

CHARLIE'S HOUSE

AN ADVENTURE
OF DISCOVERY



TASKMASTER'S GUIDE

Version for online dynamization

Charlie's house | An adventure of discovery

Taskmaster's guide

This guide is intended to provide the Taskmaster with the necessary instructions to organise and conduct the **Charlie's house | An adventure of discovery** game effectively, to ensure a positive experience for all participants.

This guide is for the **online version dynamization of the game**.

If you want to organize the game in person, please see the "TASKMASTER'S GUIDE - Version for in-person dynamization".

CONTENTS

1. **INTRODUCTION**

- a. Overview of the game
- b. Game structure
- c. Objectives of the game
- d. Taskmaster's role

2. **PREPARING BEFOREHAND**

- a. Assignment of the Taskmaster
- b. Completion of the self-paced "Ethical AI" micro-credential course by the Taskmaster
- c. Analysis of the game preparation toolkit
- d. Access to the game by the Taskmaster

3. **INITIAL CONFIGURATION OF THE GAME**

- a. Game setup
- b. Forming teams and electing spokespeople
- c. Choosing the communication platform
- d. Schedule the session and configure the specifications
- e. Test the parameterized communication platform
- f. Sending an invitation email to players

4. **START OF THE GAME**

- a. Introduction to the game by the Taskmaster
- b. Activating the parallel rooms

5. **DURING THE GAME**

- a. Monitoring of the teams' progress by the Taskmaster
- b. Collecting information

6. **FINALIZING THE GAME**

- a. Closing the parallel rooms
- b. Final presentation for the game wrap up
- c. Analysing user progress reports in the SCORM format

1. INTRODUCTION

a. Overview of the game

The game takes place in a virtual house - Charlie's house. It's a virtual escape room, to be played in teams, where each team is placed at the entrance to the house and must pass through various rooms to solve challenges. After solving the challenges in each room, they move on to the next room, until they reach the exit room.

Each team has a spokesperson, who will access the game in their device and share their screen with the rest of the team. In each challenge, the spokesperson must collect the opinions of all the members in order to be able to respond to the challenge.

Along the way, they are accompanied by a virtual character - Charlie - who presents the content, give them strategic information to complete the challenges, congratulate them on their achievements or give them feedback when things don't go well.

Users are also accompanied by a person - the Taskmaster - who will be the game organiser.

b. Game structure

The game starts with an introduction from the taskmaster, with an explanation of the game rules.

The house has the following rooms:

- Hall | Welcome and instructions
- Room 1: Theme | Introduction to Algorithmic Bias
- Room 2: Theme | Types of Algorithmic Biases
- Room 3: Theme | Identifying and Addressing Algorithmic Bias
- Room 4: Theme | Ethical Considerations in AI
- Exit room | Final messages + Results

Rooms 1 to 4 have the same structure:

- 1 opening message with information that introduces the topics
- 2 compulsory challenges (with 2 attempts, with different questions on each attempt; once you've exhausted your attempts without getting the right answer, you don't earn points, but you get the key to continue to the next room)
- 2 optional challenges (with 1 attempt)
- Final message (with the key ideas of the room's topics)

Rewards and recognition

- Earn points
 - For every compulsory challenge successfully solved, the team earns points (earn more points if do it correctly on the first try)
 - For each optional challenge successfully solved, the team earns points
- Winning keys

For every room in the house completed, the team gets a key to move on to the next room

Results

At the end of the game Taskmaster collects the results of all the teams to build the leaderboard where teams are positioned in a ranking according to their results.

When the teams finish their route and reach the exit room and results screen, the Taskmaster brings the teams together in a joint room. In its final presentation, Taskmaster shows the leaderboard with the teams' results.

The estimated time for implementing the game is at least 135 minutes (2h15), but this may vary depending on the circumstances of its implementation.

