At the outset of the project, we put together an early draft of our GANTT chart. We had to consider that at that time we had a lot of deadlines piling up, both from the FPGA assignment and from our other courses. Because of this, the work doesn’t properly start until March. At this early stage, we also expected certain elements of the project to take much more work that they ended up taking.

Once the real work got started, I took the task of coding the Dealer’s ability to play their hand. Many parts of this task were simplified by using a physical deck, surprisingly. I didn’t need to code a simulation of the playing cards because that would be handled by an actual deck of cards. The dealer also doesn’t need to actually apply any game AI as dealers in Blackjack are restricted to a fairly specific set of rules. The dealer takes their turn after all the players and must draw until they reach a certain hand value and not draw above a certain hand value.

The only remaining challenge was dealing with the ace cards. An ace in blackjack can be played as either a 1 or an 11. To streamline the process, I had the dealer treat all aces as 11 until it reached its arbitrary maximum value or went bust (over 21). Then, it checks whether it can remain in play by treating its aces as 1 and continues if possible.