



Final version of the adapted and localized Spoofy game

SuperCyberKids Deliverable No. 4.2

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Abstract	This is the accompanying document of Deliverable D4.1 which consists of a software item, the final version of the adapted and localized Spoofy game, complete with APIs for its integration into the gamified platform. This document gives an overview of the translation and localisation work, and details about the game itself.
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1 Introduction

This document accompanies the release of localised versions of the cybersecurity game Spoofy. As part of the SuperCyberKids (SCK) project, the game was localised into Italian and the German version was improved and updated. Outside the project, the Estonian and English versions of the game were expanded (a new world/level was added), so the Italian and German versions also include those expansions.

Spoofy is a cybersecurity game for younger children; it is a point and click game with a fairly open world design. The game allows the player to progress through different levels (called “worlds” in the game) in no particular order. The player’s task is to “save the world” by solving different cybersecurity problems and through that, collect pieces of a machine that would repair the cybershield protecting the Earth. This means that the player is both a cyber hero in the literal sense (repairing the shield) and in the metaphorical sense (helping people). The game puzzles are mostly visual and deal with different cybersecurity situations. As rewards, the player can also pick up clothing items for themselves and nonplayable characters, and can buy (or “free” as it is stated in the game) cyber pets. The game has in-game dialogue that has a matching voiceover.

Spoofy was developed in Finland in 2019 by CGI Finland. Since then, the game has been released in multiple languages and countries, including Estonia. CGI Estonia (CGI Eesti) maintains the central code of the game and creates new versions based on requests and financing. The additional new world was released in 2023 and included input from Tallinn University. The IP for Spoofy is held by CGI Finland.

The original game was aimed at children 7-12 years old but the new world has raised the upper age limit to 14 or 15. Therefore the game suits the project focus of 8-13 year-old children. Spoofy is a free game that can be played online or by downloading an app from Google Play or the App Store. All versions are free, use no accounts and do not show any advertising. The game does not collect any data other than that the player has downloaded the game or that they have visited the game website. In 2023, the game had around 30 000 players across different countries in Europe.

This document will present an overview of the game, the process of localisation into Italian and an overview of API plans and limitations.

2 Spoofy

2.1 Development of Spoofy

Spoofy was designed and developed by CGI Finland, with outside partners in the private and public sectors. The original development involved cybersecurity and education specialists and children themselves. Three schools are listed in the credits as active participants in the development process. The game includes original visuals that have been created specifically for the game, mostly original sounds and voiceovers. Spoofy was originally launched in 2019 in Finnish and Swedish languages. Originally it was only available in Finland as a downloadable app for Finnish phone numbers.

In 2021, CGI Estonia localised the game to Estonian standards and created versions in Estonian, Russian and English. The game was also available to play on the web. After that, other versions have been released: Dutch, Lithuanian, Polish, Danish and Ukrainian. Most of these versions have both the web and app versions, and most of them have apps that are locked to specific country phone numbers to

avoid confusion and make sure the localisation fits the market. The only exception is Ukrainian, which is available everywhere in Europe, mostly for refugees. All language versions have texts and voiceovers in those languages but vary to a degree in visuals and assignments. Each releasing country can decide the details of the game themselves as long as the main objectives don't change, the game has the same accessibility and quality levels, and no diversity is removed from the game.

In 2023, CGI Estonia created a new level for the game, expanding the age focus. The new world was developed with Tallinn University learning games department and was cofinanced with other partners. This new level features text-based assignments, for example dealing with a phishing email, and so requires reading skills. The new version with this world is available in Estonian, English, Russian and Lithuanian, and has also been included in the Italian and German versions for SCK.

Spoofy development is an ongoing process, as there are already plans for more language versions and more changes inside the game. In 2024, changes were made to the starting dialogue (the possibility to skip it) and to how game items are delivered to the characters. The game development team constantly collects feedback from teachers, children and others in different countries. The data is reported by teachers or experts who use the game, there is no automatic collection. New developments are already planned for 2025, focusing on improving the accessibility of the game. There are currently no immediate plans to update the content but there are bigger content changes planned for 2026 and beyond.

