

Football Talent Scouting Application Development “Sport Search” Method based on Android

Ahmad Zulyaden¹, Rahma Dewi², Afri Tantri³

{ahmadzulyadenlubis82@gmail.com}

^{1,2,3}The Sport Science Study Program of Postgraduate School of Universitas Negeri Medan, Indonesia 2022

Abstract. This study aims to (1) produce a football talent scouting application product for students aged 11-14 years, (2) find out the use of soccer talent scouting applications using the android-based sport search method. This research is a development research with the Borg and Gall approach model through 8 stages, namely: (1) potential and problems, (2) information gathering, (3) product design. (4) Design validation. (5) Design revisions, (6) small-scale trials, (7) revisions of small-scale trials, (8) large-scale trials, and (9) Final Products. The subject of this study was a soccer school coach (SSB) in Medan City with licenses D, C, and B. The trials carried out included two stages, namely small group trials with 10 coaches and large group trials with 25 coaches. The results of this study are (1) a football talent scouting application product to identify and evaluate the potential for soccer talent of students aged 11-14 years, (2) The feasibility level of this product is known through a validation assessment of material and media experts. For the validation of the first material expert, the level of achievement is 90.00% in the Very feasible category and the second material expert validation is the level of 94.00% in the Very Eligible category and validation of the media expert at the level of 96.15% in the Very Eligible category. This product also went through a small group trial phase with an achievement rate of 77.67% in the Eligible category. Meanwhile, at the trial stage for this large group of products, the achievement rate was 87.27% in the Very Eligible category. Thus, it can be concluded that this talent scouting application product is suitable / very feasible to use.

Keywords: Talent Scouting, Football, Sport Search, Application

1 Introduction

In the current industrial era 4.0, the development of science and technology (IPTEK) in the world and also Indonesia is very rapid, various human activities in daily life have been greatly helped by advances in technology, including in the field of sports, which have been helped in the process of training and competitions.

In the city of Medan which is the capital of North Sumatra Province (North Sumatra) and also one of the big cities in Indonesia. The use of technology in the world of football coaching is still very minimal. This is one of the inhibiting factors for trainers in the grassroots age group in achieving maximum performance in North Sumatra in particular. Ideally, today's modern coaches should be required to be more responsive to developing technology in soccer.

The results of observational studies and interviews as well as needs analysis that have been carried out by the author from April to June 2021 for coaches aged 11-14 years at 14 (fourteen) soccer schools (SSB) Medan City, are as follows:

- a. The SSB student admission system in Medan City is 100% using general requirements such as family cards, diplomas, birth certificates, and passport photos.
- b. The SSB student admission system in Medan City that uses special requirements such as aptitude or skill tests is only 14%.
- c. The knowledge and understanding of the SSB coach in Medan City on the test instrument in scientific football talent scouting is very lacking.
- d. 100% of Medan City SSB coaches use and are able to operate Android phones, but are not used in football coaching science and technology.
- e. As many as 100% of the KU 11-14 SSB Coaches in Medan City need/need a digital-based soccer scouting talent test.

Talent scouting (talent scouting) in the sport of football in the city of Medan has not been identified as a whole, only looking at the technical and skill aspects, whereas to obtain maximum talent there are other aspects such as Anthropometry and Biomotor. Based on the results of the observations and interviews above, the authors are interested in developing an Android-based football talent scouting application which is named the Indonesian Football Talent Identification Application (AIBANESIA).

2 Method

This study uses the Research and Development method from the theory of Borg and Gall (2003), this model was chosen because the procedure developed by Borg and Gall is more complete because it has two main objectives, namely: (1) producing certain products, and (2) test the effectiveness of the product in achieving the objectives to be achieved.

The development procedure used in this study refers to the steps of the research and development (R & D) model of the theory of Borg & Gall (2003) proposed by Sugiyono (2013) which conveys that there are ten steps in research and development research. The following is an image of the research design flow for developing an Android-based soccer talent scouting application.

