Complexity Computer Simulation in the Study of the Overall Playing Method of Campus Football

Zhao Dai

1School of Physical Education, Sichuan Normal University, Chengdu, Sichuan 610101, China
2Western Campus Football Development Research Center, Sichuan Normal University, Chengdu, Sichuan 610101, China

Correspondence should be addressed to Zhao Dai; 20070099@sicnu.edu.cn

1. Introduction

Particularly after the Second World War, the relatively stable politics and economy around the world have provided a good environment for football. The large flow of football talents around the world has made the gap between the levels of each team smaller and smaller. The confrontation is getting more and more fierce, the speed is getting faster and faster, especially the acceleration of the offensive and defensive conversion speed, which is an important direction for modern football skills and tactics, scoring is the focus of offense and defense and the purpose of the team’s offense, and also a ball comprehensive manifestation of the team’s offensive ability has become one of the issues to be solved by the football offensive in the world.

Shooting as the focus of offense and defense will always become a worldwide problem. Goal scoring has also promoted changes in football match formations. Skills, tactics, and training methods have always been developed and changed around goal scoring. The tendency is to focus more and more on defense. For this reason, on the football field, the football teams compete fiercely around shooting goals and preventing shooting goals. This is also the most important and sensitive content in modern football. Therefore, football experts have always regarded the shooting and scoring conditions of the highest level of football matches as an important window for insight and analysis of the characteristics and trends of world football.

As the key of virtual reality, complexity computer simulation has been widely used in the field of sports. Ahmed G
demonstrated a Ku-band patch antenna with a larger bandwidth. He used the skills of Defective Ground Structure (DGS) and Defect Driven Patch to expand his BW. He proposed an impedance bandwidth of 8 GHz. It can be easily installed in related convenient electronic devices. In this case, computer software called complexity computer simulation will be used for investigation and analysis. Although the simulation design in his research shows very good gain and efficiency, the research lacks novelty [1]. Yili S believes that this revolutionary has had a huge impact on traditional teaching ideas and teaching methods and has brought huge opportunities for sports. In view of the limitations of the traditional physical education model, combined with the theory of stimulus response, he analyzed simulation in the field of physical education model, combined with the theory of stimulus response, he analyzed simulation in the field of physical education and innovated the physical education model. It provides a reference for the better of sports. His research-assisted teaching can help students make better use of simulation to strengthen physical learning theory and physical practice but lacks a teaching model that can provide an effective reference for the innovation of physical education [2]. In interior design, the computer’s drawing function can greatly improve the design efficiency, with the advantages of accuracy, repeatability, and modification. Sai L analyzed the architectural design and interior decoration based on virtual reality and computer simulation. In his research, the computer’s drawing function is an important tool for the computer-aided design of interior designers, but the research process lacks data [3]. Kajiwara T believes that composite is very important for the production of high-functional or high-quality materials and products. He has researched composite technologies in polymer and glass processing. For the multilayer process of polymer films, he has developed a multilayer flow simulation for viscoelastic fluids and discussed the instability and encapsulation phenomena at the interface from case studies considering mold configuration, rheological properties, and so on. Although the multilayer film phenomenon in his research can also be understood from simulation, the research process still has no data induction [4].

This study uses complex computer simulation to design the background of the simulated football field, divide the area according to the size ratio of the actual football field, and then use drawing software to draw the football and player controls. The construction of the knowledge base of this paper is mainly combined with the functional modules of rapid formation and response tactics. In the fast formation function, the required formation can be quickly given through football experience and knowledge rules. In the applied tactics function, for the responsibilities of forwards, midfielders, defenders, and other roles, the tactics implemented are given, including partially coordinated offensive and defensive tactics, personal offensive and defensive tactics, and set-ball tactics.

