Delay Removal on Television Interviews

CSE495

2^{nd} Presentation

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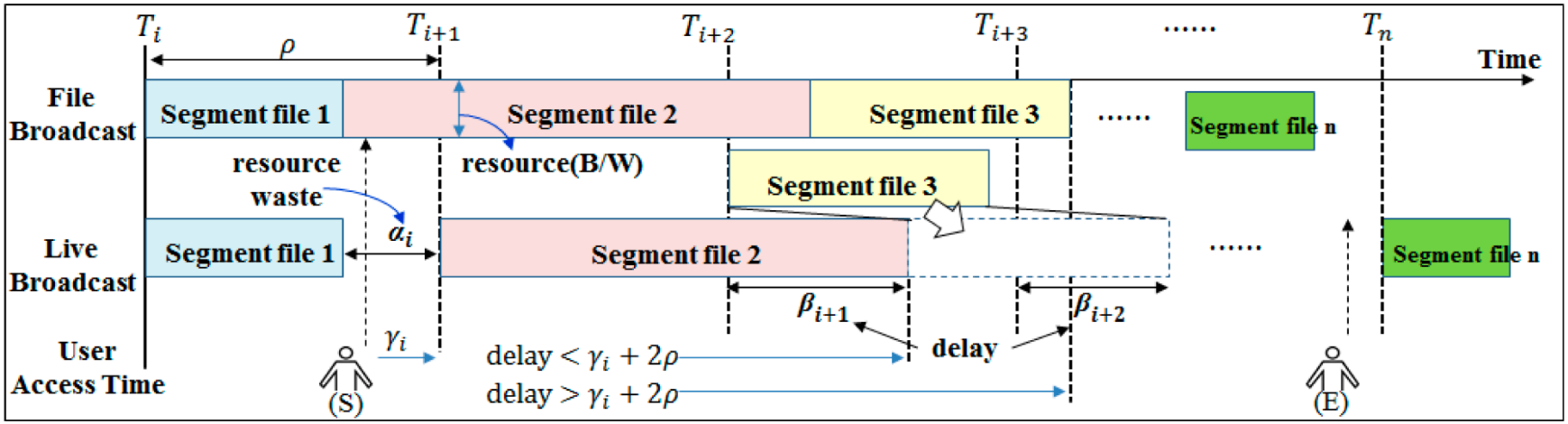
December 2022

Content

- Project Scheme and Description
- Project Design Plan
- Project Timeline
- Success Criterias
- Resources

Project Scheme and Description

Delays can occur in TV interviews. When studio presenter questions a remote interviewee, they cannot hear each other in real time.