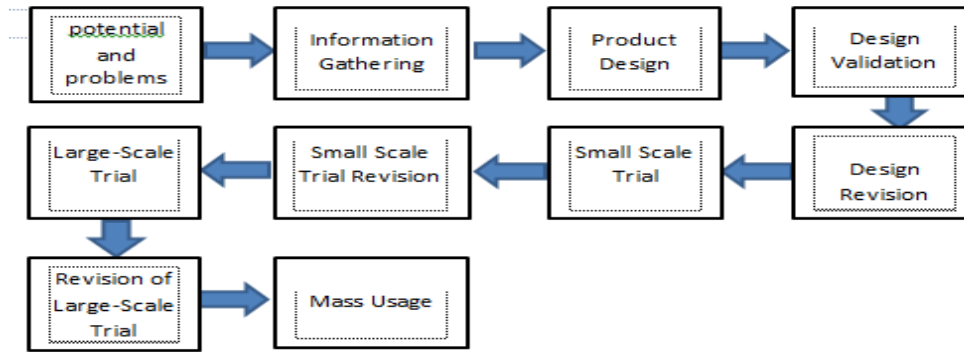


Fig. 1. Steps to use the Research & Development Method

According to Sugiyono (2013: 297) to be able to produce certain products, research that is needs analysis is used and to test the effectiveness of these products so that they can function in the wider community, research is needed to test the effectiveness of these products. Based on this opinion, in the context of this research, the aim is to develop an Android-based soccer talent scouting application so that coaches understand the soccer talent scouting test instrument and make it easier to select/select, evaluate, student talent effectively and efficiently.

2.1 Research Subjects and Objects

The subjects of this study were 2 Sports Lecturers, 3 Material & Media Experts, and 35 soccer coaches certified with D, C, and B licenses who were representatives of each soccer school (SSB) in the Medan City area.

2.2 Data Collection Instruments and Techniques

Research Instruments. To produce a quality development model, an instrument is needed that is able to explore the data needed to collect data in this study. There are two instruments used, the first to assess the application and the second to assess the material. Instruments in the form of questionnaires for material experts, media experts, and for trainers.

Eligibility Percentage =	Score Obtained	x 100
	Maximum total score	

Data collection technique. The types of data obtained from this research are quantitative data and qualitative data. According to Endang Mulyatiningsih (2012: 38) quantitative data is data in the form of numbers or data that has been rated. While qualitative data is data in the form of sentences or pictures. Quantitative data in the form of assessments, collected through questionnaires or product trial questionnaires, during testing activities, were analyzed by descriptive quantitative analysis. Percentage is intended to determine the status of something then interpreted with qualitative

sentences. The questionnaire used in this study is an assessment questionnaire. Based on the number of opinions or answers, the researcher then percentages each answer with the formula:

After presenting in percentage form, the next step is to describe and draw conclusions about each indicator. The suitability of aspects in the development of an Android-based football talent scouting application can use the following table:

Table 1. The suitability of aspects in the development of an Android-based football talent scouting application

No.	Percentage of Achievement (%)	Interpretation
1	81% - 100%	Strongly Agree
2	61% - 80%	Agree
3	41% - 60%	Moderate
4	21% - 40%	Disagree
5	0% - 20%	Strongly Disagree

Source: Suharsimi Arikunto (2009)

2.3 Data analysis technique

Data analysis technique is a step to find out the results of the research conducted. Data analysis includes all activities, classifying, analyzing, using and drawing conclusions from all data collected in action. After the data is collected, the data will be processed. The data collection carried out in the study used two techniques, namely preliminary study instruments and model development instruments and field trials. Quantitative data from the validation of material experts, media experts and respondents was then converted into qualitative data on a scale of 4 using the conversion reference of Djemari Mardapi (2007: 84) in the following table:

Table 2. Quantitative data from the validation of material experts, media experts and respondent

No.	Respondent's Score	Eligibility	Category Score
1	$X \geq Mi + 1.Sbi$	A	Very Worthy
2	$Mi + 1.Sbi > X \geq Mi$	B	Worthy
3	$Mi > X \geq Mi - 1. Sbi$	C	Not feasible
4	$X < Mi - 1. Sbi$	D	Very Inappropriate

3 Results and Discussion

3.1 Development Results

The development of a product called AIBANESIA (Indonesian Talent Identification Application) based on Android as a tool for making product media. The following is a product display that researchers have successfully developed



Fig 2. Display

The AIBANESIA display has 4 (four) menus, namely 1) Profile Menu, 2) Menu About Sport Search, 3) Implementation Instructions Menu, and 4) Talent Test Menu, as shown below

3.2 Expert Judgment Validation Results and Analysis

At this stage, validation of the product that has been developed by two experts / Expert Judgment is carried out, namely Dr. Imran Akhmad, M.Pd and Mr. Dr. Indra Kasih, M.Or. This Expert Judgment is a lecturer in Research Methodology course as well as a related expert in the field of Strangth and Conditioning (SC) as well as a lecturer in Information and Communication Technologies (ICT) course. There are 2 aspects assessed by Expert Judgment, namely the Material Aspect and the Media Aspect.

