td>
<td>09/10/2023</td>
<td>12:30 PM</td>
<td></td>
<td>Delete</td>
</tr>
<tr>
<td>OR-Air V5440-01-00-05-V5440-01-00-05-00188850</td>
<td>General</td>
<td>In-Progress</td>
<td>00:00:00.000</td>
<td>Air news</td>
<td>88</td>
<td>student</td>
<td>09/10/2023</td>
<td>12:30 PM</td>
<td></td>
<td>Delete</td>
</tr>
</tbody>
</table>
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.
THE ASSOCIATED PRESS
For more information, go to ap.org/ai