
EE/CprE/SE 491 BIWEEKLY REPORT 6

November 8 - November 22

Group number: sddec21-06

Project title: DigiClips Media Design

Client: DigiClips

Advisor: Ashfaq Khokhar

Team Members/Role:

Sam Massey - Assignment planning, Research, Work on speech-to-text

Tyler Johnson - Planning and implementing test cases

Maxwell Wilson - Primary point of contact with client, Research, Work on speech-to-text, Team Leader

Max Van De Wille - Documenting architecture changes, Research, Work on video-to-text

o **Weekly Summary**

This past week, our team continued development of speech-to-text and video-to-text elements. On the speech-to-text side of our app, we have implemented chunk overlap and dynamic chunking features to split the input file into manageable sizes for output timestamps. For video-to-text we have continued working on a duplicate filtering method to try and limit the repetition of constant phrases across many different timestamps. Multiprocessing for video-to-text has been completed. This change dramatically improves the program's efficiency. In the next two weeks we will be packaging the two microservices under the driver service and look into integrating them with the clients code.

o **Past week accomplishments**

Max Wilson:

- Implemented docker volumes so the container can access required files
- Converted endpoint's output to a JSON document containing the detected text and additional information on timestamps and file name
- Continue documentation to encompass new features

- Implemented audio chunk overlap

Sam Massey:

- Run container on client machine and look for ways to increase speed.
- Test our program on 10 minute segments to compare speeds for clients' new recording process.
- Begin Documenting things not yet documented.

Max Van de Wille:

- Continued work on alternate duplicate filtering
- Finalized and tested multiprocessing for video-to-text
- Swapped output to basic JSON indices w/ text output

Tyler Johnson:

- Finishing basic work on testbenches
- Start considering extra options to assist with testbenching
- Finalize testbenches

o **Pending issues**

- No unified/standardized testing set to compare performance of one iteration to the next makes it hard to benchmark progress/performance improvements.
- Docker optimizations on the client's machine
- Continue Documentation for the speech-to-text application
- Certain fonts displayed in sample videos are not detected as well by tesseract
- Need to begin packaging apps and developing driver microservice

o Individual contributions

Team Member	Contribution	Weekly Hours	Total Hours
Sam Massey	Deepspeech work, PyDub research and experimentation	7	82
Tyler Johnson	Video to text	6	78
Maxwell Wilson	Docker and multiprocessing experimentation	7	82
Max Van De Wille	Video-to-text development, generating benchmark samples for client	7	82

o Plans for the upcoming week

Max Wilson:

- Integrate our app with client system
- Develop driver microservice
- Documentation

Sam Massey:

- Document and post documents on Github
- Begin progress on final presentation
- Obtain a returned search result for project
- Help integrate speech-to-text into radio recordings

Tyler Johnson:

- Finish video-to-text basic testbench
- Try to make more advanced options for speech-to-text and video-to-text
- documentation

Max Van de Wille

- Alter duplicate filtering method to use Levenshtein distance for string comparison
- Add additional output filtering for newline and extra non-word characters, sanitize output
- Performance test dockerized api on client's machine
- Alter output method to client-approved JSON formatting
- Document installation and configuration procedure