

Louis Leon - Fall 2017 - Week 1

Monday, September 25, 2017
2:18 PM

In summary, I filled out my preferences for senior capstone 2017 and read through all of the project titles and descriptions. Overall, I am hoping to work on a project that involves computer graphics or some sort of virtual reality.

Plans:				Progress:				Problems:
Work on setting up OneNote and completing first assignment				Filled out preferences for projects				N/A

Week 2

Monday, September 25, 2017
2:33 PM

Got my project assignment and I was excited to see who my team-members were. I am glad that I got the project I was assigned to. I think it is a very interesting project that has the potential to help other people. I met my project partner later this week and were able to look at our schedules to decide what time would be best for our group to meet with our client as well as our TA. We sent an email to our project client asking to set up a meeting time to go over the project details. After meeting with the client we discussed the project in detail and defined the beginning steps for the project. We also set meeting times so that we can have meetings bi-weekly.

Plans:				Progress:				Problems:
Meet up bi-weekly on Thursdays				Met with Client and team member				Do not know much about Kinect SDK, have never really used a Kinect.

Week 3

Monday, September 25, 2017
2:33 PM

I submitted my rough draft of individual Problem Statement at the start of the week and met with my team and TA for a meeting on Wednesday. We discussed the project and defined the beginning steps for the project. We also set meeting times so that we can have meetings weekly through WebEx at 2:40pm. On Thursday, my partner and I discussed getting together tomorrow and working on the final draft for our Problem Statement. I believe our client must approve of the document and sign off on it. By the end of the week on Friday, I met with my project partner to work on final draft of the Problem Statement which is supposed to be a group paper. We merged ours together and decided on the best parts to keep for the final draft of the Problem Statement. We sent the final draft to our client and planned on discussing the details of their impressions and/or opinions during our next upcoming meeting (Week 4).

Plans:				Progress:				Problems:
Meet up weekly with TA on WebeX. Meet with client and discuss their feedback next week. Look into the Kinect SDK for Windows.				Met with TA. Finished the Problem Statement paper final draft.				Still do not know much about Kinect SDK

Week 4

Monday, September 25, 2017
2:33 PM

During lecture time earlier in the week, the professors talked about the requirements for our GitHub repo and what the structure needs to look like. Some of the instructions were confusing but were eventually sorted out. We had another WebEx meeting during the middle of the week where we discussed our project GitHub Repo structure. For now we have decided to have two folders named 'src' and 'documents' where we will be placing all of our code and assignments/documents, respectively. The day after, we met with our client and discussed our plans for the term. Our goals are to meet with a physical therapist from the Samaritan clinic here in Corvallis. This will allow us to look at how patients are treated and to go through the process of looking over any official documents and signing forms required to observe a patient.

Plans:				Progress:				Problems:
Begin working on the Requirements Document. Meet with physical therapist in				We have sent a final draft of the problem statement to our client and are waiting				There was some confusion about

Corvallis at the Samaritan Clinic sometime soon. Fill out any necessary documents or forms required to observe a patient at the Samaritan Physical Rehabilitation Center.				to hear back from them. We have a meeting with them this week where we will be discussing our progress and our problem statement. After receiving feedback from our client, we were able to make changes and submit the final draft of the Problem Statement.				submitting our assignments.
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Week 5

Monday, September 25, 2017
2:33 PM

Earlier in the week we began looking at which requirements we are going to need to complete the overall project and write our Requirements Document with. Our team stayed after class and formed another OneNote page just for collaborating on these documents. We planned on meeting the physical therapist at Samaritan the upcoming Thursday. We later discussed the Requirements Document with our TA and he was able to answer all of our questions. Later in the week, my project partner and I met at the Kelley Engineering Center and worked on our Requirements Document rough draft which we managed to finish and upload to our submission OneNote and GitHub.

