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IMPROVING TACTICAL COORDINATION IN DOTA 2 ESPORTS THROUGH RAPID IN-GAME COMMUNICATION

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ABOUT ARTICLE

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Abstract: Effective tactical coordination in team-based esports depends largely on the speed and clarity of communication among players. In Dota 2, where the game environment changes rapidly, delayed communication may negatively affect players' ability to coordinate attacks, defensive actions, and other collective tactical decisions. The purpose of this study is to examine the possibilities of improving tactical coordination in Dota 2 through rapid in-game communication.

The proposed system is intended to reduce the time required for communicating tactical information and facilitate faster coordination of collective actions. The use of predefined commands assigned to specific keys may support players in maintaining their attention on the game environment while simultaneously exchanging essential tactical information with teammates. The findings highlight the potential importance of optimizing communication tools as a component of tactical coordination in Dota 2 esports.

Introduction. The rapid development of digital technologies has contributed to the expansion of esports as a competitive activity that requires a combination of technical skills, tactical thinking, decision-making, and coordinated team interaction. Team-based esports disciplines are characterized by a dynamic environment in which players must continuously

analyze changing situations, evaluate available information, and make decisions within a limited period of time. Dota 2 is a team-based multiplayer game in which the effectiveness of collective actions depends not only on the individual technical abilities of players but also on their capacity to coordinate their actions with teammates. During competitive gameplay, players are required to exchange information about opponents' movements, tactical intentions, changes in the game situation, and planned collective actions. Therefore, communication represents an important component of team interaction.

Previous studies of Dota 2 and esports have also emphasized the importance of communication and coordination in team performance. Research examining Dota 2 teams has demonstrated that team interaction and coordination are complex processes involving both collective and individual actions. The high dynamics of competitive gameplay create specific requirements for the speed of information exchange. During the game, players may need to communicate tactical instructions related to attacking, defensive actions, changes in positioning, or other collective decisions. In such situations, delayed or unclear communication may reduce the effectiveness of team coordination.

The development of effective communication mechanisms may therefore contribute to improving the coordination of collective actions in team-based esports. In Dota 2, rapid communication can be particularly important when players need to coordinate their movements, initiate attacks, change tactical positions, or respond to unexpected actions by opponents. Based on these considerations, the present study focuses on the possibilities of improving tactical coordination in Dota 2 through the optimization of rapid in-game communication. The study examines a system in which frequently used tactical commands are assigned to individual keyboard keys in order to simplify and accelerate the process of exchanging tactical information among team members.

In our country, extensive efforts are being undertaken to systematically organize activities aimed at developing interest in Cyber sports. Consistent measures are being implemented to "create an ecosystem for the safe development and popularization of Cyber sports, identify, select, and screen talented young people through the systematic organization of competitions and tournaments, and organize projects carried out in cooperation with relevant organizations to guide them towards professional Cyber sports" [4].

METHODOLOGY.

In particular, the organization of scientific research aimed at improving the qualifications of specialists in the field and directing them towards scientific and creative thinking is contributing to the formation of a new generation of qualified professionals in the

field [3]. Because Cyber sports are currently one of the rapidly developing and increasingly popular fields, with the integration of various areas into it continuing to expand. In particular, the increasing integration in our country and the emergence of various infectious diseases are increasing the population's inclination and interest in regularly engaging in Cyber sports. This process is directing efforts towards improving the training of specialists in the field of Cyber sports within modern standards and making decisions through a scientific approach to each process [5]. At the same time, the growing demand for the field is also accelerating the introduction of innovative technologies into other areas. The emergence of such developments demonstrates the significant role of Cyber sports in providing a visual worldview, developing perception, and enabling rapid decision-making, while also shaping attitudes towards computer games. At the same time, it contributes to the conscious and continuous engagement in Cyber sports and to the development of a value-based approach to physical education and sports. The issues of developing the professional knowledge, skills, and competencies necessary for players in their pedagogical professional activities are currently considered among the most pressing issues.

RESEARCH OBJECTIVE. The objective of the study is to determine the effectiveness of using a specially designed keyboard to improve tactical training in Dota 2, one of the Cyber sports disciplines.

RESEARCH OBJECTIVES. To study and analyze relevant local and foreign literature.

