**How to stop multiple uploads with changed ID and username?**

- We could possibly change the way users are displayed on the leader board, for example if user has 1,000,000 experience, gets another 75xp, and uploads again, we do not display this unless the next highest is over 500K exp. Any accounts below this will be imbedded into the account they are closest too, this means any chance of accounts being dubbed do not make the main leader board.

**EXP GOAL SPOTS (this needs an actual name) (requires name change, display ID)**

The leader board only consists of spots for different amounts of experience:

**400K** overall, **500K** overall, **800K** overall, **1M** overall etc. (Each place being a **RANK**)

Users will be asked for their username, ID and exp. Depending on how much experience they have, they will be placed into one of these slots if they have equal or more than required (if they have more than the next slot, they will be placed there instead). Once the slot has been filled it cannot be filled again, the user is permanently there.

This means if a user was to attempt to change their name/ID and upload, they would not be pushed to where they have just uploaded, or where another player is already sitting, as the slot will be filled. (they may be imbedded behind the user, which will be a separate leader board).

If user has changed their name (as the system can detect if their ID exists anywhere) they will be prompted to change their name before pushing stats.

**\*\*\*addition\*\*\***

You could add additional users to each slot that had also attempted to upload into a slot, however they will not feature in the main spot, this means they will feature as **2nd, 3rd, 4th** but will not be ranked on the main leader board.

**\*\*\*addition\*\*\***

Once your exp hits a leader board exp range, alert the user that they should attempt to upload so see if they qualify for a rank.

**\*\*\*addition\*\*\***

If upload exp is over 1,000,000,000, fail upload.

**\*\*\*addition\*\*\***

If a user uploads and is past an exp bracket that is empty, but qualifies for the one above, they are placed into the one above, and rank below is left empty

**\*\*\*log-in addition\*\*\***

Each time a user is logged-in, their random ID is taken from their local .txt file, decrypted and shown to the user (also copied to clipboard).

**\*\*\*Can users copy and paste encrypted experience multiple times?\*\*\***

(**Level**) if level is every larger than 1,000. User attempted to cheat. Reset all exp. It will be very difficult for users to determine the encrypted value for a singular number, so they may attempt to copy and paste the contents (**example: if level is 33, copied would be 3333**). Although this is possible from levels **1-9**, it would not be worth the level skip, so a fix can be found in later updates. (**Note: This will be checked first**)

(**Experience**) Once level check is OK, we do a check on **each level** to see if the experience in the .txt file is between the current level and next level. If it's not, User has attempted to cheat, Reset all exp. We can create if statements for each level cap, which checks the **Level**, and the experience it should be between. If this is correct, we continue to load the game. If false, experience is reset and user is notified why this has been done.

Encryption system (OptoMize) ?

**y = RglW6Gf8xKeJ+jPd9ErKbA==**

**o = oMXLHt63IFuJ+jPd9ErKbA==**

**yo = KXqzdG1GkfSGN433WaqMiw==**

**-------------------------------------------------**

**l = dgaeIuL1LhKJ+jPd9ErKbA==**

**w = EXr8u5mMismJ+jPd9ErKbA==**

**lw = Rjobey1Unr6GN433WaqMiw==**

**How do we prevent users uploading a possible cheat .txt file?**

Whenever the user "Saves" their progress, an addtional small string of numbers and letters can be placed at the end of the file which confirms a "sign of approval". This acts as a "signature" from the .exe itself. (**Known as .exe's sign of approval**)

These signature's can be random from a bunch of 10/20 fixed strings:

**83J47F, DJS73, KLDSHD, DHD82, DHDS8, ....**

**TDL**

* Email Glen RE password encryption program.
* General design of leader board system (ALL mechanics + Ranks)
* Plan through entire log-in system with **additionals** above.
* Create dummy version of leader board so we understand the logic.
* **Once above is planned, continue with Log in system dev**