Plans:			Progress:			Problems:
<p>Go to the Samaritan Physical Rehab. Clinic to meet with a physical therapist and discuss observing a patient.</p> <p>Get the rough draft graded and gather feedback from Kirsten. Then, work on the final draft version which we are going to need to send to our client for his feedback before final submission.</p>			<p>Gathered and brainstormed some requirements to include in our assignment. Later in the week we manage to work extensively on the Requirements Document and finished our rough draft for submission. Met with physical therapist and received a useful DVD on some of the exercises they use on patients.</p>			N/A

Week 6

Monday, September 25, 2017

2:33 PM

Met with TA on Wednesday and discussed our Requirements document rough draft. We have received some useful feedback from him and are going to finish up the final draft to submit on November 3rd. We also attended the special lecture on Thursday to learn about what steps to take if your project is more research oriented.

Research Projects Lecture

- What is my research question?
 - How can Kinect sensors help patients with Parkinson's Disease?
- Step 1: What are others saying about the problem?
 - Create an annotated bibliography
 - Create a literature review
 - Include citations
 - Include research from the last ten
 - Years at most unless you're citing the originator of idea/field
- Step 2: What is novel about what you are doing?
 - Use Cite SeerX
 - Describe what you are asking/doing/trying that is novel
 - Create a background and introduction section
- Step 3: What's your UNIT of analysis and data source?
 - Describe what data you'll be collecting to inform your decision
 - Describe your unit of analysis: are you studying people? A system?
- Step 4: What methods will you use to test your idea? How will you make sure your data is good, and your findings valid and reliable?
 - Identify variables and their relationship to each other
 - Be specific about what and how you're measuring
 - Read about methods in the field
 - Consult with your client
- Step 5: Use your methods to produce data for analysis; collect, clean, and analyze the data
 - Identify limitations and comment on what you found when conducting research
 - Analyze findings based on prior research (Step 1)
- Step 6:

Plans:				Progress:				Problems:
Attend Thursday's lecture where the professors will be talking about some of the				Fixed some grammar issues with parts of the				Our project has some elements of a research based

<p>projects and their research oriented structures. There we can see what changes we may need to make and how it will affect the outcome of our project and its documentation.</p> <p>Write the final draft of the Requirements Document and show it to our client for approval and feedback.</p> <p>Develop a research question pertaining to our project and look at other research projects related to ours.</p>				<p>Requirements Document.</p> <p>Received feedback on Requirements Document rough draft.</p> <p>Added some functionality to our Requirements Document final draft.</p>				<p>project so we might need to adjust our approach for all of the documentation</p>
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Week 7

Monday, September 25, 2017

2:33 PM

Summary: This week we are meeting with physical therapist Heidi and observing a patient receive some physical therapy. The patient's name is Jim. They will be performing some mobility exercises and we will be observing and taking some notes. This will be helpful when implementing some pre-defined exercises during the implementation phase for the project. We hope to observe more sessions in the future and show the project to the physical therapist for some feedback. I began working on the Technology Review Document and created the bibliography file and LaTeX file.

Day of Observing: My partner and I had a patient observing at the Samaritan Physical Rehabilitation in Corvallis today.

We met with Heidi who is a physical therapist and a patient, Jim. During this session, Jim and Heidi performed physical exercises to help with Jim's mobility limitations due to Parkinson's disease. I observed and took notes on how Heidi instructed Jim to do the exercises.

Plans:				Progress:				Problems:
Start on the individual Technology Review Document eventually.				<p>Review document is done.</p> <p>Observed a patient</p>				<p>Some confusion about the Technology Review assignment.</p>

<p>Start on writing the individual Tech Review Assignment.</p> <p>Finish the rough draft of the technology review by next Monday night.</p>				<p>receive physical therapy treatment.</p> <p>Basic structure for the document.</p>				
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Week 8

Monday, September 25, 2017
2:34 PM

In class on Tuesday, we had a peer review session for our individual Technology Reviews. I brought in a hard copy and handed it in after class. Later in the week, we had a meeting with the TA and talked about our Design Document ideas. They are ready to be written onto a document. We might have to re-think one of the components relating to our development environment. We also had another meeting with Mehmet(client) and discussed which exercises we were able to observe at Samaritan. We all agree we are on the right track in terms of progress. We discussed our individual Technology Reviews and asked for his email approval.