Below is a time estimate for each stage of the game:

- Introduction to the game (by Taskmaster): 10 min
 - Hall: 10 mins
 - Room 1: 25 mins
 - Room 2: 25 mins
 - Room 3: 25 min
 - Room 4: 25 min
 - Exit room 6: 5 min
- Conclusions and closure of the game (by Taskmaster): 10 min

c. Objectives of the game

This educational and interactive serious game introduces participants to the important topic of algorithmic bias to potentiate the interest of girls and other young people from disadvantaged groups of STEM, in particular the field of ethics in AI.

Throughout the game, fundamental concepts of algorithms, their potential biases, and the implications these biases may have on various aspects of society are explored.

The idea is to present the content in an accessible and enjoyable format for young learners (12 to 18 years old). A deeper understanding and awareness of the significance of algorithmic bias is expected in the participants.

The primary objective of this game is to provide an engaging learning environment where young participants can investigate the subject matter through a series of interactive activities and scenarios.

The aim of the game is to explore all the rooms in the house, complete all the missions and reach the exit room within the time available, with the highest number of points.

Teams earn points in the game by successfully solving the challenges set in each room.

d. Taskmaster's role

The Taskmaster is the person who will organise the game. He/she is responsible for creating and managing the teams, setting the timetable and preparing the implementation of the game.

It's important that the Taskmaster gives a good introduction to the game, explains the rules and accompanies the teams as they explore the rooms, in particular ensuring that everyone participates and keeps track of time.

Bearing in mind that this is a didactic game, it's important that the Taskmaster takes notes throughout this accompaniment, so that he/she can give a good closing speech at the end.

The Taskmaster's main aim is to make the game more dynamic and ensure that all users are able to learn new things.

To be able to fulfil your role, it's important that the Taskmaster prepares well for his/her tasks, in particular by following the guidelines in this guide.

2. PREPARING BEFOREHAND

a. Assignment of the Taskmaster

Since the taskmaster is a key figure of the game, their attitudes and abilities will influence everyone's experience. Choosing the right person for this role is crucial.

The taskmaster should be someone with:

- Experience in managing young people's groups
- Communication skills
- Time management skills
- Organization skills
- Multitasking skills
- Improvisation skills
- Priority management skills
- Creativity
- Motivation and humour

A list of preparation tasks for the game management and dinamization will be presented in the upcoming chapters.

b. Completion of the self-paced "Ethical AI" micro-credential course by the Taskmaster

In order to be well prepared in the game content, the taskmaster should complete the self-paced "Ethical AI" micro-credential".

To access the course, check the project's website:
www.charlie-project.uib.es

c. Analysis of the game preparation toolkit

In order to plan the operationalisation of the game, the Taskmaster must analyse in detail the game preparation toolkit, which is available on the Charlie project website at: <https://learnexperience.isqe.com/sites/charlie/results.html>.

This toolkit is organised as follows:

- Taskmaster's guide
- Support materials
 - Presentations for the start and end of the game
 - PowerPoint: CharliesHouse_TM_Begin_Session.pptx
 - PowerPoint: CharliesHouse_TM_End_Session.pptx
 - Avatars specifications (images, descriptions and scores)
 - PowerPoint: CharliesHouse_avatars_specifications.pptx
 - Folder “Avatars_images” – images files of all avatares, to make it easier for Taskmaster to build the leaderboard in the PowerPoint of the final presentation
 - Excel file “Charlie_Game_avatares_scores.xlsx” to help interpret users’ game results data.

Taskmaster's guide

This document contains useful information for the Taskmaster to organise and prepare the game in advance.

Support materials

- PowerPoint presentation for the start of the game

A PowerPoint presentation template has been developed for the Taskmaster to present to users at the start of the game session.

The aim is to inform players of the general objective, the structure and the way the game will run (issues such as the general operating rules, how to communicate during the game, the estimated time and the end of the game are covered).

This document is a template, so the slides developed can be adapted by the Taskmaster to the specific circumstances in which the game will be operationalised.

- PowerPoint presentation for the end of the game

A template has been developed for the PowerPoint presentation that the Taskmaster should present to users at the end of the game session.