2. Campus Football

2.1. Complexity Computer Simulation. With the rapid of virtual simulation, complexity computer simulation has been widely used in all walks of life [5, 6]. Complexity computer simulation involves computer graphics, multimedia, artificial intelligence, human-machine interface, and other fields. By establishing a simulation environment, using information that the human body can feel, such as three-dimensional images and sounds, constructs a virtual world that does not exist [7].

$$FR(q) = \frac{M_z(q)}{Q} \ast W.$$  (1)

The frame rate of change is a physical quantity that describes the speed of frame movement [8, 9].

$$T(k) = \frac{1}{p \times q \times |\text{max}| \sum_{i=1}^{Q} |E(m,n)|}.$$  (2)

Here, $T(k)$ represents the frame change rate of the Kth image frame [10]. Therefore, try not to use a single peak as the main color feature of the venue [1, 11].

$$\text{mean} = \frac{\sum_{i=\text{min}}^{\text{max}} \text{hist}(i) \times i}{\sum_{i=\text{min}}^{\text{max}} \text{hist}(i)}.$$  (3)

Here, hist(i) represents color statistics [12].

$$M(c) = \exp\left(\frac{1 - N_c}{\alpha}\right).$$  (4)

Here, $M(c)$ is the lens conversion rate and $c$ is the lens index value. The specific definition of frame motion intensity is as follows:

$$M(c) = \frac{1}{n_k} \times \sum_{j=1}^{N_e} W_c(j),$$  (5)

where $M(c)$ represents the lens c movement intensity of the first lens [13, 14].

$$Y_{k'k-1} = AY_{k'k-1} + BU_k.$$  (6)

Calculate the optimal estimate from the observed value $Y_k$ to modify the predicted value [15]:

$$Y_{k'k-1} = Y_{k'k-1} + K_x(Z_{k} - HY_{k'k-1}).$$  (7)

Here, $H$ represents the parameters of the observation [16, 17].

$$Q(t + 1) = \sum_{j=1}^{n} W_{ij}(t + 1)X_j(t) + \theta(t - 1).$$  (8)

Here, $W_{ij}$ is the weight coefficient of neuron connection [4].

2.2. Overall Play of Campus Football. The Women’s Football World Cup is a big stage for women’s football. Through this stage, each team has shown its style to the world and also invisibly interprets the trend of women’s football for us [18, 19]. Japanese women’s football started late, starting in the late 1990s, but it has been able to leap to the forefront of the world and even win the world championship in just over ten years of hard work, and its rise has reached an
astonishing speed. The strong teams of women’s football in the world today are undoubtedly not known for their body and strength, and the Japanese women’s football is restricted by the congenital conditions of not outstanding physical conditions, with its outstanding foot and rich and changeable tactical cooperation, and became the new genre of the world women’s football. The rise of Women’s football has laid a certain foundation [20]. Controlling the ball in the midfield requires all players on the field to actively pass individuals and teams in all positions. Based on high accuracy, high density, and low turnover, the ball is controlled by the midfield and the ball. Stay in the opponent’s halftime for more time, give the opponent a strong sense of oppression, and gradually move forward for the purpose of scoring the final shot or forming a shot to gain control and initiative of the game [21, 22]. The division of the football field is shown in Figure 1.

The motion attitude determination optimization algorithm has faster convergence speed and better optimization effect, which is very suitable for large-scale data or large-scale model problems [23].

\[ N_t = \beta_t m_{t-1} + (1 - \beta_t) g_t, \quad (9) \]

\[ V_t = \alpha_t v_{t-1} + (1 - \alpha_t) g_t^2, \quad (10) \]

\[ \eta_{t+1} = \theta - \frac{\mu}{\sqrt{v + \varepsilon}} m. \quad (11) \]

Here, \( m_t \) and \( v_t \) calculate the first and second moments of the gradient [24, 25].

\[ M_n = \left(1 - \exp \sum_i [-k_{\text{max}} t_i \exp \left(\frac{-E}{RT}\right)]\right). \quad (12) \]

Among them, \( R \) is the input data.

\[ P_t = \left[M_{\text{Node}} \times C_{\text{Node}}^{\text{AC}} + N_{\text{AC}} \times \left(1 - \frac{C_{\text{AC}}}{C_{\text{Node}}}\right)\right]^Q. \quad (13) \]

