Date	Milestones		Challenges	
	Personal	**Team**	**Personal**	**Team**
2020-01-02	-	Briefly discussed the course deliverables, and given our interests and skill sets, came to agree on a high level topic of which to base our product.	-	-
2020-01-08 to 2020-01-13	-	The team successfully decided on an area of focus after several lengthy ideation sessions. Based on feedback from assessors, the team effectively collaborated and materialized the idea in the form of the project proposal document.	Devising an idea which fit the constraints of the course was a challenge. Based on feedback, it has come to my attention that I often overestimate or underestimate the feasibility of particular actions or products. This has reminded me that, while the business sense is of value in a project - especially for projects which are technical in nature - I must educate myself on appropriate technology beforehand.	The team, for the most part, worked well for this deliverables; however, it is noted that some members prefer to leave work closer to deadlines while others do not which may result in issues in the future.
2020-01-13 to 2020-01-20	During the development of this deliverable, I had the opportunity to devise a software stack to enable the product. I learned about various frameworks from a high level which I plan to investigate further for the finalized feasibility report.	The Team completed the initial feasibility report with time to spare. Tasks were delegated amongst members, based on interest and experience. It is often easier to do work that you are genuinely interested in, and this was true for our team.	-	-
2020-01-24 to 2020-02-03	-	The Team completed the final feasibility report.	It was humbling to be responsible for a particular piece of the product yet be less knowledgeable than other team members responsible for other aspects. In particular, the various production services available on Amazon's AWS and the methods for deploying models to a cloud architecture. That being said, the other members helped educate on knowledge gaps, which helped me then device a proper solution.	There were several moments when some members were late to meetings, not finishing their work, or not finishing the work they commited to on time. This led to some slight tension amongst the group.

While it is frustrating to deal with such situations, they are common when working in teams. Some members have other obligations or are putting off work because it is something they are not fond of doing. To help deal with such situations and ensure deliverables are met, effective strategies (especially in a team) are to be honest about challenges, and find workarounds to address them. In our case, work was re-delegated to members who preferred and expected times for completion were clearly and honestly set. |
2020-02-03 to 2020-02-10	Setup the react front-end skeleton. This was a fairly simple task as I have experimented with React in the past	The Team make initial progress; however much of the work for the next while is independant.	It was overwhelming to a degree to materialize the implementation of the API required for the application. Much of the week was spent on researching the frameworks to implement the API.	-
2020-02-10 to 2020-02-24	Built out more front-end functionality, including routing.	-	Figuring the routing for the front-end was somewhat challenging as I had never worked with it before. The goal is to have the application be a single-page application, which makes the app feel quick and snappy. This is achieved using react, but to enable the various screens for the user flow meant switching between components and passing data along the way, which was new territory for me. I am still learning how to properly implement the routing of components.	-
2020-02-24 to 2020-03-02	-	-	Not much progress was made this week due to other course deliverables. However, much of the investigating of frameworks was conducted in previous weeks, which will be of use going forward with further implementation.	-
2020-03-02 to 2020-03-09	Successfully built a test API and integrated it with the front end. The test API is hosted on an Express node.js server locally.	-	Dealing with form intake is an unfamiliar area for me, especially relating to passing to a new component for the single page application. The requests to the backend are made from this component, then once received the results component is to be rendered. This may change in the future.	The form component requires specific features about a user to be input to be passed to the models; however, the team was not prepared to provide those specific fields, which delayed the completion of that react component.

