

Brawlhalla Leaderboard

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Introduction:

The games industry has started to pick up pace in the last 20 years. Video games started off as a small industry comprised of passionate developers with little to no business experience. The concept of video games was however very appealing and quickly gained traction, eventually growing to what we know today. Video games and the eco-system surrounding it is well past being a billion-dollar industry. It has led to the creation numerous jobs, some of which are endemic to the games industry.

Video games is an umbrella term consisting of various genres of games. Among these sub-categories however, esports and competitive gaming has emerged as a juggernaut in the space, commanding a large portion of watch-time and hours played. Large tournaments for games such as Rocket League have been broadcasted on mainstream sports channels like ESPN, a network that was historically devoted to broadcasting traditional sports content.

Players now have the option to put their skills on display, be it via streaming live on platforms such as Twitch or recording their point of view and uploading a video to YouTube. This gives them a chance to build their brand and make a name for themselves, and all they need to get started is a computer and a stable internet connection. Prominent gaming figures such as Ninja, who started out as an esports athlete, through a combination of his skill and personality was able to build enough social capital to be invited to mainstream late night talk shows like The Ellen Degeneres Show.

Project Motivation:

Brawlhalla is a free-to-play 2D fighting game developed by Blue Mammoth Games. It is a game with an active competitive community, where players put in thousands of hours to try and be the best at the game.

Players always start out in a ranked mode of the game and climb their way up until they make it to the top rank. It is at this point where they can consider making a career out of their in-game skills. Through this project, we aim to give players an accurate assessment of where they stand relative to the rest of the Brawlhalla player-base, and we plan to do this by implementing a leader-board.

Implementation:

Data: We procured player data from Blue Mammoth Games via an official API (Application program Interface) that was licensed to us by the developers themselves.

Back-end: The back-end Computation and organisation was coded in Python using flask.

Front-end: The front-end features visible to the user were designed and implemented using html, CSS and JavaScript.

Triggers: Triggers were used in the creating of a log file for all the Brawlhalla IDs in the database.

Cursor: Cursors were implemented using python for traversal of the tables in the database.

Features:

Button executes simple post action which sends form data to the backend.

This is then processed for the desired output.

On page 1 buttons are used with Java script to implement pagination.

It is used to unclutter the data and can be worked on in further development of the project.

Limitations:

Currently, the main drawback with this implementation of a leader-board is the lack of dynamic updating of player stats. Stats must be manually read from official sources every time the table needs to be updated. This means that the leader-board is not active in real time, and changes in player rankings on the leader-board are subject to some delay.

Another drawback is the updating of a table requires the extraction of player data to be done in full. This means that to update the table, data already present, that might even be unchanged from a previous read, will still have to be read once more to complete the process.

Future Scope:

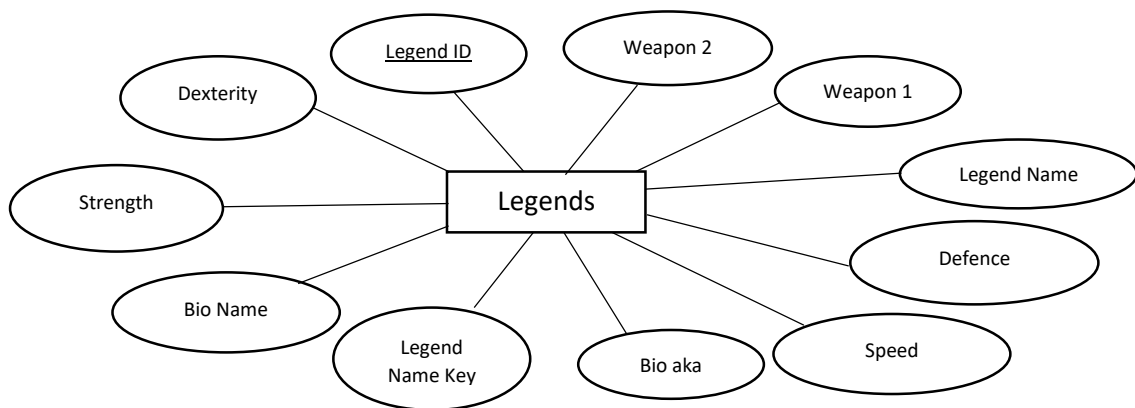
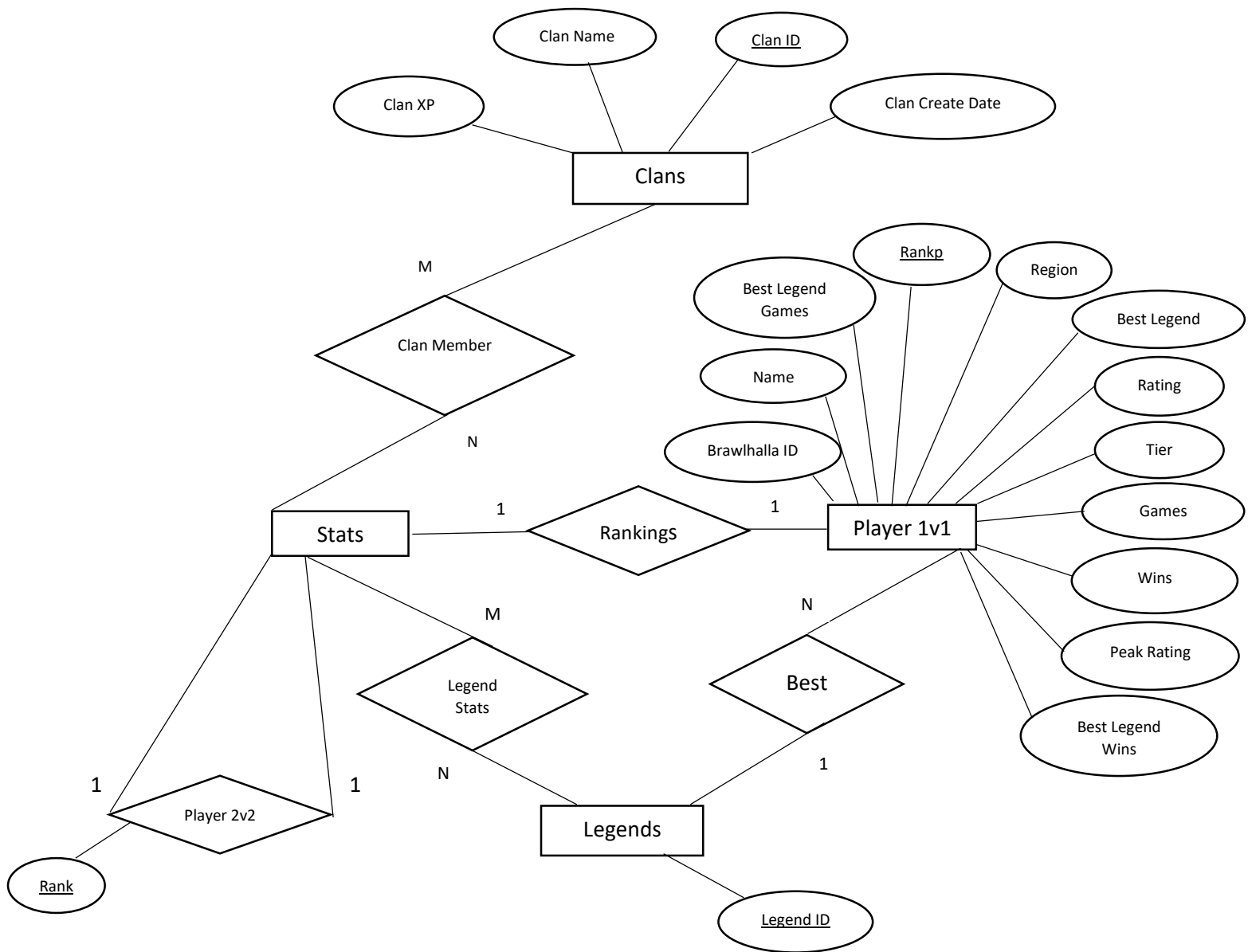
The tables could be modified to implement more functional dependencies, wherever possible.