Plans:		Progress:		Problems:
<p>Technology review was reviewed by a peer and the final draft needs to be done.</p> <p>Send Mehmet(client) our individual Technology Reviews to get his approval.</p>		<p>Tech review rough draft peer reviewed and submitted.</p> <p>Client and team are on the same page with the potential candidates of exercises to include in the software.</p>		<p>San Dim might have to rewrite one of her components in her Tech Review because of the professors instructions to exclude specific topics/components.</p>

Week 9

Monday, September 25, 2017
2:34 PM

This was Thanksgiving week, meetings were cancelled for the Holiday so our progress was still for this week. I finalized my Technology Review Document and submitted it on time. My team and I did manage to at least do some planning about what needs to be done in the upcoming weeks. We started discussing our ideas for the progress report and presentation. Our presentation will be done on a shared Google Slides document and we will most likely record our own voices separately through Kaltura and add the two clips together to make the presentation.

Plans:				Progress:				Problems:
Work on Design Document and begin the progress report, presentation and slideshow recording.				Submitted final draft of the Individual Technology Review Document.				Thanksgiving Holiday is sapping away our team's motivation. Work is important but Family and Friends comes

Week 10

Monday, September 25, 2017
2:41 PM

During the start of the week 10 on Tuesday, our team met to work on the Design Document where we were able to start outlining the different sections of the document into the LaTeX file. We began filling out the sections and but did not finish that day, but we planned on continuing the work throughout the week as well as beginning to work on the Progress Report and presentation. We also had another meeting with our TA and discussed some more detail about the Design Document for our project. He was able to steer us in the right direction with some of the formatting and structure. He was also generous enough to send us a .pdf file of the IEEE standard we required to use. Later in the week, Our team began working on our Progress Report document and presentation. We decided to use a shared Google Slides document for our presentation. We also plan on making the presentation into two separate parts and adding them together with the user of some video editing software. Since there are two of us in the team, we both are going to have around 10 minutes of recording time.

Plans:		Progress:		Problems:
Finish working on the Design Document and submit it to our client for their approval before the term is over.		Set up the outline for the Design Document and made the required bibliography files and LaTeX files. More progress done on the Design Document and we are		There was some confusion with the structure of the Design Document, specifically the viewpoints and which needed to be included. This problem was resolved by attending workshop hours and viewing some of

<p>Begin working on the progress report which is due on Monday of Finals week.</p> <p>Submit the Design Document due Friday of week 10.</p> <p>Record our video presentation this weekend and add them together to make one complete presentation.</p>		<p>almost ready to submit it. We just need to expand some of our ideas more for each section, add our references, add glossary terms, and compile the document.</p> <p>Partner made a OneNote page for writing in our Progress Report details. Shared presentation slides and began working on them. Submitted Design Document onto our team's OneNote submission page and uploaded to GitHub.</p>		<p>example documents of previous students.</p> <p>There was not enough time to send our Design Documents and individual Tech Reviews to our client for approval. The professors extended the client approval to next term.</p>
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Louis Leon - Winter 2017 - Week 1

Monday, September 25, 2017
2:18 PM

In summary, my partner and I discussed setting meeting times with our client so that we can discuss the progress on the development of our project. We have to stay on task and lead our project since class meeting times are limited this term.

Plans:				Progress:				Problems:
Set meeting times with client				Sent emails out to client for any potential meeting times and schedule openings				N/A

Week 2

Monday, September 25, 2017
2:33 PM

Met with client and discussed what our progress is, as well as what to expect this upcoming term. Our project development is headed towards implementing the user interface first as well as our data recording module. He has agreed with our decisions and we plan to move forward with that plan. We also met with our TA today and had a very brief meeting about obtaining client verification and continuing our weekly blogs.

