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Naming the game

The name of the game, Cyber Way, is composed of two parts: the first, "Cyber," refers to the cyber environment, and the second, "Way," means "road" or "path." Thus, the name of the game becomes "the cyber road" or "the cyber path," which intersects with the essence of the game, which concerns a path that the student takes from square number (1) to square number (100).

Game idea

The game idea is to hold knowledge competitions about cybersecurity among students. The game combines challenge, competition, knowledge, and entertainment. It provides information and tests the students' knowledge base in a competitive framework based on competition and entertainment.

The game consists of a board divided into 100 small squares, with a beginning and an end. The squares are colored in different colors. Each student has a special figure that they place on the board. The game comes with a dice, which is rolled and the student's figure is moved to the squares according to the number of points that appear on the dice.

The game begins with the students rolling the dice. The student with the highest number of points goes first, followed by the student with the second highest number. Landing on any square gives a distinctive difference in the moves.

The first student to reach square number 100 is the winner.

Game features

The game requires the existence of three teams, each with a different color, corresponding to the known hacker hats.

1. Red Team

An attack team aims to carry out virtual attacks on the digital systems and infrastructure of institutions. It seeks to hack these systems, but not to harm them, but rather with the aim of determining the possibility of penetrating them. If penetration is possible, this means that the organization's security systems are weak and cannot withstand cyber attacks.

2. Blue Team

A team specialized in cybersecurity, but it is a defensive team whose primary mission is to protect the institution from hacking. It is responsible for dealing with and protecting data, devices, and infrastructure.

3. Purple Team

Derived from the blue and red teams. It relies on the results of the work of both teams. It prepares a list of vulnerabilities and weaknesses that the red team can find, and presents it to the blue team to repair and improve the cyber defense systems for these vulnerabilities.

Game components

1   **The main game board:** It is divided into squares with numbers from 1 to 100. The squares of the board are colored according to the colors of the hats; and within some squares of the board there are shapes, divided into two sections; shapes that symbolize digital security, and others for danger. The shapes that symbolize security are the shield and key symbols, and the shapes that symbolize danger are the spider and skull symbols.
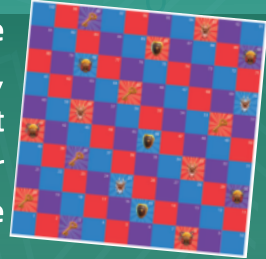
2   **Figures** of different shapes, divided into 3 colors according to the colors of the hats, which are distributed to the students when they start playing.

3   **A dice** to determine the order of the students, and to move the figures on the board.

4   **90 question cards** (30 cards for each color).

5   **A flyer** that includes the answers to the questions contained in the cards.

Types of squares

The squares on the board are colored according to the colors of the hats. When the blue team rolls the dice, it moves normally within its blue squares. But, when it stands on one of the squares of the other hat teams, it will have to answer the questions of the other team, as it got one of its squares. If it fails to answer, it will return to its previous square before rolling the dice.

• Blue squares:

Its questions will be on advanced cybersecurity concepts of a defensive nature such as: (digital fingerprint analysis - DNS audits, network activity monitoring, use of least privileged access, enforcement techniques, malware analysis, operating systems, digital forensics, incident response).

• Red squares:

Especially advanced concepts of an attack nature, such as: (penetration testing, communications interception, social engineering, software development, physical security).

Types of squares

• Purple squares:

Related to the most serious cybersecurity risks (deploying intrusion detection/prevention activities, monitoring network traffic for suspicious activity, regular vulnerability scanning, developing and implementing a comprehensive security plan, launching malware attacks and cyber bugs against critical systems, executing social engineering attacks, attempt to access sensitive data, Identifying and correcting security vulnerabilities).

Gameplay rules

1. The game is based on teamwork and can be played with a minimum of 3 students.

2. The students are divided into 3 teams, according to the colors of the hats.

3. Each student chooses a figure of their team's color to move on the game board.

4. Each student rolls the dice, and the student with the highest number of points starts the round, followed by the student with the second highest number.

5. When a student's figure is on a square of the same color as their team, the game proceeds as normal. For example, if the blue team's figure is on a blue square, there are no consequences. However, if the figure is on a square of a different color than the team's color, the student will be required to answer a question from the team whose color matches the square. For example, if the blue team's figure is on a red square, the blue team will then need to answer a question from the red team. If the student or any member of their team fails to answer the question, the student will return to their previous square before rolling the dice. However, if the student or any member of their team answers the question correctly, the student will move one square forward, and the rest of the students will follow do the same.

6. If a student's figure is on a square with a shield symbol, the figure will move one square forward. If the figure is on a square with a key symbol, the figure will move two squares forward. The shield and key symbols help students progress forward. (If a student's figure moves one or two squares forward, the student will not be required to answer any questions if the figure lands on a square of a different color than the team's color. This is because the student is considered to have already answered questions from the other teams in the previous step).

7. If a student's figure is on a square with a spider symbol, the figure will move one square backward. If the figure is on a square with a skull symbol, the figure will move two squares backward. The spider and skull symbols push students backward. (If a student's figure moves one or two squares backward, the student will not be required to answer any questions if the figure lands on a square of a different color than the team's color. This is because the student is considered to have already answered questions from the other teams in the previous step).

8. The game continues in this manner, and the team whose student reaches first to square number 100 wins.

9. If all of the questions have been answered and no student has reached square number 100, the game is stopped, and the winner is the student whose figure is in the square closest to 100.