2.2 The Spoofy Game

Spoofy is a game that teaches cybersecurity through solving people's problems. Ostensibly, the player is not the one 'learning' but teaches other non-player characters. The player is a “cyber hero” as they both solve problems as well as collect machine parts that will save the planet by fixing a global cyber shield. The player takes along an avatar character: they can choose from two boys and two girls. The player is also accompanied by a robot who helps and gives instructions. The game is played by clicking on locations and talking to characters. On-screen dialogues are in the selected language of the game, and are displayed either in full block letters or regular script, depending on the settings choice the player has made in the beginning. The block letter option is for easier reading for those who are not fully familiar with regular writing yet.



Figure 1. The character avatars the player can choose from to take along in the Spoofy game

The game is aimed at younger school children; it was originally created to be used during the first five years of school in Finland (school starts at age seven). The game was designed so it could be used by children who were unable to read yet: the assignments were visual and the dialogues with characters included voiceovers that fully matched the texts on screen. As mentioned, the bonus world added in 2023 includes more text and requires reading skills. At the outset, players are informed that if they are not sure about their reading abilities, they can skip the additional world and get a new pet instead.

2.3 Playing the game

The player starts the game by either choosing the language (if the version is multilingual) and whether they want block or regular letters for texts. The beginning of the game includes instructions from a robot character about how to move and how to pick up items. This dialogue can be skipped if the player is already familiar with the game, however the player can still return to this point later if needed. The player chooses a companion to take along with them and is then ready to start the game. The original choice is between four worlds (the four corners)



Figure 2. The world choices available for Spoofy players. Note: the middle picture appears later in the game

From top left in clockwise direction:

- The school world focuses on interactions online, bullying and behaviour.
- The park world deals with passwords, information sharing and money spending.
- The birthday focuses on content sharing and safe behaviour.
- The farm or grandma's house focuses on online safety from different angles: friend requests, viruses, safe shopping and content sharing.
- The picture in the middle opens the street world, which is about bad information online and protecting oneself.

The player can freely choose any of these worlds and can enter and move around. Once in the world, they can play or go back at any time. The goal of each world is to collect a cyber machine part. This entails walking around and talking to active non-player characters, who are signposted by something above their heads. Some assignments have multiple parts which require the player to talk to different people and sometimes multiple times to the same person. Some interactions require items provided by other characters. These interactions are linear, as the speech bubble signpost does not appear before the person is ready, but players can see when the character needs something first. All items are organised so that they are in the same world where they are needed. Some interactions do not lead to assignments as they are there just to move the game forward by giving an item that the player needs.

Once assignments have been completed, there is a way to get the related cyber machine part, and when this has been done, the player has completed the world. Once that has happened, the world restarts for replay purposes but the cyber machine part is already collected. Once all four cyber machine parts are together, the machine is finished and the world saved. This was the end of the original game but now the players have a new option.