The data was obtained by providing the initial product of an Android-based soccer talent scouting application and a questionnaire assessment sheet to Expert Judgment. Expert Judgment observes the application and then provides an assessment and input on the application in writing or orally. The assessment to the expert includes the quality of the Android-based soccer talent scouting application which is seen from the visual aspect and comments or suggestions in general and conclusions.

The results of the analysis of expert judgment 1 are the total score achieved with an average score of 3.28 and an achievement rate of 82% in the "Very Eligible" category, while expert judgment 2 is the total score achieved with an average score of 3.12 and an achievement rate of 78% with the "Eligible" category.

3.3 Results and Analysis of Material and Media Expert Validation

At this stage, validate the products that have been developed, by two material experts and 1 media expert, namely Dr. Komaruddin, M.A, Sugianto, SE, and Mohamad Fathur Rohman, ST.

The validation analysis of the material expert 1 at this stage is 90% with the "Very Eligible" category, and the analysis of the translation of the material expert 2 at this stage is a total score of 94% with the Very Eligible category. While the validation analysis of media experts at this stage is 96%, an average of 3.8 with the "Very Eligible" category.

3.4 Results and Analysis of Small-Scale Trials

In this small group trial phase, 10 trainers were randomly selected proportionally based on the qualifications of trainer licenses D, C, B, and A to represent the population. The data is obtained by giving a questionnaire to the coach and an android-based soccer talent scouting application product that has revised judgment instruments, material experts and media experts. The coach will provide an assessment of the questionnaire and provide input or suggestions on the application. The evaluation given to the coach includes the quality of the android-based soccer scouting talent application which is seen from the Useful aspect and the Interesting aspect and comments or suggestions in general and conclusions.

The small group trial was carried out on February 7, 2022. Data from the small group trial The coach's assessment of the android-based soccer talent scouting application had an achievement rate of "77.67%" with the "Eligible" category.

3.5 Results and Analysis of Large-Scale Trials

In this large group trial phase, 25 trainers were randomly selected proportionally based on the qualifications of D, C, B, and A license trainers to represent the population. The data is obtained by giving a questionnaire to the coach and an android-based soccer talent scouting application product that has revised judgment instruments, material experts and media experts. The coach will provide an assessment of the questionnaire and provide input or suggestions on the application. The evaluation given to the coach includes the quality of the android-based soccer scouting talent application which is seen from the Useful aspect and the Interesting aspect and comments or suggestions in general and conclusions.

The large group trial was carried out on February 15, 2022. Data from the large group trial The coach's assessment of the android-based soccer talent scouting application had an achievement rate of "82,27%" in the "Very Eligible" category.

4 Conclusion

The product resulting from this research is the Indonesian talent identification application (AIBANESIA) which has been developed in accordance with current football needs and in accordance with input and advice from material experts and media experts, the products that have been developed have gone through several stages of manufacture including are the stages of the material and material collection process, the product manufacturing process, the material expert validation process, the media expert validation process, small-scale trials and large-scale trials.

Based on the validation process carried out by material experts who have assessed the AIBANESIA application product in terms of the Feasibility Aspect of the material included in the "Very Eligible" category for use, while in the validation process media experts who have assessed products that have been developed based on the Media Feasibility Aspect are included in the validation process. in the "Very Eligible" category. Small group and large group trials were conducted on SSB trainers in Medan City on the AIBANESIA application covering usefull aspects (useful) and interesting aspects (interesting) included in the "Very Eligible" category.

The application of soccer talent scouting with the Sport Search method has the ability to identify, distinguish the potential and talent of soccer students aged 11-14 years, so that it is effectively and efficiently used by coaches in the talent identification process.

References

- [1] Abdul Majid. (2021). PSSI Collaborates with 7 Universities, to Optimize Sport Science to Coaching Programs. (Online), (<https://www.tribunnews.com/superskor/2021/08/18/pssi-gandeng-7-perguruan-tinggi-dari-optiman-sport-science-to-program-kejuangan>, accessed on 17 September 2021).
- [2] Afri Tantri, et al. (2021). Football Learning. Medan: Perdana Publishing.

