**Digital Game Design Document & Construct 3**

Kristin DeLeon

School of Information Science & Learning Technologies (SISLT), University of Missouri

ISLT 7384 Designing Games for Learning

Dr. Danielle Oprean

December 3, 2023

Game Title
# Risk Rescue

**Game Overview**

Risk Rescue is a single-player game where players assume the role of a Risk Assessment Officer tasked to identify potential safety risks in an office. One the player identifies the safety risks they must also recommend appropriate solutions to reduce the overall risk level in the workplace. Players can explore the office to identify safety risks, and can speak to employees to gather clues he help them in their search. Through risk evaluation and identification, the player is attempting to get the risk level as close as possible to 0%. At the end of each level, the player will submit their report and receive their score.

**Learner/Player**

The intended audience for Risk Rescue are players with some experience working in an office setting, who are somewhat familiar with workplace safety hazards and how to avoid them. Risk Rescue is an excellent follow-up game for employees who have already completed some form of office safety training course. This game seeks to reinforce terms and ideas employees have been introduced to during a basic office safety course, not necessarily to introduce the concepts.

Players will be most successful if they are at least 16 years of age and can read English at a 6th grade reading level. Extensive gaming experience is not required as players only need to be familiar with how to move a character around the map used the directional keys, and how to use a mouse.

Both Explorer and Achiever player types will be particularly drawn to several of the game's features. Explorers will enjoy exploring the map, searching for clues and risks, and acquiring information. These players will enjoy identifying risks that may not be obvious to the average player, and will seek creative solutions. Achiever players will enjoy the scoring system of Risk Rescue, and will succeed at finding the best way to achieve the lowest risk score possible.

**Subject Area**

The subject area of Risk Rescue is general office safety and risk awareness. Ideally, players have already been introduced to several key aspects of office safety and have completed a basic introduction course before playing the game.

**Knowledge Domain**

Conceptual Knowledge is one learning domain present in Risk Rescue, primarily using Experiencing the Concept. In they game, the are immersed in a situation where the can see and experience common workplace safety hazards. They can see how these hazards may appear in situations that mirror real life, rather than just the way it was presented in the original

DIGITAL GAME DESIGN DOCUMENT

instruction. In this simulated environment learners must not only recognize risky situations, but also make decisions on the appropriate actions that must be taken.

Rules-Based Knowledge is also a learning domain reflected in the scoring system of Risk Rescue. The user experiences this through Role Playing as a Risk Assessment Officer, and can see the effects of their decisions reflected in the "risk meter" the game uses as its main scoring system.

**Learning Objective**
The learner will be able to evaluate potential safety risks in the workplace and determine the proper response to each risk.

To achieve this objective, players must be able to identify and click on potential risks found throughout the game map. Examples of this may be a puddle of water on the ground in the break room, or paper boxes blocking an emergency exit. Once it has been identified, the player must select the proper response from a list of 2-3 options. In many cases, there will not be just one "correct" answer. Instead, there will be a "more correct" answer. The player must use their knowledge of office safety concepts to determine which is the best option for the situation.

This leads directly in how the scoring reflects the learning objective. Answers that are "more correct" will award more points and lower the risk level. Because the goal of the game is to lower the risk level as much as possible in the office, players are rewarded for deciding the most appropriate choice. Players are also awarded points for identifying/clicking on the hazard as well.

The learning objective serves to determine if the player has a full understanding of the risks, they may encounter in the office environment and how to respond to these risks and stays in line with the overall subject area of office safety. Through experiencing the concept, a method of the Conceptual Knowledge domain, players can demonstrate their skills in a realistic situation. They can find certain risks in locations where they may be typically found, and can see how the individual situation may influence the most appropriate response. This role play, within the Rules-Based Knowledge domain, reinforces the effects and outcomes of a proposed solution may have on the overall risk level of the workplace.

**Game Goal**
The goal of the game is to identify workplace safety risks and propose appropriate solutions to lower the Risk Level as close to 0% as possible. Because different solutions are better suited for certain situations depending on the severity, location, and type of workplace hazard, players but use their knowledge of office safety to determine appropriate solutions.

