Data Mining System for Selection of Best Basket Ball Team

Deep Madhvani[1], Ronik Moradiya[2], Yuvraj Lakhani[3]

1,2,3Department of CE, Shree Swami Atmanand Saraswati Institute of Technology, Surat, Gujrat, INDIA

---***---

Abstract - *Choosing a team for any sport is a daunting task. It is entirely governed by the members of the selection committee, who may be biased and therefore not the right team to be selected. This can lead to failure at national and international level competitions. In the present scenario there is no scientific method available for team selection and it has been used. In this research paper, data mining techniques have been suggested for the design and development of a software tool specifically for Basketball for team selection.*

Key Words: **Sports Science, Sports Skill Tests, Basketball, Data mining, Classification, K- Nearest Neighbor.**

GENERAL TERMS

Natural language processing, Supervised and unsupervised Machine learning, Naive Bayes classifier.

1.INTRODUCTION

Sport is a physical activity that is fair, competitive, non-distracting and is guided by rules, organization and / or tradition. Choosing a team for any sport is a daunting task. There is no scientific method available in the current scenario and it is used for team selection.

The performance of our national teams in international competitions has become a matter of concern. The government is now looking at it with grave concern. That performance has been disappointing cannot be denied.

Often, a team is selected based on the players 'past performance and the players' performance on the selection committee members. The team's choice is influenced by the region's problems, political interference and other antisocial factors. The team is selected by the selection committee which may be biased and therefore the team is not selected properly. This can affect the effectiveness of selection criteria for team members, which can have a direct impact on team performance. As one

The result is the country's major failure in national and international level competitions.

Our society is collecting tremendous data and statistics about sports, athletes and athletes. All data on hockey key scores, basketball passes, pass passes and car-racing errors,

swimming times, Bs, cursor pressures and chess positions are stored. Critics and journalists are using this information for reporting, but trainers and athletes will want to use this data to improve performance and understand opponents better. [1]

However, there is no scientific method available for team selection and has been adopted. Therefore, it is necessary to provide a scientific approach to record the skill of the basketball player. No scientifically proven methodology available for team selection. In this research paper, a method is proposed that uses DM techniques developed by researchers in the field of sports and physical education, in collaboration with sports skills tests developed for the selection of sports teams, especially for basketball-ball.

Physical fitness testing enables testers to select the potential for certain occupations or sports classes at a young age so that advanced professional training can be given to aspirants with high levels of physical fitness for sports. The choice is being made.

Data mining is a tool that can cure predictive information from large amounts of data, and is data-driven. It uses mathematical and numerical calculations to uncover trends and correlations in large volumes of data stored in a database. Data mining uses many statistical functions such as standard deviation, regression analysis and variance which are valuable tools that allow people to study reliability and relationships between data. Much of what data mining does is in statistics, making it a cornerstone of data mining technology.

This research work involves designing a system to suggest a method for selecting a better basketball team. To make a better basketball team, data mining tools will be used to determine the best selection of players.

2. REVIEW OF LITERATURE

The selection of teams for various sports competitions depends on the objective and scientific measurement of the skill of the game. [1] The science of sport skill testing has evolved over the past 60 years. Skill tests have many important functions. It can be used for selection, training effects, forecasting, comparative evaluation and motivation

evaluation. Sports skills testing includes more complex, integrated and specialized abilities involved in specific sports such as basketball, l, basketball, l, vol .lib, badminton, soccer, handball, gymnastics, track and field. [1]

Sports Authority Thought India F India (SAI) can promote and nurture talent among young boys and girls by using their own standards in the sports talent content scheme. All SAIs destined for the ten Olympic disciplines (athletics, badminton, basketball, l, basketball, l, hockey key, swimming, table-tennis, football soccer, football, l, welly league and wrestling). The basic objectives of the skill tests are to start the pace of broad base sports in India to the grass roots. Gene who is genetically skilled at generating talent at the level and among boys and girls of the school and has the potential to develop natural motor qualities and appropriate physical development. [1]

Various factors are applied when selecting a team. The human selection committee always suffers from improper or biased judgment, excluding human error and some important issues. Thus, a system is needed to effectively consider all the factors involved and provide the best team with human intervention. [2]

Data mining often looks for hidden information in a database. It has two main model groups namely predictive and descriptive. The various functions under the prediction model are classification, regression, time series analysis and forecasting. The descriptive model includes functions such as clustering, summaries, association rules, and sequence detection. Classification data maps data to predefined groups or categories. This is often referred to as observational learning because classes are determined before examining the data. Classification algorithms require that categories be defined based on data attribute values. They often describe categories by looking at the attributes of the information to which they belong. [3]

3. RELATED WORK

The system can be developed for the selection of a University Basketball team. Inter Collegiate Basketball Standard scores of the best performers in competitive competitions and basketball trials will be explored. These scores can be used as the standard for selecting players to make a better team.