Plans:				Progress:				Problems:
Implement User interface and data recording				Met with Client and TA				

Week 3

Monday, September 25, 2017

2:33 PM

Met with TA and partner this week. Partner and I made substantial progress on the UI of the program and the current version is now available on GitHub. I was able to use one of the sample programs included in the Kinect SDK as a project template which includes a main navigation page and gesture navigation. This will be very useful in planning what we want the final stages of the project to look like.

Meeting Notes:

- Start from back end and try to build the UI up from there
- Python has some easy to use GUI
- Microsoft WPF uses XAML to build GUI so we will most likely be using that for our project

Plans:				Progress:				Problems:
Build a user interface that demonstrates motion tracking as well as a rudimentary menu system				We have been able to develop an initial UI that looks good and serves the purposes that we need it for.				Image and joint overlay is a little buggy

Week 4

Monday, September 25, 2017

2:33 PM

Worked on fixing the issue we were having with the body images and joint overlay. I was able to use some of the existing Kinect sample code to make it work. Specifically after careful copying and refactoring, the code worked and displayed bones and joints over a live image of the user.

We held a meeting on Friday of Week 4 with our client and Dr. Harriet N. along with other students within other engineering disciplines who are working on the Kinect Physical therapy senior project. This

includes the physical hardware and housing of the project and the team involved in cost analysis and optimization. We discussed the final product and some of the concerns we had about the way the hardware will interact with the software.

Plans:				Progress:				Problems:
Begin working on our progress report for our project. This includes the written document and presentation. We are also required to make a draft for the poster we will be using at Expo.				We have a simple UI with the ability to navigate pages using your hand and select a page which displays the user and their body/joints over their bodies.				Some issues involving the overlaying of bones/joints over body were disproportionate.

Week 5

Monday, September 25, 2017
2:33 PM

Partner and I met inside of the Kelley Engineering building earlier this week to work on the progress report as well as the poster for the engineering expo which is coming up in May. The poster is a draft only so we were able to make considerable progress, only outlining the content which will be placed inside of the poster sections. The progress on the written report is being written in our team OneNote notebook and so far we have:

- Outlined sections of the paper
- Began writing in our individual sections (we both need 1000 words min each)
- Copied over slides from the previous progress report and placed in our new Google Team Drive (our poster board is also located here)

Meeting with TA on Tuesday

Meeting Notes:

- Progress report/presentation will be due sometime week 6
- The poster draft is also due week 6 and just requires some place holder spots and information about our project

Continued work on the project. We managed to figure out how to add pictures to the Kinect tiles that we were having difficulties with earlier.

We plan on recording the presentation/demo separately and then San Dim will use the video editing software that she owns to stitch the two individual presentations together.

Plans:		Progress:		Problems:
Record individual presentations separately and have San Dim stitch them together. Finish up the poster for expo		Fixed the issue with the project where the Kinect tile images weren't showing up.		Stuck trying to add images to our Kinect UI tiles in our Main Landing window for our program. We want to have a full screen experience for the user that requires overlaying image of the video feed of the camera with the bones and joints that the sensor detects but we are having difficulty with the alignment of the two image feeds.

Week 6

Monday, September 25, 2017
2:33 PM

Met with partner at the Kelley Engineering CS lab to work out some bugs in our project. I managed to find a fix for the bug that was giving us problems. The bug was that the overlay of the color stream and the bones/joints stream was not overlaying properly. I fixed this by changing the way the camera maps its coordinates via the Kinect sensor's Coordinate Mapper(). This proved useful when converting the coordinates and mapping them since the camera resolution is different than that of the depth sensor and infrared sensor.

