RESILIENT COMMUNITIES THROUGH AWARENESS AND PREPAREDNESS AGAINST THE RISKS OF FIRE, FLOOD, AND LANDSLIDE (READY4DISasters)

USER MANUAL OF THE READY4DISasters GAMES

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1. Introduction

Welcome to the **User Manual for the READY4DISasters Educational Games**, a key component of the READY4DISasters project. Designed to enhance disaster preparedness, these games work hand-in-hand with the **READY4DISasters Competence Map Tool**, offering an innovative approach to building critical competences for fire, flood, and landslide scenarios. By integrating theoretical knowledge with practical application, the games provide an engaging and interactive experience for volunteers at all skill levels.

Why Educational Games?

The READY4DISasters educational games serve as digital trainers, transforming traditional training through gamification. By simulating real-life disaster scenarios, these tools enable volunteers to develop, apply, and refine their skills in a controlled, risk-free environment while ensuring alignment with the competences outlined in the Competence Map Tool.

What to Expect?

Each game is thoughtfully structured into three progressive levels—**elementary**, **intermediate**, and **advanced**—ensuring a gradual and comprehensive development of competences:

- **Elementary Level**: Introduction to fundamental principles of disaster management.

- **Intermediate Level**: Application of knowledge in moderately complex scenarios requiring critical thinking.

- **Advanced Level**: Mastery of competences through challenging, real-world-like disaster scenarios.

Core Features of the Games

- **Competence Integration**: Each game is closely aligned with the competences and sub-competences identified in the READY4DISasters Competence Map Tool, ensuring players develop the skills they need for real-world disaster management.

- **Interactive Gameplay**: Engaging scenarios that enhance practical skills.

- **Multilingual Support**: Accessibility for diverse volunteer groups across regions.

- **Self-Assessment and Feedback**: Built-in score systems and reflection tools to track progress and pinpoint areas for improvement.

Purpose and Scope

These educational games, together with the **READY4DISasters Competence Map Tool (https://ready4disasters.gtu.edu.tr/Intellectual-Outputs.html),** represent a unified system for disaster prevention and preparedness. Volunteers and trainers can use the games to:

- Reinforce essential competences for disaster management.

- Apply theoretical knowledge in practical, simulated environments.

- Build confidence and readiness to manage real-world disaster scenarios.

For more information about the READY4DISasters project and access to additional resources, please visit the project's website at READY4DISasters Website: https://ready4disasters.gtu.edu.tr/. This manual will guide you through the structure, features, and best practices for using the games effectively.

2. Menu

You can download the game from Google Play, Apple Store and the project web site. After downloading and starting the game, you will be presented with the main menu. From the main menu you can access all the different scenarios, options, the guide, and exit the game.

In the options menu, you can change your controller type to be either Joystick or Gamepad. The intended way to play this game is with the Joystick but if you have difficulty navigating throughout the game using the Joystick you can choose Gamepad instead.
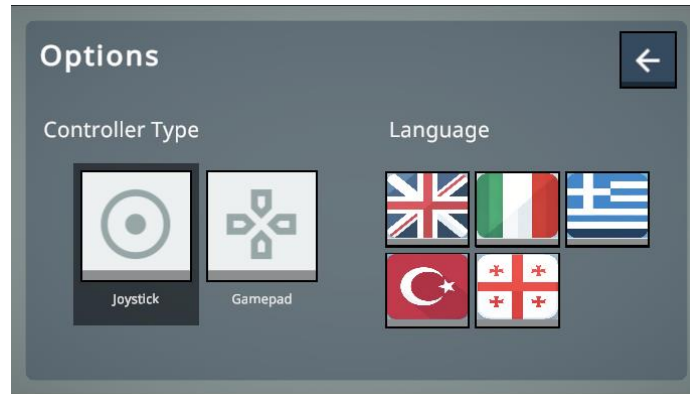
This is what the Joystick controls look like:

1) Using the circular joystick, the player can move in all directions
2) Using the second joystick, the player can move his camera (field of view) to left and to the right

This ensures smooth and consistent movement while holding the phone vertically and having both thumbs on the joysticks.

