

EE / CprE / SE 492 – sddec18-12

360 Webcams for Zoos and Aquariums

Week 06-07 Report: 2018.09.25 - 2018.10.08

General Information

Client: True 360 (Christopher James)

Faculty Advisor: Dr. Henry Duwe

Team Members:

<u>Name</u>	<u>Primary Role</u>	<u>Secondary Role(s)</u>
Nathan Cool	Front-End Engineer	Project Manager, Webmaster
Zach Newton	Front-End Engineer	Scrum Master, QA
Ian Jamieson	Back-End Engineer	Graphics Lead
Alan Negrete	Back-End/Database Engineer	Front-End Engineer, Scribe, QA
Tarek (TJ) Yacoub	Embedded Engineer	Communication Lead, QA
Hosam (Sam) Abdeltawab	Embedded Engineer	Software Architect

Weekly Summary

The past two weeks have been dedicated to continuing development of our system. This development work includes our front-end web interface, back-end microservices and data management, computer vision computation, and component interconnections. Additionally, we began planning for our upcoming end-of-semester documentation requirements.

Past Week Accomplishments

Nathan: Collected initial data/details from sub-teams in order to create our final report and design document (version 2). This included creating new diagrams of the entire system, writing out data flows between system components, and reviewing our team's work so far this semester. Also worked on creating a user account page (front-end) for users to access/change their current settings and account information.

Zach: Continued work on implementing views and actually starting to pull in data.

Ian: Continued work on development of computer vision. Worked on developing a dataset to test the model on. Started incorporating TensorFlow image recognition into the program.

Having some issues with getting data to train the model on, so I've had to go out and create test video to train the model for the time being. TensorFlow is having some issues with the object detection in the video. Considering moving to a different platform for better object detection.

Alan: Continued pulling in data from domain service, we now have users, zoos, and cameras pulled in to the frontend and displayed on tables. Also completed the initial integration of the content-service, which allows us to embed archived footage on S3 on our frontend UI.

TJ: Created and deployed content management service, which always the frontend to list content for certain zoos or cameras. Content management will also create a url for a specific video clip, which can be embedded on the frontend for users to watch.

Sam: Finished writing the code to interact with our embedded side code to communicate with AWS SQS service.

Recent Group/Client/Advisor Meetings

<u>Date, Time, Location</u>	<u>Participants</u>	<u>Details</u>
2018.09.25, 15:00 - 16:00, Parks Library 306F	Team+Advisor	Normal weekly team updates with advisor
2018.09.27, 14:00 - 15:00, Atanasoff 213	Team+Client	Normal weekly team updates with client
2018.10.02, 15:00 - 16:00, Atanasoff 223	Team+Advisor	Normal weekly team updates with advisor
2018.10.04, 14:00 - 15:00, Atanasoff 213	Team+Client	Normal weekly team updates with client

Pending Issues

Nathan: I still need to collect more details from each sub-team to complete all required end-of-semester documentation.

Zach: N/A

Ian: I don't have access to actual video clips yet, so there is no way to train the model for actual use. TensorFlow is having some issues recognizing objects in the video I've shot so far. The labelling software I was intending on using doesn't really work all that well.

Alan: N/A

TJ: N/A

Sam: Understanding Terrain files and how they interact with AWS services.

Individual Contributions

<u>Name</u>	<u>Individual Contributions</u>	<u>Hours This Week</u>	<u>Total Hours</u>
Nathan Cool	SEE PAST WEEK ACCOMPLISHMENTS	15	45
Zach Newton		15	45
Ian Jamieson		16	45
Alan Negrete		20	48
Tarek (TJ) Yacoub		20	60
Hosam (Sam) Abdeltawab		16	46

Upcoming Plans

Nathan: Continue work on project documentation, finish user account issue, and begin working on new front-end components as assigned.

Zach: Finalize a demo for Chris that shows pulling videos from the server scoped to current user permissions.

Ian: Continue work on integrating a custom dataset into the TensorFlow model and connecting that with the activity monitor. Develop a more efficient way to create video clips and ensure that the client receives the video he needs.

Alan: Improve on the content-service integration, currently, a lot of queries happen to get a single URL of the video, perhaps implement some caching. Then start adding forms for things to save on the domain-service (edits/creates).

TJ: Upload video clips from the embedded device to S3.

Sam: Testing our new embedded code, and see if there are any improvements that could be done to our overall embedded side code.