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## **EE/CprE/SE 491 BIWEEKLY REPORT 4**

**October 12 - October 25**

**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**

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### o **Weekly Summary**

This past week, our team continued development of speech-to-text and video-to-text elements. We ran performance tests on the client's system for speech-to-text to get a benchmark speed and verify that our app is not too intensive for the client's devices. On the video-to-text side, the refactoring process is nearly complete but in need of some final adjustments. This week we will continue work on dockerizing the video-to-text API then begin performance testing on our client's system to benchmark. After performance testing we may need to look into multiprocessing for the video-to-text application and add some small features to both apps.

### o **Past week accomplishments**

Max Wilson:

- Began work on chunk overlap and dynamic chunking
- Slight docker changes to prepare for deployment on clients machine
- Worked with client to get remote access to one of their production machines
- Accessed client machine, installed docker, pulled image and tested speech-to-text application

Sam Massey:

- Try to increase speed with PyDub altercations.
- Assess progress and make sure we are on track with the initial schedule still.
- Work on DigiClips system to run Docker code on their machines.
- Work with DigiClips to access their machines virtually.

Max Van De Wille:

- Completed refactoring video processing script into API
- Finished refactoring utility methods w/ readme
- Continued work on duplicate filtering for multiple instances of text within a segment
- Began dockerizing video-to-text api

Tyler Johnson:

- Completed basic speech-to-text accuracy comparison
- Worked on some more advanced features for testbenches, such as time and CPU monitoring
- Work on video-to-text issues, optimizing how inputs should work

## 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.
- One of the main pending issues our team as well as the team at DigiClips is facing will be ensuring accuracy in our speech-to-text and video-to-text.
- Speech-to-text needs chunking overlap
- Need to setup docker so the docker image can access the clients filesystem when running on their host machine
- Docker optimizations on the client's machine
- Need to write Documentation for the speech-to-text application
- Certain fonts displayed in sample videos are not detected as well by tesseract

## o Individual contributions

Team Member	Contribution	Weekly Hours	Total Hours
Sam Massey	Deepspeech work, PyDub research and experimentation	7	54
Tyler Johnson	Video to text testing for accuracy	6	48
Maxwell Wilson	Docker and multiprocessing experimentation	7	54
Max Van De Wille	Video-to-text development, generating benchmark samples for client	7	54

## o Plans for the upcoming week

Max Wilson:

- Implement chunking overlap to catch any words that may have been cut in half
- Implement dynamic chunking so a file can be chunked based upon its duration
- Make some documentation for how the speech-to-text application works and setup method

Sam Massey:

- Report processes of the project in documentation.
- Get more results with the DigiClips system using our speech-to-text code.
- Try our speech-to-text code on DigiClips radio recordings for accuracy and possible errors.

Tyler Johnson:

- Fix/complete video-to-text
- Potentially implement more advanced testbench options
- Make tests more robust and capable of a variety of inputs

Max Van de Wille

- Finalize duplicate filtering approach after testing
- Implement duplicate filtering process
- Finish dockerizing api
- Performance test dockerized api on client's machine
- Alter output method to time stamped indices with text chunks for that section of time