The aim is to close the game by bringing all the teams together at the end. He should start by presenting the points ranking, revealing the winning team; then he should summarise the knowledge acquired throughout the game; then he should analyse how did the game go for the different teams; he should give the opportunity to the players to give their opinion / make comments and signalling opportunities for improvement on how the game is operationalized. At the end, the Taskmaster collects a final overall rating of the game from each team.

This document is a template, so the slides developed must be adapted by the Taskmaster to the specific circumstances of the game's operationalisation.

d. Access to the game by the Taskmaster

The Taskmaster's first task is to get to know the game. To do this, they have to access the game and go through it to the end. You can access the game via a link or by installing the SCORM package on an e-learning platform (LMS - Learning Management System).

The link to the game and the scorm package are available on the Charlie project website:
www.charlie-project.uib.es

3. INITIAL CONFIGURATION OF THE GAME

a. Game setup

The game is available in 2 formats:

- **SCORM format (SCORM 2004)**

The Charlie project website (www.charlie-project.uib.es) provides a SCORM package to be installed on an LMS. It will then be necessary to create users in the LMS, enrol them in the game and create personal access credentials (username and password).

This type of access allows the player to leave the platform and return to the game exactly where they left, i.e. the progress of the game is recorded.

- **Website format**

The Charlie project website (www.charlie-project.uib.es) provides a link to log in and play the game. In this format, players' progress in the game is only saved while they are in the same session as the link. This means that if the player leaves the game link, when they click on the link again to enter the game, they start a new attempt and the progress of the previous attempt is not saved.

Here is a table summarising the differences between the 2 formats:

	SCORM FORMAT	WEBSITE FORMAT
Acommodation	LMS platform	Project website
Access	Requires registration and authentication (username and password)	Free, via a link
Progress recording during the game	Yes	Yes
Saving progress after leaving the game	Yes	No
Reference browsers	Chrome, Edge	
SCORM version	SCORM 2004	

b. Forming teams and electing spokespeople

This game is designed to be played in teams.
The Taskmaster must form the teams beforehand.

Each team must be made up of a maximum of 5 members so that all participants have the opportunity to take part in analysing and responding to the challenges.
Each team must elect a spokesperson, who is the person who will access the game and share the game screen with the other members.

The spokesperson for each team must be appointed by the Taskmaster when the teams are formed, who must then inform these users of how to access the game (if it is in SCORM format, they must be given the access credentials; if it is via the project website, they must be given the address of the link to access the game).

c. Choosing the communication platform

All the members of a team must be communicating synchronously (in person or online, via platforms such as Google Meet, Zoom or Microsoft Teams).

The communication platform used needs to be able to generate parallel rooms, so that it is possible for the various teams to start the game together in a common room, play the game in the parallel rooms and then come back together in the common room at the end.

In this process of choosing the communication platform, it is very important that the Taskmaster carries out a communications simulation test before the game is put into operation, to check that there are no constraints and that the chosen platform allows all the necessary communication dynamics to be managed throughout the game, namely:

- Having simultaneous parallel rooms so that each team can explore the game in its own room (mandatory)
- A way for each team to send screenshots of the game to the Taskmaster (mandatory)

- There should be a chat or other form of communication so that, once in the parallel rooms, players can ask the Taskmaster for help (advisable but not obligatory, as the idea is for the Taskmaster to visit each room on a regular basis).
- it is advisable for the parallel rooms to have a timer - important for teams to manage their time (advisable but not compulsory, as the Taskmaster can manage the time and warn the teams)

d. Schedule the session and configure the specifications

Once the communication platform has been chosen, the session must be created and its specifications configured.

The communication platform must allow parallel and simultaneous rooms to be created. A room must be created for each team.

Once the rooms have been created, the Taskmaster must assign the players from each team to their room.