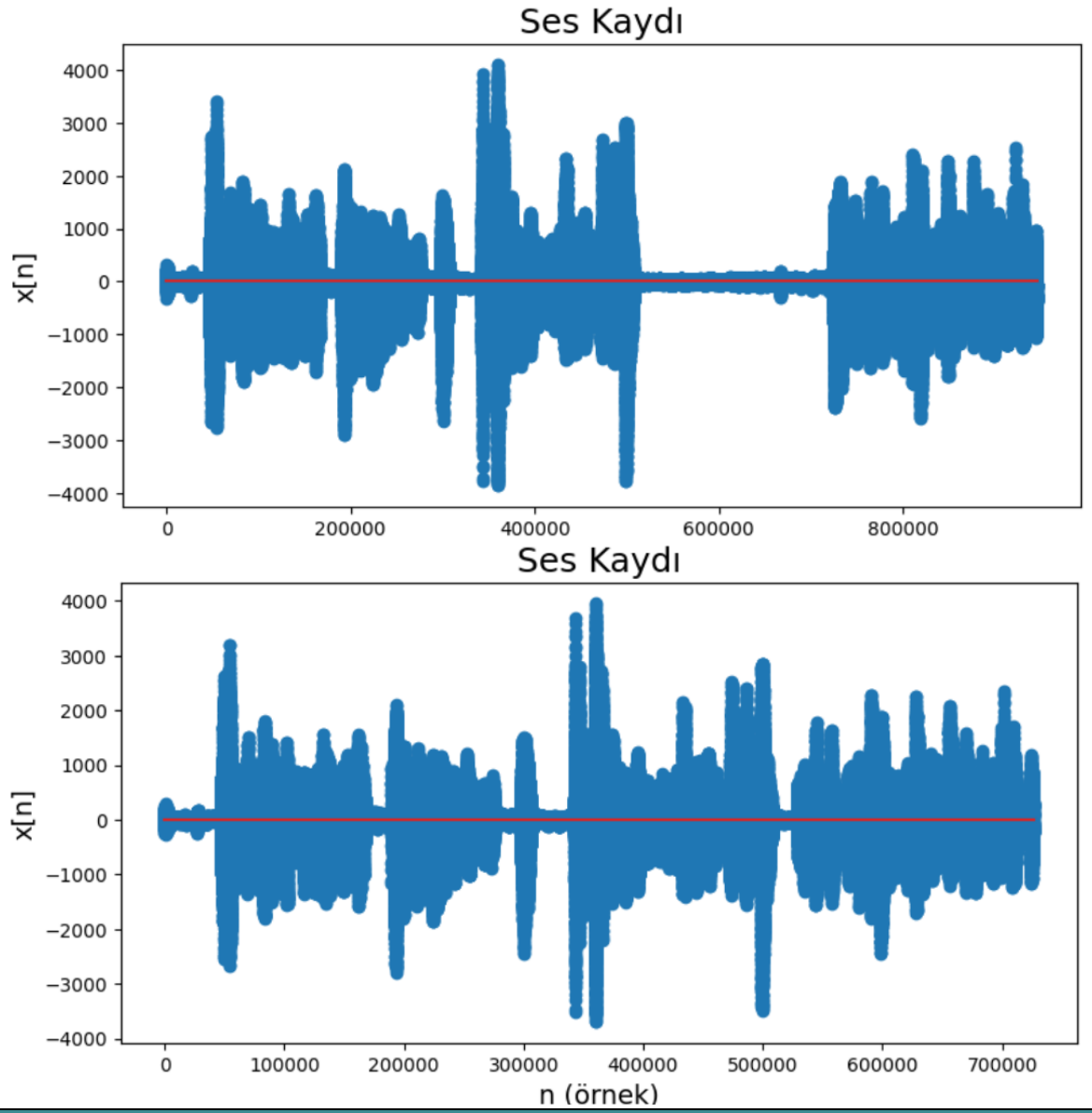


The aim of this project is to remove these delays. The audience should watch the video as if there were no delays and should not be aware of the delays.

Project Design Plan - 1

What has been done for the project:

- The videos of the studio presenter and the remote interviewee were taken as input.
- The two videos have been converted to audio. The audios were compared second by second.
- Delay detection was performed by looking at the amplitudes of the audios in the time domain.
- Video cropping was performed on each delay detection.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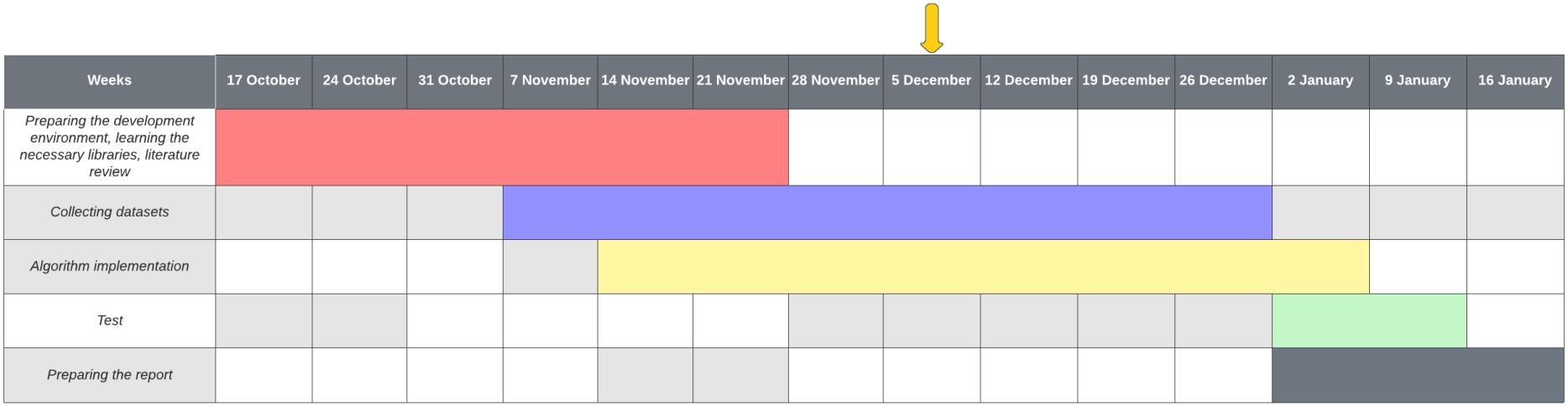
Project Design Plan - 2

What will be done for the project:

- While performing the delay detection, the image will be looked at as well as the audio.
- Video cropping will be improved.
- Data (videos) will continue to be collected.

Project Timeline



Success Criterias

- TV interviews with no delay (75% accuracy rate)
- 1 minute video will be handled in 1 minute.
- At least 100 videos will be used as data

Resources

1. Seo, Hyungyoon. Kim, Goo. “DASH Live Broadcast Traffic Model: A Time-Bound Delay Model for IP-Based Digital Terrestrial Broadcasting Systems” Applied Sciences 2021, 11(1), 247, https://doi.org/10.3390/app11010247
2. https://www.linkedin.com/pulse/how-do-news-interviews-during-lockdown-ten-top-tips-virtual-hamilton/
3. Zhang, C. Liu, J. “On Crowdsourced Interactive Live Streaming: A Twitch. TV-Based Measurement Study” in NOSSDAV ’15: Proceedings of the 25th ACM Workshop on Network and Operating Systems Support for Digital Audio and Video, March 2015, Pages 55-60, https://doi.org/10.1145/2736084.2736091.
4. “Achieving Broadcast-Grade Low Latency in Live Streaming” in Streaming Media. Nov/Dec 2018, Vol. 15 Issue 8, p16-25. 10p.