

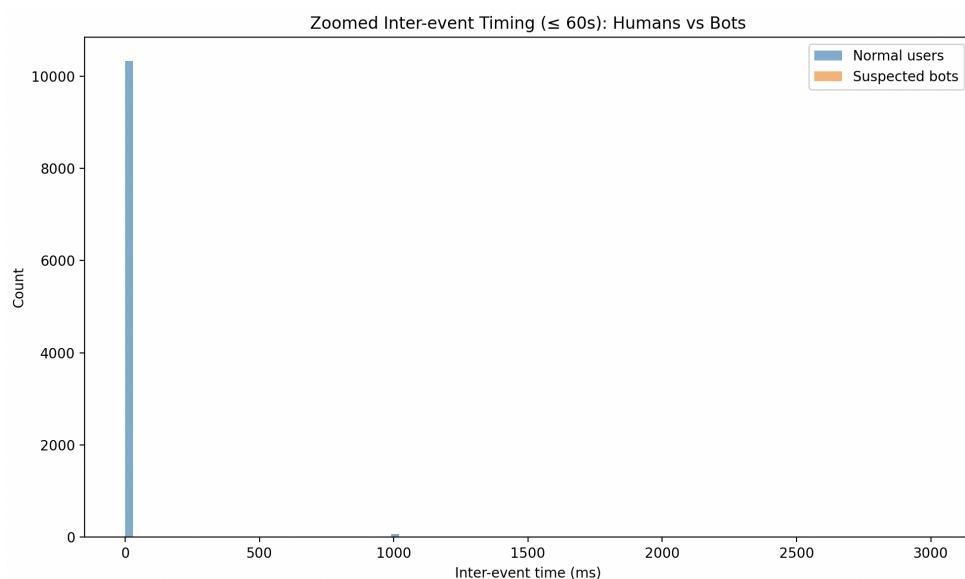
What Irregular Activity Occurred on r/place?

Bucket 1: Bot-Like Behavior

Bot-like behavior in the context of r-place refers to pixel placement patterns that are unlike typical human patterns. This can include anything from placing pixels at unnatural intervals, placing pixels continuously for long periods without any breaks, or reacting faster than any human could possibly react in a timeframe.

I identified “bot-like” behavior in r/place by examining inter-event timing between pixel placements, or time between “windows” of inactivity. For every unique user in r/place, pixel placements were chronologically sorted and then the time difference between consecutive placements was computed. A user was marked as a “red” flag if a pixel placement occurred within 2 seconds of the previous placement by said user, in conjunction with the condition that if more than eighty percent of their placements were classified as a “fast event” and they had more than 50 total placements.

Under these calculations, users marked as red flags for possible bots exhibited very low inter-event times and a large proportion of fast events, in contrast to “normal” users who displayed highly variable inter-event times, some long pauses, and inconsistency.

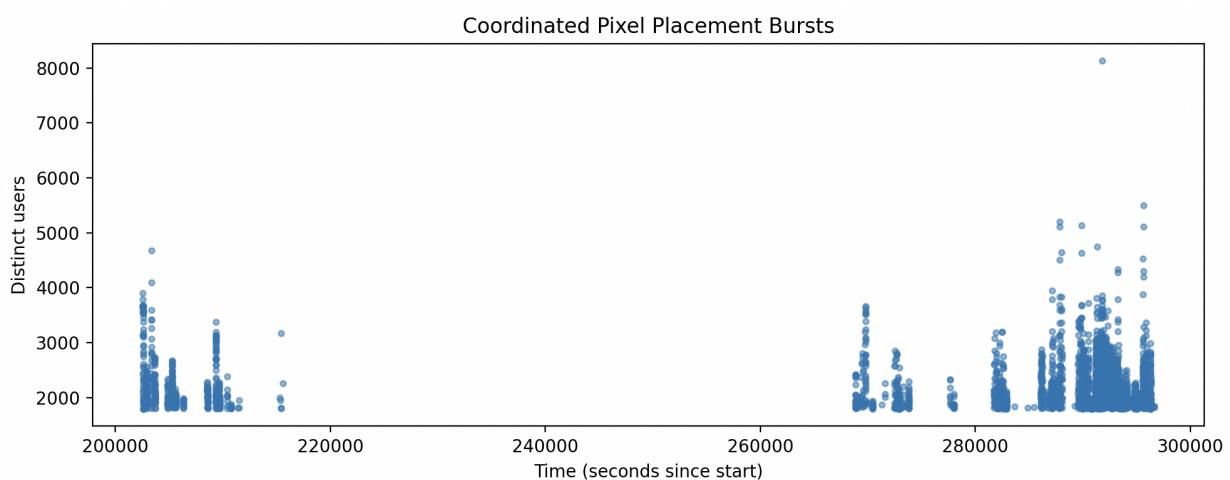


This visualization shows the distributions of the inter-event times for unique users, comparing normal and suspected bots. The absence of visible orange bars for suspected bots reflects the strong class imbalance and implies the notion that bot-like activity is rare.

Bucket 2: Mass Coordinated Activity

Mass coordination in the context r/place refers to periods of time when an extremely large number of unique users place pixels in a suspiciously synchronized way and within a very short window. Unlike regular pixel placement windows, where users are expected to act independently and asynchronously, collective timing, repetition, and spatial concentration may indicate external coordination happening outside of r/place, such as in Discord servers, scripts, or live-stream raids (like YouTubers or Twitch Streamers agreeing with their fans to place a pixel at the exact same time).

To analyze and detect such “coordinated” events, I analyzed pixel placement activity aggregated into fixed-length time windows, and then counted the number of distinct users active in these tiny windows. Normal users would exhibit relatively stable and independent number of pixels placed, but people in suspected coordinated events would see sharp, sudden spikes (representing where possibly thousands of users got together and acted simultaneously).



This visualization plots distinct active users in each window throughout the span of r/place. It is important to note that most windows only see around 1,800 to 3,000 active users, yet there are several extreme spikes ranging from around 5,000 to even 8,000 distinct users actively placing pixels in the same window. The fact that these spikes are so abrupt reflects how in sync these “raids” are.