The organiser of the session must be the Taskmaster, or, if they are not the same person, the organiser must give the Taskmaster organiser permissions, so that the Taskmaster can manage the rooms and enter and leave them throughout the game.

e. Test the parameterised communication platform

Once the session has been created on the Communication Platform, the Taskmaster must carry out a pilot test with a few test users to check that everything is working as intended.

f. Sending an invitation email to players

Once the session has been tested on the Communication Platform, the Taskmaster must send an invitation email to all the players with the session schedule, the date and time of the session and general information about the game, such as the team constitution, the themes and general objectives of the game.

A separate email should be sent to the spokespeople with instructions on how to access the game.

4. START OF THE GAME

a. Introduction to the game by the Taskmaster

On the day of the game session, the Taskmaster should enter the session a few minutes before the start time to ensure that when the players begin to enter, he is already there to welcome them.

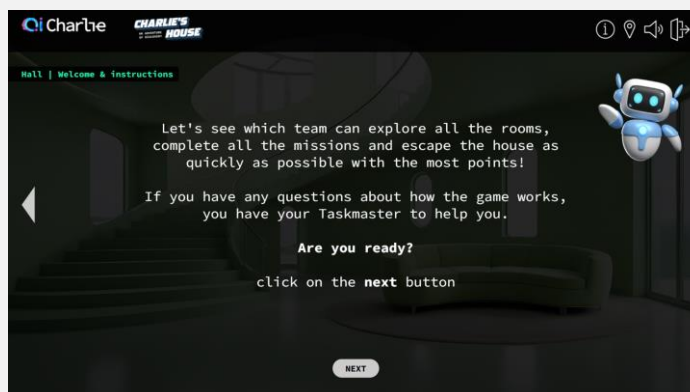
The Taskmaster should start the presentation by sharing the PowerPoint "CharliesHouse_TM_Begin_Session.pptx", which is available in the toolkit in the folder: "Support_materials".

The aim of this presentation is to inform the players of the general objective, the structure of the game and how the game will proceed.

Once the presentation is over, the Taskmaster must enter the game and share it, showing the initial screens for the game instructions.

b. Activating the parallel rooms

As soon as the Taskmaster reaches the screen indicating the start of the game, they must activate the parallel rooms and direct the players there.



They should then make a quick pass through each room to ensure that the spokesperson starts the game and the screen sharing with the other team members.

5. DURING THE GAME

a. Monitoring of the teams' progress by the Taskmaster

Once the teams are in the parallel rooms exploring the game, the Taskmaster has to go into each of the rooms to monitor the players' progress. The aim is to observe progress and ensure that if they need help, he is available to answer any questions that may arise. It's also important for the Taskmaster to ensure that all players are involved in making decisions about the challenges in each room.

We suggest that the Taskmaster pass through the rooms continuously, taking no more than 2-3 minutes in each room, to ensure that all the rooms feel his presence and support during the game.

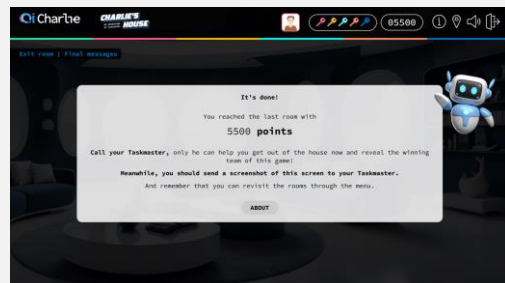
The Taskmaster should also monitor each team's time management, ensuring that everyone fulfils the stipulated time evenly.

In order to manage the final waiting time that may occur when the first team finishes the game and the others have not yet reached the end, the Taskmaster should suggest that the team that has already finished revisits the rooms (this option is available as soon as the team reaches the results screen).

b. Collecting information

During the game, there are 2 moments when the teams must inform the Taskmaster:

- The assignment of the avatar to the team
- The results screen with the points earned by the team



It is important for the Taskmaster to keep track of this information, as they will need to collect it to draw up the results slide in their final presentation.