The Gamepad controls are simplified for accessibility and look like this:
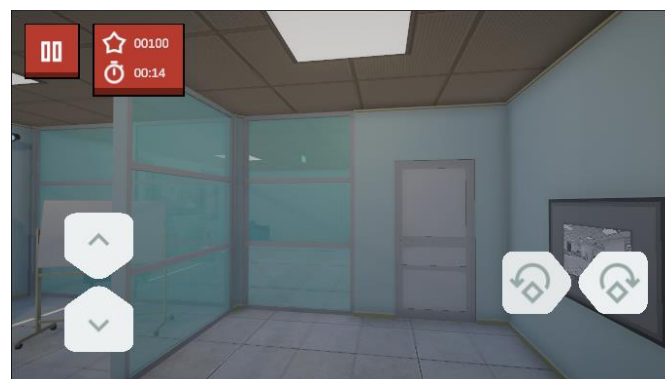
Using buttons on the left, the player can move forwards and backwards. Using buttons on the right, the player can turn left and right.

In the options menu it is also possible to change the language of the entire game:
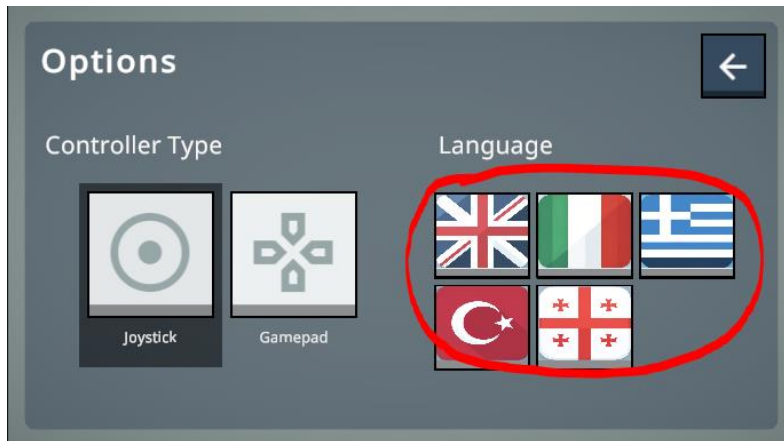
Clicking PLAY will bring you to the Scenario Selection screen. Here you can choose which scenario you would like to play: Fire, Landslide, or Flood. Each scenario consists of 3 levels which have to be completed in sequential order.
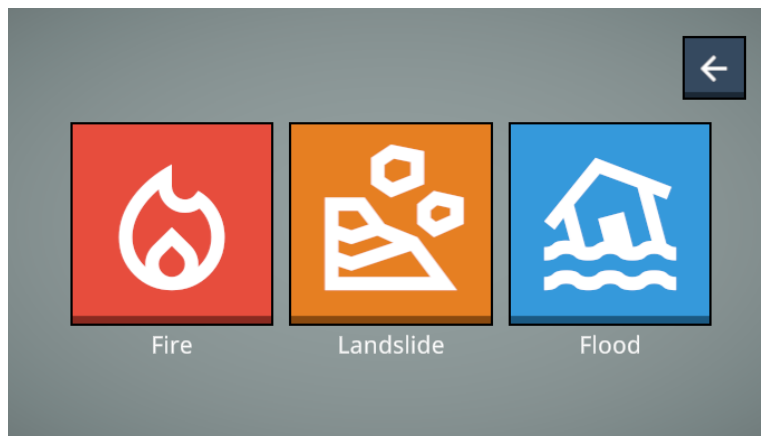
In the beginning, only the first level will be available in each scenario.

You will need to complete the level fully to advance to the next level. You can find the description, your high score, timer, and requirements of each level here:

After you click PLAY you will be loaded into the level.

Below you will find a detailed guide on how to complete the entire game, along with the answers to all the questions.