Here, \( C_{\text{AC}} \) represents the resource service capability provided [26].

\[ T_t = \frac{T_{t-1}^{(1)} + T_{t-2}^{(1)} + \cdots + T_{t-N+1}^{(1)}}{N} = T_{t-1}^{(2)} + \frac{T_{t}^{(1)} - T_{t-N}^{(1)}}{N}. \quad (14) \]

3. Overall Play Experiment of Campus Football

3.1. Operation of the Football Tactics Simulation of “Integral Play”. The “holistic play” football tactics simulation developed in this paper runs on the main controller installed with windows operating, it is connected to the server, the server is equipped with a database and knowledge base, the main controller and keyboard input equipment, and mouse input equipment, it connects an external video frequency divider and separates one to connect to the main display terminal, such as projection equipment and LCD screen, and other interfaces can be connected to display devices used for touch operation, such as LCD TVs and tablet computers. The main controller also needs to be connected to a multitouch device, the multitouch device is placed on the display device for touch operation, and then the multitouch of the “holistic play” football tactics simulation can be realized.

3.2. Computer Simulation Module. Tactical design and rehearsal module: by moving the football and player flash movie editing components, the football tactical formation can be designed. By drawing lines, the motion trajectory of football and athletes can be recorded in real time. When entering the line color selection module, users can select the color according to their needs, select the color, and then move the football and athlete flash movie clip components, and their motion trajectory will be recorded in real time. If you want to return to the initial state again, you need to select the current color again; then, the software is in a state where no color has been selected. At this time, moving the football and the player flash movie clip components will not leave a motion track, so that it alternately can achieve the right design of football tactics.

Quick formation module: this functional module establishes a related link with the knowledge base. When you click the quick formation button, a list will pop up. You can also enter formation requirements by searching, and the knowledge base will give the corresponding formation through reasoning. After the user selects one of the formations, he will call the XML document of the relevant formation and update the coordinates of the components on the field according to the coordinate information of the flash movie clip component in the document, thereby forming a quick call of the formation. This module can also import new formations through the import formation function.

Export tactical map module: after the tactical design process, you can save the currently formed football tactics in image format. After clicking the export tactics button, a dialog box will pop up. Name the current tactical map and save it as a jpg image format. Click the OK button. Later, the picture will be saved to the designated location according to the user’s needs, so that the user can browse or print again.

Tactical management module: it can manage and maintain formations, tactical diagrams, tactics, teaching courseware, tactical text data, and video data. The tactics can be created or imported, edited and modified, classified and
displayed, organized and stored, retrieved and inquired, dispatched, and managed.

Recording and playback module: in traditional video recording, the entire screen or part of the content is usually recorded and saved as a corresponding video file. The video files recorded in this way have defects such as large volume and difficult to modify. This paper only records the interactive information generated during football tactics design and rehearsal and writes it into a formatted XML file. During playback, it will load the corresponding XML file, analyze the loaded data, and automatically control the movement of football and players on the field to form a tactical playback. During playback, the user first needs to open, then turn on the playback function, and select the file to be played back. They will interact with the database according to the user's selection, download the corresponding XML file from the server, read the information in the XML file, and parse it. The information is taken. Based on this information, they will automatically trigger corresponding events to control the movement of football and players and reproduce the user's football tactical design and rehearsal process.

Responding tactics module: based on digital tactical representation, simple tactical analysis is carried out for unexpected situations in training or competition and the generation of response tactics based on experience data, which can provide coaches with a tactical choice in emergencies on the spot. Since in flash, each player is instantiated with a MovieClip (movie clip), the MovieClip object has a timeline, and when no special settings are made, it will be played at a speed of 24 frames per second. Therefore, you can add an ENTER_FRAME event for each object, that is, a play event, which is dispatched when the playhead enters a new frame.

