RSport : APLIKASI REKOMENDASI PENEMPATAN KOK DENGAN METODE *DRILL* DALAM MEMBANTU LATIHAN BULU TANGKIS

SKRIPSI

Diajukan untuk Memenuhi Sebagian dari
Syarat Memperoleh Gelar Sarjana Pendidikan
Program Studi Pendidikan Ilmu Komputer

Oleh

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PROGRAM STUDI PENDIDIKAN ILMU KOMPUTER
FAKULTAS PENDIDIKAN MATEMATIKA DAN ILMU PENGETAHUAN ALAM
UNIVERSITAS PENDIDIKAN INDONESIA
2024

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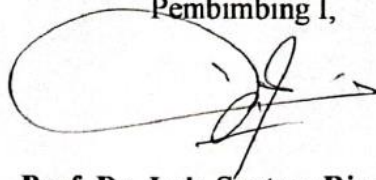
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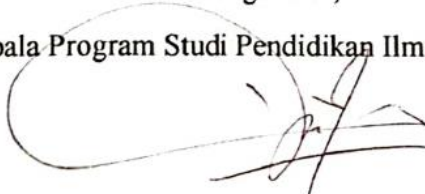NIP. 197809262008121001

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PERNYATAAN

Saya menyatakan bahwa skripsi yang berjudul "**RSport : Aplikasi Rekomendasi Penempatan Kok Dengan Metode *Drill* Dalam Membantu Latihan Bulu Tangkis**" ini sepenuhnya hasil karya saya sendiri. Tidak ada bagian di dalamnya yang merupakan plagiat dari karya orang lain dan saya tidak melakukan penjiplakan atau pengutipan dengan cara-cara yang tidak sesuai dengan etika keilmuan yang berlaku dalam masyarakat keilmuan. Atas pernyataan ini, saya siap menanggung risiko/sanksi yang dijatuhkan kepada saya apabila kemudian ditemukan adalnya pelanggaran terhadap etika keilmuan dalam karya saya ini, atau ada klaim dari pihak lain terhadap keaslian karya saya ini.

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RSport : APLIKASI REKOMENDASI PENEMPATAN KOK DENGAN METODE *DRILL* DALAM MEMBANTU LATIHAN BULU TANGKIS

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ABSTRAK

Atlet berlatih untuk meningkatkan kemampuannya dalam permainan bulu tangkis. Namun pelatih akan kerepotan jika harus mencatat dan membuat latihan secara manual. Variasi latihan permainan juga akan terbatas pada pengetahuan pelatih dan atlet. Penelitian ini bertujuan untuk mengembangkan aplikasi latihan bulu tangkis dengan rekomendasi penempatan kok menggunakan algoritma Boyer Moore dan perhitungan energi. Data yang digunakan dalam pembentukan model berupa pola penempatan kok beserta arah serangan dan jenis pukulannya. Model dibuat berdasarkan data tersebut dengan memanfaatkan algoritma Boyer Moore. Rekomendasi didasarkan pada perhitungan energi atlet dan lawan agar atlet mengeluarkan energi paling sedikit dan sebaliknya untuk lawan. Dengan 20 uji coba, aplikasi merekomendasikan hasil 75% lebih baik daripada pola serangan di video aslinya. Aplikasi diimplementasikan dalam latihan *drill* bulu tangkis. Persepsi atlet dan pelatih terhadap aplikasi dapat dikatakan cukup positif. Aplikasi RSport dapat menjadi alternatif latihan yang bermanfaat bagi atlet dan pelatih olahraga bulu tangkis. Luaran penelitian ini dapat digunakan oleh pelatih dan atlet untuk memperkaya metode latihan bulu tangkis yang digunakan.

Kata Kunci: rsport, latihan *drill*, bulu tangkis, *boyer moore,* perhitungan energi

RSport: A SHUTTLECOCK PLACEMENT RECOMMENDER APP USING DRILL METHOD TO HELP BADMINTON TRAINING

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ABSTRACT

Athletes train to enhance their skills in badminton. However, coaches would face difficulties if they had to manually record and design training sessions. The variety of training exercises would as well be limited by the knowledge of the coaches and athletes. This study aims to undertake a badminton training application for shuttlecock placement recommendations using the Boyer Moore algorithm and energy calculations. This application, named RSport, is developed using the waterfall method with data obtained from previous research. The data consists of shuttlecock placement patterns, along with attack directions and shot types. The model is built based on this data using the Boyer Moore algorithm. Recommendations are made based on the energy calculations of both the athlete and the opponent to ensure that the athlete expends the least energy while maximizing the opponent's energy expenditure. Shiny package in R programming language is used to build the web application. With 20 trials, the application recommended results that were 75% better than the attack patterns in the original videos. Athlete and coach perceptions of the application were generally positive. The RSport application can serve as a beneficial training alternative for badminton athletes and coaches. The results of this research can help coaches and athletes enhance the training methods used in badminton.

