# Week 1 (02/10/2023 – 09/10/2023)

Got introduced to the specification and started thinking of the way to approach the project

Had the first meeting with supervisor.

# Week 2 (09/10/2023 – 16/10/2023)

Wrote the specification and got a few suggestions from supervisor and implemented them. Added a few references that can be found in the specification.

# Week 3 (16/10/2023 – 23/10/2023)

End of first sprint. Made a sample automata and implemented it in python, using graphviz to get a picture output. Met with supervisor and thought about goals for the second sprint, those goals being:

1. Adding a visualisation aspect to the project
   1. A slider for the user to decide how “good” or “bad” the NPC should be which the program takes as input
   2. Put the DFA picture and the path it took in the visualisation(?)
2. Expand the DFA, maybe add a couple of new pictures
3. Do the randomisation outside the DFA, similar to a “seed” where this seed will decide on the input but regardless of it the input is always constant to keep the determinism of the DFA.

Read a few papers:

1. Mentions that finite state machines are widely used in the gaming industry
   1. Fathoni , K., Nurhadi, H.A.T. and Hakkun , R.Y. (2019) *Finite state machines for building believable non-playable ... - iopscience*, *IOPscience*. Available at: https://iopscience.iop.org/article/10.1088/1742-6596/1577/1/012018 (Accessed: 23 October 2023).
   2. Syahputra, M.F. *et al.* (2019) *Historical Theme Game Using Finite State Machine for Actor Behaviour*, *Historical Theme Game Using Finite State Machine for Actor Behaviour - IOPscience*. Available at: https://iopscience.iop.org/article/10.1088/1742-6596/1235/1/012122 (Accessed: 23 October 2023).
2. Talks about the FSM AI method and how it helps makes NPCs more believable.
   1. Jagdale, D., 2021. Finite state machine in game development. *algorithms*, *10*(1).

# Week 4 (23/10/2023 – 30/10/2023)

Added python visualisation and a “goodness” slider. This slider will be a deciding factor on the traits the NPCs will get.

A randomisation heuristic was made to instil the sense of liveliness and differences between people and how no two similar ones are the same.

Added a couple extra traits to increase the diversity of the NPCs with the goal being having possibly 10 traits to increase number of possible characters to 1024

References

1. Talk about how NPCs are built in a world and how our approach is trying to mimic that and how it is doing it
   1. NPCs! | Running The Game (2016). 5 October. Available at: https://www.youtube.com/watch?v=NwJxM1ABLJM (Accessed: 02 November 2023).