

Summary - The escape game at one glance

Emilia Garcia, an independent IT consultant for schools, doesn't show up for a presentation in your school. Where is Emilia? What happened to her? Can the players solve a series of puzzles in time to find out about Emilia's whereabouts?

"Finding Emilia" is an escape game to be used in vocational orientation for students from 12 to 16 years old. Within the game, typical knowledge and skills in web development can be experienced.

Grade level	Number of players	Game duration
Germany: grade 9 recommended. Other countries: ages 12 - 16.	10 - 30	Play time: 60 min Debrief after the game: approx. 20-30 min

Material and technical setup

The teacher provides:

- one 4-digit **padlock** set to "6293" and **printout B** glued on it
- 5 envelopes with a piece of paper in each of the envelopes containing play codes
- **Printout A** for first puzzle
- One notebook or desktop computer with internet access and sound output for presentation purposes, ideally with a beamer. This device will play videos, for example.
- One device (notebook, tablet, desktop computer, smartphone) with internet access for game administration
- One device (notebook or desktop computer) with a browser and internet access **per group** (= 5 devices)

Players bring with them:

- Paper and pencils for note-taking and scribbling

Before playing in class

- Sign up for a teacher's account: <https://game.itonboard.eu/> and start with the "Quick start guide"
- Print and prepare the game material and the classroom.
- At game day:
 - Open the presentation screen from the game control panel.
 - Send your 5 groups to: <https://game.itonboard.eu/play>



Teacher's guide

Within a given time limit of 60 minutes, five groups of players decrypt codes for (digital or real) locks with digital and real-life puzzles. The key to success in the game: good communication within the whole class and division of labor within the team. Most of the puzzles are digitally accessible. Only at the very beginning, there is one puzzle for which some analogue game material is needed.

This teacher's guide helps you set up and play the game:

Teacher sign up

Teachers need an account in the game administration app in order to play the escape game in class. By contrast, students do not need any account or personal information in order to participate in the game.

Sign up

https://game.itonboard.eu/sign_up

Add your class

You may play the escape game with as many of your classes as you want. For every game you want to play with a class, you need to set up a new class first.

Use the button **CREATE NEW CLASS** on the page **"My classes"** in the game administration app.

You only need to enter a class name, the number of players and the student age range of your class. We don't need any personal information from your students to play the game.

The minimum number of students you need to play the game is 10. In this case, you have 5 groups with 2 students each. The maximum recommended number of students is approximately 30 so that you have 5 groups with 6 students in each group.

You may add your class (or even more than one class) in advance of game day. You do not need to decide in advance when you will play the escape game.



Prepare some material

You need to prepare or buy the following material:

- Prepare 5 envelopes, write "Group A", "Group B", "Group C", "Group D", "Group E" on them and fill them with the appropriate sheets of paper with their group identifiers written on them. The group IDs are generated automatically when you set up a class. You will find them on the game control page and can print them from there.
- Prepare a bag (any bag is fine, backpack, briefcase, anything) which contains the 5 envelopes. Close the bag with a 4-digit padlock. Make sure, the padlock combination is set to 6293.
- Please print the following pages:
Printout A: [Download](#)
Printout B: [Download](#)

Set up the classroom

The story setting is a classroom in a school. So you may play the escape game in a normal classroom or any other area suitable for your specific group size. There are no special requirements concerning the look & feel. You do not need to decorate or arrange furniture except for the following simple steps:

- Place one laptop or desktop at the teacher's desk in front of your students. Ideally, this device is hooked up to a **beamer** so that its content can be seen from everywhere in the class. There will be videos with **sound** to be played on this screen. So make sure you have proper **audio equipment**.
- Place the **bag** with the **5 envelopes** at the teacher's desk in front of your class. Close the bag with the padlock. Cut our printout B to an appropriate size and glue it on the padlock.
Be aware that students sometimes do not notice the bag. So make sure, the bag is in plain view for your students and can be easily noticed.
- Place **printout A** next to the backpack.
- Make sure there is enough space for 5 individual groups (Group A-E) to play at the same time, according to your overall class size. For example, if you have 30 students ("players") in your class, you will need space in the classroom for 5 groups with 6 students each.
Every group needs one laptop or desktop computer with a browser and internet access to play the digital puzzles. We recommend using either Firefox or Chrome browsers. Microsoft Edge is not recommended, Internet Explorer is not supported.