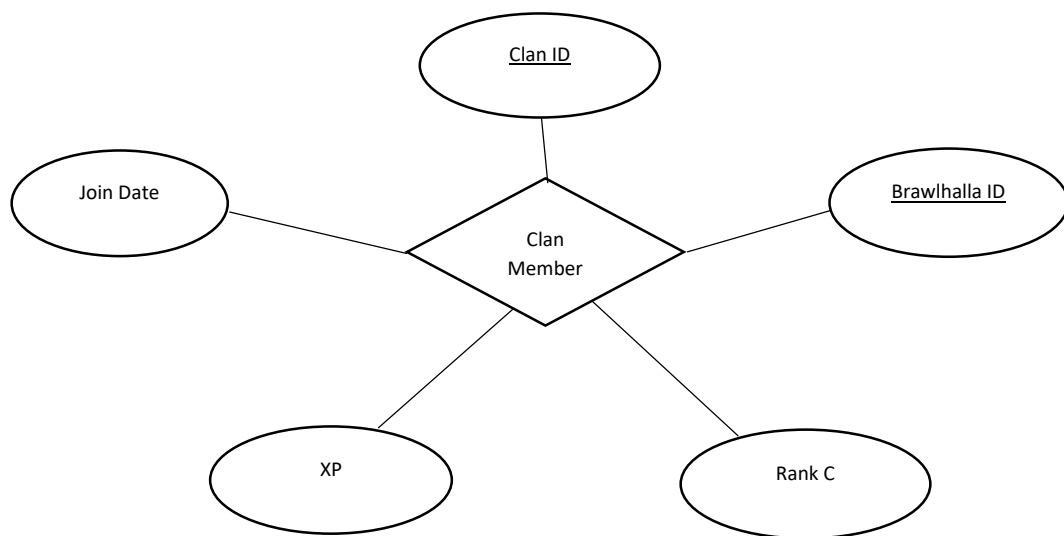
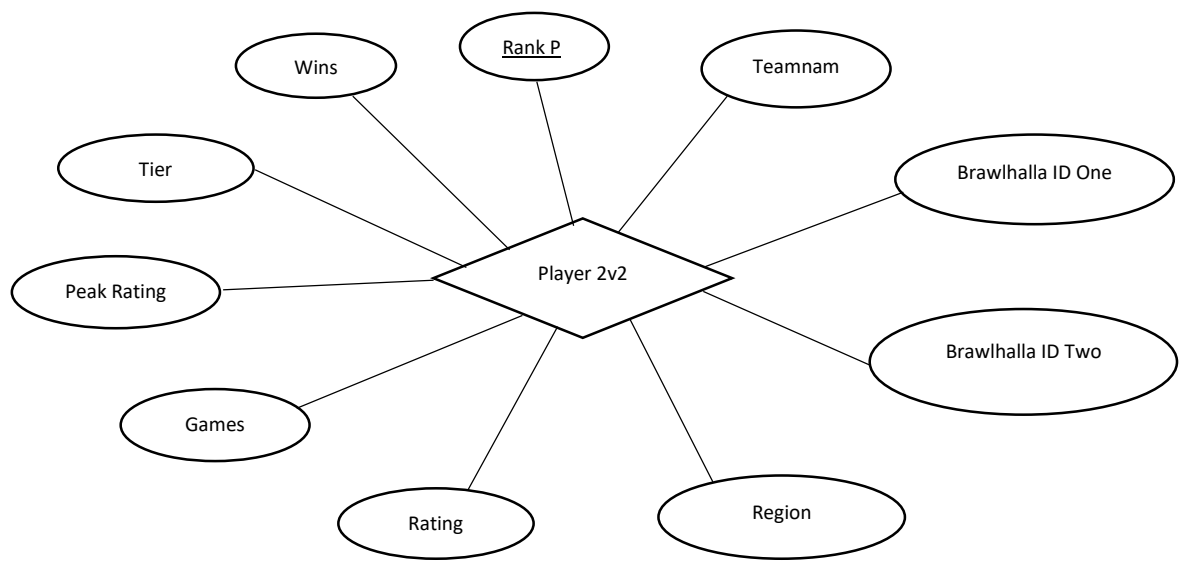
Normalisation process can also be carried out to try and achieve the highest possible normal form of the relations in the database.

