CS 499 Senior Project Weekly Status Report

**Project Title:** DocksUShare

**Team Members (if applicable):** RyanDockstader

**Project Description:** A file sharing service for litigation agencies.

Technologies Used

* .net Core
  + asp.net MVC
  + SignalR
  + Entity Framework
  + MS SQL DB
  + AWS .net SDK
* Amazon Web Services
  + AWS EC2
  + AWS Route 53
  + AWS S3
* Certificates
  + LetsEncrypt
  + CertBot
* Angular 8
  + Angular Materials
  + RxJs
  + NgRx
  + HttpClient

# Week 1: 1/11/20

**Overall Status (on-schedule, behind, ahead):** On-Schedule

**Number of hours worked this week:** 12

## Total number of hours worked on the project thus far

* In Semester: 12
* Total: ~800 hours

## Number of total hours anticipated at completion

* In Semester: 130

## Accomplishments

* Finished beginning semester quizzes
* squashed two bugs dealing with CreatedByUserID’s
* Removed AWS ElasticBeanstalk from the deploy stack
* Removed AWS Certificates from the deploy stack
* Resolved gateway timeout errors by removing an unnecessary load balancer
* Removed Docker from the deploy stack
* Deployed a SignalR Hub, and connected the front end to it to listen for a message about a zip being completed instead of waiting for the http request to return after the zip finishes (since this can take quite a long time with larger cases/folders)

## Challenges

* Working with CertBot was an entirely new experience for me. I liked the AWS certificates because it was all behind a GUI, but LetsEncrypt made it pretty easy with the cert bot, and I understand that there is a C# library that can be used on windows that I plan to test in a couple months when the cert needs to be refreshed.

## Plans / Goals for next week

* Complete my project proposal
* Research the web background task API in an attempt to keep a computer awake when waiting for a zip or uploading/downloading a file
* Improve front end error handling and display, for troubleshooting
* Delete any authorized users from cases/media items when a user is deleted
* If a user cant be deleted list any items the user is attached to (foreign key constraints)
* Deploy a list of pending zips on the front end
* Deploy a list of pending downloads on the front end
* If possible, setup progress bars for all upload/downloads/zip files (might get pushed to the week after)

## SPED Talk Insight

(Briefly describe an insight or something interesting you learned from the SPED talks this week)

There were no SPED talks this week.

## Other comments for the instructor

I’ve got a big list of goals for the next week. My hope is that I’m able to accomplish them all, but my plan is to have a somewhat rolling set of goals as needed. Hopefully that’s alright. I’m doing this since there is a lot to get done and a lot of new technologies that I will be working with through the semester. I also like to use the word formatting options to make the sections collapsible/easily formattable. If this isn’t okay let me know and I can convert it back to the original format.

# Week 2: 1/18/20

**Overall Status (on-schedule, behind, ahead):** On schedule

**Number of hours worked this week:** 12

**Total number of hours worked on the project thus far:** 24

**Number of total hours anticipated at completion:** 130

## Accomplishments

* This week we were able to meet up with our customer and talk about the roadmap they wanted. It was a very interesting conversation, and we were able to get some better idea’s as to where we should be heading
* I was also able to meet with the other person (my cousin) that is handling the sales/client relations/etc. part of the business, and go over the scheduled for the next 13 weeks. It was really exciting to have a solid roadmap. It really showed me the importance of having a solid roadmap when developing software.
* I made security a bit more of a priority then I initially thought I was going to this week. I found a pretty serious security flaw, which then made me go back and check all the API controllers and make sure the code logic was sound. It was all developed rather quickly with the change from Node.js to .net Core, and there was some stuff that needed to be modified. However, I think everything is really put together securely now.
* I was able to do some preliminary research on the web api that I’m targeting to keep the computer awake, but was not able to accomplish that priority 1 task. It will be moved onto the docket for next week.
* The error handling is improved on the front end. The dialog was reworked to better display the issue to the user, and includes the error status code in the title box to help in troubleshooting

## Challenges

* There was a lot more business items that happened this week, just due to the nature of the proposal. That made less time for the project then I wanted.
* I also had a few nights this week that I had to work, again limiting time.
* There were a few places that I had to really think about who should be able to do what in the controller methods. And then derive the information the from the database using Entity Framework

## Plans / Goals for next week

* Nail down a method to keep the computer awake while uploading/downloading
* Improve the log file functionality (searchability, logs when emails are sent, logs when a user downloads a media item)

## SPED Talk Insight

(Briefly describe an insight or something interesting you learned from the SPED talks this week)

No SPED talks this week.