Met with client:

- We showed our client the progress that we have made thus far and he seemed pleased with the user interface and our ability to get some overlaying working.
- He approved of the [Virtruvi](#) library we showed him.
 - We believe this library will speed up the development progress
 - It is open source and free to use as long as we properly cite it
 - Some of the library's features:
 - Bitmap Generation and Capture
 - Angle Measurements/Calculations between joints
 - Body Visualizations and Auto-Height value
 - Gesture detection
 - Automatic coordinate mapping
 - XAML controls

Met with TA:

- Discussed the requirements for the Progress report due this Friday as well as the poster or expo due this Wednesday
- We seem to be on-track for this week's requirements
- We discovered that the report is typed up as a group and will be recording our slides separately

On Wednesday, I met with my partner today at the Kelley Engineering CS Lab and worked more on our poster/progress report.

On Friday, I sent my video of the presentation over to San Dim for her to edit the two recordings together. I also added in my finished copy of the progress report document. I uploaded all of my required files to GitHub for submission.

Plans:				Progress:				Problems:
Submit the midterm progress report for Winter term 2018 capstone				Recorded my slide presentation. Our plan was to record slides separately and then stitch them together using video editing software. I also finished up my portion of the progress report document, adding in some references and some code samples as well as screenshots. Submitted the progress report on time, completed.				

Week 7

Monday, September 25, 2017

2:33 PM

Meeting with TA

Notes:

- Brief meeting with TA
- Confirmed our submission of the mid-term progress report

Began installing the Vitruvius library to aid with our team development with our project. The library itself is available on GitHub through the Vitruvius website. It is also available through NuGet via Visual Studio. At first, I downloaded the library through GitHub to open up some of their sample programs and begin testing them. I later installed the NuGet package and am currently using it for the adaptation of our project. The library is currently on Version 2.0.0.

Began adapting in the Vitruvius library into our project. There were some issues setting up the library with my Visual Studio environment that prevented me from using the library within our solution and running the program. I began getting errors related to processor architecture. I was able to solve this issue by specifying the processor type using the configuration manager of the solution to x64. Vitruvius docs say to also change the project configuration to Release but it works If you leave it on the Debug setting.

Plans:				Progress:				Problems:
Fix any leftover issues during this iteration of development				Successfully installed the Vitruvius library and ran samples. Currently, I am testing some angle calculations between joints.				Processor architecture type issues with the Vitruvius library.

Week 8

Monday, September 25, 2017

2:34 PM

We had a meeting with our client where we discussed some of the progress we have made so far as well as some of the problems we are struggling with. We mentioned that we plan on implementing some simple gestures and simplifying the user interface a little bit to make it more usable and straight-forward. We plan on making our own custom gestures following the model that Vitruvius is currently using in its library. We think we may be able to directly edit the library to resemble the changes and gestures we wish to implement.

TA Meeting:

- Upcoming deadlines
- We have to be feature complete by the end of the term

Partner and I had a meeting at the Kelley lab and worked together on gestures. We did have some issues creating some of the customized gestures but we think we have some good workarounds. Our plan was to start implementing simple gestures such as raising your hands in front of the sensor. The main problem which we ran into was since we have the Vitruvius library installed and set as a reference, there is no way of editing the code in the library to integrate our own custom gesture without just easily editing the library inside of our development environment. The way to work around this is to implement our own gesture module pages outside of the Vitruvius library while still using it.

We were able to get some gestures sort of working but the accuracy at which they are recognized are not good.

Plans:				Progress:				Problems:
Fix gesture accuracy and simplify our				Got some custom gestures implemented				Gesture accuracy is low. We need to improve it more.

code/UI .								
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Week 9

Monday, September 25, 2017
2:34 PM

Partner and I had a coding session again at Kelley. We stripped down the current user interface and made it more simple. The differences are easily seen in the main window navigation page. We now only have two tiles as you open up the program which lets you select different exercises and view some settings on the page.

