

Analysis of *The White Out*

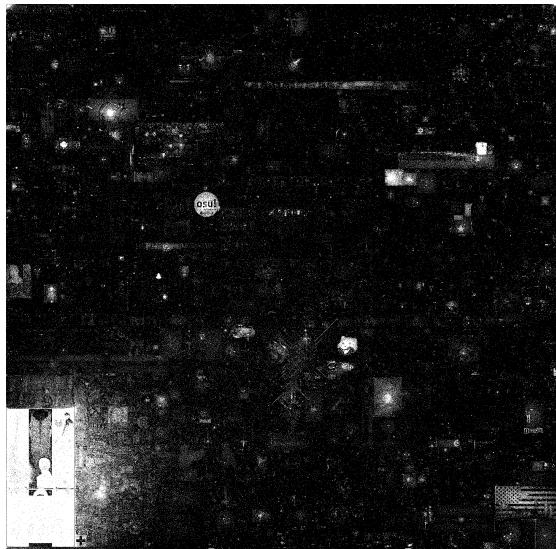
By Cameron Morrow

Problem Statement: In the last hours of 2022's r/place, the moderators switched all pixels placed to white. This began the "White Out" as parts of the board were slowly erased by white pixels, resetting the canvas to a blank state at the end of the competition. Perform an analysis of what communities were affected the fastest by the white out and hypothesize why.

In order to analyze the communities that were whited out first, I began by finding the exact minute that the pixel colors began to be only white, April 4th 22:48. From here, I was able to create snapshots of before the white out (Appendix 1) and after the white out in 5 minute periods. From here, I was able to investigate individual communities that were impacted rapidly, as well as communities that took longer to be erased.

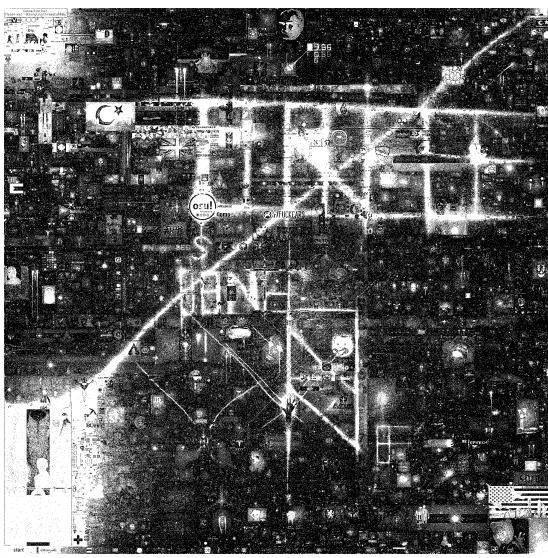
After creating these snapshots I was able to create negative images to showcase where the white pixels were being placed in the full context of the existing art. I compared this with the completed r/place and the heatmap in order to draw conclusions about different communities levels of botting and targeting.

First 5 Minutes:



I originally hypothesized that the first 5 minutes would mainly be a time of discovering the white out change and hesitation to erase content. Instead, I was able to see certain communities including osu and France were immediately placing every pixel except the white pixels in their areas. I found that this was strong evidence that these communities were being upheld through botting, as a community would likely hesitate on placement when noticing their area was being erased. Since the entirety of osu and the French flag were immediately erased, the botting problem many hypothesized seemed proven. There is the possibility that the community instead decided to white out their own area instead of leaving it for others. Throughout the event, the french flag was repeatedly attacked with very little effect, which could show the strength of the community and that the speed of placement was the cause of the white placements, not bots.

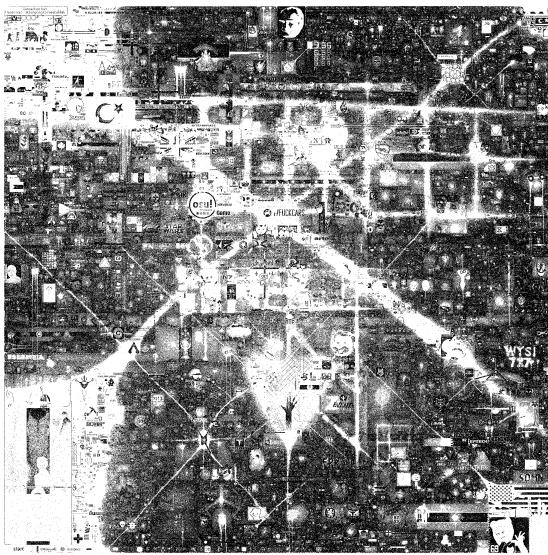
First 15 Minutes:



At the 15 minute mark, I suspected communities would be erased as there would have been time for planning between communities and revenge. I noticed immediately that many flags were removed from the board and that areas suspected of botting before showed continued activity despite being whited out, which I believe confirmed my suspicion. The ability to only place white spots additionally showcased communities ability to still create art by whitespace, such as the words written "FREA" and "DON". Comparing areas of whitespace activity to a heatmap over the competition (Appendix 2) shows that the erasure of the top left corner was not due to high activity beforehand. I suspect this is due to the appeal of having a corner whited out, as (0,0) was one of the most popular locations as shown in the

previous document. My last observation was that the bronny community at the top right was fully removed as one of the first communities to go.

