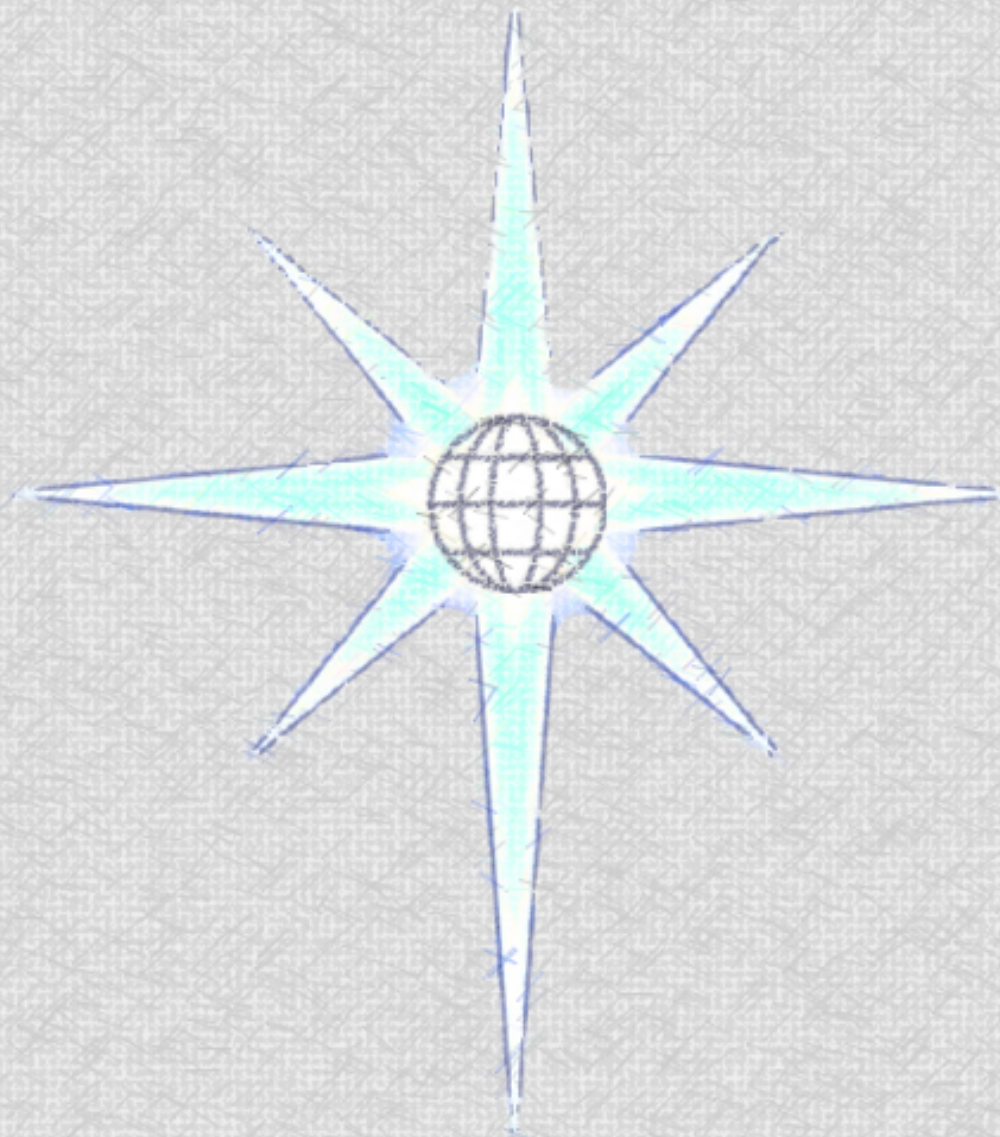


Koios



A Cyber Incident Response Game

– To Train for What You Hope Will Never Happen

Contents

Introduction.....	3
Help, I am the Game master, now what?	4
How to Scope the Game	5
Creating a Character	6
Playing the Game	8
How To Preform the Review Phase	10
Creating Customized Content	11

About the author, adaption, and licensing:

The game is a contribution to the industry when it comes to incident response training. Its creation started during a bachelor assignment in 2022 made by Ragnhild Sageng, a student at Noroff University College in Norway.