I began testing out a small library written by Vangos P. that lets you take the data being recorded by the Kinect sensor and export it to a csv file. It is very useful and it is what was requested by our client. This data might be useful in making some generated reports automatically however we need to implement some sort of parsing program that will make the output more human readable.

We had a quick TA meeting and discussed the following:

- Demo video
- Individual progress reports
- Getting more work in on our blogs

Plans:				Progress:				Problems:
Add more gesture exercises such as walking and sitting down/standing up				Added some working gestures to arm raises Fixed the user interface to be more simple				Some issues getting the gestures to work

Week 10

Monday, September 25, 2017
2:41 PM

Partner and I worked more in Kelley on Monday. I implemented the csv export function inside of the arm raising exercise within the vitruviusTest page. We plan on meeting on Wednesday as well to continue working on the gesture pages and the look of the program as well.

Met with our client Tuesday morning and discussed the work load for the end of the term. We did mention that we were going to try and get more gestures in with CSV data recognition and exporting.

TA was not present for our meeting

- He apologized, it's okay :)

Wednesday Kelley work session:

- Work on report generation

Had a class meeting on Thursday. The topic of the lecture was about upcoming deadlines with our projects as well as our progress reports for Winter term. We also need to finish up our poster which will be due some time near the end of April. The expo will begin early Friday morning and we need to have a list ready of what items we will need to be available at our table in order for our demo to work.

Plans:				Progress:				Problems:
<ul style="list-style-type: none"> • Session Data should also include the reported max angle for the left arm raise segment • Figure out a way to display this data in WPF • Somehow make charts with this data 				Progress with Report Generation: <ul style="list-style-type: none"> • Using System.Diagnostics to make a stopwatch timer which stores elapsed time of exercise • I have a string called 'sessionData' which I write to a file at the end of the exercise <ul style="list-style-type: none"> ○ Store date of exercise session ○ Store users height ○ Store total time of exercise session ○ Store max angle only when doing the right hand raise not left hand 				N/A

Louis Leon - Spring 2018 - Week 1

Monday, September 25, 2017
2:18 PM

In summary, my partner and I discussed setting meeting times with our client so that we can discuss the progress on the development of our project. We have to stay on task and lead our project since class meeting times are limited this term.

During capstone lecture the instructors discussed setting up meeting times with our TA's as well as our client. The lecture also included some topics about what deliverables will look like for us in the future.

There was a mention of our team poster that we will be submitting at the end of May. We also will have smaller papers to write as part of our assignments.

Plans:				Progress:				Problems:
Set meeting times with client				Sent emails out to client for any potential meeting times and schedule openings				N/A

Week 2

Monday, September 25, 2017
2:33 PM

Met with client this morning and discussed what our progress is as well as what to expect this upcoming term. Our project development is headed towards finalizing the project and fixing some of the issues that our client has requested on the project. This includes the following issues:

- Latency on the main menu when opening the several exercise options
- Fixing latency when finishing an exercise and saving the collected node data
- Exporting the data to a csv and attaching a time stamp
- Adding a more detailed reports page and implementing a graph generation
- Adding more drawn angles for user limbs during the arm exercise and possibly during some of the other exercises

Met with partner to work on some more development. I was working on fixing the display of angles for the arm raises exercise portion of the program. I was also trying to fix some of the issues we were having with the report system. Right now, the report system has a lot of work to get done on it. I installed the OxyPlot Nuget package that will help us plot some data for the report generation. As of right now, we aren't really sure what we want to reports page to look like and how it will function. I had the idea of having selection options that correspond to each exercise where a user can select which exercise they want to see a generated report for.

Plans:				Progress:				Problems:
Fix the issues that our client requested we fix and work more on finishing the project as a whole.				Set up meeting times with client and held our first meeting with him. Added the OxyPlot library to our project				TA could not meet with us this week

				using NuGet package manager				
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Week 3

Monday, September 25, 2017
2:33 PM

We will have a meeting with TA this week on Thursday (4pm)

Our team met on Friday and we worked on the final draft of our project poster. We managed to finish up some of the sections that were a little bare. We also decided to re-write some sections that had longer word length and re-format them so that they used bullet points instead of full sentences. After polishing up the poster we added some current images of our project.