## Other comments for the instructor

None this week

# Week 3: 1/25/20

**Overall Status (on-schedule, behind, ahead):** on-schedule

**Number of hours worked this week**: 12

**Total number of hours worked on the project thus far**: 36

**Number of total hours anticipated at completion**: 130

## Accomplishments

* Made some backend changed that allowed for authorized users to get auto deleted when deleting a user
  + This required a new repository class since this was all handled as sub classes before
  + This also required a new implementation of my queryable extensions
  + This also required modifications to my startup process, to add the mapping
* Made front end changes to consolidate all uploads to a single page (active, pending, failed)
  + This will make the future change of allowing retries significantly easier.
* Made front end changes to allow users to track what is in their download queues.
  + This also restricts the amount of items that can be downloaded at a single time

## Challenges

* Making sure to stick to the architecture that I designed previously with the new backend implementation
* I had some trouble consolidating down the screens. The uploads one wasn’t too bad, but the download ones was tricky because of the different download types that could potentially happen.

## Plans / Goals for next week

* Add in progress bars for downloads/uploads
* Improved log searchability on the front end (the backend API endpoint should already be setup for this. But of course, we’ll see 😊 )
* Add email logging
* Add download logging vs. view in browser logging
* Setup a testing app to try out the background task web API

## SPED Talk Insight

(Briefly describe an insight or something interesting you learned from the SPED talks this week):

No Sped talk this week

## Other comments for the instructor

I’m not sure what happened with the call on Monday. I may have missed it? If that’s the case and you’re still wanting a call let me know and we can get is scheduled?

# Week 4: 2/1/20

**Overall Status (on-schedule, behind, ahead):** On Schedule

**Number of hours worked this week:** 15

**Total number of hours worked on the project thus far**: 51

**Number of total hours anticipated at completion**: 130

## Accomplishments

* Log files are now searchable by case, or user (excluding item currently)
* Log files are added when an email is sent
* Log records are added when a user downloads a case
* The email system has been adjusted to have a 15 minute delay, to reduce the amount of emails being sent (it will now send a max of 1 ever 15 minutes per user, per case)

## Challenges

* This week I was able to reuse a lot of the things that I have done previously. While it wasn’t a direct use or copy and paste, I used a lot of the same tooling that I have previously to build a background service. This provided very little challenges on the backend
* Figuring out how to make the new log search screen intuitive was a little tricky, but here again I was able to re-use a lot of components I’ve made previously.

## Plans / Goals for next week

* Modify the application so that it will limit the size of zipped files, so it doesn’t fill up the hard drive
* Modify the application to keep track of file size in the database

## SPED Talk Insight

(Briefly describe an insight or something interesting you learned from the SPED talks this week)

I posted my SPED presentation this week.

## Other comments for the instructor

# Week 5: 2/8/20

**Overall Status (on-schedule, behind, ahead):** On Schedule

**Number of hours worked this week:** 12

**Total number of hours worked on the project thus far:** 63

**Number of total hours anticipated at completion:** 130

## Accomplishments

* First customer is officially live on the software! Did some troubleshooting/assistance for that
* Added file size tracking
* Researched more about PWA’s, looks like it isn’t’ viable to do the other things we are wanting to accomplish this semester **and** that, so I am putting that on the back logs.

## Challenges

* Had to reevaluate a lot this week and modify the schedule.
* PWA’s are way more in depth then I thought they were. Research took a lot of time, and converting the application over to a PWA likely could have encompassed a “senior project”
* Figuring out a reasonable way to update existing files with a file size

## Plans / Goals for next week

* Add folder creation on the client side
* Allow retry of uploads and downloads on the client side

## SPED Talk Insight

(Briefly describe an insight or something interesting you learned from the SPED talks this week)

It was really cool to see some newer technologies around mobile development with Tanner’s SPED talk. I wonder what the advantages are of native coding with swift/cotlin as opposed to something like flutter.

## Other comments for the instructor

It was good to chat with ya this week!

# Week 6: 2/15/20

**Overall Status (on-schedule, behind, ahead):** On-Schedule

**Number of hours worked this week:** 8 hours

Total number of hours worked on the project thus far: 71 hours

Number of total hours anticipated at completion: 130 hours

## Accomplishments

* Added progress bars to active uploads/downloads
* Added retry functionality for failed uploads/downloads
* Had a system go down, brought it back up

## Challenges

A large challenge that we’re facing is the disk size that we’re limited to. It makes it difficult to store multiple files in any convenient way without demolishing the space we have available.