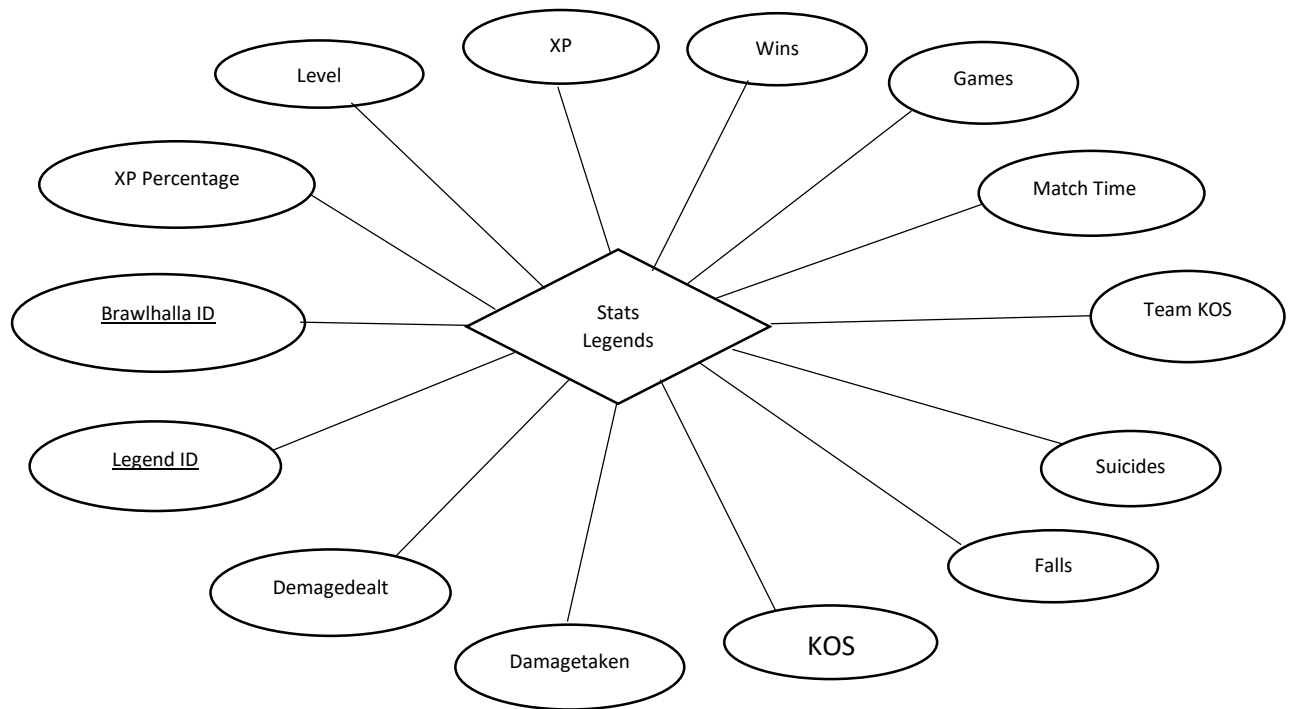
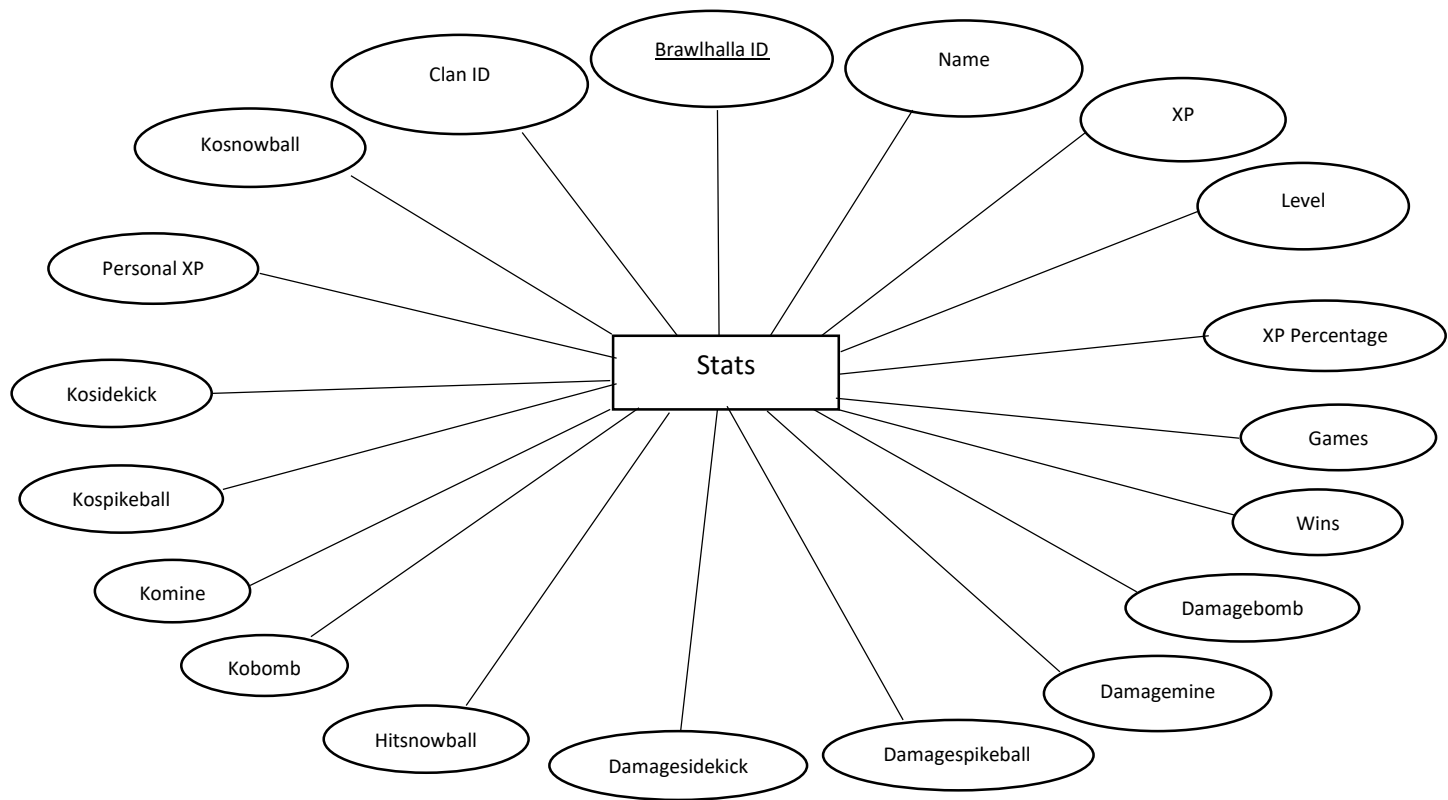
We can implement more select queries for all the tables in the database. This would give players access to more detailed and personalised stats that could help them refine their gameplay skills.