1. To develop a specialized keyboard aimed at improving tactical training in Cyber sports games.
2. To implement the specially designed keyboard in practice and determine its effectiveness.

RESULTS and DISCUSSION.

When the game becomes highly dynamic and intense, players need to think and act at lightning speed. For example, when performing actions such as attacking, switching to defense, launching a counterattack, and similar maneuvers, it is very important for the team captain or players to communicate to the team what specific action needs to be performed. This is mainly done through voice chat or text chat. In voice chat, whatever one of the players says can be heard by all team members; however, when all players are primarily focused on the events taking place on the screen, there is a high possibility that not all players will notice the voice message. In turn, this can lead to various misunderstandings and, if necessary, conflicts among players at a time when quick action is required. Text chat also has its own advantages and disadvantages in this regard. Its advantage is that information written by one of the players

appears in the center of the screen for all team members, making it very unlikely to go unnoticed. Its disadvantage is that conveying the necessary information to team members by typing it on the keyboard requires a certain amount of time, depending on the number of characters in the message. Another disadvantage is that when an event occurs and one of the players is typing a message in order to perform an appropriate response, there is a high possibility that a member of the opposing team may suddenly approach and defeat that player. Therefore, in this game, exchanging information and responding to that information quickly is extremely important.

In this regard, the program we have developed will be highly relevant. In our developed program, all the necessary phrases used during the game can be assigned to a single keyboard key. For example, when a single letter is entered and sent in the text chat, the key configured through the program and the phrase assigned to that key are then displayed in the chat. In other words, if the team members have gathered and planned to launch an attack from a particular direction or switch to defense, entering the key assigned to the pre-prepared phrase in the chat will immediately display that phrase to all team members (see Figure 1)

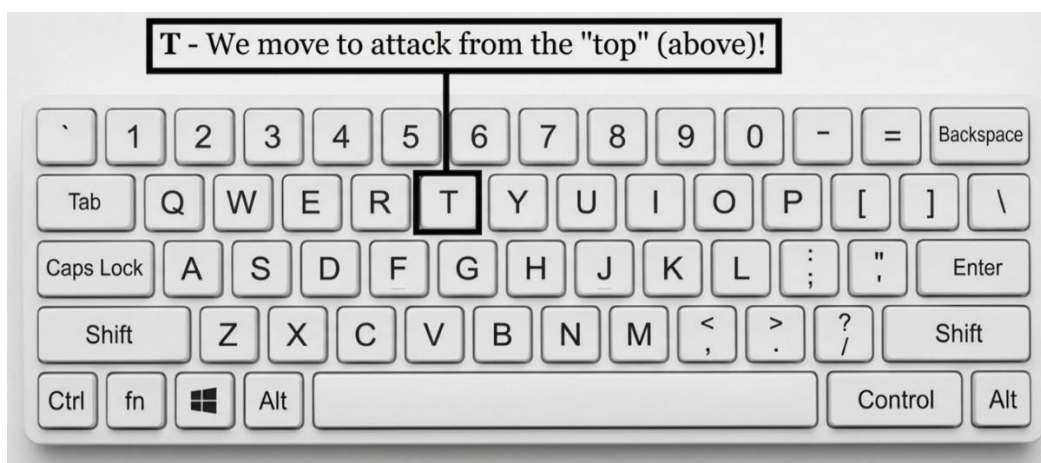


Figure 1. T – “Ball” (from above) attacking tactic.



Figure 2. M – “Mid” (from the middle) attacking tactic.



Figure 3. B – “Bot” (from below) attacking tactic.



Figure 4. D – “Def” (defense) tactic.

If this programming tactic is used throughout the entire game, the phrases assigned to these keys will become familiar to the team members, making it possible to convey a specific message to the team using just a single letter during competitions. In turn, this will greatly help team members spend less time communicating during the game and maintain their primary focus on the gameplay, thereby improving the overall performance of the team members.

In addition, as supplementary information, the keyboard keys can also be assigned to other functions through the settings provided by the game itself. In this case, the functions assigned to the keyboard keys are determined based on each player's individual playing style. For example, as shown in Figure 5, the keys assigned to the use of the “skills” (abilities) of all heroes in the game are the standard keys. As mentioned above, players can reassign the functions associated with these keys to any other keys according to their preferences.

