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For Immediate Release

Further URS™ improvements implemented as part of October 2017 rating release

A further set of URS™ rating algorithm improvements have been implemented and all historical ratings have been recalculated together with the release of the October 2017 URS™ rating lists.

The new version of the rating algorithm is the result of months of further analysis regarding the behaviour of the URS™ ratings. This additional analysis allowed the URS™ research team to find areas where additional improvements could be implemented. All published URS™ Ratings, including historical ratings, now reflect the changes in the rating system. The historical rating lists, published from July 2016 to the present, have all been updated for comparison purposes and the new algorithm will also be used for all new rating lists moving forward. No further changes will be made to the URS™ rating algorithm before the publication of the 2017 year end list in January 2018.

Each month, the URS calculates a rating for all players simultaneously, based on all available over-the-board game results, from the past several years, in which each player had at least 5 minutes for their first 60 moves. Games played at slower time controls are given more importance than rapid and blitz games, while games played recently are also weighted more heavily than earlier games.

In the latest version of the algorithm, the down-weighting of older games varies based on the age of the players. It now becomes progressively more pronounced for younger players. This change addresses the fact that earlier game results for junior players are less informative of their current strength than are games played in the same period by players who are older.

The URS™ uses several system parameters that govern different aspects of the rating calculation. These include the extent of the down-weighting of older games, the degree to which performance quality and consistency degrade as the rate of play moves from classical to faster games, and the value of having the white pieces. The latest algorithm also now incorporates new assumptions and new system parameters which describe how typical playing strength is distributed asymmetrically across the player population.

In the latest URS™ algorithm, all the system parameters have also been optimized by tuning the rating system against a large dataset of games spanning a ten-year period ending in December 2015. The performance of the optimized algorithm across the entire rating pool was then checked by continuing the calculation of monthly rating lists from January 2016 up to the present. The predictions made by those ratings for subsequent games were then compared for the same set of games against predictions from the previous URS™ version (released May 2017) and from FIDE ratings. Predictions were made for more than 2 million standard games and more than 1 million rapid/blitz games between January 2016 and August 2017, and then statistical analyses were carried out to compare the rating systems' predictive performance.

The previous URS™ algorithm was already significantly more accurate at predicting standard, rapid, and blitz game results when compared to the corresponding FIDE ratings for Standard, Rapid, and Blitz. The latest improvements have further improved the accuracy of URS™ ratings to an even higher level. URS™ ratings are now significantly more accurate than the previous version and this applies across the full spectrum of the rating list and across all time control ranges.

The area where we have seen the greatest improvement is in predicting game results at the master / grandmaster level under classical time controls. There were approximately 54,000 games played between January 2016 and August 2017 where at least one of the players involved was a grandmaster and where each player had at least 150 minutes for their first 60 moves.

The predictions from the previous algorithm across these 54,000 classical grandmaster games were already more successful than predictions from the FIDE Standard rating system. However, we could only claim statistical confidence of about 90% for this superiority. With the latest algorithm, the superiority over the FIDE Standard rating system now exceeds 99.5% confidence for predicting grandmaster results at this slow range of time controls.

If we consider all games involving grandmasters at standard time controls (i.e. where each player had at least 120 minutes for their first 60 moves), there were about 90,000 games. The superiority of the new URS™ algorithm over FIDE Standard ratings (when predicting grandmaster games at this time-control range) now has a confidence level exceeding 99.9999%.

The URS superiority over the FIDE Rapid and FIDE Blitz lists was already well-established with the previous version of the URS™ algorithm. It continues to hold, at a confidence level exceeding 99.9999% at the master/grandmaster level and for all ranges of player strength.

##About the URS™ (<http://universalrating.com>)

The Universal Rating System (URS™), is a revolutionary new sport's rating system designed to assess the relative strength of participants across a wide variety of competitor vs competitor sports or games. The URS™ was developed as the result of a collaborative research project funded by the Grand Chess Tour, the Kasparov Chess Foundation and the Chess Club and Scholastic Center of Saint Louis. The system is the product of detailed research conducted over more than two years by some of the world's leading experts in methods of rating chess players.