GW2-SRS DATA MODELLING

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Daniel Lopez: **Data Modelling**

November 10, 2022

4.0 DATA MODELLING

4.1 Introduction

4.1.1 Dates and Data

All the data used in this study is based on the class performance between May and September. This means that, with future nerfs and buffs to classes, values can easily vary. Therefore, this information is only relevant in those months. Nonetheless, some classes does not change a lot, so not every value has a chance to change.

4.1.2 Model explanation

This project data was easier to store on MongoDB than it was on SQL, therefore, a data model was needed not only to connect data between tables, but also to have a data schema and keep everything ordered.

The basic structure of data on MongoDB was explained on the previous EXTRACT part, as the info was saves with that specific schema. In SQLite, I needed to create several tables:

- Player's info
- Boss names
- Profession names
- DPS Tables for each boss

The first table in the list contains names, accounts and two more columns, one of the columns contains a Foreign Key (**FK**) that connects to Boss Names by its Primary Key (**PK**), as for the second one, it contains another FK that connects to Profession names PK. Boss Names and Profession Names are two tables that only contains a PK and the names respectively. This was designed this way to prevent data repeating over and over when using a PK and FK was by far, the best option.

Inside the DPS Tables, I had quite a few problems linking data between tables. The DPS tables stored data based on an ID as well, but if *John-Doe.9100* had ID 30 on the players table and his damage in Vale Guardian corresponds to ID 2 it wouldn't work at all, there was no connection and therefore it leads to error.

The solution was not what I would have done if I had other options in mind, however, it worked fine. I created a FK for every dps table that contained the user account, this way we could just refer the FK to the players table and get the connection done. I thought on doing it with the boss number, but it could also resulted in some problems.

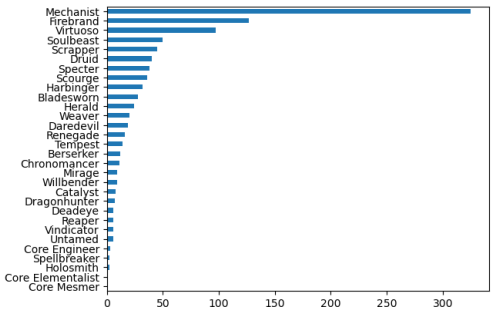
This choice was mainly done because we use ID as a unique value that represents something, and actually, in a game, your account name is already a unique value that identifies the player and it's also **immutable**.

4.2 Results, Graphs and Analysis

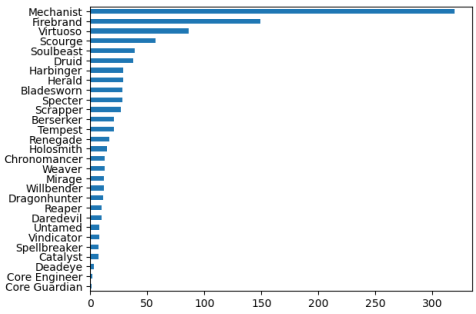
The analysis on the project has two main objectives:

- Profession/Class Usage per boss
- DPS done per class on each boss

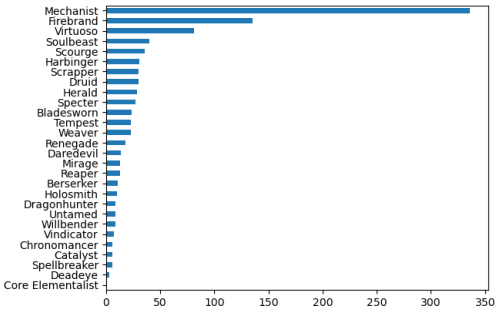
4.2.1 Profession/Class Usage



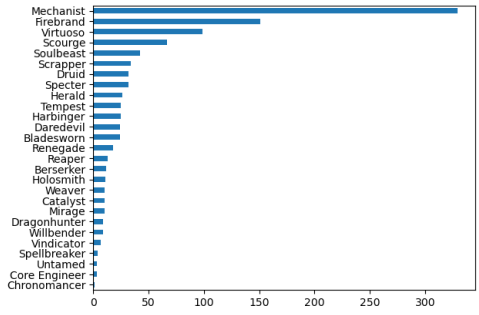
(a) W1: Vale Guardian Graph



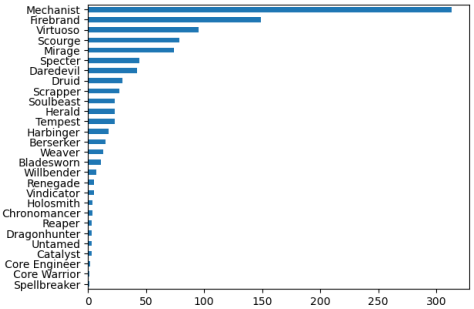
(b) W1: Gorseval Graph



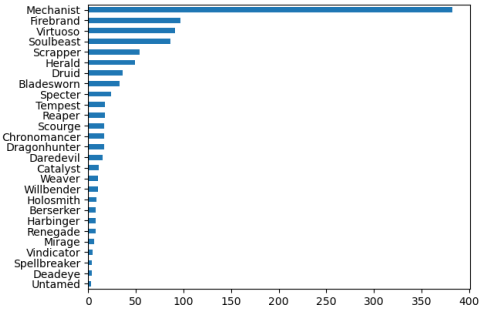
(a) W1: Sabetha Graph



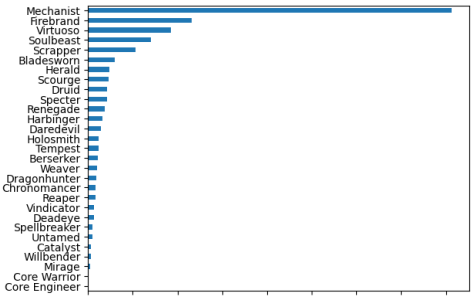
(b) W2: Slothasor Graph



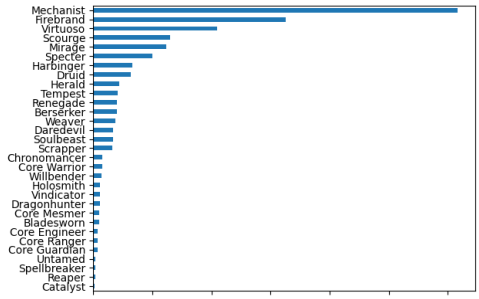
(c) W2: Matthias Gabrel Graph



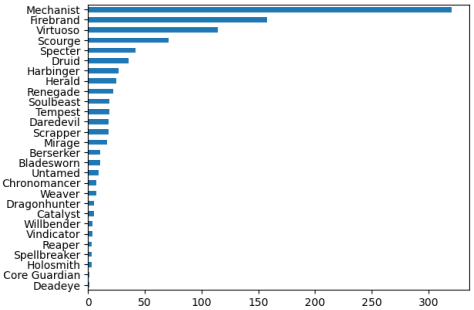
(d) W3: Keep Construct Graph



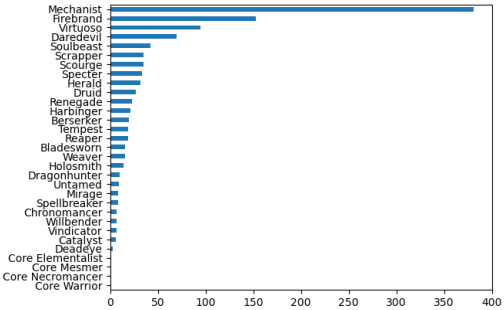
(e) W3: Xera Graph



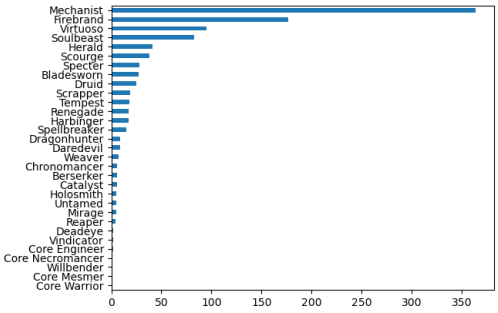
(f) W4: Cairn Graph



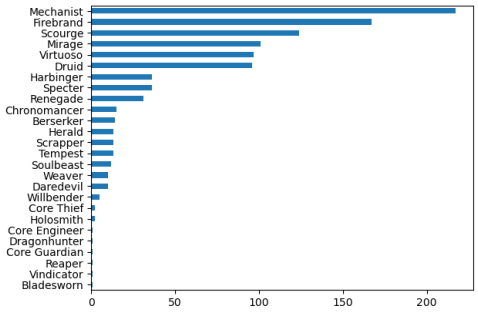
(g) W4: Mursaat Graph



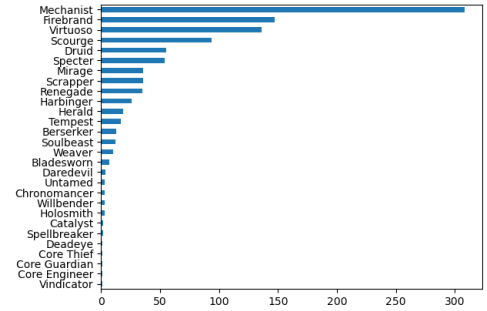
(h) W4: Samarog Graph



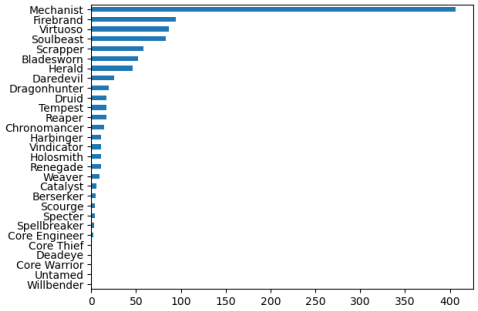
(a) W4: Deimos Graph



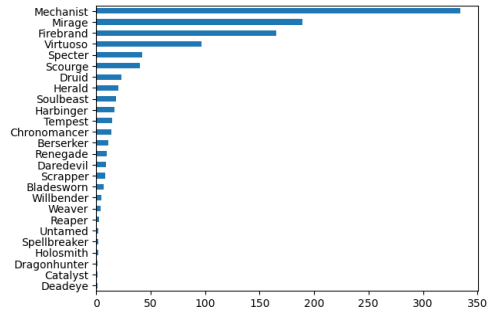
(b) W5: Soulless Horror Graph



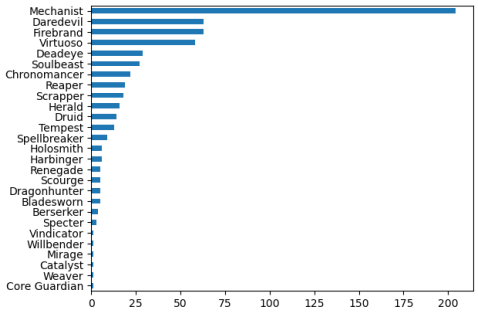
(c) W5: Dhuum Graph



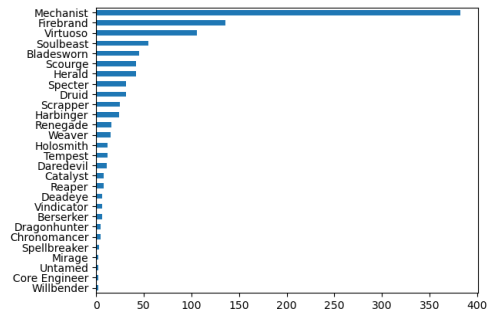
(d) W6: Conjured Amalgamate Graph



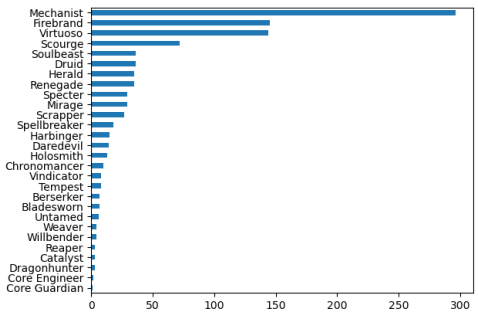
(e) W6: Twin Largos Graph



(f) W6: Qadim Graph



(g) W7: Cardinal Adina Graph



(h) W7: Cardinal Sabir Graph