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Several elements to the game have been adapted and tweaked from the Oh Noes! - Game which is created by Bruce and Robert Potter. This game is published and shared by expel under the Creative Commons Attribution License. The game can be found here: <https://info.expel.io/oh-noes>.

This game is inspired by some of its elements when it comes to gameplay and strives to make a more simplified version of the game. This contribution sections the game templates based on different industry sectors, and it has a heavy focus on the review process following the training session.

The original copy, and updated elements of the Koios game can be obtained at:
<https://github.com/Lixona/Koios>

Introduction

Koios is a gamified approach to a cyber incident response training tool. The game is based on a simplified version of “Dungeons and Dragons” tabletop style. The game is played with all the players together in the same room, or by using video-link. The experience will be more immersive by having everyone gathered.

The game guides the organization into choosing the most relevant gameplay from a template or create their own flavor of the game, preferably with a review of the incident response plan in mind. When the character sheet is filled out for everyone joining, it is time to start the immersive learning journey that Koios aims to take you all on.

Why Train?

The game is created to teach how to deal in stressful cyber situations and communicate together as a team. While walking through the training scenario, the players will gain experience they can build on later one never wants to happen, happens.

By training regularly, simulating an attack, the organization can train on how their incident response plan works while facing an obstacle. And most importantly; how the people utilizing the plan uses it and communicates as a team. All this data can be used to see what needs improvement. Maybe a person at the office has too many roles and the organization will be lost if an incident happens while he is on vacation in Bahamas? Or maybe the Incident response plan has demands that are not feasible in a real-life scenario and needs to be altered? All this, and more can be revealed when doing simulation-based training.

Where do you begin?

First off, read this guide. This guide will tell you what to prepare and how to use the different elements of the game so that it can be a good learning experience. Remember you can always just use this as a guideline and create our own twist. Just remember that the playing the game needs to be worth your time. So, take the time to review the game play afterwards!

Help, I am the Game master, now what?

Being the game master can be scary for some, while others are born into the task. As a game master, you have through the process of scoping the scenario or reading up on it, taken ownership of it. Just bring yourself and immerse into the game!

If this still seems scary, here is some tips for you as a game master:

- Be prepared before starting the game. Make it your own.
- Know what the Incident response plan, if you have one, says or acquire the information so you have a sense on what to review.
- It is always better to adapt a scenario rather than using templates. Practice makes perfect!
- When creating a scenario, don't let everything be rolled for by the players. Somethings must inevitably happen so you can test the incident response plan.
- Don't reveal everything at once during the game. Save some information for later.
- To make the game more immersive, create non-playable characters (NPC) that are relevant and are like other people that the organization employs or deal with.
- **Don't fight the scenario! Let it play out, and review later**

Just start by following this guide, trust in yourself. And have fun while learning!

Note:

Sometimes the game master needs to be a part of the game as well, this will make the game master having to play with two hats and prepare accordingly. It is preferred that the game master is only that and not an active player, but sometimes an organization doesn't have the opportunity to segregate these roles.

How to Scope the Game

Spend some time on the scoping of the game. The more time you as the game master spend here, the more immersive the game will be, and it will provide you with a good learning experience to review.

After reading the whole guide here, open the scoping float diagram and follow the guidance there to see if you have everything you need to start the game. Read the organizations incident response plan. The more familiarized you are with the plan, the more you will be able to adapt the game to your organization and review the plan itself.

When the rules and plan are read, create the list of all employees that are attending. It is nice to have when you start adapting the scenario. The same goes for a list of non-playable characters (NPC's) and company partners that you think can be used when adapting the scenario. If for instance, the receptionist in the scenario is named "Olga" and you don't even have receptionist, it will make the game less immersive. The more information from real life you can add, the more real the game will feel. The list you start by creating is not set, you can edit it as you see fit throughout the scoping process.

