Management Information System Data Processing Results of Sports Talent Identification Test: Borneo Sport Talent Id Software Implementation

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ABSTRACT

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This research resulted in a data processing system application program for sports talent identification test results aged 11-15 years which can accelerate the provision of information about the classification of potential gifted children and recommendations for sports branches based on anthropometric data parameters and biometric data. The sample in the study was 50 students in Samarinda Kota and Samarinda Ulu sub-districts using the cluster area sampling technique. The data collection technique uses a talent identification test battery instrument. In completing this research, the author uses a database-based programming language in the Borneo Sport Talent software. The results showed: (1) Borneo Sports Talent Id can be used as a system for processing data on talent identification results effectively and efficiently, (2) Talent classifications were found, namely: 10% of children have potential, 22% of children have sufficient potential, 32% of children have less potential, and 36% of children have no potential, (3) Recommendations for potential sports: volleyball, rowing, soccer, fencing, swimming, gymnastics, and rock climbing, and athletics in running, jumping, and throwing events.

Keyword: Management information system, talent identification software, sporting potential

INTRODUCTION

The rapid development of information technology and systems has affected system management in all fields, including sports. Improving the quality of sports information systems to increase competitiveness in the era of globalization can be done through optimal use of information technology that supports work efficiency and effectiveness in accordance with the goals to be achieved. This can be offset by using a computer as a tool that can store and process data quickly and accurately.

The use of science and technology in the pattern of achievement development is the main support in increasing achievement. Early identification of talent is a serious component in the recruitment aspect of athletes to be coached. According to (Pahalawidi, 2019) one of the efforts made to get talented athletes is by conducting talent scouting from an early age. This means, sports talent must be identified first to prepare athletes in choosing the right sport.

Talent identification can be done using tests or instruments that have been made and tested. Instruments are parameters used to predict performance quality, considering children's physical fitness, motor learning abilities and physical development (Eka Supriatna, 2016). Several studies related to talent identification can be found in various sub-disciplines of sports science including motor learning (Derri et al., 1998; Falk et al., 2004), sports psychology (Abbott & Collins, 2004; Côté, 1999), growth and maturity biology (Gonçalves et al., 2012), and sociology (Holt & Morley, 2004). Everything is interrelated, but the initial theory still focuses on physical factors (Orosz & Mezo, 2015).

Talent scouting in Indonesia has been developed but has not been carried out intensively and specifically. So far, what has been done by practitioners in the field (coaches, physical education teachers, and sports coaches) to get talented athletes is done by taking athletes who win in a sports competition without special analysis and tests. In fact, the data on the results of the giftedness test obtained or owned by the trainers are still separated or still done manually in terms of their use, so that their use is still not optimal and requires a long process and time to find out the results.

Therefore, the author has the idea to produce an information system that is fast and correct in evaluating the anthropometric and biometric parameters of athletes using the Borneo Sport Talent Id software which has been developed in the 2022 FKIP Grant research.

Data processing information systems that will be examined refer to information systems that can be used to make decisions, coordinate, control, analyze, and visualize information within an organization. This information system of hardware and software serves as the basis for the operation of an organization. According to Feradhita NKD (2020) Information Systems work by collecting data from several online systems for analysis, then SI will report the results of the analysis to help management make decisions, make plans, or solve a problem (https://www.logique.co.id/blog/2020/08/10/sistem-informasi-manajemen/).

Software is computer software. According to (Karim et al., 2021) computer software are components in data processing systems in the form of programs to control the work of computer systems. Added (Pressman, 2010), that the software is a command (computer program) which when executed provides the function and performance as desired.

This database-based software is a medium that can assist in recording statistical data on children's biometric and anthropometric components in detail and comprehensively. The data are (1) height, (2) sitting height, (3) body weight, (4) arm span, (5) throwing and catching a tennis ball, (6) throwing a basketball, (7) jumping gain, (8) running back and forth 5 meters, (9) sprinting 40 meters, and (10) multistage fitness test (Mansur, 2013).

From this data it can be seen the classification of potential gifted children, as well as sports that are recommended or in accordance with their respective biometric components. Can

be used by coaches, physical education teachers, and sports coaches in identifying and distinguishing children's potential and talents as an initial selection in the coaching process.

With an information system for processing data from the results of the talent identification test, coaches can systematically identify a person's talent with potential in sports, so that it is estimated that the person will succeed in the training process and be able to achieve peak performance.