Currently working on the poster and on our "Wired Articles". I interviewed another student who is working on the Phoenix Solar Car simulation project. I plan on making the article look as authentic as possible by using the current look of Wired.com and inserting the body of my article within the website as well as some sample project images provided to me by one of the project's owner.

Plans:				Progress:				Problems:
Keep working on the report generation side of the project and implement some more detailed data gathering for reports.				We are currently fixing some of the issues we had with the slow latency we had with user exercise menu navigation and the loading of multiple pages in the background				NA

Week 4

Monday, September 25, 2017
2:33 PM

We had a meeting with our client Wednesday morning and talked about the progress on the development side of the project as well as some of the project management details. We mentioned our work on our poster and asked about the related engineering capstone teams that are also working on

the Kinect project. Our client Mehmet thought that it would be a good idea to potentially have our expo tables set up next to each other, however that may not be possible anymore because we have already registered for expo and did not specify with time. We updated our client on the bug fixes that he requested and also mentioned that we had fixed the user interface so that it is no longer slow.

Meeting with partner to work on our final poster draft. Last week we sent out an early draft to our TA and professors to look over. We got some feedback on it and plan to incorporate the criticism and fix some issues with the poster.

Over the weekend, our team met at Kelley engineering center and worked on finishing up the team capstone poster for submission. We also worked mainly on the reporting page and module. I was able to get the csv reader module working for an example set of time data where there was [duration of exercise, date of exercise]. The plot successfully graphs that working data. All that is left to do is have the exercises write out the data in that format to the specified csv file that is stored locally in the project space. The csv reading was done using an opensource snippet of code from OxyPlot team members which I refactored to work with DateTime axis and values.

We also plan on adding three buttons on the bottom of the reports page that when clicked show the generated reports for all three exercises, not just one. You should be able to switch between and see your progress on all exercises.

Plans:				Progress:				Problems:
Finish up the poster for expo and submit to canvas				In the process of finishing up the user report generation using OxyPlot and some csv file integration for the user data.				

Week 5

Monday, September 25, 2017

2:33 PM

We received feedback back from Kirsten on our senior capstone poster and fixed the changes that were suggested by her which involved adding in figure labels below the images as well as labeling each of the images. San Dim submitted it in for printing and we are officially done with the poster for expo.

Report generation requires some changes with the way we are collecting user data. We are going to have to implement some CSV style recording for user data. That way, we can continuously write to a separate CSV file for each exercise and graph our reports based on the data in the csv files. We plan on having buttons at the bottom of the reports page which allows the user to select which exercise they wish to see the generated reports graph for. Each button will be bounded to an event handler which re-loads the appropriate CSV data for a specific exercise.

Our TA meeting was canceled for this week, however we will be resuming meetings starting next week.

Plans:		Progress:		Problems:
Record individual presentations separately and have San Dim stitch them together.		Finished the final poster and submitted it for printing		

Week 6

Monday, September 25, 2017

2:33 PM

Attended lecture today and discussed some upcoming deadlines for the senior capstone project. We have an optional lecture next week.

- Dress business casual for the expo
- Remember to show up at 8am
- Optional lecture next Wednesday
- Code freeze on Friday

Met with client:

- We discussed the requirements for the project and what we have left to complete
- We also discussed the upcoming Engineering Expo where we will be presenting our project
- Discussed final reports and final presentations along with our deliverables

Meeting with TA:

We discussed some more on the upcoming code freeze on Friday and what it means in terms of the project.

Partner and I had a team development session In Kelley and worked up finishing up the generating of the reports and the reports page itself. We managed to finish it up and have a working version for the code freeze and project submission.