You can choose to create a scenario from scratch. This will require some work and is described more extensively later in this guide. If your industry sector is mentioned in the Koios game's Industry scoping section, it is recommended to read the guide belonging to your industry. This will give you some more information on common attack vectors and give some ideas on what assets to compromise in the game scenario. The industry scoping will also recommend some scenarios that are relevant for the industry.

Even if the organization matches the industry scoping or not, all pre-made scenarios are found under the Game Templates section. Find one that fits what you want to do, tweak it as you like, try not to add too much imaginary creatures and Science fiction to it, and start the game!

Creating a Character

To create a character, the character sheet needs to be filled out by each one attending the training. The character sheet has a place to put your name, nickname, position, and a picture of the player. This is to make it more personal and to have an overview over what advantages each player can utilize. The character sheet also needs to fill in skillsets and both constant and situation-based modifiers.

Skillsets

The skillset of the character will be chosen by the ones in the room at the start of the game. The players will take turns on getting their top three skillsets from their co-workers. This is to boost team-morale and make the player aware of what their colleagues appreciate with them. It will also help start of the communication in game, and by sharing what they think is a positive trait in others, their bond will be strengthened both before the game-ply, and hopefully in the long run.

It is preferable that the skillset is somewhat related to work, such as being a problem-solver, charismatic or more subject related such as being good with Linux commands. But if the team means that a player's top skill is to make good cake, then that can be used during the gameplay at some point if the game master sees it fitting. It is only the imagination that can stop you!

Using the skillsets in-game

The skillsets can be used as a modifier when applicable. For instance, if the player is really good at Linux commands, the player, or their co-workers if they remember that the player has this affinity, can call it out before a roll checking a Linux based system. If the game master think it is applicable, the player gets a +1 modifier to their roll, meaning that if the dice shows 5, the total will be 6 with the modifier.

Other Modifiers

Each character will have modifiers that can be consistent while some are changing. The modifier will add an extra value to a dice roll, such as the skillset modifier.

There is one modifier that are constant, which can be either +1 or +2.

MODIFIER	VALUE
10+ YEARS OF RELEVANT WORK EXPERIENCE	+1
20+ YEARS OF RELEVANT WORK EXPERIENCE	+2

Why is this a modifier and not education you may ask? We will get to that! The main reason that this is a constant modifier is experience. The more a person work in the profession, the more experience has been accumulated, and are being used in their daily work. It is only fair that it should be a part of the gameplay as well.

Floating Modifiers

There are two ways to get a floating modifier, by using certs listed on the character sheet and by recalling a similar experience and sharing it during gameplay.

The player will List all Certs they have done that are relevant for their job on your character sheet. During gameplay the player can choose to use a cert and get a +1 modifier on their roll if they can explain exactly what they learned doing the cert that is relevant for that roll. The game master will approve if it is relevant. This will lead to information sharing among the players and a mapping of skills and certs in the group. This, together with the information sharing below, can later be played on in a real incident because the players then know that the others might have some relevant knowledge that can be used.

The player can also get a +1 if they choose to recall a similar experience they have had while working and then share it with the group during the game play. The game master together with the group decide if it is a relevant experience that can help in solving the current problem at hand. The game master has the final word in this.

Playing the Game

Starting the game for the first time can be confusing. It is important to explain the rules to all the players at the beginning. Explain what will happen, but do not give away the scenario. Remember, a good immersive scenario is one that won't give away all the answers to the players at once. Let them discover as they play!

What do you need?

When starting a game, you need:

- A game master running the game
- A scoped scenario or a custom built one with injects
- Filled out character sheets
- The players actually attending the game
- A screen or projector to show relevant content for the scenario if applicable
- A 20-sided dice (D20). You can find this on Google here: <https://g.co/kgs/oFajVH> or you can use a physical one from a store.
- Props that are relevant to the scenario. See the scenario template or decide for yourself what is relevant. This can be fake emails, logs, physical devices etc. You decide how big this is going to be!

Let the game begin

The game master will start the scenario by giving the players an introduction to what has happened. Depending on the scenario this can be short or lengthy, but it will always make room for questions. The players need to decide how to approach the situation given to them. For instance, depending on the scenario, maybe not everyone is present to take a stand. The players present then needs to make the decision to call the others and inform them of the situation.

