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CSC 380 Assignment 2

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Youtube link: https://www.youtube.com/watch?v=k2nnty9UxdI

Simacogo MiniMax Evaluation

Finding an optimal solution for the minimax algorithm proved to be quite tricky, I don’t believe that I have most efficient implementation of minimax, however the A.I. is there and difficulty does vary based on the ply that is picked.

**A.I. Behavior**

Behavior was not too different based on the plys that were being evaluated. For the most part the decisions by the A.I. were very similar on each level. I would assume with a different evaluation function the agent would act differently. The agent could take into account things like the lowest user score, better board position, etc. The evaluation function I used was score(opponent) – score(player). Regardless the game was quite challenging on each level.

**A.I. Performance**

I noticed that on lower levels of plys the game moved much quicker, which makes sense since a smaller tree is generated. The tree got extremely large with higher ply values since the minimax algorithm has to take in to account the user’s hypothetical moves as well. The game was rather quick at first while being almost instant on the first 4 plys, a tiny difference on ply 5 and a longer wait on ply 6. Ply 7 is when the time wait got unbearable and the game crashed.

I think that if I did implement the algorithm a little better I would have seen a bigger difference with the changing plys, but unfortunately I ran out of time to dig deeper hopefully I can find some time to improve upon this.