3. Fire Scenarios

3.1. Fire Scenario: Level 1

In this scenario you start in the IT room of your office where a fire breaks out. You see that the fire is too big to be intervened in. Your objective is to evacuate the building correctly and fast. There is a time limit of 1 minute in this level to simulate the emergency situation. Along the way, you will be asked several questions that you have to answer correctly to get full points.

To complete the level successfully you have to do the following things: Decide to evacuate the building; Close the door behind you while you move out of the IT office to slow the spread of the fire; You have to walk with controlled fast steps in the hallway and trigger the fire alarm; After triggering the fire alarm, you have to turn off the electricity and gas, after which you can continue with your evacuation. When smoke fills the room you have to crouch and move towards the fire escape route which is located on the left side at the end of the hallway; After you move out of the emergency exit, you have to go to the assembly area, write your name to the officer, and call 112. If you do everything correctly and within 1 minute, you will be able to play the second level.

3.2. Fire Scenario: Level 2

In this scenario, you start in one of the rooms of the office building when you notice the smoke alarm go off. You notice that there is a small electrical fire which you could potentially put out.

To complete the level successfully you have to do the following things: You decide to respond to the fire. While leaving the room you have to close the door behind you to slow the spread of the smoke. You announce the fire when you're in the hallway, trigger the fire alarm and turn off the electricity and gas. You then move towards the extinguisher box and take out the gas extinguisher since it is a small electrical fire. You move back to the office where the fire is. With the fire extinguisher in hand, you stand 3 meters away, lean down, remove the nozzle and spray the fire. After you extinguish the fire, you open the windows and start evacuation. In the hallway there will be a small paper fire in the trash can which you have to put out with a fire hose cabinet. On your way you will encounter a man whose clothes are on fire. To help him, you have to lie him down and cover him with a fire blanket. After you put out the fire, you carry him to the emergency exit using the firefighter method. You go to the assembly area, write your name to the officer, and call 112. If you do everything correctly you will be able to advance to the next level.

3.3. Fire Scenario: Level 3

In this scenario, you are a volunteer tasked with rescuing 4 people and putting out 2 fires. You have to do this within 5 minutes to be successful.

In the beginning, you have to choose appropriate protective equipment. This includes a firefighter jacket and a mask with oxygen. You will have these additional elements on the screen.

1) Pressing the first button (1) will open the odometer which shows you how much oxygen you have left. You have to do this at least 4 times during the level to get full points
2) Pressing the second button (2) will toggle the flashlight which will increase your visibility in dark areas
3) The temperature reading at the top right corner of the screen will let you know the temperature of your surroundings. You will have to spray the ceiling if the temperature gets to 500D and above

You have to navigate throughout the environment to find the missing persons and put out the fires. Below you can see the map from top down along with every location of interest. You have to find all of these locations in order to complete the level fully.

1. The entrance to the building where the player starts the game

2. Location of the first casualty
3. Location of the second casualty
4. Fire that has to be put out with Spray pattern
5. Location where the temperature is 600D and you have to fog spray the ceiling
6. Stairs to the second floor of the office