Decisions, Decisions

Calling other players to inform them so they can attend or choosing to investigate logs are all decisions on how to approach the current situation. Every decision made should be logged for reviewing purposes. The game master should often ask the players why they want to do that exact action.

The Gods May Roll the Die

When a decision has been made, the player doing the action needs to roll a 20-sided dice to see if the outcome is positive or negative.

Deciding how it turns out is easy:

ROLE	RESULT
BELOW 10	Nay
ABOVE 10	Yay

The modifiers discussed previously is added to the roll. The Modifiers are unique to each person and can only be applied by the action-taker. Remember that the floating modifiers can only be applied to the roll if the action taker or other players remind them that they can try out their luck saying a certification or previous experience is relevant. The game master cannot remind them of this. This also goes for the skill sets on their character sheet. The player or their fellow player needs to remember to utilize their skills. Kind of like in the real world.

When several people are doing an action together, these people roll and all their rolls are added together, if the added number is less than half what the maximum would be, the group effort crash and burns and they need to try something else.

What Just Happened Now? I'll Tell You What: Injects

Injects is what makes the game exciting! It is obstacles that can occur at random disturbing the player's train of thought and make the game take an unexpected turn. When the inject requires you to roll, the roll is without modifiers. An inject can be something as random as a player getting a telemarketing call, and a negative outcome on the dice can make that person unavailable for a round or two while listening to the sales-pitch.

When All Is Said and Done: The End of The Game

When the scenario is done. It is done. Not before. Start reviewing!

How To Preform the Review Phase

The review phase can be adapted to what suits your organization. It is important to have a good review phase of both the gameplay itself, the actions taken during the gameplay and communication between the players and their teamwork.

The base review for the game is three-fold with a group review done at the end, a review done by the game master, and a short feedback form from the players that can be delivered after the game has ended. The review phase made for Koios covers only the basics, and it is more favorable to the organization to extend on this phase rather than shorten it. All forms can be filled out anonymously if that is desirable.

Phase 1: Review of the Gameplay

This phase is mainly done at the end of the game as a discussion. The questions will be at the end of the scenario and is mainly about how the game play went and how the incident response worked. Phase 1 also has a form that can be handed out to each player to write out their own review. It is, however, recommended to do this as an addition to the oral discussion. By discussing the gameplay, it can disclose areas where the organization need to improve their current incident response before a real-life cyber incident would occur.

Phase 2: Review of Communication and Teamwork

This is mainly filled out by the game master but can also be filled out by each player. Phase 2 focus on the communication between the players and their teamwork. An incident response plan can be as efficient and well written as possible but that will not help without the people being able to conduct the plan and play on each other skillsets in the process.

Phase 3: Feedback from

This short feedback form is for all players to fill out. It will give the organization feedback on how the players thought the game was and give some guidance on improvements on the gameplay before the next simulation.

Creating Customized Content

All elements of the game can be tweaked as you like and combined with other game-styles you either have created on our own or other variants of Incident response simulations. This game and all its content are, as previously mentioned licensed under the Creative Commons Attribution 4.0 International License, and all elements can be adapted by others if the appropriate credit is given. For internal use the game can be adapted as you like without having to think about attribution.

Creating a customized scenario:

If you want to create an all-new scenario and not use one of the scenario templates that is cool as well. Empty template files can be found under game templates, and you can fill in information and add information as you like.

When creating your own scenario, remember to think about what you want to game to give you This means that you need to focus on the review phase. See what questions you want answered, and secondly you can think of a scenario. The scenario can help you test the elements of your incident response plan that you want to test.

It is all adaptable!

This game is like Lego, you can mix and match what you like and make it fit your purpose. One final key take-away from the author to you: Don't skip any steps even if it seems to make it easier!

Having a good scoping phase is good for making the game plausible and create the right learning environment. And without the review phase you will have had all the fun of a game, but not utilized the learning possibilities to their max.

You do you, but don't forget to review!

Enjoy!