

EE / CprE / SE 492 – sddec18-12

360 Webcams for Zoos and Aquariums

Week 04-05 Report: 2018.09.11 - 2018.09.24

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	Scribe, QA
Tarek (TJ) Yacoub	Embedded Engineer	Communication Lead, QA
Hosam (Sam) Abdeltawab	Embedded Engineer	Software Architect

Weekly Summary

Now that our project's code is split into different repositories to improve development/issue-tracking efficiency, we have been working on more in-depth development. The back-end sub-team focused on implementing out our AWS infrastructure; the ML sub-team focused on implementing activity monitoring; and the front-end sub-team focused on cleaning infrastructure and implementing the first set of features (login, signup, basic site layout).

Past Week Accomplishments

Nathan: Conducted research on ZenDesk Garden components for React web development, particularly focusing on the UI/UX features, so as to provide myself with a foundation for creating UI mockups using my Sketch portfolio. Also continued working on the prototype itself, fleshing out the visual/flow details for the login, signup, and basic navigation components.

Zach: Finalized our shift to using an external component framework and reorganized the front-end flow to better meet the new application goals. To remedy poor code consistency

and failed builds on master, worked with TJ to implement a CI pipeline through Gitlab to ensure consistent code formatting and successful builds.

Ian: Worked on data flow for activity monitor and machine learning aspect. Looked at mechanical turks.

Alan: Implemented a Data Layer & Domain on the front end, such that the Data Layer can be composed on interfaces that execute queries to the domain-service project. Allowing for future testability of our frontend, independently of the domain-service. Also finished setting up Redux, with the middleware thunk so that we can execute view related actions, based on data accessing actions, thus removing a lot of logic/complexity from the views. Lastly, began to work on User Invite component on the front end.

TJ: Created a terraform script in which it will automatically create our infrastructure on AWS. As of now the script will create a VPC with 2 public subnets, 2 private subnets, 2 database subnets, 2 intra subnets. The public subnet will house the application load balancer, which is available for access for client (embedded, frontend). The private subnet will have the services we created or will create. As of now we have domain-service (implemented), communication-service (todo), ml-service (todo). Database subnet will house the databases, and the intra subnet will house any other shared aws service, such as AWS Elastic File System which we will be using to have a common file system.

Sam:

- Conducted research on how to use Docker & Dockerfiles
- Conducted research on how to use Python
- Started a new branch on gitlab for automizing the embedded code for our system

Recent Group/Client/Advisor Meetings

<u>Date, Time, Location</u>	<u>Participants</u>	<u>Details</u>
2018.09.11, 15:00 - 16:00, Parks Library 306F	Team+Advisor	Discussion of ML and frontend/backend progress/needs
2018.09.13, 14:00 - 15:00, Atanasoff 213	Team+Client	First team+client meeting; focus on getting all members on the same page
2018.09.18, 15:00 - 16:00, Atanasoff 223	Team+Advisor	Follow-up with advisor about last Thursday's meeting with our client
2018.09.20, 14:00 - 15:00, Atanasoff 213	Team+Client	Progress update with client, planning for next few weeks (client is out-of-town for week 06)

Pending Issues

Nathan: More of a desired wish than an issue, but I would like for team members to work in-person more in order to collaborate on their respective pieces of the project. Not a

requirement, but it could be useful to speed up communication and ensure everyone is on the same page

Zach: NA

Ian: Having a few issues with processing 360 video in my activity monitor program.

Alan: None.

TJ: Not sure how ml-service will receive the stream since it seems like AWS MediaService is expensive for our client.

Sam: Dockerfile isn't fully functional

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	30
Zach Newton		12	30
Ian Jamieson		15	29
Alan Negrete		12	28
Tarek (TJ) Yacoub		20	40
Hosam (Sam) Abdeltawab		17	30

Upcoming Plans

Group: This Thursday (Week 06, September 27th) is our first PIRM meeting, for which our team will prepare/practice a presentation.

Nathan: My next goal is to have an entire v1 prototype of our front-end system designed and fleshed out by the end of week 06. Being that our client is out-of-town until week 07, it will give me time to work with the rest of the team to make sure the UI/UX flows well and that any data-related architecture is made known. Then, during week 07, when our client is back in town, I will sit down with him and have him interact with the prototype in order to provide feedback on what we are developing. Once I collect feedback, Zach, Alan, and I will be able to start hammering out feature implementation, since they will ideally be done refactoring/cleaning the front-end architecture.

for the next two weeks is to have enough of a working version created so that I can work with our client in Week 07 (after he returns from a trip) to refine our front-end product to better

Zach: List Videos scoped by Zoo. Find 360 video HTML5 player library that suits our needs.

Ian: Continue work with S3 and mechanical turks. Work on improving the data flow process for machine learning.

Alan: Complete the User Invite system, so that User Registration can be completed as well.

TJ: Finalize the domain-service; create SNS topics for the communication-service; create s3 bucket for front end deployment.

Sam:

- Finish Dockerfile implementations
- Start automating more of our backend code & linking it with our AWS services