METHOD

This research uses descriptive methods with case studies. According to Toni D Susanto (2020) A case study is basically research that is carried out intensively or in depth about a process, program, event, or activity. The sampling technique uses probability sampling with the cluster area sampling technique, which means that the author directly determines which areas are the research areas with the aim of providing accurate data. This regional sampling technique is often used in two stages, namely the first stage determines the sample area, and the next stage determines the people in the area by sampling as well (Sugiyono, 2013). The determination of the research area was carried out by assigning schools in Samarinda Kota and Samarinda Ulu Districts, namely Samarinda 1 Public Middle School and Samarinda 2 Public Middle School as research locations.

The sampling technique uses stratified random sampling, namely random sampling considering the existing strata in the population (Sugiyono, 2013). In this study the sample used was students aged 11-15 years.

The data collected in this study were: 1) Height, 2) Sitting height, 3) Body weight, 4) Arm span 5) Throwing and catching a tennis ball, 6) Throwing a basketball, 7) Jumping straight, 8) Running agility, 9) 40-meter sprint, and 10) Multi-stage Run. All data is inputted into the Borneo Sport Talent Id software.

Several steps that can be used in the Borneo Sport Talent Id software after the data is input are: 1) The results are consulted into the profile table of the sport of interest, 2) Then an assessment is carried out according to age and gender (table of assessment norms), 3) Then it is matched between test results and norms with sports profiles. 4) For the results, it will show children who have very potential, potential, enough potential, less potential and no potential talents as well as recommendations for sports in accordance with the child's biometric data.

RESULT AND DISCUSSION

Result

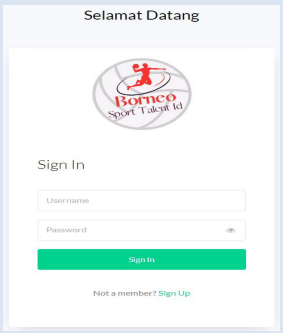
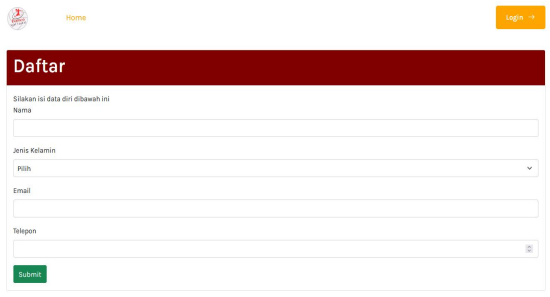
Borneo Sport Talent Id is an innovative medium to help children aged between 11-15 years, to be able to make informed decisions about sports that are interesting and suitable for

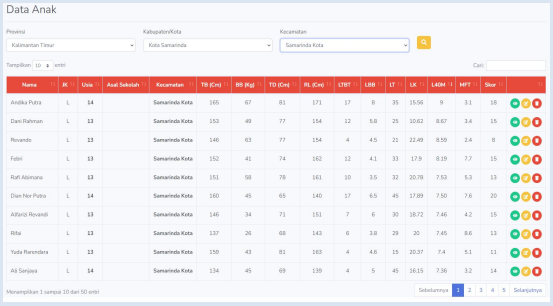
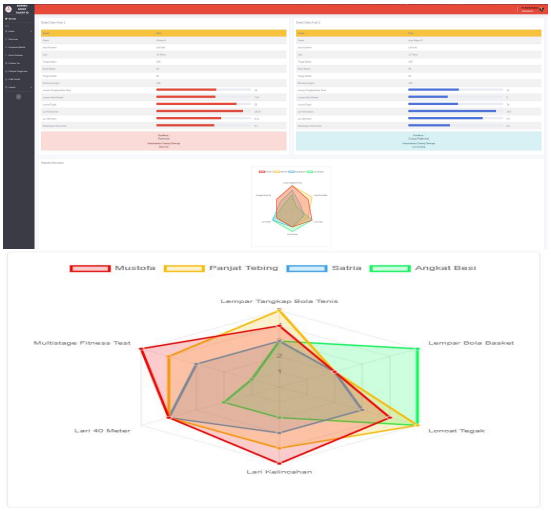
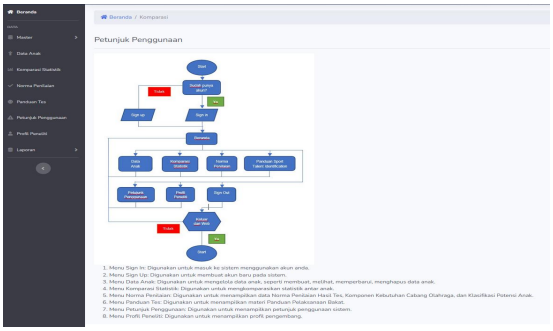
children. Borneo Sport Talent Id is software that allows children to adjust between physical characteristics and sports choices that are tailored to the child's sporting potential.