- [3] Aldi Aulia Anwar. (2020). This PSMS Legend turns out to be the first Indonesian player to have a career abroad. (Online), (<https://www.indosport.com/sepakbola/20200407/legenda-psms-ini-ternyata-player-indonesia-pertama-di-luar-negeri>), accessed on 30 September 2021).
- Aldi Aulia Anwar. (2021). Officially Become PSMS Coach, How is the fate of Ansyari Lubis with the PON team?. (Online), (<https://www.indosport.com/sepakbola/20210322/resmi-jadi-pe-trainer-psms-how-nasib-ansyari-lubis-bersama-tim-pon/isu-suharto-ad-re-tangani-tim-pon>), accessed on 19 September 2021).
- [4] Abdul Kadir. (2002). Introduction to Information Systems. Yogyakarta : Andi Offset
- Anita Rusyana Dewi and Hadwi Prihatanta. (2015). Weight and Height with Agility of UNY Women's Futsal Players. (Online), (<https://journal.uny.ac.id/index.php/medikora/article/viewFile/7933/6745>), accessed on November 1, 2021).
- [5] Abdi Satria. (2021). Nobon Kayamuddin, the culprit with the status of a PSMS legend and the Indonesian national team. (Online), (<https://www.bola.com/indonesia/read/4513175/nobon-kayamuddin-si-biang-kerok-yang-berstatus-legenda-psms-dan-timnas-indonesia>), accessed on 30 September 2021).
- [6] Abdul Rohim. (2008). Playing soccer. Semarang: CV. Various Sciences.
- Borg, W.R. & Gall, M.D. (2007). Educational research: An introduction. New York & London: Longman.
- [7] Collins, D., and R. Bailey. (2013). 'Science' and the Allure of Second-hand Strategy in Talent Identification and Development. International Journal of Sport Policy and Politics 5 (2): 183–191. doi: 10.1080/19406940.2012.656682.
- [8] Danarwinda. (2017). Indonesian Football Development Curriculum. Jakarta: The Indonesian Football Association (PSSI).
- [9] Ministry of National Education. (2002). Selection and Search for Sports Interests and Talents. Jakarta: Ministry of National Education.
- [10] Eko Supriyono. (2018). Web-Based Football Skills Test Application Development. Journal of Sports, (Online), Volume 6 Number 1, (<http://journal.uny.ac.id/index.php/jolahraga>), accessed 04 September 2021).
- [11] Fatmah. (2008). Height Prediction Model for the Elderly Javanese Ethnic Based on Knee Height, Fathom Length, and Sitting Height. Indonesian Medical Magazine 58(12):509-516
- [12] Efendi. (2020). 4 differences between software and applications that you need to know. (on line). <https://www.nesabamedia.com/beda-software-dan-application/>, accessed on 08 April 2022.
- [13] Hartono, Fajar Fani. (2012). Bus Ticket Reservation Application on Android Mobile Using Web Service (Case Study: PO. Rosalia Indah). <http://repository.library.uksw.edu/handle/123456789/2803>, accessed 19 October 2021).
- [14] Hidayatullah, F. M. and Doewes M. (1999). Sports Talent Model Sport Search Guide. Surakarta: Center for Sports Research and Development (PUSLITBANG-OR) UNS.
- [15] Hidayatullah, F. M. (2000). Sports Talent Development. Surakarta: Center for Sports Research and Development (PUSLITBANG-OR) UNS.
- [16] Hino Kertapati. (2018). Remember the Sharp Attackers of PSMS Medan in the 2000s Era? Long Disappeared, Turns Out Now He Is Anchored In The Club...(Online),