3.3. Football Match Venue. Complexity computer simulation is used to design the background of the simulated football field, and the area is divided according to the size ratio of the actual football field. Then, use drawing software to draw the football and player controls, generate a picture in png format, then import the picture into the flash control library to generate flash components, define it as a movie clip type, and then instantiate each component for convenience write code for it. In the production process of the components, it is necessary to perform the operation of breaking up the components, that is, to split the components into basic vector elements. This can not only achieve software slimming and reduce the size of the but also make the run smooth, because of the computational efficiency of vector components. The calculation efficiency is faster than the bitmap component.

3.4. Overall Design of Knowledge Base. The construction of the knowledge base of this paper is mainly combined with the functional modules of rapid formation and response tactics. In the fast formation function, the required formation can be quickly given through football experience and knowledge rules. In the applied tactics function, for the responsibilities of forwards, midfielders, defenders, and other roles, the tactics implemented are given, including partially coordinated offensive and defensive tactics, personal offensive and defensive tactics, and set-ball tactics.

When users apply the fast formation and response tactics functions of the football tactical rehearsal, they will provide users with an interface to the knowledge base and interact with the knowledge base. The construction of the knowledge base is first to acquire knowledge through knowledge sources and then to express knowledge according to corresponding rules. When a user makes a request, the knowledge base will perform fuzzy inferences based on the knowledge rules, find the corresponding knowledge rules, then trigger the rules, feed back to the interface, and feed back to the user. This is the overall design of the knowledge base in this paper.

3.5. Recording and Playback Functions

3.5.1. XML Representation of Player and Football Trajectory. XML (Extensible Markup Language) is a structured markup language that can be used to mark data and define data types. The "holistic play" football tactics studied in this paper use XML files as recording and playback data, which not only greatly reduce the amount of file data but also make the operation of XML files intuitive and simple. The XML representation of players and football trajectories needs to be stored in a self-defined storage format. When the "holistic play" football tactics simulation is launched, the background information of football, players and venues, and other flash movie clip components has been determined. We need to record the location information of the flash movie clip component that has changed.

3.5.2. Realize the Simulation Recording of Players and Football Trajectory by Writing XML. XML is also the core adopted. This can not only realize the recording and playback of players and football trajectories but also be applied to the function of rapid formation. In the "holistic play" football tactics simulation, users mainly interact through multitouch. Multitouch is mainly used to control the movement of football and players and to change the position information of components, so the recording process can be transformed into a record of the positions and events of football and players. Users use multitouch devices to operate football and player models, and these operations will inevitably cause related events to be triggered. The recording process should study how to effectively monitor multitouch events. Users can also modify the places that are not satisfied with the tactics. This paper studies how to use the combination of ActionScript 3.0 and Java to realize the recording function. The ActionScript 3.0 client is responsible for recording information such as multitouch events and keyboard events input by the user and the frame number generated by the program running and then sends the recorded information to the Java server through the socket. The Java server is responsible for receiving the recorded information and writing the data in the XML file. The server
is written in Java, and the server will listen to port 5000 by default, acting as a digital shadow puppet.

After the client of the performance sends the data, the Java server will reparse the sent string. If it is a disconnect command, it disconnects and ends the service to the client. If the client sends recorded data, it will determine whether the file exists, and if it does not exist, create an XML file first. If it exists, use JDOM-related API to write the data in the XML file.

In this way, the XML standardized storage format of the digital representation of football tactics is used in football tactics design and rehearsal recording and playback functions, which makes the design of football tactics more convenient and the rehearsal process of tactics is more intuitive, which is convenient for players to understand the tactics and at the same time. The tactics simulation is shown in Figure 2.

3.6. Improve Student Tactics. The coach uses the "holistic play" football tactics simulation to visually demonstrate the movement route, guide the players in each position to perceive the game scene by observing the movement route, analyze and judge the tactical coordination of their respective positions, and select the appropriate time to make action choices. When consolidating tactical thoughts, some virtual reality scenes can also be used to guide players to make analysis and judgments, so as to cultivate the ability of analysis and judgment of players.