Layout of the second floor
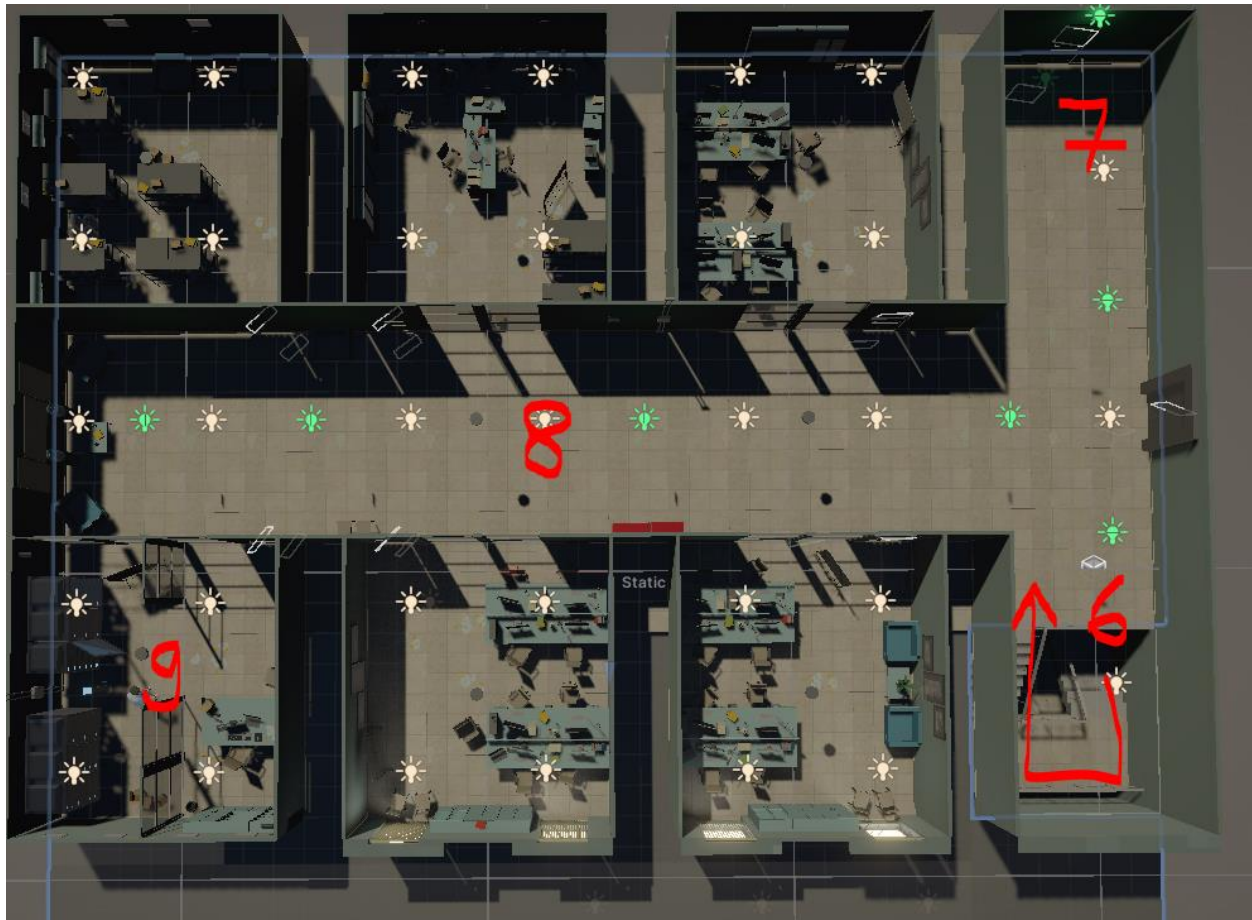
6. Stairs to the second/first floor
7. Temperature of 500D, spray the ceiling
8. Temperature of 500D, spray the ceiling
9. Location of the third casualty

Layout of the warehouse:

10. Door to the office part, stairs can be taken to go to either first or second floor of the office
11. Location of fourth casualty
12. Location of the last fire, has to be put out with direct spray