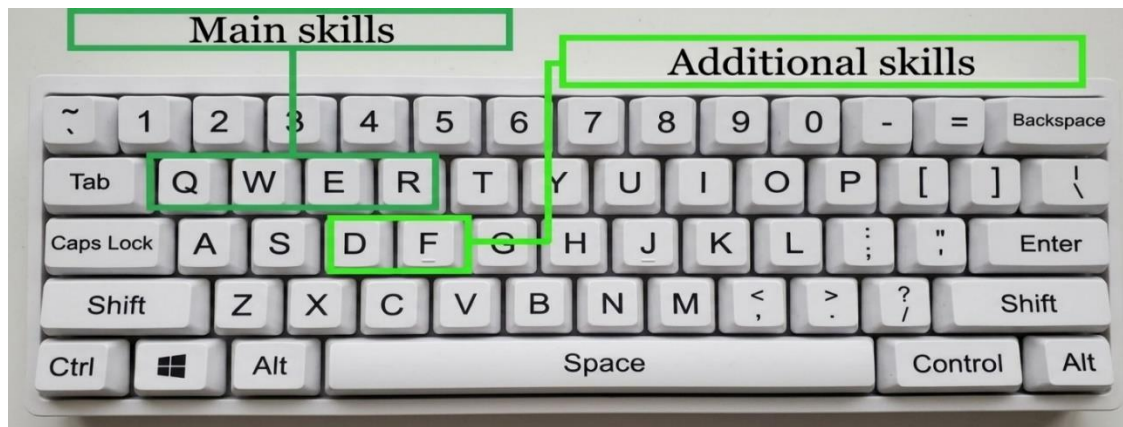


Figure 5. D – “Def” (defense) tactic.

In addition, each hero has an inventory for carrying certain items. Keyboard keys are also assigned for using the items stored in this inventory. By default, the keys used to activate items are assigned to the additional numeric keys located on the right side of the keyboard. Since using items with the default key assignments is very inconvenient, almost all players change the keys assigned for item usage.

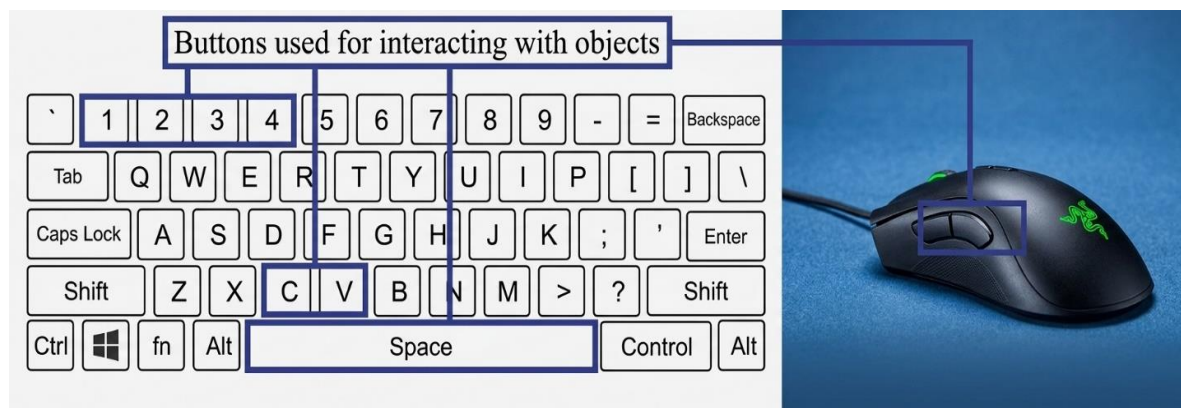


Figure 6. Proper use and allocation of items.

Esports, particularly team-based esports disciplines, requires players to possess not only a high level of technical skills but also the ability to think quickly, analyze changing situations, make timely decisions, and interact effectively with teammates. In highly dynamic games such as Dota 2, the game environment can change rapidly, requiring players to continuously adapt their individual actions while coordinating their decisions with the overall tactical objectives of the team.