6. FINALIZING THE GAME

a. Closing the parallel rooms

Once the Taskmaster has ensured that all the teams have reached the results screen and collected the data for their final presentation, they must close the parallel rooms so that the players are redirected to the common room.

b. Final presentation for the game wrap up

Once all the players are in the common room, the Taskmaster should start sharing the final presentation (PowerPoint "CharliesHouse_TM_End_Session.pptx", which is available in the toolkit in the folder: Support_materials).

Once all the teams have finished exploring the game, the Taskmaster should gather all the players together and start by welcoming them to the garden of Charlie's house, symbolising everyone leaving the house (slide 3 of the PowerPoint).

Then they should present the points ranking, revealing the winning team (slide 4 of the PowerPoint).

To do this, throughout the game they collect screenshots of the avatar selected for each team and the final results screens that each team must send to Taskmaster.

To build this slide, the Taskmaster must:

- 1) Identify each team's avatar from the printscreen received
- 2) Go to the toolkit folder: Support_materials >

Avatars_images, select the corresponding image and place it on the slide.

- 3) Based on the printscreens of the results screens received, place the number of points for each team on the slide

- 4) Organise the ranking on the slide according to the number of points obtained by each team.

When presenting this results slide, the Taskmaster should explain to the players the logic behind the avatars (see the PowerPoint document

"CharliesHouse_avatars_specifications.pptx" available in the toolkit in the folder: Support_materials.

On slide 5, the Taskmaster should summarise the knowledge acquired throughout the game, presenting the game's main ideas.

On slide 6 the Taskmaster should analyse how did the game go for the different teams, highlighting some points about how the game went for the different teams and giving the opportunity to the players to give their opinion / make comments and signalling opportunities for improvement on how the game is operationalized.

On slide 7 the Taskmaster is supposed to collect from each team a final overall rating about the game, on a scale of 1 to 5, where 1 means that the players think the game needs improvement and 5 means that the players enjoyed the game experience.

This document is a template, so the slides developed must be adapted by the Taskmaster to the specific circumstances of the game's operationalisation.

c. Analysing user progress reports in the SCORM format

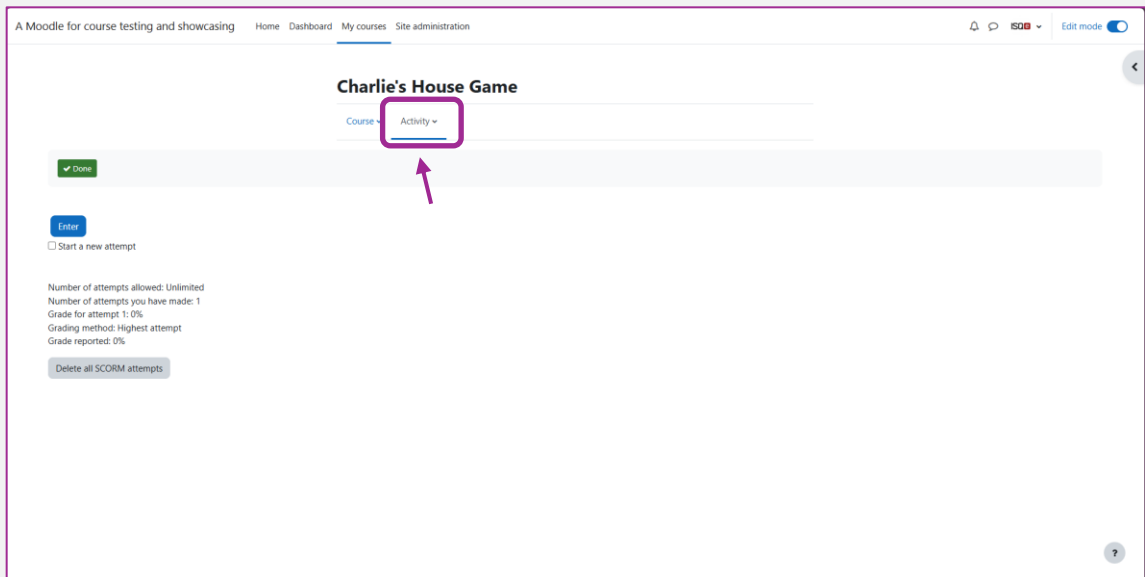
If the Taskmaster wants more details about the users' progress when they finish the game on the e-Learning platform, he/she Taskmaster (who must have the course administrator profile on the platform) can pull up a report per user to check various data such as the avatar chosen, the score obtained, the total number of answers given or the number of correct and incorrect answers.