Inform your students

It is important that you organize the composition of the 5 groups already in the days ahead of the game so that at game day the 60-minute game may start right away without any further introduction or organizational work.

In order to immerse students into the story, your students should receive an introduction on the days before the game:

Tell your students that the game is about an independent IT consultant ("Emilia Garcia") who is supposed to come to your class and give a presentation and workshop about different facets of IT and job opportunities. This workshop is supposedly part of a career orientation program which is sponsored by the European Union.

There is an example announcement which you may use to introduce some important information to your students: [PDF-Download](#)

Also, ask your students to form 5 groups for the workshop. We recommend that you let them choose their groups so that you can build on already existing social groups within your class.

The groups will be named with the letters A-E so that the students know which group they belong to. On game day, the opening puzzles relate to the group names (e.g., an envelope labeled "Group A").

Some advice you might want to tell your student's just before starting the game:

- You may find things which are needed by another group. Remember to communicate with all groups and players during the game. You will not succeed in this game if you do not share information and work together.
- Whenever you find something that looks like a password, write it down or take a photo. You might need it later.
- Do not open a second browser window with the same game. This might get you into trouble.
- If you close your browser window with the game by accident, you have to start from the beginning. There is no way of "fast-forwarding" to your last location.
- If by chance, a page in your browser somehow doesn't look right, please reload the page.
- Not all links and buttons which you encounter during the game are functional. Some are just for decoration :) If a button doesn't work, it doesn't mean that there is something wrong.



Start the game from the game control panel

There is a game control panel to start and pause the game at game day. You may access the game control panel by clicking on "**DETAILS & PLAY**" on your "**My Classes**" overview page:

My classes

CREATE NEW CLASS

Game ID	Class	Creation date	Status	Action
rw1yc9wl	Class 8	Mar 30, 2022 10:22 am	game in cut scene	DETAILS & PLAY
qf5l7ffo	Testtest	Mar 29, 2022 5:22 pm	game in progress	DETAILS & PLAY
pnb5ihwn	sgdfgsd	Feb 17, 2022 6:52 pm	game in video	DETAILS & PLAY
z5xaeaxz	OOO	Feb 15, 2022 10:29 am	game in video	DETAILS & PLAY

There are two important things to do before starting the game:

1. You need to open the **presentation screen** with the specific URL for your class, which is displayed on the game control panel.

Make sure the presentation screen is able to play videos with sound. The videos at the end of the game will start with "autoplay". You need to check your browser if autoplay is allowed.

Make sure that all of your students can see the screen.

Play the video on the presentation screen once your class is ready, and you start the game with the "start" button.

A second video will be played sometime during the game, when all groups reach the "final puzzle". You need to press the play button on the video to play it on the presentation screen. There is autoplay functionality for this video.

2. Direct your students to the **game frontend**. They need to open the following URL in their group device: <https://game.itonboard.eu/play>
They will find their group identifiers (codes) on the post-its you placed in the 5 group envelopes in the backpack and can start the digital games by entering those codes. A code looks like this (just an example): rw1yc9wl_A



Your role during the game

Your role during the game is mostly to sit back and enjoy your student's excitement and experience. The game will unfold itself. But be prepared to support your students in case they are stuck with one of the puzzles. For every puzzle in the game, there are a number of hints which your students may access themselves in case they do not find the answer, get frustrated with the puzzle or lose too much time.

The hints are accessible via the **chatbot in the right bottom corner of your students screens**. Every puzzle has a help code which is displayed in the top left corner of your students screens.

qf5l7ffo_E L1E

help [puzzle code] hint1-4

For example:

help L1E hint1

or:

help L1E hint2

or:

help L1E hint3

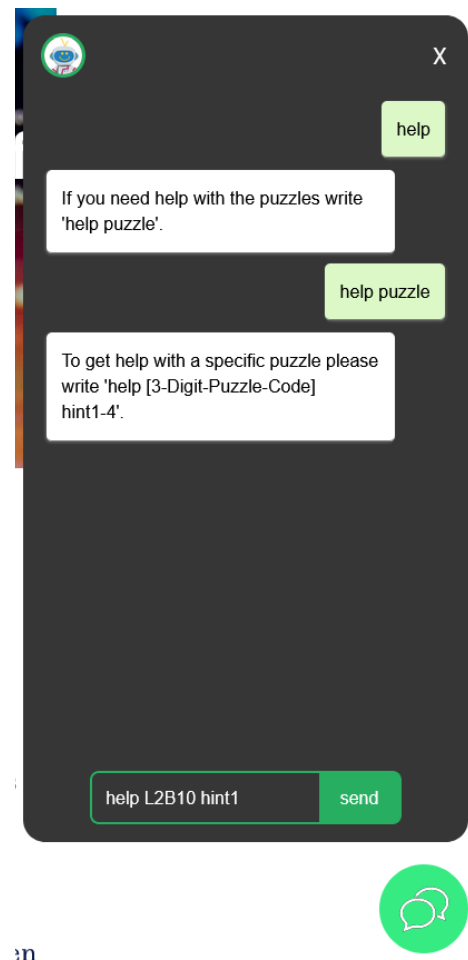
Make sure your students work together towards one common goal.

Groups A to E should not compete with each other. They depend on each other to solve the puzzles.

If one group is faster than another group, you may encourage them to support each other. The escape game can only be completed if all groups get to the final puzzle.

Password overview and teacher's cheat sheet

You may download and print a list of login data and other useful information on how to solve the puzzles. This might be helpful in case your students are stuck with one of the puzzles during the game. This cheat sheet can be found on the pages "Puzzle demo", "Game control panel" as well as "Teacher's guide".



Puzzle demo

You may test all the digital puzzles and the game flow yourself before playing them with your students. All necessary passwords and other login credentials are displayed when you enter the puzzles in demo mode from this page.

The puzzle demo mode can be accessed from the main menu in the game administration app. (Please sign up for teachers' account first)

You may also download and print a list of login data to all puzzles. This might be helpful in case your students are stuck with one of the puzzles during the game.

Opening puzzle for all groups (offline)

The opening puzzle is a simple "warm up" puzzle. Players need to printout A and decipher the symbols which are printed on the padlock. The combination of the padlock should be: 6293
Please have a look at the quick start guide for more information on the materials you need.

Group A

Code Styles and Secret Text Messages (D1)



Find encrypted files (E7.1)



T.I.M.s favorite color (D4)



Vault Puzzle 1 (K1)

Group B

Hex code to ASCII (E1.1)



Find a diagram on a cloud server (D7)



Konami code (E10)



Vault Puzzle 2 (K2)

Group C

Find password in source code (D2)



Find encrypted files (E7.2) and find information in e-mail (P10)



Vault Puzzle 3 (K3)

Group D

Sorting of wireframes - user journey (D5)



Work with a command-line interface (E2)



Caesar ciphers (E5)



Vault Puzzle 4 (K4)

Group E

To do list (P4)



Binary cipher and Freemasons cipher (E1.2 and P10)



Vault puzzle 5 (K5)

Story

The following story will be communicated to the players in the beginning of the game and during the game. You as the organizing teacher do not need to and should not tell them the whole story. Part of the fun in the game is a moment of surprise when something unexpected happens.

The story starts with Emilia's absence when she is supposed to have a workshop about job orientation with your class. In an introductory video at the beginning of the game, Emilia's digital assistant T.I.M. ("Totally Intelligent Mate") asks your students for help in finding Emilia. Your students gather clues and, while the game unfolds, get access to different "servers". Those "servers" range from Emilia's personal cloud storage to Emilia's company server up to a police server ("Interpol Evidence storage") and servers of a group called "Legion".

Emilia's artificial intelligence bot T.I.M. can be pretty helpful during the game. Your students will be able to communicate with T.I.M. with chat messages. If a puzzle is too complicated for your students, they can ask T.I.M. for help in the chat.

Digging a bit deeper than the initial puzzles, your students gather clues that Emilia is maybe followed by "Legion" and is therefore hiding somewhere. Legion might be a criminal group, and there are hints that there was a break in to an important EU building for which Legion is responsible.

Completing the second level of puzzles, it will become clear that Emilia is an undercover agent for Interpol who is investigating within Legion:

At some point, your students separately find five videos within their puzzles. The videos show scenes from the criminal group Legion's next planned heist. Emilia hid these evidence videos behind puzzles, and she was apparently automatically notified when your students had opened the video files. It is then that T.I.M. reads an automated message from Emilia to your students, telling them this part of the story.

Game resolution:

Your students have to unlock all puzzles in order to find out what happened to Emilia. There are two different outcomes of the story, depending on your student's speed.

