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CSC-366

Heuristic Analysis of Bots in Runescape

Since video games have existed, there have been players who have attempted to circumvent game rules, whether it be through bug abuse or other nefarious methods such as automating gameplay, or scamming other players. In the selected video, the focus is limited to botting in the massively multiplayer online rpg (mmorpg) Runescape.

Runescape is an mmorpg that was created by Jagex Limited. The game consists of many skills and tasks in which your character can partake. In order to max a skill out for your character, you must spend countless (100+ in most cases) hours gaining experience. Due to this, some of the more lazy players make use of “bots” to train their skills. Running a bot boils down to running a piece of code which plays the game for you. Obviously that description is very simple, but the types of bots and how they work internally, although very interesting, is outside of the scope of this assignment.

The selected video is titled “How Does Jagex Ban Bots? A Brief History Of Runescape Botting”. The first half of the video is dedicated to explaining the different types of bots that have existed throughout Runescape History. The second half pertains to this assignment, as it deals with how Jagex goes about differentiating a human player from a bot, in order to permanently disable or “ban” accounts which make use of bots.

In the video, the narrator provides a quote from a Jagex executive which provides a very basic overview of how “botwatch” (their proprietary anti-bot system)

finds and destroys bots. The sentence that is most interesting is “....it monitors an account’s actions and determines whether or not it is human behaviour.”. It has been said in various live streams by Jagex executives that they utilize what they call “heuristic analysis”. This directly applies to what we’ve been discussing in class.

Since the inner workings of Botwatch remain a mystery, we can only speculate as to what “heuristic analysis” means. The prevailing theory in the botting community is that botwatch constantly collects data on every account during playtime, and certain “flags” can be set off. Each flag would also be weighted with a value to determine how much it relates to “bot like” behaviour. Once a certain amount of flags have been set off, the account can be classified as a bot, and automatically banned. Total playtime (within a certain window), types of activities the player has been engaged in, reaction time trends, mouse movement patterns, mouse clicking patterns, character movement patterns, and total account balance (in terms of stats & activities) are just some of the potential flags that have been theorized by the botting community.

It is the heuristic analysis, and specifically defining the potential heuristics of botwatch, that applies to what we’ve been discussing in class. The video doesn’t delve into any details, but provides a nice overview on the history of botting in Runescape. I would give the video a 5/5 rating, due to the fact that it is the only semi-professional and pleasant video on this subject out there (that I could find).