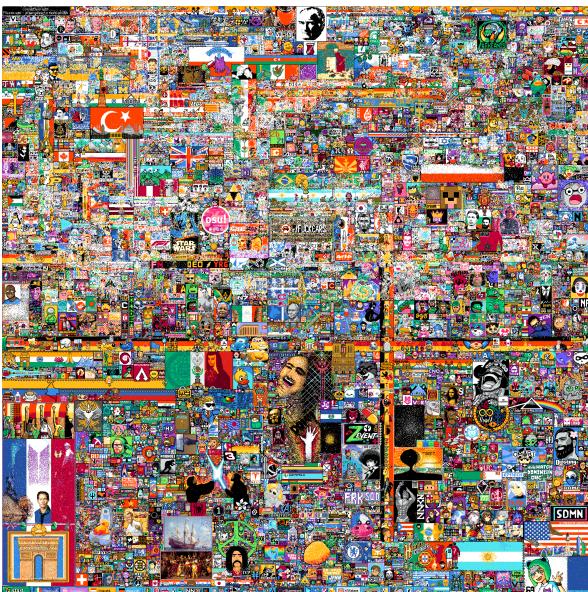
First 30 Minutes:



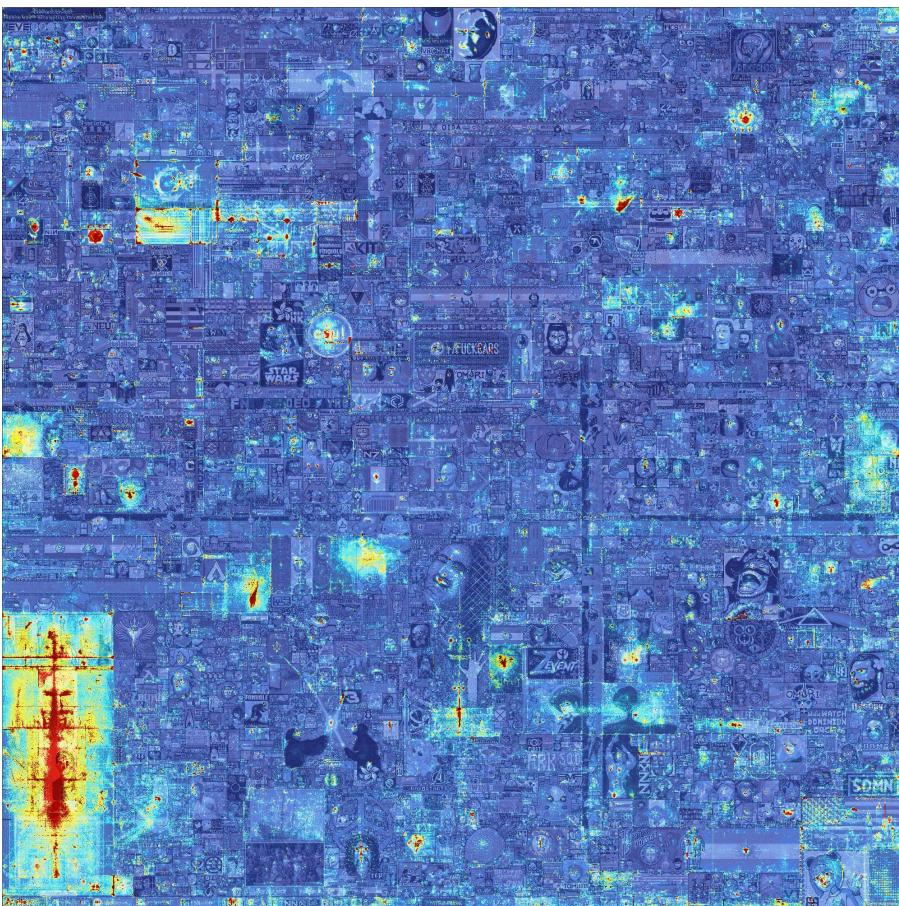
At the 30 minute mark I was able to see many communities were being destroyed, which was a pattern that continued rapidly as more time progressed. The main factors I found worthy of highlighting was the cone of light around the hand and the crossing lines of pixels. The hand can be seen having a beam of white light emit from it in the 15 minute snapshot, while it is now a full cone around it absorbing the hand. The crossing lines are also likely due to this same pattern, as many of them can be followed back to previous corners where a white line could emerge.

In conclusion, I found that the white out revealed which communities were likely botting, highlighted contested areas of the map like flags that were quickly removed, and showcased r/place's attempt to continue making negative art once being given new tools.

Appendix:



1.



2.

Bibliography:

1. https://place-wiki.stefanocoding.me/wiki/The_Great_Whiteout
2. <https://cvhsnews.org/9610/arts-entertainment/a-brief-tour-of-r-place-2022/>
3. https://www.reddit.com/r/place/comments/txe2kl/rplace_2022_heatmapimage_composite/#lightbox

PySpark Analysis

I found that PySpark had some nice features, but the setup was not worth it in comparison to DuckDB. Since PySpark required having java, python, and external services like pandas to convert to and perform some functions, it was annoying to set up on my mac as I had to make sure the virtual environment contained all the tools needed for PySpark to run. DuckDB on the other hand was simpler to install and since I already know some SQL simpler to use. There were positives to using PySpark however, as I did enjoy some of the built in functions around sql and having separate saved data frames was nicer than handling views and tables in DuckDB when I had to join separate tables. I also found the debugging experience easier in PySpark than in DuckDB. While I am certain that there are many times that PySpark is more impressive than DuckDB, for the small sections of data I was working with in my analysis, having quick, simple SQL queries in DuckDB was more useful in this case.