4. Landslide Scenarios

4.1. Landslide Scenario: Level 1

In this scenario, you are a person who lives in an area which might be prone to landslides. You will receive a notification on your phone which alerts you to heavy rainfall and potential landslides. You have to start preparation for the possible landslide and go through all the steps in order for this level to be successfully completed.
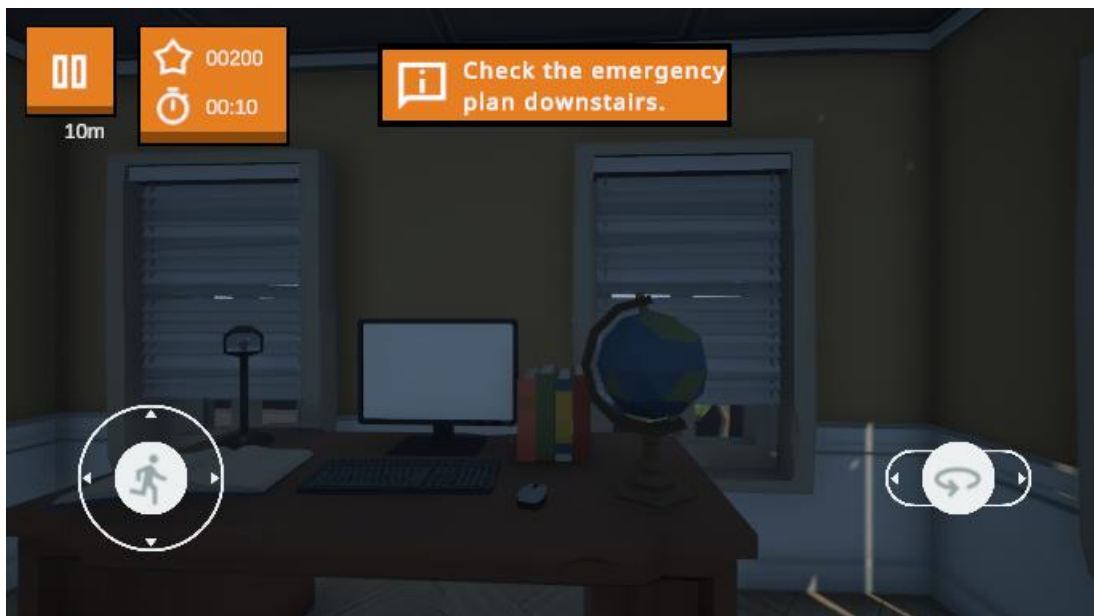
You check the emergency plan downstairs. On the emergency plan, there will be written the steps you have to take in order to successfully prepare for the landslide. You start going through the steps one by one. First, you start gathering the emergency bag by going to the kitchen to pick up canned food, water, and dried fruit. You go to the bathroom to get medicines, toothbrush, and wet wipes. You go to the garage to get a flashlight, radio, and batteries. You go to your room to get your wallet, passport, and keys. After you gather your emergency bag you go to the garage where you store your valuables. You move the valuables upstairs to your room. When you notice that the room doors and windows are hard to open and close, you know that this is a symptom of a potential landslide, so you decide to turn off the electricity and gas. You notice hairline cracks in the walls and decide to get your emergency bag and evacuate immediately. Before you go through the door, you turn off the water valves.

4.2. Landslide Scenario: Level 2

In this scenario, you are continuing the evacuation process which you started in the previous scenario. You are outside near your car when you get another weather alert warning you about a predicted landslide.

You get in the car and decide to take the path which is lower on the topographical map to avoid places with steep slopes. On one part of the road, you encounter a roadblock and decide to continue on foot. You encounter several people while going to the emergency meeting area and decide to help them by directing them towards the emergency meeting area. You help the following people along the way: kids who were playing, unaware of the danger; a woman who

lives near a sloped hill; a confused elderly man; a disabled person in a wheelchair. After you help everyone, you decide to take the long path to the meeting area, because it is safer. When you arrive at the meeting area, you find an authorized person and inform him about everything.

4.3. Landslide Scenario: Level 3

In this scenario, you are a volunteer who is assigned to the search and rescue team.

First, you choose the appropriate protective equipment. Then, you have to join the rescue team located on the far side of the map. The rescue team is trying to rescue a victim who is stuck in some rubble. You have to identify the safe area for the rescue team so they can avoid new landslide hazards. You employ search dogs in your search for the casualty. If the victim stops breathing, you perform artificial respiration. If the victim is unconscious and suffers from respiratory arrest, you have to transfer him on the side to the ambulance.