Sports skill tests (test batteries) developed by sports and physical education researchers, especially for basketball-ball to select teams for special sports / games, can be applied to the number of players each time. Data can be collected or

obtained from standard skill test scores taken previously. K nearest Neighbor, the technique of data matching, can be applied to the results of a skill test obtained to get the best players in all players that match or match the standard scores.

The KNN technique assumes that the complete training set includes not only the data in the set, but also the desired classification for each player. Thus, the training becomes a model for data selection. When classifying for a new player, each player in the training set has to determine their distance. Only the nearest entries in the training set are considered for further processing. The new player is then placed in a class that has most of the players in the set of adjacent players.

This way the best players can be selected to perform the best. Thus, we can have a better basketball team that satisfies the standard skills for competitions.

Scientific training tools can be made available to the selection committee, which can be influenced by the selection of a team member.

This will come out with the 12 best performing players, whose scores are closer to the standard score. Thus, we can have a better basketball team that satisfies the standard skills for competitions.
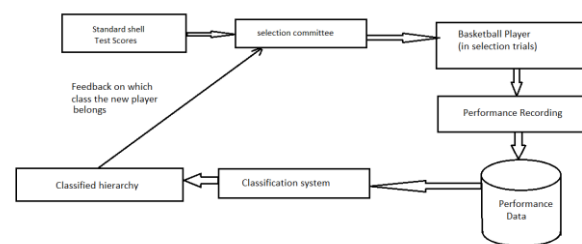
Block Diagram of the system

4. METHODOLOGY

The system will be developed for the selection of the University Basketball Team. The standard scores of the best-performing players will be explored in the Basketball, which will be used as the benchmark for building a better team for players to choose from. These scores will be used to find the best players among the players, who will match or are closer to the standard score.

Sports skill tests (test berries) developed by sports and physical education researchers, particularly for basketball-ball to select teams for sports / games, will be applied to players each time attending a university basketball-ball selection. , Data will be obtained from standard skills test scores.

A tool will be developed for research purposes. The actual data will be analyzed using this tool and compared with standard reports for its efficiency. A scientific training tool will be made available to the selection committee, which can be used to influence the selection of a team member. Data mining began with statistics. Statistical functions such as standard deviation, regression analysis and variance are all valuable tools that allow people to study the reliability and relationships between the data.

Our society is collecting immense data and statistics about sports. Players and athletes will want to use this data to study and improve their performance and understand opponents better. Data mining technology allows the use of large numbers of data, compiling and developing relationships between the standard set of data and test scores to select the right players to improve team performance.

This tool will use the data mining technology K-Nerrest Neighbor that will be applied to the acquired skill test results. This will come out with the 12 best performing players, whose scores are closer to the standard score. Thus, we can have a better basketball team that satisfies the standard skills for competitions. All test scores or results from all players will be recorded. These results will be used on a data mining technique, such as K-Nearest Neighbor, and standard scores will be matched to get the best scorers closest to matching the obtained scores.

CONCLUSION

The investigator will analyze the data collected during the study, analyze and make annotations using the tools developed in the design process. A better selection tool for better player selection. Selected test scores will be monitored and a list of 12 players will be suggested using data mining technology, which will make for a better basketball team.

REFERENCES

[1] Devinder K. Kansal, Test and Measurement, D.V.S. Publications, New Delhi, India, 1997.

[2] S.N. Omkar, Cricket team selection using genetic algorithm, International Congress on Sports Dynamics (ICSD2003), 1-3 September, Melbourne, Australia

[3] MARGARET H. DUNHAM, Data Mining Introductory and Advanced Topics, Pearson Education, New Delhi, India, 2003

[4] Abdul Muqeet, Wajid Ali Siddiqui: Data mining

[5] Deshpande S., Thakare V., Data Mining Application in Sport Sciences, 8th Annual Conference of Society of Statistics, Computer and Applications, Organized by Deptt. Of Statistics & Computer Science Govt. Vidarbha Institute of Science & Humanities, Amravati, 2005