Successful outcome: If your students resolve all puzzles within 60 minutes, your students will see a video message from Emilia thanking them for their help. She will explain in a video that she got a chance to look into who triggered her alarm by opening her puzzles and that it looks like it was only the students and not Legion as she had feared. So now she apparently does not need to be afraid of Legion, and it seems that her sudden escape has not been necessary. She explains that she tried to escape to an Interpol safe house in London but since it is not necessary anymore, she will just take a couple of days off.

Unsuccessful outcome: If your students do not resolve all puzzles within 60 minutes, your students will see a different video message on the presentation screen. In this video, T.I.M. is contacted by an Interpol agent named J. Smith. The agent explains that Interpol was made aware that her colleague Emilia was missing. But he doesn't seem to worry all that much, since Emilia is already known for "playing hide and seek" and for disappearing sometimes. But still, he says that Interpol will take over and start looking for her and the students don't need to worry.

Debrief after the game

We recommend having students talk about the puzzles and share their experiences with each other. Then you might add to the conversation what you observed. Detailing times when you saw communication really fall apart, or when you thought students were on the same page, is a great way of having students understand where their strengths and gaps lie.

In our opinion, the escape game experience will be more successful with a powerful debrief. Right after the game, you should get feedback from your students about their game experience and their learning experience. Make sure to plan for at least 20-30 minutes for this debrief.

You may lead them through the debrief following these steps:

- Let your students explain the puzzles and ask them which ones went well and where they had trouble, and ask them why.
- Prepare a rating handout for them (or use our online rating tool [coming soon]) where they should self-reflect and rate their own key skills.
- Share your observations concerning key skills during the game. Tell them when you thought collaboration and communication among them was good or not good.

→ Please let your students give feedback about the game itself using the following form:

<https://game.itonboard.eu/feedback>



Learning objectives

The escape game is a gamified approach to vocational orientation. The story is based in the "IT world", the open source idea, and all the puzzles have some relation to typical job situations or IT knowledge. The game concentrates on professions around user experience design, web development and IT project management.

The game should be a trigger for more in-depth information in later stages. We recommend that you follow up the game themes in another lesson.

The game intends to show the diversity of professional fields and give some practical examples. Furthermore, students should get an idea what is part of IT professions. By having a female hero in the game, the game tries to show some aspects of being a woman in IT.

Additionally, the game intends to foster self-information skills of the participants instead of presenting them pure job information.

As in most gamified Edu Breakout concepts, the so-called "4Cs" will be strengthened: communication, collaboration, creativity, critical thinking.

Within the ITONBOARD project, there are several follow-up tools you may use in class after playing the escape game:

- E-learning courses introducing IT professions (see <https://www.itonboard.eu/e-learning>)
- a concept for organizing a project week around the subject of IT professions (see <https://www.itonboard.eu/project-week>)
- an Internship exchange platform (<https://www.itonboard.eu/internships>).

We also recommend that you let your students take the ITONBOARD interest assessment test before playing this escape game. This short online test will help your students to find out how much interest they already have in IT and in which areas of IT they are interested in.:

<https://www.itonboard.eu/interest-test>

Checklist

Preparation 1-7 days before the game

- I told my students the introductory story before the game (or sent them the announcement mail)
- Students know to which group (A-E) they belong.
- The game location (classroom or similar) is set.
- Appropriate time slots for the game are set (approx. 90 minutes).
- I bought or organized all the materials.
- Printout, post-its and envelopes are ready.

Preparation at game day

- The presentation screen (beamer or other large screen) is ready.
- Emilia's bag with padlock, envelopes and printouts are ready.
- I tested the sound for the presentation screen.

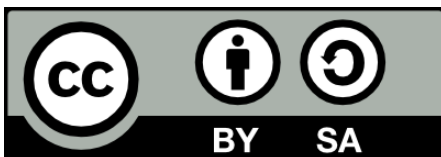


License & legal information

This game has been developed during the European ERASMUS+ project ITONBOARD. Its title stands for "IT community onboarding programme: vocational orientation for young people".

ITONBOARD introduces young people to IT career orientation possibilities with a focus on open source software communities. The onboarding program extends from gamified career orientation activities to in-depth e-learning to facilitating the involvement of companies in a practical component.

More information: <https://www.itonboard.eu/>



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