4. Results and Discussion

4.1. "Integral Play" Tactics Simulation Analysis. The coefficients between structural variables indicate the degree to which changes in one variable cause changes in other variables. There are three latent variables in the structural equation model that features the use of offensive tactics of the free kick and corner kick in the frontcourt, which are the organization launch factor, the cross move factor, and the final shot factor. In the offensive structure model of frontcourt free kick and corner kick, the normalized path coefficients of the organization launch factor and the cross run factor are 0.134, and the normalized path coefficients of the cross run factor and the final shot factor are 0.56. This shows that, in the offensive structure model of free kicks and corner kicks in the frontcourt, the organization launch factor has little relationship with the passing running factor, while the passing running factor has a positive correlation with the final finishing shot factor. It can be seen from Table 1 that only the number of organizations has a direct effect on the passing factor, but the influence is not significant. Combining the actual situation of the game, the computer simulation of the team's number of offensives in the front corner and free kick attack is concentrated in the number of attackers in the number of 1 to 2 people, accounting for 51.5% and 32.3%, respectively, and the number of shooting points is concentrated in 6 to 7. People accounted for 41.4% and 36.4%, respectively, indicating that the number of organizers is relatively stable when attacking corner kicks and free kicks, but the distribution of the number of organizers has no significant effect on the final passing situation and the form of running. In the front corner and free kick attack, the passing factor has the greatest influence on the final shot factor, while the influence of the number of players on the final shot is an indirect effect and has a small impact, indicating that the front corner and free kick are effective when attacking. Crossing and reasonable movement are the most critical factors for effective shooting. The variables in the offensive tactics of the free kick and corner kick are shown in Table 1.

The relationship between the ending shot factor and its observed variables is shown in Table 2. The path coefficients of the shooting position and the technical element of the shooting are 0.839 and 0.728, respectively, which are significantly higher than the path coefficient of the shooting area. This shows that the positions and methods used in the front corner kick and free kick attack are more observational than the area when shooting. It can be seen from Table 2 that the front corner, midpoint, back point, and peripheral shots of the front corner and free kick attack were 25, 29, 26, and 12 shots, respectively, which did not have significant observation characteristics and the shooting position. The sum action element is mainly reflected in the direct shot from the head. It shows that direct headshots in front corner kicks and free kicks are the most effective indicator of the team's ability to finish shooting. The rapid layout of the football drill process is shown in Figure 3.

The relationship between the passing factor and its observed variables is shown in Table 3. The analysis of the passing factor and its observed variables is shown in Figure 4. The precision of the passing and running position and the path coefficient of the passing running factor are 0.606 and 0.591, respectively, which are slightly higher than the path coefficient of the height of the pass and the confrontation intensity, indicating that the pass is in the front corner and free kick attack. In the running phase, the completion of the cross and the fine running is the prerequisites for creating shot opportunities.

The one-foot pass game is shown in Figure 5. One kick pass is the fastest method of passing the ball. Its advantage is that players should always pay attention to the situation on the field and make a reasonable decision in advance before passing the ball. Fast can always easily get more space and the best angle, so that there will be more time to observe the situation on the field; this is a virtuous circle. Therefore, if you pass a series of fast passes, the changes in the offensive point will increase. The faster the ball moves, the more the

![Figure 2: Tactical simulation (http://alturl.com/5emf2).](image-url)
Defender’s reaction will not keep up with the rhythm, so you can create more space for the offense. The one-foot-passing technique is being valued by teams from all over the world, and teams from all countries are also using it in the game as much as possible, in order to win more time and space advantages in the game.

Table 1: Variables in the offensive tactics of free kicks and corner kicks.

| Effect           | Organization population factor | Crossing factor |
|------------------|--------------------------------|-----------------|
|                  | Total effect | Direct effect | Indirect effect | Total effect | Direct effect |
| Crossing factor  | 0.134        | 0.134         | —              | —           | —            |
| Finishing factor | 0.075        | —             | 0.075          | 0.560       | 0.560         |

Table 2: The relationship between the final shot factor and its observed variables.