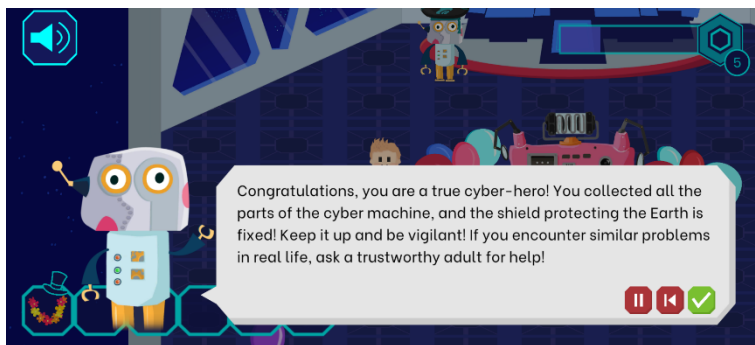


Figure 3. The text that appears when the four Spoofy worlds are complete

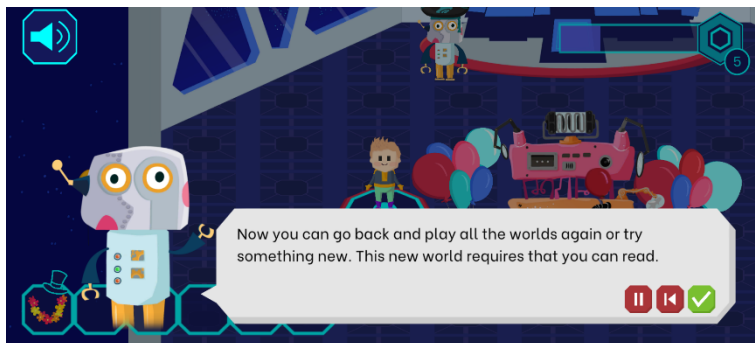


Figure 4. The text introducing the bonus Spoofy world

The new world operates the same way as others but instead of a cyber machine, the player is seeking a code card that makes their spaceship go faster. The fifth world also has more text-based assignments but otherwise matches the rest of the game. Once the final world has been completed, the game mission is over but the player can always go back to get more energy stars and items. These are explained below in Section 2.5.

2.4 Game assignments

The main gameplay happens through different assignments that the player encounters. These can be triggered by clicking on the non-player character's speech bubble or delivering an item to them that they have requested.



Figure 5. The little girl with the speech bubble is ready to talk to the Spoofy player

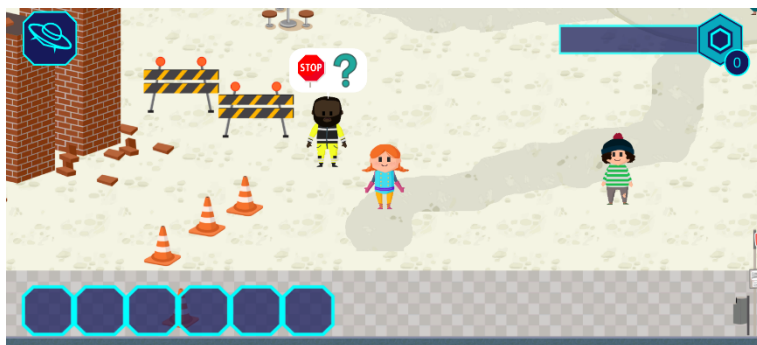


Figure 6. The man with the speech bubble needs the stop sign to initiate dialogue in Spoofy

Once dialogue is initiated, the player is presented with the premise of the assignment and then the assignment itself. Below is an example of a visual assignment and a text-based assignment



Figure 7. The Spoofy player has to find what is wrong with the picture (why is it bad to share it), as previously relayed in the dialogue. The sidebar offers clues.

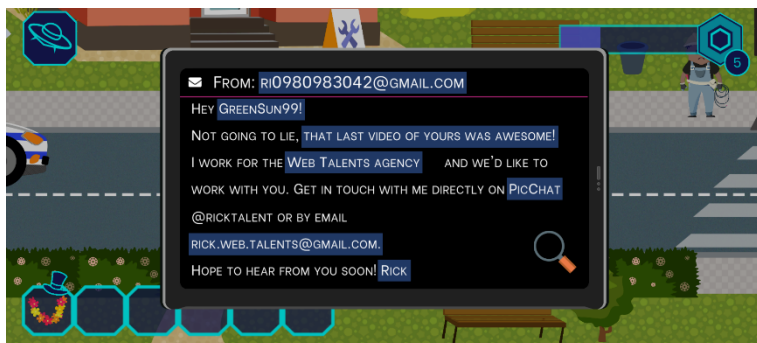


Figure 8. This Spoofy assignment is similar to that in Fig 7, as the player has to find out what is wrong with the text that the character received.

The player usually cannot proceed without choosing the right option. Depending on the assignment, the screen either shakes or gives funny responses to the wrong answer. The player can always click out of the assignment and restart if they want. Once they have chosen the right answer, they get a celebration and can move on. The assignments usually reward the player with items, either game items or wearables. In some cases, an interaction item can lead to a different interaction.