After you are done with the rescue, you will be assigned to the mitigation team. You have to discuss some steps that can be taken in order to prevent such landslides in the future. First, you survey the terrain for slopes and water channels. Then, you decide to install retaining walls at the base of unstable slopes. You advise about installing a drainage system, which will redirect water flow from the slopes, mitigating landslides. You encourage planting vegetation to strengthen the soil and prevent erosion. In the end, you decide to conduct community workshops about landslide prevention to inform people about identification of landslide risks and the steps to take during heavy rainfall.

If you do everything correctly, you will be nominated volunteer of the year!

5. Flood Scenarios

5.1. Flood Scenario: Level 1

In this scenario, you are a person who lives in an area which might be prone to floods. You will receive a notification on your phone which alerts you to heavy rainfall and potential flooding in your area. You have to start preparation for the possible flood and go through all the steps in order for this level to be successfully completed.

You check the emergency plan downstairs. On the emergency plan, there will be written the steps you have to take in order to successfully prepare for the flood. You start going through the steps one by one. First, you start gathering the emergency bag by going to the kitchen to pick up canned food, water, and dried fruit. You go to the bathroom to get medicines, toothbrush, and wet wipes. You go to the garage to get a flashlight, radio, and batteries. You go to your room to get your wallet, passport, and keys. After you gather your emergency bag you go to the garage where you store your valuables. You move the valuables upstairs to your room. To prevent water level rise in your house, you decide to put sand in a sandbag and place it on the doorstop. After the rain increases dramatically, you turn off the electricity and gas, get your emergency bag, turn off the water valves, and evacuate.

5.2. Flood Scenario: Level 2

In this scenario, you are continuing the evacuation process which you started in the previous scenario. You are outside near your car when you get another weather alert warning you about a predicted flood and worsening weather.

You get in the car and decide to take the path which is higher on the topographical map to avoid places which are prone to be flooded first. On one part of the road, you encounter a roadblock and decide to continue on foot. You encounter several people while going to the emergency meeting area and decide to help them by directing them towards the emergency meeting area.

You help the following people along the way: kids who were playing, unaware of the danger; a woman who lives near a house which is visibly on the verge of being flooded; a confused elderly man; a disabled person in a wheelchair. You also notice a person who is drowning in the water, and help him by throwing a rope and a lifebuoy. After you help everyone, you decide to take the long path to the meeting area, because it is safer. When you arrive to the meeting area, you find an authorized person and inform him about everything.

5.3. Flood Scenario: Level 3

In this scenario, you are a volunteer who is assigned to the search and rescue team. You start in the assembly area and have to choose the appropriate protective equipment.

The rescue team has prepared a boat which you will be using to navigate towards a person who is drowning on the lower levels of the city. You get in the boat and approach the drowning person.

You give the person a life jacket and helmet and select the closest rescue members to the casualty, who are on the left side of the boat. If the casualty stops breathing, you perform artificial respiration. To prevent further complications related to respiratory arrest, you lie the casualty down on the side. You turn the boat around and take the casualty to the ambulance using the correct method. You see a dog who is trapped in the water. You are a professional swimmer, but decided against going into the water without additional protection. You tie a rope around your waist and slowly descend into the water to rescue the dog.

If you do everything correctly, you will be awarded the volunteer of the year award!

6. Conclusions

The READY4DISasters Educational Games are integral tools in advancing disaster preparedness, offering volunteers and trainers an engaging platform to develop and apply critical competences. Together with the READY4DISasters Competence Map Tool, these games bridge the gap between theoretical learning and practical application, ensuring volunteers are equipped to manage real-world disaster scenarios with confidence.

By progressing through the structured levels—elementary, intermediate, and advanced—players build a solid foundation, refine their skills, and achieve mastery in disaster management. The self-assessment and feedback features further enhance the learning process, promoting continuous improvement.

We hope this manual has provided you with a clear understanding of how to maximize the potential of these educational tools. For additional guidance, resources, and updates, please visit the READY4DISasters project website at READY4DISasters Website: https://ready4disasters.gtu.edu.tr/

Thank you for joining the READY4DISasters initiative and contributing to a safer, more prepared world. Together, we are READY4DISasters!