Conclusion. This study considered tactical communication as one of the important components of tactical preparation in Dota 2. Effective organization of collective actions requires the timely, clear, and understandable exchange of information among team members. The ability to communicate tactical intentions may be particularly important when organizing attacks, switching to defensive actions, coordinating movement toward a particular area, or responding to unexpected actions by opponents. Voice and text-based communication are

among the most commonly used methods of interaction during gameplay. Voice communication enables players to exchange information while continuing to perform game actions. However, during highly intensive moments of the game, multiple players may communicate simultaneously, which can make it difficult to perceive and distinguish important information. Text-based communication provides information in a visual form, but entering messages through the keyboard requires additional time and may temporarily divert the player's attention from the ongoing game situation.

From this perspective, preparing frequently used tactical messages in advance and assigning them to specific keyboard keys may be considered a practical approach to simplifying team communication. In such a system, team members can agree on the meaning of particular tactical commands before gameplay. These commands may relate to attacking in a specific direction, moving toward the central area, switching to defensive actions, or performing other coordinated tactical movements. Assigning tactical messages to individual keyboard keys can potentially reduce the need to type complete messages during the game. Instead of entering a long phrase, a player may use a simplified input to activate a previously prepared tactical command. Such an approach may help organize the exchange of essential information while allowing players to maintain their primary focus on the events occurring in the game environment.

However, the effective application of a tactical communication system depends not only on the technical characteristics of the keyboard or other gaming devices. Its practical usefulness is also related to the level of mutual understanding among team members, their general tactical preparation, and their ability to consistently use the agreed communication system. When all players understand the meaning of specific commands in the same way, the process of communication can become more structured and coordinated. The individual characteristics and preferences of players should also be considered when organizing keyboard functions. In Dota 2, the keyboard and computer mouse are used to perform various actions, including activating hero abilities, using items, and controlling other game functions. Therefore, an appropriate configuration of keyboard and mouse controls may help players perform frequently used actions more conveniently and efficiently. Modern gaming mice, which often include additional buttons, can also be used for activating certain functions or items according to the individual preferences of players.

At the same time, it is important to distinguish between individual control settings and team communication systems. The configuration of keys used for individual gameplay actions may differ depending on a player's habits and playing style. In contrast, tactical commands

intended for communication among team members should preferably be based on a common system that is understood by the entire team. Maintaining a balance between individual convenience and collective coordination may contribute to a more organized interaction between the player, the game interface, and other members of the team.

Overall, tactical preparation in Dota 2 can be viewed as a complex process involving individual playing skills, situational analysis, decision-making, and team communication. These components are closely interconnected and collectively influence the organization of team actions. The development of rapid tactical communication mechanisms, including the use of predefined messages assigned to specific keyboard keys, may therefore represent a practical approach to supporting the coordination of collective tactical actions.

Thus, the organization of rapid and understandable communication can be considered an important component of tactical preparation in Dota 2 esports. The use of predefined tactical commands and their implementation through a simplified keyboard-based communication system may help structure the process of information exchange among team members. Although the present study provides a theoretical and practical analysis of this approach, further research may focus on conducting pedagogical or practical experiments to examine different communication methods, evaluate their influence on team tactical coordination, and analyze the obtained results using appropriate statistical methods.

References:

1. Аникина Т.В. Политизированные никнеймы в ономастическом пространстве чатов // Политическая лингвистика / под ред. д-ра филол. наук, проф. А.П. Чудинова. Екатеринбург: ГОУ ВПО «Урал. гос. пед. ун-т», 2011. - С. 198-201.
2. Баева Л.В. Мир ценностей геймера: Аксиологический портрет поклонников компьютерных игр // Информационное общество. Серия: Человек в информативном обществе. 2014. Вып. 2. - С. 27-34.
3. Беляев И.А. Культура, субкультура, контркультура / И.А. Беляев, Н.А. Беляева // Духовность и государственность: сб. науч. ст.; под ред. И.А. Беляева. Оренбург: Филиал УрАГС в г. Оренбурге, 2002. Вып. 3. С. 5-18.
4. Беляева У. П. Актуальные youtube-дискурсы о видеоиграх // Современные исследования социальных проблем. 2018. Т. 10. № 2-3. - С. 177-180.
5. Беляева У. П. Видеоигра как технокультурное пространство реализации сверхчеловеческого // Современные исследования социальных проблем. 2018. Т. 10. № 2-3. -С. 181-184.

6. Беяева У. П. Видеоигры в философско-религиозном дискурсе//
Современные исследования социальных проблем. 2019. Т. 11. № 2-3. - С. 39-42.