Figure 9. The celebration for getting the right answer in Spoofy



Figure 10. A response to a wrong answer in Spoofy

There is one exception to the right-answer-proceed pattern: there is a 'fork' in Grandma's World where the wrong answer also allows the player to move forward and leads to an assignment that is otherwise hidden. That assignment also has two 'passable' options, namely if that is also wrongly answered, there is one more task.

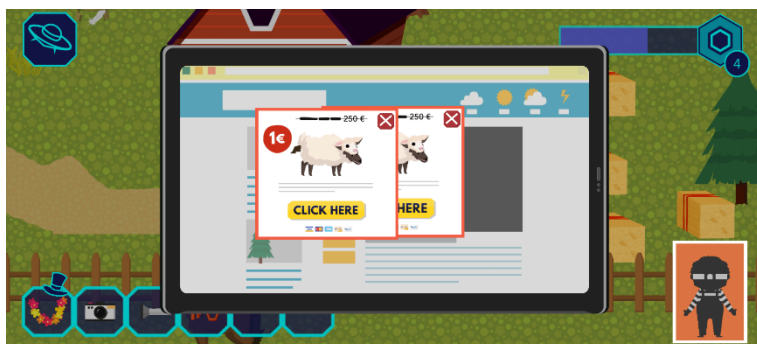


Figure 11. This Spoofy assignment appears only if a different assignment is solved wrongly.

The assignments deal with different topics and some are easier than others. Overall, the difficulty of the game varies but there is no linear progression. The fifth world is separate only because it requires reading and is meant as a bonus.

2.5 Other items in the game and replay value

Spoofy has game elements that are not there for learning purposes but just for fun. Firstly, some of the items in the game are not needed for gameplay: these are wearables. These clothing and other decorative items can be found on the ground or are given by characters. These items can be placed on the player character or any other non-player characters. Items can be removed or dropped as the player wishes. These items are in the game for fun but also to add replay value as some of them appear only during second or third play-throughs.



Figure 12. The Spoofy player character is wearing a hat they got from a dialogue.

During gameplay, the player also collects “energy stars,” shown in the top right corner. Playing the game increases the energy bar until it is full, when the player gets a new star and the bar restarts. These stars can be used to release cyber pets from the store. There are four pets available at the start and a fifth appears after completion; this is meant mostly as a consolidation prize for children who cannot yet play the fifth world but would like something new. Each pet is also available in a choice of four colours, so in total there are 20 possible pets to get. Once the pet is ‘released’, it goes into one of the worlds, where the player then has to find them. The collected pets will later stay on the space ship and the player can decorate/cloth them with items as well. The pets are also in the game for fun and for replay value, encouraging players to play again.



Figure 13. The original pets to release in Spoofy. The additional fifth pet is cheaper, requiring only one energy star

3 Localisation of Spoofy and future plans

As part of the SCK project, Spoofy is expected to be tested in Estonian, English, German and Italian. The Italian localisation was introduced specifically for SCK purposes, while the German version was also changed as it was unfinished and did not match the other games. The next section describes the localisation process for the Italian version, the changes in the game since the beginning of the project, the German update process, and future plans.

3.1 Spoofy in Italian

The main focus during localisation was on the Italian version. The Spoofy localisation process involved:

- translating all the texts;
- creating new visuals based on the country specific case (for example, changing some on-screen names, changing some clothing or looks, changing numbers);

- creating and adding voiceovers to the game; Spoofy requires voiceovers to fully match the on-screen texts, and voiceovers are required to be of high quality and differentiated. For example, the whole game cannot be voiced by one or two voices.
- testing the game at different levels.