2020-03-09 to 2020-03-16	Developed a waiting spinner to await API responses.	-	Still struggling with the form-to-results page flow.	Still awaiting other members to finalize required fields. The University cancelled all in-person classes. While the project can be developed online, the cancellation of in-person meetings make communication more difficult. Effective teams need to be prepared for all sorts of surprises which may impede progress. Luckily for us, the cancellation of in-person meetings, though an unanticipated surprise, is easily solved via online meetings.
2020-03-16 to 2020-03-23	-	Team conducted online meetings effectively to discuss next steps given current situation with COVID-19.	It was decided to fetch data that has been pre-processed for two of the models from an AWS S3 storage server. To do this, the backend would need to make the request to retrieve the data and pass it to the front end. This all required knowledge of using the S3 APIs within an express app, which is all unfamiliar to me.	-
2020-03-23 to 2020-03-30	Launched the front end onto AWS	Worked with the sentiment model to interpret results.	S3 APIs still presenting a learning curve.	-
2020-03-30 to 2020-04-06	Successfully completed dummy API requests to the backend and render them on the front end. A dummy file (.json) was created and stored on AWS S3 and also locally. The instance on S3 is to emulate the results which are pre-processed by the public perception and financial outlook and stored on the cloud, while the local instance is to emulate sending data to the personal fit model. The loading spinner meant that the requests are no longer sent to the backend from the intake form but rather from the results table. This is more efficient; the user data is passed to the results component, which then renders the loading spinner while awaiting responses to requests, and when complete renders the results. I had an opportunity to learn a lot while developing this entire flow: how to efficiently pass data between components and to send to a backend; interacting with a frontend and backend, and resolving requests and responses. This helped solidify my knowledge of internetworking and secure communications, and identify access management.	-	Staying motivated, especially during self-isolation, is difficult. However, in a team setting where others rely on components you are responsible for means procrastination is unacceptable. To stay motivated, I set personal deadlines to get things done.	The team is still behind with respect to the front end, which may be an issue going forwards. However, this may be attributed to moving online, with a lot of uncertainty for everyone.
2020-04-06 to 2020-04-13	Successfully deployed both the frontend and the backend to the cloud. I leveraged Heroku over AWS as it is a free alternative which offers the same features without the excessive scalability provided by AWS. The frontend makes calls to the backend using the APIs which properly retrieves data from AWS and returns it to the backend, that then gets returned to the frontend. The personal fit model is to replace the dummy script1.py file which is currently being executed by the backend.	-	Had to look into deploying on Heroku, which was relatively easy; but had to take caution in safeguarding access keys to the S3 resources. This was done by leveraging environment variables on Heroku. Additionally had to investigate how to run a python script from express and return results. This is to emulate the personal fit model (the backend runs the personal fit model, while it retrieves pre-processed results for the public perception and financial outlook models).	At this point the web app is stalled awaiting specifics for each model. To deal with the halted progress, the team met to set strict deadlines on when to have completed deliverables for the following week.

2020-04-13 to 2020-04-20	Ran into some issues implementing the API in the backend when deployed to Heroku. I had to do a bit of digging; but, with the help of one of my team members, determined that our API was a special case which required 2 build environments. Once we set the proper files and requirements, the model was properly run on the backend, and returned desired results. We opted for the "hobbiest" package on heroku which gave us an SSL certificate to secure our website, and ensured our site had no downtime. This was done for the frontend server. The backend server was still a free instance. We had trouble making our realtor insights domain secure, but regardless our site at the heroku URL has proper SSL certificates.	Each team member was able to complete their model with ample time to allow me to develop the frontend and backend and modify based on feedback.		One of the model was originally very sparse in terms of results. Upon updating the model's input data, a large set of results was created. This was better for the purposes of our application; however, we needed to specifically match districts on their names; the new results generated by this model did not have a 1-to-1 mapping, and there were over 150 districts which had to be manually mapped by name. To overcome this, the team divided up the districts which did not map, and found the corresponding names which would appropriately map. This activity helped solidify the fact that working alone on a large task can be daunting; however, dividing up the work among team members makes the task all the more simple. We were able to map all districts in a fraction of the time it would have taken if I had done it alone.
2020-04-20 to 2020-04-24		We completed the Post Mortem Report, and concluded our capstone! We had plenty to discuss in terms of shortcoming and future development of our application.		
Concluding remarks	In conclusion, the Realtor Insights' Assessor was a fun project with many learning opportunities. It is another project I have had the opportunity to complete, end-to-end. Being in charge of the architecture and 'backbone' of the application is always a fun role as I get to learn about each piece of the application to a high degree of detail. As with all projects I've done in the past, working in teams in an efficient manner is vital to project success. This project is no exception to that rule. By setting out specific deadlines for milestones, having open communication with team members, and spotting and resolving problems as soon as possible, we were able to complete our application as intended within the course time frame. I took on the leader role. While I more often than not set up documents, helped set deliverables, or monitored my team's success and progress; I found that involving myself in my teammates work and allowing a sense of ownership helps keep motivation high. I was open and receptive to feedback, and stepped back to allow other team members to take control when they expressed more interest or expertise. This leadership style has helped me be successful in previous projects, and I am glad that it worked in this environment as well. This project helped me practice my technicial, business, and team management and cooperation skills. I learned that being too optimistic or having too big of a vision is not always a good thing; and that I need to be more critical about ideas and their feasibility. Engineering involves a process; solve a problem, but in solving that problem be prepared to solve new problems you never knew existed. It is an exciting field filled with opportunity. I am eager to leverage the many skills - technical, interpersonal, or business - that I have learned during my studies in my future career.			