This project is for sure the best project I’ve worked on and the most I’ve completed as a single person. The backbone of this game was all created by me. I worked solo on the main character and his movement, the ball and its shooting mechanics, and ALL of the logic for the AI’s or bots. Mostly, besides the visual stuff such as the stadium, field, and stamina bar sprite, I did everything in this project. For the first few weeks, I focused on getting the player character to move and for him to have a 3D camera that follows him around smoothly. Getting him to move based on the camera’s direction took a while and was a big undertaking for the first thing to do. After that, I moved on to getting the player to be able to kick the ball. This was hard, but wasn’t as hard at the player movement as I used alot of that code to be able to kick, such as using the cameras forward as the shooting direction. I made it so that the player can only shoot in x degrees from his forward, so he cant shoot directly behind him and tried to make it as realistic as possible. This took a while as I had no idea how to use Slerp / Lerp and got help from StackOverflow on this part. After I did some polishing, I moved on to the 100% hardest part of this project, getting the enemies and teammate to work (or the AI). This took easily ½ the project and still isn’t how I’d like it even though I spent 1 ½ months just on this. When i first started, I just focused on passing. I made it so that each player could pass to the players ahead of them and would finally pass to that teams forward so they could go up and try and score on the enemy. I made the MidFielders and Defenders act very defensively and would really only try to intercept the ball when it was in a close radius and then pass it up. They never try to do any aggressive plays as that would’ve taken along time to figure out. After passing, I wanted to make an FOV system so that if there was an enemy player in their FOV, instead of passing up, they pass it to their nearest teammate instead. This was for sure one of the most challenging parts as I had to figure out how to do collider checks around a player, avoid their teammates from acting as enemies and excluding their layer, and I had to do probably a weeks work of bug fixing. This was very tedious, but it works flawlessly. Its very smooth and really intuitive. This is for sure one of the things I was proudest of. I also took over my teammates job of doing the goalie blocking. I made it so that instead of the goalie mirroring the ball, I made it so that the goalie would block exactly where the ball would be shot and would intersect with the goal. This system was much much better as the goalie now was smart and would actually try to block the shot, not just reactively try to mirror the ball. After this, I made my forward AI for red team. My teammate and I decided that we would both make Forward AI scripts and would use who’s was better. I made mine so that when the forward got the ball, he would go towards the enemy team, and if an enemy was in x radius, I would push him in the opposite direction of where the enemy was. Although it worked, when there was multiple enemies, he would get stuck and it looked really choppy when he would get pushed in opposite direction. My partner had it so that the forward would choose random set points and would go through the field like that. He was having trouble getting it working so again, I took it over and got it to work. I ended up getting both forward AI’s to work. On top of getting his to work, I added alot of nuance to it. I made it so instead of him choosing random checkpoints, he would check for where the enemies were in relation to the checkpoints and if an enemy was close to one, he wouldnt go near it. I also made it so that he would choose the closest one instead of a random one to make it harder to intercept him and getting him to feel smarter. This also took a huge amount of time to get him working, but I ended up liking this one better as he didnt get stuck less. This is the one currently in the game. On top of all of this, I made all the players try to intercept the ball based on if its in their radius, and made all the players move based on where the ball is on the field. If its close to their side, they play more close to their side and vice versa. This wasn’t hard, but really tedious. As you can see, basically everything that works in our game was made by me and I am really proud of that. I can look at this and say that EVERY piece of logic besides the colliders and score was made by me and me alone. Based on what I made at the beginning of the year, I have grown as a programmer exponentially and besides the FOV system and learning Slerp, I did ALL my code without tutorials and only through trial and error and banging my head against a wall. Im proud of myself for doing all of this.

For my partner evaluation, its really hard to grade. If someone was to look through the lens of ‘what part of his work is actually in the game functioning?’ the answer would be very little. Besides the graphics and some very basic code for collisions, whats in the final project is very limited. All the hard code he wrote, (goalie blocking and Forward AI) I rewrote completely from the ground up. I did use his idea for forward AI but I made every bit of code thats in there. This lens is very cynical though and I like to think of it a different way. There were times where he was off track, but almost every day he put some effort in; he progressed. Did he struggle? Yes, and no one will deny that but he did try to put an effort in. He did do all the visuals, and the code forhis goalie blocking was very close to functioning without me interfering with it, although unintuitive. When we got to Forward AI, he was really enthusiastic about it and really wanted to try and create something good. Although this kinda fell apart and I had to do his part in the end, he really tried to put an effort in making it good. I really respect that and I think effort is what he should be graded on, not whats in the final build. However, although effort was put in, it was at times really hard to work with him. At the beginning, he was very hard to bargain with on what the project should be. I dropped my idea of a samurai game and went with his idea of a soccer game, but he would NOT want to do a 3d game. I was very adamant about 3d because I really wanted to create the best game I could and I think soccer would play better in 3D. Moises is my friend, and I partnered with him SPECIFICALLY so I could tutor/coach him and help in Computer Science as he told me he struggled. It was moments like these and when I would try to help him where he was really hard to work with and I felt like it wasn’t even me doing the project basically by myself, it was also me getting dragged by my teammate being stubborn and not listening to my advice or words at times. I do not care if 95% of the final game is my work, if he cooperated and put in an effort like he did, I would give him a 100. The problem is that he was very hard to work with at times and due to this I would give him a 75-85 as a partner.

What worked well when we did work as a team, was the chemistry. Although I did almost all the work and there was definitely times where we weren’t on the best of terms, we always made up and tried to keep a positive mood. When he would give up or worked on other work, I would always try to get him to keep at it and keep trying. This was vice versa aswell. He kept me on task when I screwed around too much and this was one of the good things we had going as a group. When I finished a method or whatever I was working on, I would always try to explain what I did and why it worked. I really like teaching and I think he appreciated me trying to help him. I tried keeping him on the same page. Another thing we did good was keeping on track of time. I was pretty strict on getting things done in time as we said we would at the beginning. There were a handful of days where one of us was absent and even then, we didn’t fall that short of what I wanted. The calendar we made at the beginning we kept updated through the project and would reflect on if we were behind or on track. I think this helped me get motivation when we were behind and push through at home to get back on track. Although there were some rough patches, we always kept trying to reunite and finish the project together.

I chose my partner based on me trying to help him. In the future I wouldnt do this again. Next project I want to find someone my skill level or higher so I can learn from him and make a really good project. I’m really annoyed I got SO CLOSE to finishingbasically single-handedly and if I had a teammate that matched the effort I put in in class and at home and the skill I have, it could’ve been insane what we created. I already have a person in mind and I can’t wait for next year. If I have DOUBLE the time and someone whos arguably better than me at coding working, and who works at home like me, it will be crazy. Work wise, I would make sure my code works 100% with no chance of error before I move onto something else. There were a few instances that I kinda blew off a could-be issue because it worked at the time and then blew up in my face later causing HOURS of debugging and figuring out why something wouldn’t work. This is for sure something I would change next time. Every time I do a retrospect, for this part I add less and less. I feel like I'm learning from my mistake and I dont make the same mistake twice. Next time I would also allot more time for polishing the game, such as menus, simple fixes, and graphical improvements. Up until the last minute I was doing big changes and I really wish I spent more time polishing the game.