| Area            | Shooting area | Frequency | Percentage (%) | Location | Shot position | Frequency | Percentage (%) |
|-----------------|---------------|-----------|----------------|----------|---------------|-----------|----------------|
| Before the point|               | 25        | 25.3           | Head     | 75            | 75.8      |
| Midpoint        |               | 29        | 29.3           | Feet     | 21            | 21.2      |
| Back point      |               | 26        | 26.3           | Others   | 3             | 3.0       |

Table 3: The relationship between the passing factors and their observed variables.

| Number of people | Crossing factor | Number of shots |
|------------------|-----------------|-----------------|
| Frequency        | Percentage (%)  | Frequency       | Percentage (%) |
| 1                | 51              | 0               | 0              |
| 2                | 32              | 1               | 1              |
| 3                | 11              | 1               | 1              |
| 4                | 4               | 1               | 1              |
| 5                | 1               | 1               | 1              |
| 6                | 0               | 41              | 41.4           |
| 7                | 0               | 36              | 36.4           |
| 8                | 0               | 3               | 3              |
| 9                | 0               | 1               | 1              |

Figure 3: Fast layout during football drill (http://alturl.com/ymozb).

Figure 4: Analysis of the passing factors and their observed variables.

Figure 5: One-foot pass play (http://alturl.com/pjng6).
with a good score has a long time to control the ball, and the
distance to control the ball is also long. In a football game,
the ability to control the game is reflected by the active
interspersed running of the team’s players and repeated
accurate passes without interruption. The number of 4–8
consecutive passes of team A is 35 times, and the number of
team B is 21 times. Team A occupies an absolute advantage.
Team A’s 9–16 consecutive passes are 14 times, while team B
has only one pass. The gap between the two teams is even
greater. From the data in the above table, it can be easily
concluded that the players of team A have a very tacit
understanding, they are very skilled in their kicks, and their
footwork is more reasonable. The tactics are more delicate.
On the other hand, team B is mainly based on individuals.
The ball-handling counterattack is the main breakthrough,
which is more monotonous than team A.

Table 5 shows the statistical comparison between team A
and team C. Team A has 47 consecutive passes in 4–10 times,
while team C has 25 consecutive passes in 4–10 times. The
gap between the two teams is still not small. The number of
consecutive passes of team A from 11–21 is 17 times, while
the most consecutive pass of team B is only 13 passes, and the
number of consecutive passes is only 4 times in double digits.
It shows that the pressure of team A on their opponents is
too great, and the sense of oppression is too strong. Team C
cannot organize its own offense at all and can only shoot
blindly.

The one-time pass data comparison between team A and
team B is shown in Figure 6 (the upper data in the figure are
team A, the lower data are team B, and the data in pa-
rentheses are their respective turnovers). The scoring data of
team A and team B are shown in Table 6. From the com-
parison of the one-foot pass data corresponding to this
game, it can be observed. The data show that, in each area of
the defender, the number of one-foot passes of team A in the
middle of the backcourt is the same as the number of one-

### Table 4: Comparison of game statistics between team A and team B.

|        | Team A |            | Team B |            |
|--------|--------|------------|--------|------------|
| 4 or more consecutive passes | Grand total | 4 or more consecutive passes | Grand total |
| 4      | 17     | 4          | 8      |
| 5      | 14     | 5          | 5      |
| 7      | 5      | 6          | 3      |
| 8      | 6      | 7          | 5      |
| 10     | 5      | 8          | 2      |
| 11     | 3      | 9          | 2      |

### Table 5: Comparison of game statistics between team A and team C.

|        | Team A |            | Team C |            |
|--------|--------|------------|--------|------------|
| 4 or more consecutive passes | Grand total | 4 or more consecutive passes | Grand total |
| 4      | 6      | 5          | 6      |
| 5      | 7      | 7          | 5      |
| 6      | 4      | 8          | 4      |
| 10     | 4      | 9          | 3      |
| 11     | 5      | 10         | 2      |
| 12     | 4      | 12         | 6      |