Wednesday, we got some more work done on our data collection settings and finished up some more of the requirements related to data collection including recording duration and recording starting settings. We also added some buttons to the reports pages which help the user switch between the desired exercise and the corresponding generated report. Each exercise will have some data that may be written to a file each. These csv files will be read within the reports generation page and plotted using the OxyPlot library I added via NuGet.

Plans:				Progress:				Problems:
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Finish up reports page and add csv writing to each exercise page.				Submitted our final poster and our midterm progress report along with a recorded presentation to Canvas.				N/A
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Week 7

Monday, September 25, 2017

2:33 PM

EXPO WEEK!

We are meeting the day before the Expo to fix any last minute bugs and potentially record a demo that we can have displaying on the demo table. We think that having the Kinect there for demo purposes will not be as ideal because there will be large crowds of people and will be detecting multiple bodies. Since we are near a wall, we could have anyone who demos the project up against the wall and point the Kinect and computer monitor at the wall. This way, there is no one else in the frame for detection.

Post-Expo Summary:

It went really well. We had conversations with various individuals, some of which were actual physical therapists. They were impressed with our projects and thought we had made a good product. Everyone had something positive to say and we were able to showcase a demo video as part of our booth.

Plans:				Progress:				Problems:
Go to Expo!				We made it to expo!				N/A
Finish up project documentation and begin writing our final report and presentation.				We successfully made a demo video and showed it to others at expo.				

Week 8

Monday, September 25, 2017

2:34 PM

Attended Capstone lecture today and Kirsten and Kevin brought coffee for everyone. There were also some prize giveaways, however I did not win anything. During the lecture the instructors discussed:

- Final reports

- Final presentation
- Deliverable Handoffs

After lecture, we had a meeting with our Client Mehmet and discussed the remaining elements of our capstone project. This included handing over our projects to him and also submitting our final reports and presentations. We also discussed the requirements of evaluating the team by the end of the term as well as our own evaluations of each other.

There were some fixes that he would like to so which relate to node clipping when drawing the nodes and bones of the user whenever their lower body (legs specifically) are not sensed by the sensor. He also requested we implement repetition customization for all of the exercises.

Plans:				Progress:				Problems:
Return Kinect Sensor that was borrowed from McGrath				Wrapping up the project				N/A
Fix issues requested by Client								

Week 9

Monday, September 25, 2017

2:34 PM

Team meeting once again in Kelley to work on the final report and final presentation. We are also going to address some of the fixes that were requested by our client. We are going to attempt to fix the node clipping issue that we have when our sensor does not detect the user's legs or lower body.

We are also planning on polishing up the overall project before we hand it off to our client. We want to make sure that there are no obvious bugs that could affect the flow of the program. We also plan on cleaning up the directories of the GitHub repository because we want it to be simple and clean for our client to access and for others to see it as well.

Plans:				Progress:				Problems:
<ul style="list-style-type: none"> • Polish up project code • Document and comment our code • Clean up GitHub Repo 				Close to finishing up the final product.				N/A

Week 10

Monday, September 25, 2017
2:41 PM

This week was focused on polishing up the code we wrote and finalizing our project documentation. We commented our code and began writing the final report for capstone. We also created the slides for the final presentation and recorded some additional footage to include in the final presentation demo video.

The final report consists of documenting our entire project and putting all of our previous documents together into one large file. I have begun outlining the final report and have the basic structure of the LaTeX file setup and ready to use. There is a small issue with the current way we are compiling the LaTeX file since it is currently being compiled using the standard latex->dvips->ps2pdf path. We are going to switch over to compiling using the 'pdflatex' method which will allow us to directly insert pdf documents into the LaTeX document. I have created a dedicated directory within our documents portion of the project to store the required documents for the compilation of the final report.

We also put the finishing touches on our GitHub repository and cleaned the directory structure of the project source. We flattened the directory structure such that the current main source code was left.

Plans:				Progress:				Problems:
Submit final presentation and final report for capstone.				Submitted final presentation.				N/A
Graduate.								