The Italian development proved to be more difficult than anticipated, mostly due to the fact that there were more errors in the first testable version than expected. This delayed the rest of the localisation work to Months 19 (July 2024) and 20 (August 2024). At the time of writing, the Italian version of the game is ready and available here: https://spoofy.ee/dev/builds/spoofy_web_IT/

There are currently no active plans to release the Italian Spoofy to the public outside SCK during the duration of the project. The game is fully playable as a desktop game and will be freely available to all but there will be no publicity campaign and there are currently no apps in any of the stores. The full release of Spoofy Italian will most likely take place in 2026, by CGI Italy or CGI France. The original plan was to release it during 2024 or 2025 but due to business reasons, it has been delayed. A public release requires a significant financial contribution and promotion that would be covered by CGI.

3.2 Spoofy in German and other versions

During SuperCyberkids, Spoofy has been under development outside the project. The new world has been released, and new in-game elements and changes in gameplay have been implemented. This is relevant to the project as all changes are usually implemented in the Estonian and English versions¹ but were also included in the Italian version. This meant that the German version also needed to be updated to match the others for the purposes of SCK piloting. This included a lot of the same processes as listed above for Italy as the fifth world had not been implemented in German. Some changes were also made to the original German game as it had some gameplay issues. The German game can be found here: https://spoofy.ee/dev/builds/spoofy_web_DE/

The German version is now due for release in 2025 by CGI Germany. They will create the promotional materials and finance the publicity campaign. The German apps will also be released in 2025.

3.3 Future plans and other relevant information

It is important to note that the above linked games and the Estonian and English versions will continue to change during the duration of SuperCyberKids as well as afterwards. Spoofy is in continual development and new changes are already planned for 2025 and onwards. There are currently no plans for content changes during the duration of SCK but changes related to accessibility and usability will be made. The development team is also constantly collecting feedback and bug reports and making changes accordingly. As the four game versions need to be equivalent, all bug fixes will be implemented in all the relevant versions. These future edits will be covered by CGI's own funding.

It is also important to note that CGI is a global corporation and many of development decisions are subject to CGI regulations as well as EU regulations. This limits what can be done with Spoofy outside CGI controlled environments, what changes can be implemented in the game, and which versions can be released and when.

¹ For reference, Spoofy in Estonian can be found here: <https://www.spoofy.ee/et/game> and in English here: <https://www.spoofy.ee/en/game>

4 The API accompanying the game

Spoofy does not collect data on what the players do inside the game and does not collect any analytics. There are two reasons for this: firstly, this was not originally planned, and the game does not support it from a technical standpoint; secondly, this is against CGI's in-house policies for Spoofy. This means that at this time, API integration has proven to be difficult to implement and will be delayed and subject to the SCK platform being finished.

The technical issues involved were twofold:

- 1) The game was built in a way that it does not collect any educational or player data. This was not deemed necessary at the time of the original build.
- 2) The game does not require internet connection and is advertised as such. This means that once the game has been downloaded or has been loaded on the website, it no longer needs an internet connection. This has been used as a way to promote the game to parents and teachers, and has been a strong selling point as there are concerns about the digital divide and device usage around Europe and beyond.

However, these technical difficulties can be overcome to an extent. Depending on the data needed, some can be collected with limited changes, i.e. players starting the game, completing the game, completing individual worlds. The internet connection would be a problem, but those connections would just fail and not impact players.

Unfortunately, more detailed data collection is a bigger issue as it goes against the policies set by CGI. Currently, it is not allowed for the game to collect any data, especially when said data could be shared with a third party outside CGI. As the SCK platform which would connect to the game is still under development, there is also no way to pursue this matter within CGI as the security team would need to test the website and approve of an API connection. Therefore, at the time of delivery, there is no API connection but once the SCK platform has been built, this issue will be re-examined, and a feasibility test will be carried out by the CGI security and privacy teams.

During the time when there is no data collection, Spoofy offers a chance for teachers to report on learners' activities in class and their progress in the game. These feedback tools will be developed by CGI by the end of 2024. As these will be used outside the project as well, they will be built by CGI for all the versions and separate from project funding. If the API connection proves not possible, these tools will link back to the SCK platform to provide the data of interest.