Several steps that can be used in operating the Borneo Sport Talent Id after inputting data are: 1) The results are consulted into the sports branch profile table, 2) Then an assessment is carried out that is adjusted for age and gender (assessment norm table), 3) Then the results are matched test with the norm with the profile of the branch of the sport. 4) For the results, children who have talents that are very potential, potential, quite potential, less potential and not potential will be displayed as well as recommendations for sports in accordance with the child's biomotor data.

Following are the instructions for using the Borneo Sport Talent Id Software:

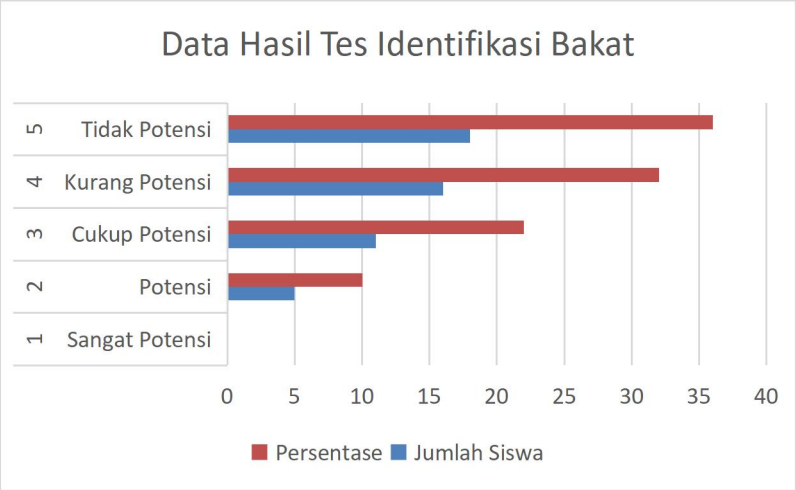
Table 1. Instructions for using Borneo Sport Talent Id Software:

SOFTWARE BORNEO SPORT TALENT ID	
Main Menu Screen Layouts	**Information**
	Initial view of Borneo Sport Talent Id
	Display sign in, used to enter the system using a user account
	Display signs up, used to create a new account on the system

	Child data menu display, used to manage child data, such as creating, viewing, updating, deleting child data.
	Display menu for comparison of child data statistics, used to compare statistics between children.
	The display of the assessment norms menu is used to display data on the norms for assessing test results, the components of the needs of sports branches, and the classification of children's potential.
	User guide display menu, used to display system usage instructions.

After conducting tests and measurements on several 50 students at SMP Negeri 1 Samarinda and SMP Negeri 2 Samarinda, the talent identification results were obtained as follows:

Graph 1. Talent identification test results



From the results of talent identification it was found that 10% of children had potential talent, 22% of children had quite potential talent, 32% of children had less potential talent, 36% of children did not have sports talent, and no children who had very high talent were found. potential.

To map the potential giftedness of students in sports that can be developed in students at SMP Negeri 1 Samarinda and SMP Negeri 2 Samarinda can be seen in the following table:

Table 2. Potential gifted students

Talent Identification	SMP Negeri 2 Samarinda	SMP Negeri 1 Samarinda
Potential	Rock climbing	Volleyball
	Long Distance Swimming	Fencing
	Rowing	Rowing
	Football	Gymnastics
	Sprint	Short Distance Swimming
Enough Potential	Triple Jump	Football
	Hurdles	Bicycle
	Table tennis	Hurdles
	Sprint	Table tennis
	High jump	Discus Throw

Thus, the Borneo Sport Talent Id software product is effective and can be used to identify potential talent and obtain recommendations for sports according to the value of the potential talent.

Discussion

Improving the quality of sports information systems so that they are competitive in the globalization era is carried out by optimally utilizing information technology to support work efficiency and effectiveness in accordance with the targets to be achieved. This can be offset by using a computer as a tool that is able to store and process data quickly and accurately.

Borneo Sport Talent Software Id is a development of a talent scouting application that has been researched and used by previous researchers, such as a website-based talent scouting application created by the Ministry of Youth and Sports which provides a strict categorization of gifted children, only assessing gifted and non-talented children. Or the results of research conducted by Raja Bintang Abrori, (2021) which developed a software analysis for the potential for sports talent called TALENT ID as a tool to be able to view and analyze the results of anthropometric and biomotor tests specifically for children aged 11 years only. As well as the development of talent identification software that has been developed by Kusnanik, (2014) only focuses on one sport, namely in the form of Talented Athlete Identification (IBAB) football software which is carried out by entering data from anthropometric measurements, physiological and biomotor tests.

Borneo Sport Talent Id which has broader development specifications and has differences from previous researchers, including the addition of a complete categorization with five talent categorizations, namely very potential, potential, quite potential, less potential, and not potential. Then it is completed with statistical comparisons between children in the form of diagrams containing anthropometric data and children's biomotor data, making it easier for coaches to see the strengths and weaknesses of children from the aspect of their physical abilities with the physical prerequisites needed for the sports recommended in the software.