## Plans / Goals for next week

* The application shall prevent itself using more than 80% of the available space on the drive (7 hours)
* The application shall track used drive space (5 hours)

SPED Talk Insight

(Briefly describe an insight or something interesting you learned from the SPED talks this week)

I thought that Kevin’s SPED talk on Developer boards was great. I love working with arduino’s and Raspberry Pi’s. I didn’t realize there were so many different options out there when it comes to developer boards.

## Other comments for the instructor

None at this time.

# Week 7: 2/22/20

**Overall Status (on-schedule, behind, ahead):** On-Schedule

**Number of hours worked this week**: 12 hours

**Total number of hours worked on the project thus far:** 83 hours

**Number of total hours anticipated at completion:** 130 hours

## Accomplishments

* Added logic to store the file temp storage on another drive
* Discussed a server restart schedule to keep the tmp folder from overflowing
* Added an admin dashboard, where the admin can see their total usage percentage, and can clear the temp file storage
* Added endpoints/client side config to allow users to update files missing their files sizes
* Fixed a bug surrounding email payload
* Researched how to keep track of file size, and implemented it in the database. This will help keep the total size on disk smaller

## Challenges

* Trying to figure out how to make sure I don’t fill up too much of the file storage is proving to be difficult. It seems that I need to re-work the way that zipping works, but I’m not sure how to deal with uploads.

## Plans / Goals for next week

* Finalize the 80% rule.
* Creating folder/sub folders

## SPED Talk Insight

(Briefly describe an insight or something interesting you learned from the SPED talks this week)

I’ve worked a little with Java, and none of that had to do with adding libraries outside of the standard way in the IDE. It was really interesting to know that jar files are just groups of classes, and that they can be added toa project.

## Other comments for the instructor

None at this time.

# Week 8: 2/29/20

**Overall Status (on-schedule, behind, ahead):** On-Schedule

**Number of hours worked this week:** 12 hours

**Total number of hours worked on the project thus far:** 83 hours

**Number of total hours anticipated at completion:** 130 hours

## Accomplishments

This week I had to do a research spike on how to deal with .net core temp files expanding to ridiculously large sizes. I am still working on the why, but at least I learned that the folder they are being dumped into will be cleared on restart of the server. So, at least for now, I’m working on a Linux service wrapper for my dotnet command, that I can then run on startup of the server so I don’t have to do the restarts manually every time.

## Challenges

Building a stable product is proving to be a bit challenge, with my limited experience with the architecture in .net core, and linux.

## Plans / Goals for next week

* Deploy a service wrapper
* Deploy a version with a different logging system (likely swapping out for nlog, so I can dump the logs in files instead of writing to the console). I suspect the logging to the console has something to do with the file size
* Schedule a manual restart a couple times a week until we’ve got a little more stability in our tmp file size.

## SPED Talk Insight

(Briefly describe an insight or something interesting you learned from the SPED talks this week)

It was really interesting to hear about a different PWA framework, and how it works.

## Other comments for the instructor

I would prefer to be left off the help list, if that is still an option. Between work, classes, and this project I’m pretty slammed and I like to leave the remaining time I have for my family.

# Week 9: 3/7/20

**Overall Status (on-schedule, behind, ahead):** On Schedule w/ must have items

**Number of hours worked this week:** 15

**Total number of hours worked on the project thus far:** 98 hours

**Number of total hours anticipated at completion:** 130

## Accomplishments

This week I spent most of my time squashing bugs and implementing a new process for removing temporary storage files. I was able to figure out a new deployment strategy on our existing server structure that will allow scheduled and on-demand restarts via a Lambda function. Right now, I’m just calling this on a schedule or via the testing options but in the future I could add this to a management app for a support person to restart servers on the fly without having to have direct AWS access.

## Challenges

My research spike was the biggest challenge. At the beginning of this week I wasn’t sure what a daemon on Linux would look like, or how to set one up with the correct permission and how to have it auto-start on startup.

## Plans / Goals for next week

With the bugs fixed, I would like to get back on track with the file management tracking and making sure we don’t’ go over a set percentage of the total storage size of the server.

## SPED Talk Insight

It was great to learn more about PostgreSQL. I went on a job interview this week, and they said that their persistent storage was in PostgreSQL. Unfortunately, I saw the video after that interview, but it’s amazing to see that ‘coincidence’ to let me know I’m on the right track.