All this graphs represent the class usage in each boss, and it stands out that the usage of the Mechanist class is huge. Just to be clear, **all this analysis is made from data between May and September 2022**, therefore, during this period, Mechanist was a rather new class since Guild Wars 2: End of Dragons came out in February 2022.

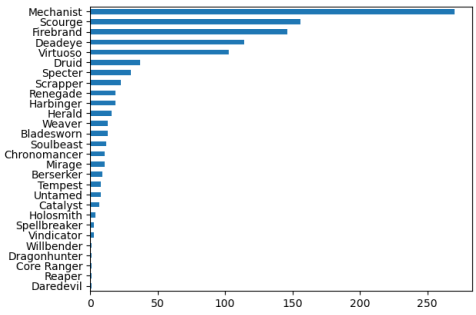


Figure 4: W7: Peerless Qadim Graph

Since the release of the Mechanist, as well as other classes, it became one of the best choices because it could be either support or dps, and it's results in raid were extremely good. We can also see that other classes such as Firebrand is also quite high on the graph, and this is also due to Firebrand's versatility. Guild Wars 2 is a game where versatility in terms of raid and fractals is really important, abilities that can provide **aegis**, **alacrity** and **quickness** are three of the key support buffs, while **power** and **fury** are two of the key damage buffs. This is why classes like Guardian and Engineer are always on top of the usage graphs.

Each boss also has certain classes that perform better than others, as some bosses are weaker to condition damage and other bosses to power damage. On top of that, each boss also has certain mechanics, which normally needs certain classes to perform those specific roles; as an example, Peerless Qadim has the **Pylon** mechanic, and it's normally performed by Deadeyes or Scourges.