In addition, the identification of children's talents is not only limited to a certain age, as researched by Raja Bintang Abrori, (2021) which only focuses on 11-year-olds, but researchers develop software for 11–15-year-olds which in theory is at that age. in accordance with the nursery stage where the talent identification process in the context of scouting children's talents can be carried out.

Another advantage is that recommendations for sports that are displayed are not just one sport but are based on recommendations from 14 leading Olympic sports in DBON, namely badminton, weightlifting, archery, rock climbing, shooting, wushu, karate, taekwondo, cycling, athletics, swimming, artistic gymnastics , pencak silat, and rowing, and 3 sports that are popular with the public for the sports industry namely, football, volleyball, and basketball. This means that the software can be used for the long term as suggested by the Ministry of Youth and Sports, that in identifying children's talents, it is adjusted to the sports that are prioritized for the Olympics only.

After conducting tests and measurements on several students in Samarinda Kota and Samarinda Ulu, it was found that this software is a tool that can help provide information about the potential value of giftedness, biomotor and anthropometric abilities, and can provide recommendations for sports that can be used as a reference for choosing the appropriate sport. abilities possessed by children.

The objectives of designing this system are: 1) To produce an information system that is fast and correct in evaluating the anthropometric parameters of gifted students before further coaching, 2) To produce an information system that is fast and correct in determining the right form of training in accordance with physical and mental qualities. children's motor skills, 3) Generate a model of information system design for data processing of talent identification test results with a database, in the form of process/functional models, data models, program modules, and software interfaces.

In terms of the aspect of anthropometric measurements carried out with the aim of knowing the dimensions of the measurements in identifying physical potential to find potential athletes. Furthermore, the measurement results will be stored as a document whose data can be needed again at a later date. This anthropometric measurement can be carried out periodically for every 6 months to determine changes in the dimensions of the human body from time to time.

According to Aisyah Yuri (2023) Anthropometrics relates to the morphological structure and ideal body shape of children, for example height, limb length and athlete's weight. Anthropometry is very influential for the efficiency of athlete's movements (https://soloabadi.com).

The important point of this anthropometric test is to select prospective athletes, they must first look at their physical form. For example, if you want to find a basketball player, it's a good idea to find a child who has a tall stature, long arms, long legs and so on. Or when looking for weightlifters, you should look for children who are not too tall, have short arms and short legs, and so on.

Meanwhile, from the aspect of biomotor measurement, it is an important factor to know to identify sports talent. The Borneo Sports Talent Id software developed is a medium that can assist coaches in recording the physical and biomotor components of prospective athletes in detail and comprehensively. This data is in the form of speed, agility, coordination, strength, power, and endurance.

From these data it can be seen the classification of potential gifted children, as well as sports that are recommended or in accordance with their respective biomotor components. With this data, coaches can systematically identify a person's talent with potential in sports, so

that it is estimated that the person will succeed in the training process and achieve peak performance.

This is in line with research results (Bompa & Buzzichelli, 2019; (Bompa, 2009; Trisnowiyanto, 2016) that the biomotor components that need to be owned and developed by an athlete to perform optimally and optimally are endurance, agility, speed, balance, and flexibility Basic biomotor components or motor performance abilities are endurance, strength, speed, coordination, and flexibility.

The athlete's biomotor ability is a strong foundation to support a high training program so that athletes have the potential to develop more (Bompa, 2009). Biomotor ability in this case, namely physical condition is a requirement that must be possessed by an athlete in improving and developing optimal sports performance, so that his physical condition needs to be developed and improved according to the characteristics and needs of each sport.

Thus, knowing children's biomotor skills from an early age will have an impact on several things, including Athletes will be able and easily learn relatively difficult skills, not get tired easily when participating in training or competitions, and training programs can be completed easily without many obstacles. This is in accordance with the opinion of (I Gusti Putu Ngurah Adi Santika, S.Pd., 2017; Putra et al., 2017) that with biomotor abilities that have developed if managed properly by athletes when competing, both for a long duration and for a short duration will not drain their energy.

CONCLUSION

The conclusion of this research is found; (1) Borneo Sports Talent Id can be used as a system for processing data on talent identification results effectively and efficiently, (2) Talent classifications were found, namely: 10% of children have potential, 22% of children have sufficient potential, 32% of children have less potential, and 36% of children have no potential, (3) Recommendations for potential sports: volleyball, rowing, soccer, fencing, swimming, gymnastics, and rock climbing, and athletics in running, jumping, and throwing events.

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