DIGITAL GAME DESIGN DOCUMENT

**Game Description**

Most office employees are familiar with workplace safety training, as often employees are mandated to complete some type of course by their company. Employees learn what workplace hazards are and the correct response or procedures to mitigate risk. However, workplace hazards are rarely presented the same way in "real-life" as they are in training. In real-life, a situation may be more ambiguous, may occur very quickly, or simple present itself different than learners were shown in their course. For employees to build confidence with these skills, they need to ability to practice in a realistic way and receive feedback. This is the inspiration for the office safety simulation of Risk Rescue.

Players first must explore an office space and identify safety risks throughout using the knowledge learned in the office safety course completed before. If a player is lost or stuck, they can ask NPC characters through the office to get insight and clues on potential safety hazards. One they have located a hazard, they will have 2-3 options on how they would propose to mitigate the risk. Some of these answers presented would be considered "incorrect" and award no points, however in other cases the player must pick the answer that is "most correct." This requires them to not just consider the risk present, but also the environment it is in to make the best choice for a solution. This provides more realistic practice than they would encounter in a planned course. The course often just presents them with the list of solutions with language implying the best solution depends on the situation. By playing the game, players are immersed in the situation and can explore their ideas and practice solving problems they may encounter in real-life.



*Figure 1. Player encounters a workplace hazard in the form of broken shelves*

**Environment**

Risk Rescue is set in modern day (2020's era) office buildings. Each level takes place in a different office, however all are realistic depictions of common office spaces found in the United

States. The goal of the game is to depict everything in the most realistic environment possible in order for players to practice their problem-solving skills in common situations. The artwork is an area of the game that is more imaginative, as everything is displayed in a pixel-based style. This assists players by making potential risks slightly easier to detect than if a photo-realistic style was used.

Players will be able to explore the full office space, including cubicles, kitchens, breakrooms, and restrooms to locate a variety of hazards. The move the main character using the directional pad on their keyboard, and make selections/interact with the world using their mouse. They will see other employees throughout the office and will be able to interact with several of them to gain clues and to immerse themselves in the environment.

Each level is located in a different office building. Different office buildings will have different layouts, NPCs, and general atmosphere. Depending on the type of company located in each office, the player may encounter different types of safety hazards. For example, if the office building is primarily warehouse space, the player will encounter different risks than if they were to explore a company that conducts business primarily on the computer. This exposes the player to a variety of different situations that they may encounter at their individual workplace.



*Figure 2. Office environment in Risk Rescue*

**Story/Narrative**

In Risk Rescue players will experience the story of a Risk Assessment Officer named Tim. At the beginning of the game, players learn that Tim is a new Risk Assessment Officer who recently graduated from training. The first level players experience is Tim's first workplace assessment he

DIGITAL GAME DESIGN DOCUMENT

is completing on his own. The client has contracted his company to do a Risk Evaluation at their office, where he is tasked with identifying workplace hazards and recommending solutions.

Because Tim's company, called Risk Rescue, guarantees their customers that that their service will reduce safety risks, Tim must achieve an office risk score of below 20% before he can move on to the next level. If he does not achieve this, he is reprimanded by his manager and the player must replay the level.

As Tim assesses more workplaces, he become more confident and develops a reputation for the great job he does. Because of this, he is sent to assess clients with more complex needs, as well as more high-profile clients. In the final level, Tim must assess a workplace that is facing closure if they cannot reduce their risk level. If Tim can lower their risk level to below 20%, his boss recognizes him for his great work and he is promoted to a manager role. At that point, the game end.

DIGITAL GAME DESIGN DOCUMENT

## Characters

| | |
|---|---|
| **Tim** | Tim is the main character of Risk Rescue, and the character the control controls while playing. He is a young Risk Assessment Officer who recently graduated from training. He knows a lot about the basics of office safety, but this will be the first time he is being tasked with completing a risk assessment on his own.<br><br>Given his basic understanding of office safety, Tim is a reflection on the player who is controlling him. Like Tim, the learner has also recently completed basic office safety training and must use that knowledge to solve problems in a simulated scenario.<br><br>Tim's movements are controlled using the directional pad on the player's keyboard. To make Tim interact with objects and talk to NPCs, the player must use mouse clicks. |
| **Eric** | Eric is Tim's boss and is the one who not only assigns Tim to assess office buildings, but also provides him with context and background of the situation before he enters the location. Eric is generally kind and understanding, and wants to help Tim develop his skills and improve. However, if Tim does not reduce the risk level to below 20%, Eric will be disappointed with Tim and give him stern feedback.<br><br>The player mostly interacts with Eric through on-screen dialogue in cutscenes in between assignments. If player can complete the last level of the game, Eric promotes Tim to manager level and the player wins the game. |
| **Office Workers** | In each office they are assigned to, the player will encounter several Non-playable Characters (NPCs) who are employees of the office being assessed. The player can interact and speak with these NPCs to get clues about potential safety risks, as well as additional story context. The player uses the left-mouse button to click on the NPCs, which causes the dialog to appear as text on screen. |