- (<https://www.striker.id/62853//memerang-pengerang-tajam-psms-medan-di-era-2000-an-ini-lama-disappeared-turns-now-he-anchored-at-the-club>, accessed 30 September 2021).
- [17] Hidayatullah, F. M. (2003). Sports Talent Guiding Techniques. Surakarta: General Studies Program for Postgraduate Sports at Sebelas Maret University.
- [18] Imam Hidayat. (1999). biomechanics. FPOK IKIP Bandung.
- Kemenpora. (2021). Menpora Amali Officially Opens Socialization of Presidential Instruction No. 3 of 2019 in Surabaya, (online), (<https://www.kemenpora.go.id/detail/608/menpora-amali-resmi-buka-socialisasi-inpres-no-3-year-2019-in-surabaya>), accessed on 5 June 2021).
- [19] Kemenpora. (2012). Sports Talent Guide. Jakarta: Pioneer Program in the Field of Sports Science and Technology, Kemenpora RI.
- [20] Larkin P, O'Connor D (2017). Talent identification and recruitment in youth soccer: Recruiter's perceptions of the key attributes for player recruitment. PLoS ONE 12(4): e0175716. <https://doi.org/10.1371/journal.pone.0175716>.
- [21] Laitano, O., Runco, J. L., & Baker, L. (2014). Hydration science and strategies in football. Sports Science Exchange. <https://doi.org/10.1111/j.1747-0080.2007.00199.x>
- [22] Luxbacher, J.A. (2011). Football steps to success. Jakarta: PT. Rosda Jaya Putra.
- [23] Mesnan, Amir S, Irwansyah S. (2019). Development of a Football Learning Log Book With a Tactical Approach. Journal of Achievement :Vol. 3 No. 6, December 2019 : 68-7. Medan : UNIMED FIK.
- [24] Muhammad Lintu Aji Prakoso. (2021). Android-Based Football Statistics Application Development For Players And Teams. Thesis. Sports Science Study Program, Faculty of Sports Science, Yogyakarta State University.
- [25] Muhammad Ali. (2014). Educational Research Methodology And Applications. Jakarta: PT Bumi Aksara.
- [26] Muhammad Lintu Aji Prakoso and Ria Lumintuarso. (2021). Analysis of the Use of Statistical Data in the Formulation of Strategies, Tactics and Evaluation of Football Matches. Proceedings of the 4th International Conference on Sports Sciences and Health (ICSSH 2020). Malang : Atlantis Press International B.V. Advances in Health Sciences Research, volume 36.
- [27] Muhammad Zuhair Zahid. (2018). Android-Based Applications for Learning: Potential and Methods of Development. Prism Journal. <https://journal.unnes.ac.id/sju/index.php/prisma/>. Semarang : Department of Mathematics, Semarang State University.
- [28] Ngadiman, N., Wahono, S. and Munasib, M. (2017). The Identification of Talents in Coastal Areas. In Proceedings of the 2nd International Conference on Sports Science, Health and Physical Education (ICSSHPE 2017) - Volume 1, pages 174-177.
- [29] Prio Hari Kristanto. (2019). Many Liga 1 coaches, this is the best starting XI for the Indonesian national team in the 90s. (Online), (<https://www.indosport.com/sepakbola/20190622/starting-xi-terbaik-timnas-indonesia-era-90-an/starting-ix-terbaik-timnas-indonesia-era-90-an>), accessed on September 30, 2021).
- [30] Rahma Dewi and Muhammad Taqwa Pakpahan. (2009). Development of Futsal Sports Dribbling Test Instruments. Journal of Achievement Vol. 2 No. 3, June 2018 : 1-6. Medan: Faculty of Sports Science, State University of Medan..
- [31] Rumini. (2011). Talent Guide. Semarang: Semarang State University.
- [32] Satyaputra, Alfa and Eva M. Aritionang. (2014). Beginning Android Programming with ADT Bundle. Jakarta: PT Elex Media Komputindo

- [33] Siswantoyo (2009). Sports talent guide. Yogyakarta: Faculty of Sports Science. UNY.
- [34] Sugiyono. (2013). Educational Research Methods Quantitative, Qualitative, and R&D Approaches. Bandung: Alfabeta.
- [35] Sugiyono. (2014). Educational Research Methods Quantitative, Qualitative and R&D Approaches. Bandung: Alfabeta.
- [36] Sugiyono. (2017). Research Methods Quantitative, Qualitative, and R&D Approaches. Bandung: Alfabeta.
- [37] Sukendro & Ihsan. (2018). Identification of Sports Talent Using the Sport Search Method at Football Extracurricular at SMP Negeri 16 Jambi City. Journal of Sports Achievement, Volume 14, Number 1, January 2018. Faculty of Sports Science, Jambi University.
- [38] Triadi, Dendy. (2013). Complete Surgery Android Features. Yogyakarta : Great Publisher. ISSN 2252-9063 Collection of Informatics Engineering Education Student Articles (KARMAPATI) Volume 5, Number 15, 2016 [11] Brown, Jeff. 2010. ZBar bar code reader. <http://zbar.sourceforge.net/index.html>, accessed 19 October 2021.
- [39] Wahyu Wibowo Eko Yulianto. (2020). Identification of soccer talent in Hizbul Wathan Yogyakarta soccer school students. Journal Of Sport Education, (Online), Volume 2 Number 2, (<http://jope.ejournal.unri.ac.id/php.index/jope>, accessed 06 September 2021).