This information is useful if the Taskmaster wants to go into detail in the analysis at the end of the game, to explain that the avatar assigned to each team in the game has inherent biases that may exist in real-life AI tools.

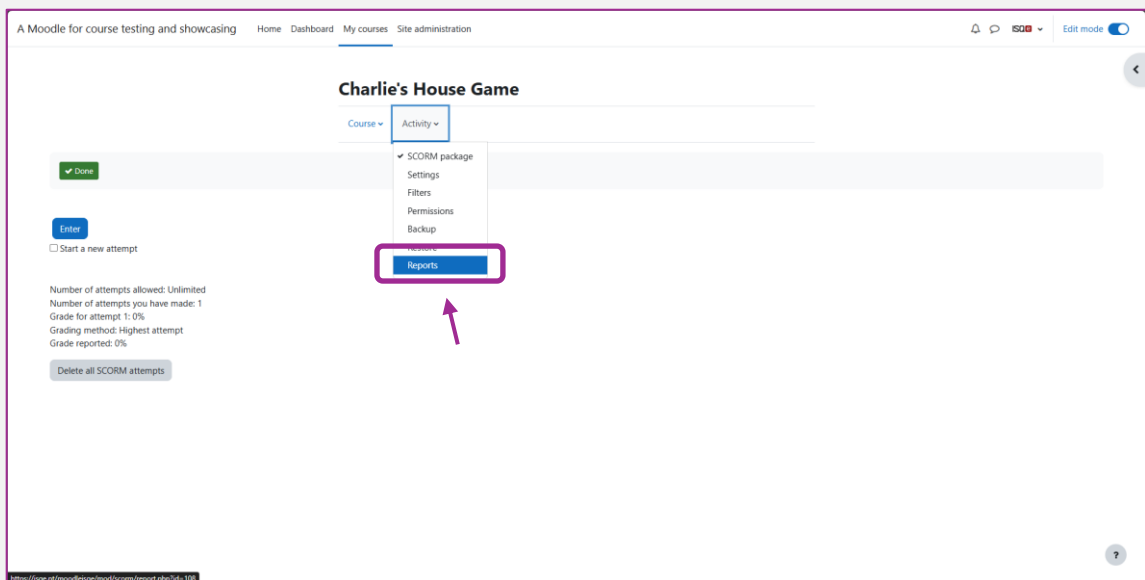
After pulling out this report, the Taskmaster can use the "Charlie_Game_avatares_scores.xlsx" excel file to help interpret the data. For example, you can say that, with the results obtained in the game, the score would have been different if the avatar had been different.

Below is a step-by-step example of how to download this report from the Moodle platform.

1) In the 'My courses' tab, with the game selected, click on the 'Activity' tab.



2) Then select the 'Reports' option.



3) Users who have finished the game will appear with a 'Completed' sign.
 In the user line, click on the right in 'Completed'.

A Moodle for course testing and showcasing Home Dashboard My courses Site administration

