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OverTeam: Team Builder for eSports

A dissertation by

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Abstract

Electronic sports also known as eSports is one of the fastest growing sports in the world. With the eSports industry still very much a growing arena and largely unstructured, various issues arise when building team rosters for eSports. The skill disparity between players in teams, influence from third parties and the most important being the synergy factor. Teams which exploit these synergies between heroes or different classes comfortably beat their opponents who are usually in the same skill level (at times at a higher skill level).The proposed solution is a team builder which addresses most of the issues faced when assembling teams. It utilises two matchmaking algorithms, one which matches players based on various latent factors (such as skill, location, role and language) and the other which matches based on the same latent factors and also takes the synergy factor into consideration. The first approach will be using a machine learning component along with the typical algorithms and mathematical approaches associate with a match making algorithm. A novel approach to matchmaking was attempted which will be using an information retrieval mechanism component. This component is comprised of an extended Dijkstra's algorithm to determine the synergy of the potential team. A data collection engine was created to retrieve the profiles of the player from the developer along with their performance data which is needed for the match making process, this engine was also capable of receiving input from the user which is required to improve the match making process. The project resulted in successful results showing great promise and room for further investigation.

Keywords: Gaming, Data mining, Information Retrieval Mechanisms, Machine Learning

Subject Descriptors:

- Information systems~Wrappers (data mining)
- Information systems~Information retrieval
- Computing methodologies~Classification and regression trees