EER MODEL and RELATIONAL MODEL can be seen below

These were used to help streamline the visualization and design stage of the project.







Legend:

<u>Legend ID</u>	Legend Name Key	Bio Name	Bio Aka	Weapon One	Weapon Two	Strength	Dexterity	Defence	Speed
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Players 1v1:

<u>RankP</u>	Name	Brawlhalla ID	Region	Best Legend	Best Legend Games	Best Legend Wins	Rating	Tier
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Games	Wins	Peak Rating
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Stats:

<u>Brawlhalla ID</u>	Name	XP	Level	XP Percentage	Games	Wins	Damagebomb	Damagemine
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Damagespikeball	Damagesidekick	Hitsnowball	KObomb	KOMine	KOspikeball	KOsidekick	KOsnowball
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Clan ID	Personal XP
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Clans:

<u>Clan ID</u>	Clan Name	Clan Create Date	Clan XP
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Clan Member:

<u>Clan ID</u>	<u>Brawlhalla ID</u>	RankC	Join Date	XP
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Players 2v2:

<u>RankP</u>	Teamname	Brawlhalla ID One	Brawlhalla ID Two	Region	Rating	Peak Rating	Tier	Wins	Games
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Legend Stats:

<u>Brawlhalla ID</u>	<u>Legend ID</u>	Damagedealt	Damagetaken	KOS	Falls	Suicides	TeamKOS	Matchtime
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Games	Wins	XP	Level	XP Percentage
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