Reports / Report

Charlie's House Game

Course ▾ Activity ▾

Basic report Download ▾

1 attempts for 13 users, out of 13 results

	First name / Surname	Email address	Attempt	Started on	Last accessed on	Score	CLIENTE NOME DO CURSO
<input type="checkbox"/>	ISQe Administrator	nuno.pinto@isqe.pt	1	Wednesday, 4 September 2024, 5:14 AM	Wednesday, 4 September 2024, 5:44 AM	0	<input checked="" type="checkbox"/> Completed
<input type="checkbox"/>	charlept 1	charlept1@moodleisqe.isqe.pt	-	-	-	-	<input type="checkbox"/> Not attempted
<input type="checkbox"/>	charlept 2	charlept2@moodleisqe.isqe.pt	-	-	-	-	<input type="checkbox"/> Not attempted
<input type="checkbox"/>	charlept 3	charlept3@moodleisqe.isqe.pt	-	-	-	-	<input type="checkbox"/> Not attempted
<input type="checkbox"/>	charlept 4	charlept4@moodleisqe.isqe.pt	-	-	-	-	<input type="checkbox"/> Not attempted
<input type="checkbox"/>	charlept 5	charlept5@moodleisqe.isqe.pt	-	-	-	-	<input type="checkbox"/> Not attempted
<input type="checkbox"/>	charlept 6	charlept6@moodleisqe.isqe.pt	-	-	-	-	<input type="checkbox"/> Not attempted
<input type="checkbox"/>	charlept 7	charlept7@moodleisqe.isqe.pt	-	-	-	-	<input type="checkbox"/> Not attempted

Next up is a page with a progress report on the game, with various data.

4) At the bottom of the page there is an option to download the report. You should select the option to download in Microsoft Excel (.xlsx) and then click on the 'Download' button.

cmi.interactions.4.description	Chosen avatar: Wei
cmi.interactions.4.id	4
cmi.interactions.4.type	other
cmi.interactions.4.weighting	1
cmi.score.scaled	1
cmi.session_time	10.86 seconds
cmi.success_status	passed
cmi.suspend_data	audio:1 music:1 progress:5 completed:1 position:0 grade:0 score:5100 avatarid:9 intro_ended:1 currentRoom:5 correctAnswers:7 wrongAnswers:5 exercicios[0]:correct exercicios[1]:wrong exercicios[2]:undefined exercicios[3]:undefined exercicios[4]:undefined exercicios[5]:correct exercicios[6]:correct exercicios[7]:undefined exercicios[8]:undefined exercicios[9]:undefined exercicios[10]:correct exercicios[11]:correct exercicios[12]:undefined exercicios[13]:undefined exercicios[14]:undefined exercicios[15]:correct exercicios[16]:correct envelopes[0]:- envelopes[1]:1 envelopes[2]:1 envelopes[3]:1 envelopes[4]:1 rooms_completed[0]:- rooms_completed[1]:1 rooms_completed[2]:1 rooms_completed[3]:1 rooms_completed[4]:1 rooms_completed[5]:1
cmi.total_time	2 minutes 57.87 seconds
Download table data as	Microsoft Excel (.xlsx) Download













5) In the excel file, for the purposes of our analysis, we have highlighted the information marked in yellow in the image below:

	A	B	C
1	Element	Value	
2	cmi.completion_status	completed	
3	cmi.exit	suspend	
4	cmi.interactions.0.correct_responses.0.pattern		
5	cmi.interactions.0.description	Correct answers: 7	
6	cmi.interactions.0.id		0
7	cmi.interactions.0.type	other	
8	cmi.interactions.0.weighting		1
9	cmi.interactions.1.correct_responses.0.pattern		
10	cmi.interactions.1.description	Wrong answers: 5	
11	cmi.interactions.1.id		1
12	cmi.interactions.1.type	other	
13	cmi.interactions.1.weighting		1
14	cmi.interactions.2.correct_responses.0.pattern		
15	cmi.interactions.2.description	Total answers: 12	
16	cmi.interactions.2.id		2
17	cmi.interactions.2.type	other	
18	cmi.interactions.2.weighting		1
19	cmi.interactions.3.correct_responses.0.pattern		
20	cmi.interactions.3.description	Total score: 5100	
21	cmi.interactions.3.id		3
22	cmi.interactions.3.type	other	
23	cmi.interactions.3.weighting		1
24	cmi.interactions.4.correct_responses.0.pattern		
25	cmi.interactions.4.description	Chosen avatar: Wei	
26	cmi.interactions.4.id		4
27	cmi.interactions.4.type	other	
28	cmi.interactions.4.weighting		1
29	cmi.score.scaled		1
30	cmi.session_time	2 minutes 57.87 seconds	
31	cmi.success_status	passed	

With this information, we know:

- 1) that the game has been completed to the end
- 2) that this user answered 7 questions correctly
- 3) that the final score was 5100 points
- 4) that the avatar assigned was Wei.