## Other comments for the instructor

None this week

# Week 10: 3/14/20

**Overall Status (on-schedule, behind, ahead):** On schedule w/ must have items

**Number of hours worked this week:** 12

**Total number of hours worked on the project thus far:** 110 hours

**Number of total hours anticipated at completion:** 130 hours

## Accomplishments

We had some issues creep up from last week, with the new service. It caused the system to fail once and I turned it back on the previous way. I was able to resolve it (it was a permissions issue) by researching systemd some more, and figuring out that even though the User attribute is optional, it doesn’t run with root permissions unless you specify that it should. This was causing issues with allowing traffic through the proper ports for .net core.

## Challenges

Refer to accomplishments

## Plans / Goals for next week

Solidify the new implementation, modify zip folders to not take more then 70% of the server space, and assume that more than 10% won’t be taken up by uploads to solve the 80% issue.

## SPED Talk Insight

I think my brother is a wonderful teacher, and he always has some gold nuggets to share about his favorite things.

## Other comments for the instructor

Any craziness going on with COVID-19 in your neck of the woods? It’s added some to my week, that’s for sure.

# Week 11: 3/21/20

**Overall Status (on-schedule, behind, ahead)**: On-Schedule

**Number of hours worked this week:** 9 hours

**Total number of hours worked on the project thus far:** 119 hours

**Number of total hours anticipated at completion:** 130 hours

## Accomplishments

* Got our client up and running consistently on the new server architecture (for restarts, cache clears)
* Added functionality to track storage space by media folder, to then allow the system to know how much space each zip is going to use

## Challenges

* This week presented many challenges. I wasn’t sure exactly how to make things work so that it wouldn’t take up too much space on the drive.
* This week I also got offered a new job and have been working with my job to start transitioning me out and getting things ready for the new job. This took more time then expected and didn’t allow me as much time for the project as I needed to complete the tasks I would have liked to this week
* Obviously with the Coronavirus a lot of things are more complicated then they were previously. This also took up a chunk of time that needed to go towards this project (research, finding essential goods for the family is a little more difficult with certain items being sold out at a lot of stores)

## Plans / Goals for next week

* Finish implementing folder size tracking, and then setup the zip service to not take up too much space
* Assuming that goes well, I’m going to skip the folder/sub folders for now and jump on the other two items. This should allow me a couple weeks to finish the large folder/sub folder task without having to worry about completing the other two items. These other two items are:
  + Google analytics on the main page
  + Delete the backend file when a row is deleted

## SPED Talk Insight

I did some work on the MEAN stack over the past year, and it was good to have a refresher. I really enjoyed it when I worked on it, but it did have its share of issues. Most of my time spent was actually on the project that I’m still working on now for my senior project, in its original form.

## Other comments for the instructor

Hope you’re doing well. How do I go about scheduling the project demo?

# Week 12: 3/28/20

Overall Status (on-schedule, behind, ahead): **On-Schedule**

Number of hours worked this week: **10 hours**

Total number of hours worked on the project thus far: **129 hours**

Number of total hours anticipated at completion: **130 hours**

## Accomplishments

I was able to complete two requirements, and I also had a conversation with the primary stakeholder and we are holding off on folders/sub-folders for now, since we need to split out zip files that are too large now that the server is monitoring it’s own space

## Challenges

Learning about google analytics, revisiting an old page that I haven’t worked on in a while, learning about delete methods in S3

# Plans / Goals for next week

1. Work on (and hopefully implement) splitting out cases into multiple zip files to allow for better downloads.

## SPED Talk Insight

Unity has always been something that has fascinated me. This weeks presentation really encouraged me to get back to a Udemy course I’ve had on the backlog for some time now.

## Other comments for the instructor

# None this week.

# **Week 13: 4/4/20**

Overall Status (on-schedule, behind, ahead): **On-Schedule**

Number of hours worked this week: **14 hours**

Total number of hours worked on the project thus far: **144 hours**

Number of total hours anticipated at completion: **130 hours**

## Accomplishments

* Final project meeting
* Reorganized our board structures to fit new practices going forward
* Held a meeting to discuss new ordering for the next few months
* Fixed a few bugs

## Challenges

It’s a little strange in that it feels like the project should be coming to a close, but since it is a living project it isn’t something that is really going to wrap up in a 13 week semester. This comes with some unique challenges. It ended up modifying the requirements/stretch goals throughout the semester as our customer came out with large needs, or problems they are having. That was a problem thoughout this semester and It was just reiterated during meetings this week. That isn’t necessarily a bad thing, but it can be a challenge

## Plans / Goals for next week

Keep working on my app 😊

## SPED Talk Insight

I’ve worked on a lot of SSRS reports before, but never in VS. It was cool to see how that can be done.

## Other comments for the instructor

It has been great learning from you, and working with you on this project. I look forward to seeing you and your family at your wife’s graduation this July!