UC-225 Golf Course Pace of Play Model/Simulation

INTRO/ABSTRACT

This project displays the golf course pace of play model and simulation process and displays the overall importance of time in a tournament setting while also including the ramifications of the queuing issues on a larger scale outside of tournament bounds. In the model you will find stress measurements on the marshal of the course and time data relating to groups through the runs conducted.

METHODS

- The simulation was developed in milestones that occurred once every week to once every three weeks.
- Model implementation and simulation studies were some of the most crucial part of the project outside of declaration of concepts in documentation.
- Frontends will be in development hopefully soon using either HTML and JS or one of pythons very own GUI interfacing tools like tkinter.
- Python was very important and made the ability to streamline efforts to show the simulation working much easier due to the use of simpy.
- Main library that was used for data collection was RegEx that gathered data directly from console output using keywords.
- The IDE used for this project was PyCharm.

RESULTS

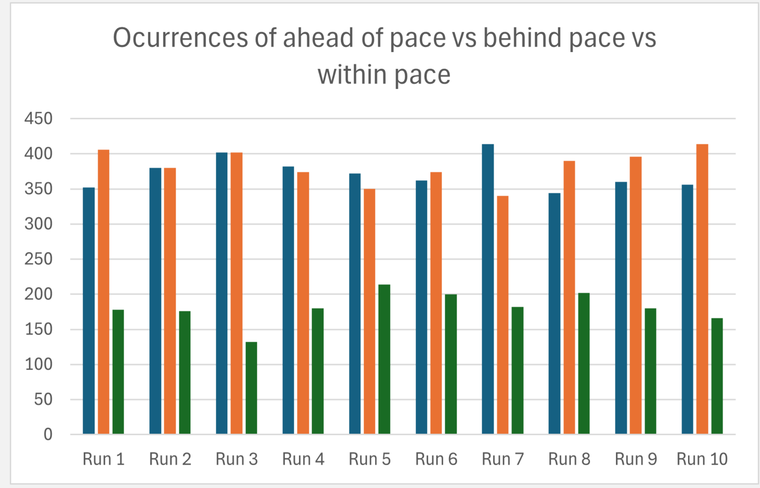
Using rngs, I was able to mock and replicate the process of providing attention to the slow players. The simulation covers what happens when a group is below pace by 5 minutes and needs speed up. In turn the simulation runs that were found displayed frequency of slowdowns in small pace increments and also in large ones at the 5 minute mark where there was a need for the marshal to be deployed to the course. All in all the time management statistics were very closely observed and studied in the data.

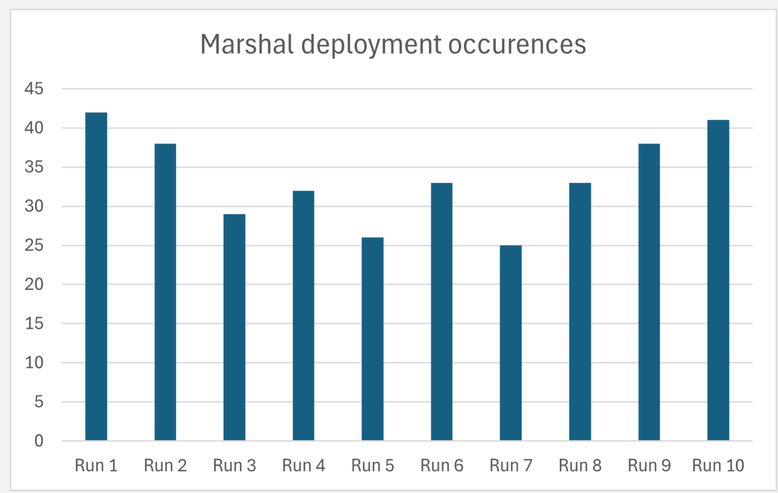
A model that handles pace discrepancies on the golf course in a tournament setting.

Groups	Time to complete round based on run one
Group 1	4:08:00
Group 2	4:32:00
Group 3	4:18:00
Group 4	4:15:00
Group 5	4:14:00
Group 6	4:27:00
Group 7	4:37:00
Group 8	4:08:00
Group 9	4:21:00
Group 10	4:31:00
Group 11	4:29:00
Group 12	4:08:00
Group 13	4:23:00
Group 14	4:21:00
Group 15	4:32:00
Group 16	4:30:00
Group 17	4:28:00
Group 18	4:21:00
Group 19	4:19:00
Group 20	4:27:00
Group 21	4:15:00
Group 22	4:20:00
Group 23	4:18:00
Group 24	4:15:00
Group 25	4:31:00
Group 26	4:10:00

Groups	Time to complete round based on run one
Group 1	4:26:00
Group 2	4:22:00
Group 3	4:26:00
Group 4	4:21:00
Group 5	4:26:00
Group 6	4:17:00
Group 7	4:11:00
Group 8	4:13:00
Group 9	4:12:00
Group 10	4:15:00
Group 11	4:19:00
Group 12	4:16:00
Group 13	4:19:00
Group 14	4:17:00
Group 15	4:13:00
Group 16	4:18:00
Group 17	4:14:00
Group 18	4:16:00
Group 19	4:14:00
Group 20	4:21:00
Group 21	4:13:00
Group 22	4:05:00
Group 23	4:21:00
Group 24	4:21:00
Group 25	4:15:00
Group 26	4:13:00

The above data runs in timestamps show two different opposing extrema in relation to how slow it takes for a tournament to finish based on average round completion and how fast it takes for a tournament to finish based on average round completion.





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