### Table 6: Scores of team A and team B.

| Team name | Shot | Shoot right | Shoot right | Goal |
|-----------|------|-------------|-------------|------|
| Team A    | 14   | 4           | 29%         | 2    |
| Team A    | 17   | 8           | 47%         | 3    |
| Team A    | 9    | 5           | 44%         | 1    |
| Team A    | 14   | 6           | 42%         | 0    |
| Team A    | 14   | 7           | 50%         | 4    |
| Team A    | 15   | 7           | 47%         | 2    |
| Team B    | 27   | 7           | 25%         | 2    |

Figure 6: One-time pass data comparison between team A and
team B.
and turnovers of the two teams, it can be seen that team A has a clear advantage in the midfield, which shows that team A has a very good control over the situation and rhythm of the midfield. Team A uses fast passing and then uses the pass to constantly change the direction of the team’s offense, so that team B is constantly mobilized to find breakthrough points for the opponent’s defense. In the frontcourt, the number of passes of team A was 8 times and the number of turnovers was 3 times, while the number of turnovers of team B was 0. This shows that, in terms of offense, team A’s method of organizing offense is very strict and is constantly changing. Find the best time to attack in his passing. The B team’s offensive rhythm is slow, it is based on personal ability, and there is almost no threat caused by passing.

5. Conclusion

This research mainly discusses complexity computer simulation in the study of the overall play of campus football. Complexity computer simulation is used to design the background of the simulated football field, and the area is divided according to the size ratio of the actual football field. Then, it uses drawing software to draw the football and player controls. The construction of the knowledge base of this paper is mainly combined with the functional modules of rapid formation and response tactics. In the fast formation function, the required formation can be quickly given through football experience and knowledge rules. In the applied tactics function, for the responsibilities of forwards, midfielders, defenders, and other roles, the tactics implemented are given, including partially coordinated offensive and defensive tactics, personal offensive and defensive tactics, and set-ball tactics. The “holistic play” football tactics studied in this paper use XML files as recording and playback data, which not only greatly reduce the amount of file data but also make the operation of XML files intuitive and simple. XML can not only realize the recording and playback of player and football track but also be used in the function of rapid formation. The coach uses the “holistic play” football tactics simulation to demonstrate the movement route through the image, guide the players in each position to perceive the game scene by observing the movement route, and analyze and judge the tactical coordination of their respective positions. This research helps to provide guidance on the overall playing tactics of football.

Data Availability

No data were used to support this study.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

