# 3rd Sprint

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### Research question

How can AI improve the quality of gaming?

By improving the matchmaking process?

#### What is a zero-sum game?

A game is zero-sum if when won by a team/player, it is lost by the opposing team/player.

Win = +1

Loss = -1

When added all the wins and losses together, it equals zero.

## **Standard Rating**

Your rank is based on how many games you have won. The more you win, the more points you gain. The more you lose, the more points you lose.

Feels like a Win/Loss ratios.

#### **Elo Rating**

A ranking system created by a Physicist named Arpad Elo. Your ranking is determined by the ranking of others you've won or lost against.

Originally created for chess, but has been implemented in Association football (soccer), American football, basketball, Major League Baseball, table tennis, board games, and Video game online matchmaking.

#### MMR (Matchmaking rating)

Details are recorded from in game and compared directly with other players for a better evaluation of skill. It uses this information to determine how much rank to gain/lose after each match.

It is much more precise than only recording wins and losses. Can relay an individual's performance rather than overshadowed in team ranking.

#### Goals for next sprint

Have specific examples of details and games recorded in the MMR system. (It has been difficult to find games at first glance. Maybe there is some secret keeping in order to reduce the players ability to "cheat" the game's matchmaking system.)

Have cool charts and graphs and stuff. Right now kinda monocolored with information.

#### **Citations**

Glickman and Jones. 1999. "Rating the Chess Rating System." Boston University and Reed College