Keyword : *rsport, drill training, badminton, boyer moore, energy calculation*

KATA PENGANTAR

Puji dan syukur selalu tercurahkan atas kehadirat Allah SWT karena hanya kebesaran-Nya dan kehendak-Nya serta karunia-Nya penyusunan skripsi yang berjudul "RSport : Aplikasi Rekomendasi Penempatan Kok Dengan Metode *Drill* Untuk Membantu Latihan Bulu Tangkis" ini dapat selesai.

Penyusunan skripsi ini ditujukan untuk memenuhi dan melengkapi salah satu syarat untuk mendapatkan gelar sarjana pendidikan pada jenjang S1 pada Program Studi Pendidikan Ilmu Komputer Universitas Pendidikan Indonesia.

Penulis menyadari bahwa dalam penyusunan skripsi ini masih terdapat banyak kekurangan dan keterbatasan yang perlu disempurnakan. Oleh karena itu, penulis sangat mengharapkan saran maupun kritik yang membangun agar tidak terjadi kesalahan yang sama dikemudian hari dan dapat meningkatkan kualitas ke tahap yang lebih baik.

Bandung, Agustus 2024

Penulis

UCAPAN TERIMAKASIH

Alhamdulillah, segala puji bagi Allah SWT yang telah mengkaruniakan berkah dan kasih sayang-Nya sehingga atas izin-Nya penulis dapat menyelesaikan skripsi ini yang berjudul "RSport : Aplikasi Rekomendasi Penempatan Kok Dengan Metode *Drill* Untuk Membantu Latihan Bulu Tangkis" dengan penuh ketercapaian lainnya. Penulis menyusun skripsi ini dalam rangka memenuhi salah satu persyaratan untuk mencapai gelar sarjana (S1) pada Program Studi Pendidikan Ilmu Komputer, FPMIPA Universitas Pendidikan Indonesia.

Penulis tentunya tidak dapat menyelesaikan penelitian ini tanpa bantuan dan dorongan dari pihak-pihak yang telah membantu baik secara langsung ataupun tidak langsung. Maka dari itu pada kesempatan ini pula, penulis mengucapkan terima kasih kepada:

1. Allah SWT yang telah memberikan rahmat dan karunia-Nya sehingga penulis dapat melewati proses dan menyelesaikan skripsi dengan baik.

2. Kedua orang tua penulis yang tanpa henti-hentinya memberikan doa dan dukungan, baik itu dukungan moral, material maupun spiritual sehingga dapat memotivasi penulis dalam menyelesaikan skripsi ini.

3. Bapak Prof. Dr. Lala Septem Riza, M.T. selaku pembimbing I dan juga selaku Kepala Program Studi Pendidikan Ilmu Komputer FPMIPA Universitas Pendidikan Indonesia atas segala waktu yang dicurahkan untuk membimbing penulis demi terselesaikannya skripsi ini.

4. Ibu Dr. Rani Megasari, M.T. selaku pembimbing II yang telah memberikan saran dan arahan kepada penulis selama penulis menjalankan proses penyelesaian penelitian dan penulisan skripsi.

5. Bapak Dr. Alen Rismayadi, M.Pd yang telah memberikan arahan dalam implementasi aplikasi Rsport dalam latihan bulu tangkis.

6. Seluruh dosen Ilmu Komputer yang telah membimbing dan memberikan ilmu yang bermanfaat pada penulis selama masa kuliah dan staf administrasi Program Studi Ilmu Komputer yang telah memberikan informasi akademik selama masa perkuliahan

7. Rekan UKM Bulu Tangkis UPI yang telah membantu penelitian sebagai responden.

8. Rekan sekelas di kelas A 2020 yang telah bersama-sama menikmati indahnya masa perkuliahan.

9. Sahabat ngaw dan lunarseva yang memotivasi dalam penulisan karya ini.

10. Semua pihak yang tidak bisa disebutkan satu persatu yang telah memberi arti dan dukungan pada penulis.

Tidak ada kata-kata yang dapat menggambarkan rasa terima kasih penulis atas semua dukungan yang telah diberikan semoga atas kebaikan dan keikhlasan kepada penulis dalam membantu menyelesaikan skripsi dapat di balas oleh Allah SWT dan senantiasa diberikan kesehatan oleh Allah SWT.

Bandung, Agustus 2024

Muhammad Rafi Valliansyah

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DAFTAR GAMBAR

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