DIGITAL GAME DESIGN DOCUMENT

**Core Dynamics:**

The core dynamics found in Risk Rescue are Exploration and Solution. The game encourages the player to walk through the entire office space and look for anything that may be a safety hazard. There are several different rooms the player can explore, and they are encouraged to interact with objects and NPCs to gather clues and discover things throughout the environment. Once the safety hazard has been identified, the player is expected to take the context, clues, and knowledge they have on office safety to propose an appropriate solution to the problem. If they can select the best solution, they are rewarded with a more significant impact on the risk meter.

**Gameplay**

The gameplay loop for each level of the game is similar, and the primary differences is that the levels will continue to get more difficult as the player progresses. In Risk Rescue, the player will control a Risk Assessment Officer who is tasked with visiting various corporate worksites to help them reduce workplace safety risks. They will move around various rooms in the office using the directional pad on their keyboard, and use the left mouse button to identifying safety risks. If they see a safety risk, they must approach it with their character and interact with it by clicking the object involved. They will then be given a choice between 2 or 3 options for how to mitigate the safety risk. Once they select the answer and submit, they will receive feedback on the consequences of that choice. They can also communicate with workers (NPCs) to get clues to potential risks. They will interact with NPCs using the left mouse button as well, which will cause a dialog box to appear. Once the player feels they have identified and resolved all risks, they can click the "Submit Report" button. This will bring them to a scoring page that displays their performance.

**Scoring**

When the player submits their report, they are shown how far they lowered the risk level in the office they explored on the Risk Meter. Different risks they identify will have a different level of impact on this meter, depending on how dangerous the risk is. Similarly, some proposed solutions will be more effective than others, and will have different impacts on how much they lower the risk level. The player is striving to get as close to 0% risk on the risk meter.

**Reward**

On the score screen at the end of the game, they receive their final score and will receive a badge for getting all possible points in that level. If they lower the risks to below 20%, they get to move on to the next level, which is slightly more difficult than the previous, and progress the story.

DIGITAL GAME DESIGN DOCUMENT

**Assessment**

The player will be assessed in two ways:

      A.  How well they can identify the risk by clicking/interacting with the item on screen.

      B.  How effective they are at apply their knowledge of how to resolve workplace safety risks by selecting the most-correct action from the list

If the player can get a score below 20% and move on to the next level, they have showed that they possess both capabilities. This demonstrates the goal learning objective, as the player is successfully evaluating workplace hazards.

**Gee Principles**

      This game demonstrates the principle of Identity by placing the player in the role of a Risk Assessment Officer and give the player a clear goal. Rather than playing as a more familiar role, such as an office worker, players in Risk Rescue are placed in this very specific role. Players can understand from this role why office safety is important for their character, and why they are completing assessments and proposing solutions. It would have made less sense to the player why an ordinary office worker would be completing these assessments. While it is important for the player to practice using their knowledge of office safety, it is not a task they will be expected to do during their entire workday. By playing as Tim, players have a clear understanding of what they should prioritize.

      Risk Rescue demonstrates the Gee Principle of Well-ordered Problems through its level design. The levels in the game are very basic and easier to solve. However, as the player moves up in the game's levels, the game becomes more difficult. This is to help the player practice and improve their skills. Each level, the player is tasks to completing a level that is more complex, or builds upon themes players have encountered before. Towards the final level, the player must us a wide range of skills and knowledge to solve the puzzles it presents.

DIGITAL GAME DESIGN DOCUMENT

**Resources:**

Kapp, K. M. (2012). Chapter 6: Achiever or Killer? Player Types and Game Patterns. In The
     gamification of learning and instruction: Game-based methods and strategies for
     training and education. San Francisco, CA: Pfeiffer.

O'Brien, R. (2018, February 19). IDGBL Week 3 – 13 Principles of Gaming and Learning from
     James Gee [weblog post]