References

[1] L. Sai and H. Yufei, "Study on the architecture design and interior decoration based on VR technology and computer simulation platform," Paper Asia, vol. 35, no. 2, pp. 54–57, 2019.
[2] S. Yili, "Research on the application of computer simulation technology in the field of physical education," Agro Food Industry Hi Tech, vol. 28, no. 1, pp. 1617–1620, 2017.
[3] G. Ahmed, M. I. Babar, S. Ali, and F. Ali, "A wideband and efficient patch antenna with two different feeding mechanisms for Ku/K bands applications," Mehran University Research Journal of Engineering and Technology, vol. 39, no. 3, pp. 625–634, 2020.
[4] T. Kajiwara, "A study on composite technology in processing of polymers and glasses," Nihon Reoroji Gakkaishi, vol. 43, no. 5, pp. 119–124, 2016.
[5] M. Resch and A. Kaminski, "The epistemic importance of technology in computer simulation and machine learning," Minds and Machines, vol. 29, no. 1, pp. 9–17, 2019.
[6] M. J. Hossain, M. R. I. Faruque, S. S. Islam, and M. T. Islam, "Subwavelength operating metamaterial for multiband applications," Microwave and Optical Technology Letters, vol. 58, no. 12, pp. 3004–3008, 2016.
[7] T. Sui, X. Liu, D. Lu, C. Shao, and F. Cheng, "Research on the construction of teaching case library of the computer simulation technology," Multimedia Tools and Applications, vol. 78, no. 1, pp. 1183–1199, 2019.
[8] Y. Li, "Shrinkage analysis of computer simulation technology in different expansion agents," Revista de la Facultad de Ingeniería, vol. 32, no. 16, pp. 586–593, 2017.
[9] X. Yin and J. Wang, "Application of computer simulation technology in intraditional batik pattern design," Wool Textile Journal, vol. 45, no. 9, pp. 56–59, 2017.
[10] D. Zhang, "The application of computer simulation technology in the field of physical education (PE)," Agro Food Industry Hi Tech, vol. 28, no. 1, pp. 2818–2820, 2017.
[11] W. Kaixuan and G. Aini, "Analysis of jewelry design based on computer graphics simulation technology," International Journal of Hybrid Information Technology, vol. 9, no. 11, pp. 425–436, 2016.
[12] A. R. Hanza and A. M. J. Al-Hindawi, "The effecting of human body on slotted monopole antenna in wearable communications," Journal of Engineering, vol. 27, no. 2, pp. 27–43, 2021.
[13] L. Yang, W. Wang, M. Wang, H. Zhang, and M. Hou, "Structural dynamics of cornd threshing drum based on computer simulation technology," Wireless Personal Communications, vol. 102, no. 2, pp. 701–711, 2018.
[14] M. Reisi, D. Mostofinejad, A. A. Ramezanianpour et al., "Computer simulation-based method to predict packing density of aggregates mixture," Advanced Powder Technology, vol. 29, no. 2, pp. 386–398, 2018.
[15] Z. Wang, "Evaluation of phenomena in cold forging by computer simulation," Journal of the Japan Society for Technology of Plasticity, vol. 58, no. 681, pp. 898–902, 2017.
[16] J.-Y. Jeon, Y.-J. Kim, and J.-S. Kim, "Computational simulation of cold work effect on PWSCC growth in Alloy 600TT steam generator," Journal of Mechanical Science and Technology, vol. 30, no. 2, pp. 689–696, 2016.
[17] S. M. Uzoma and T. A. Briggs, "Computer simulation of the heat load scrutiny for best use of cupula furnace," International Journal of Engineering Trends and Technology, vol. 67, no. 10, pp. 147–152, 2019.
[18] T. Skrzypczak, E. Węgrzyn-Skrzypczak, and L. Sowa, "Computer simulation of the solidification process including air gap formation," Archives of Foundry Engineering, vol. 17, no. 4, pp. 147–150, 2017.
[19] A. A. Shipel’Nikov, A. N. Rogotovskii, N. A. Bobyleva et al., "Current problems and perspectives OF computer simulation
OF continuous steel casting,” Izvestiya Vysshikh Uchebnykh Zavedenij. Chernaya Metallurgiya, vol. 62, no. 5, pp. 374–380, 2019.

[20] L. Frida and R. Castaón, “Importance and benefits of physiotherapeutic intervention in American football players,” Revista medica del Instituto Mexicano del Seguro Social, vol. 57, no. 4, pp. 241–246, 2019.

[21] Y. Wang, A. Bermukhambetova, J.-H. Wang, M. Donner, J.-F. Lv, and Q.-R. Gao, “Modelling of the whole process of a university campus CHP power plant and dynamic performance study,” International Journal of Automation and Computing, vol. 13, no. 1, pp. 53–63, 2016.

[22] M. Roderick and J. Schumacker, “The whole week comes down to the team sheet: a footballer’s view of insecure work,” Work, Employment and Society, vol. 31, no. 1, pp. 166–174, 2017.

[23] A. Dujaka and S. Bybly, “The free kick kinematics of elite football players,” International Journal of Sports Science and Physical Education, vol. 4, no. 2, pp. 18–27, 2019.

[24] S. Bullough and J. Jordan, “Youth academy player development in English football,” Sport, Business and Management: An International Journal, vol. 7, no. 4, pp. 375–392, 2017.

[25] C. S. Seifried and P. Tutka, “Southern methodist university football and the stadia: moving toward modernization,” Sport History Review, vol. 47, no. 2, pp. 172–192, 2016.

[26] A. Rudd and D. Ridpath, “Education versus athletics: what will division I football and basketball players choose?” Journal of Amateur Sport, vol. 5, no. 1, pp. 76–95, 2019.