Barcode Killer

David Matz

1 Motivation

Sometimes *League of Legends* players will change their name to a "barcode" combination of upper and lower case 'i' characters to become anonymous. Names like IllIlllIIIllIllI or llIlllllIllllIll tend to invite curiosity into who these people actually are. So it would be nice to look them up, but there aren't any options online for doing so (as for the name, Faker, the best *League* player ever, named his account Barcode Killer when he played on NA).

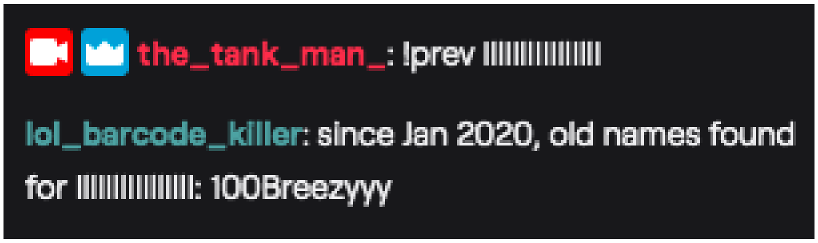
2 Design

While the Riot API does not store previous account names, it does offer a player's match history. Going from a player to their match history to an old game sometimes reveals an old name, as names are not changed in old games. Going through old games, as far as their match history and API rate limits permit, sometimes finds interesting old names reasonably quickly.

It was most convenient to implement the lookup as a Twitch bot so that, in Twitch channels where it's enabled, any viewer who types in chat can look up a player's name.

3 Example

The first name, for instance, turns out to be Breezy, the Support player for the team 100 Thieves:



the_tank_man_: !prev IIIIIIIIIIIIIIII

lol_barcode_killer: since Jan 2020, old names found for IIIIIIIIIIIIIIII: 100Breezyyy

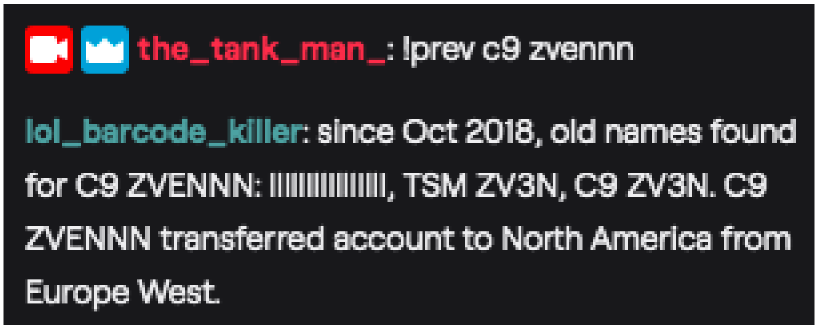
If you want to look up another player, go to twitch.tv/the_tank_man_ and in chat (requires a free account and may take a minute or two) type !prev [name]

4 Implementation

I originally implemented the bot on glitch.io using JavaScript and Node.js, and it was great except it constantly stopped working. For one thing, dev API keys expire every 24 hrs, so I had to get a permanent personal key from Riot for the project (which is still rate limited but doesn't need to be refreshed).

That made it easier, but glitch still kept putting it to sleep. So I moved it to AWS, which made it slightly more annoying to get npm and everything again, and still seemed to stop working when I quit SSH, but once I started it in a tmux session then disconnected then quit it kept working.

It turned out that there were issues with accounts that had transferred from different regions, so in addition to recording old names in NA games I had to fix that:



the_tank_man_: !prev c9 zvennn

lol_barcode_killer: since Oct 2018, old names found for C9 ZVENNN: IIIIIIIIIIIIIIII, TSM ZV3N, C9 ZV3N. C9 ZVENNN transferred account to North America from Europe West.

I also had to make it so that it wouldn't start a new lookup while one is in progress to prevent multiple people from trying to use it at once and making calls to the API too quickly.

The code is still available on glitch if you want to play with it.

5 Future Work

What really costs us is calls to the API, so it might be possible to get a theoretically better complexity by using a binary rather than linear search to look for different names, but I'm not sure this would actually help, not just because of a constant factor but because the match history API only supports extracting 100 consecutive games at a time. It might help in some cases with really long match histories though, with the caveat that if a player started with name A, changed to name B, then went back to name A, it wouldn't catch it. But probing every 50 or whatever games might miss brief changes too.

Another way of potentially making lookups faster would be caching names by account id to save API calls if the same player is looked up multiple times.