6) Based on this information and using the table below (also available in the excel file “Charlie_Game_avatares_scores.xlsx”, in the ‘Support_materials’ folder), the Taskmaster can then explain to the players why, for example, 2 users who have different avatars and the same number of correct answers, have different final scores.

AVATAR IMAGE	AVATAR	GENDER	AGE	SPIRITUALITY	S.E. STATUS	DISABILITIES	Nº. of points for each correct answer (1st attempt)	Nº. of points for each correct answer (2nd attempt) [-50 points]	Maximum score with all correct answers on the 1st attempt	Maximum score with all correct answers on the 2nd attempt
	1 Maria	Female	Child	Christian	Lower class	None	750	700	12000	11200
	2 Ahmed	Male	Young adult	Islamism	Middle class	Visual/auditive/mobility disability	700	650	11200	10400
	3 Ms. Ana	Female	Senior	Hinduism	Upper class	Mental/intellectual disability	500	450	8000	7200
	4 Amina	Female	Middle aged	Islamism	Lower class	Visual/ auditive/ mobility disability	550	500	8800	8000
	5 Mr. Tanaka	Male	Senior	Christian	Middle class	Mental/ intellectual disability	650	600	10400	9600
	6 Khan	Non-binary/undefined	Young adult	Islamism	Upper class	Visual/ auditive/ mobility disability	700	650	11200	10400
	7 Mrs. Diana	Female	Senior	Hinduism	Lower class	Visual/ auditive/ mobility disability	550	500	8800	8000
	8 Abel	Male	Young adult	Islamism	Middle class	None	750	700	12000	11200
	9 Alex	Female	Child	Christian	Upper class	None	750	700	12000	11200
	10 Mrs. Johnson	Female	Senior	Christian	Middle class	None	750	700	12000	11200
	11 Maryam	Female	Child	Islamism	Lower class	None	700	650	11200	10400
	12 Wei	Male	Middle aged	Christian	Lower class	None	750	700	12000	11200

Let's imagine the following example:

A user with the Maria avatar, got all the challenges right on the first attempt and scored 12000 points. Another user with the Mrs Diana avatar also got all the challenges right on the first attempt and only scored 8800 points.

How can this difference be explained?

It's related to the fact that, in the game, we've replicated in the avatars what can happen in AI tools – the risk of incorporating biases according to certain personal characteristics such as gender, age, religion, socio-economic level or the existence of a disability.

So, in the game, it may even happen that a particular user has more correct challenges than another and has fewer points at the end.

Also note that in the game, mandatory challenges answered in the 2nd attempt have fewer points than those answered in the 1st attempt.

To finalise, below you'll find some additional **information about the game's scoring** that may be useful:

There are 4 rooms with challenges.

In each room there are:

- 2 compulsory challenges (with 2 attempts, with different questions on each attempt; once you've exhausted your attempts without getting the right answer, you don't earn points, but you get the key to continue to the next room)
- 2 optional challenges (with 1 attempt)

In total there are:

- 8 compulsory challenges
 - . 1st attempt: max. points
 - . 2nd attempt: max. points - 50 points
- 8 optional challenges
 - . 1 attempt - max. points

This Taskmaster's guide was developed as part of the Charlie Project, in partnership with the following organisations:



Co-funded by
the European Union

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.



Universitat
de les Illes Balears



European Education and Culture Executive Agency



AARHUS UNIVERSITY



VAMK UNIVERSITY OF APPLIED SCIENCES



2022-1-E501-KA220-HED-000085257