Algorithmic foundations and ethics in AI: from theory to practice course

Toolkit for synchronous sessions

CU1 | AI ethics - a practical approach
Open answer formative assessment

Open answer formative assessment
Background and suggestions

The objective of this assignment is to provide students with the chance to explore a comprehensive tool that consolidates many topics covered in the CU1.

This includes various ethical principles, identification of stakeholders and their roles, and a detailed description of the AI lifecycle.

The third question will be sourced directly from the tool, ensuring that students access it and engage with its contents, thus reinforcing its usage.

Answers can be collected in the form the teacher sees the best: e.g. via Moodle or e-mail.

AI tools such as ChatGPT are not helpful to manage with this task, since the answers should be taken directly from the tool and course material, and thereby correct answers are only the ones mentioned in the pages 6 & 7.

Open answer formative assessment

	Description	Comments for teacher
Task description	Familiarize students with HLEG's ALTAI portal. This task will help students gain insights into ethical AI practices and how to apply them using the ALTAI framework.	See pages 5 and 6 for correct answers. All answers can be found from the ALTAI tool, and any other answer is wrong and proving that the tool was not used.
Description of how to do the task	You can find detailed information from the next pages.	
Estimated time to do the task	30-60 minutes	
Suggestion of sources for doing the task	Questions 1-3: https://futurium.ec.europa.eu/en/european-ai-alliance/pages/welcome-altai-portal Question 4: CU Flipbook and E-learning	
Detailed description of how to deliver the task	See next page.	The teacher should explain on where to return the assignment (e.g. by email, in a certain folder previously shared with the student, in an area created in the course structure on the e-learning platform...).
Information on the deadline for the task delivery	The teacher should set a deadline for the submission of this assignment (please note the structure of the course in terms of asynchronous work and synchronous sessions).	Give the date in the introduction session.
Contact information or how to clarify doubts	The teacher must provide a form of contact.	It could be an email address, a telephone number...

Open answer formative assessment
Instructions

Answer to four (4) questions outlined below.

The Assessment List for Trustworthy Artificial Intelligence (ALTAI), is a practical tool that helps business and organizations to self-assess the trustworthiness of their AI systems under development. This task will help you to familiarize yourself with the tool.

The concept of Trustworthy AI was introduced by the High-Level Expert Group on AI (AI HLEG) in the Ethics Guidelines for Trustworthy Artificial Intelligence (AI) and is based on seven key requirements.

1. Which are the 7 key requirements of trustworthy AI, which AI HLEG has defined in the Altai homepage?

    (i) Check the Altai homepage to find this information.

2. Since the assessment of the AI solution is best completed involving a multidisciplinary team of people from within or outside the organization, who are the stakeholders you should involve into your AI development project according to ALTAI?

    (i) You find this information following "Step 3: practical information on how to complete ALTAI" from the Altai homepage

3. How is AI lifecycle described in the ALTAI tool?

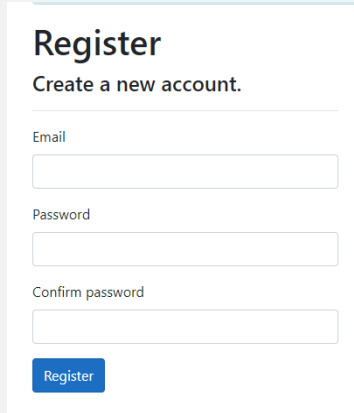   (i) Follow the instructions in the next page to see how to find this information in the ALTAI prototype.

4. Which steps are included in the AI development lifecycle presented in the CU1?

    (i) You can find this information in the e-learning course and the booklet.

Open answer formative assessment

Question 3 | step by step instructions on how to find the answer

Step 1. Register

Register
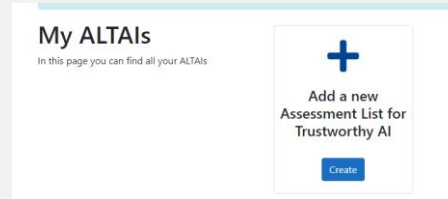
Create a new account.

Email

Password

Confirm password

Register

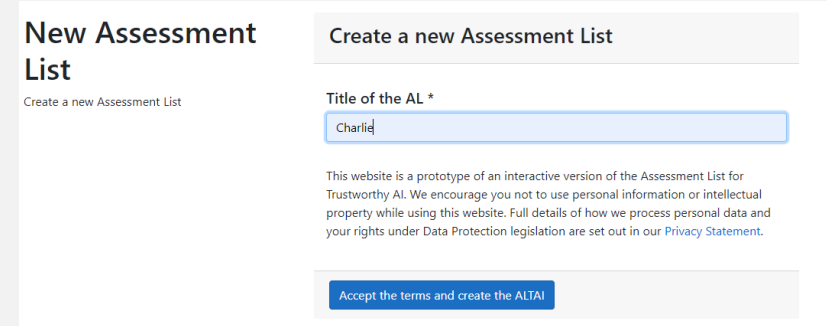**Step 2.** Once registered, add a new assessment list for trustworthy AI

My ALTAIs

In this page you can find all your ALTAIs

+

Add a new Assessment List for Trustworthy AI

Create

Step 3. Give a title to your Assessment list > Accept the terms and create the ALTAI
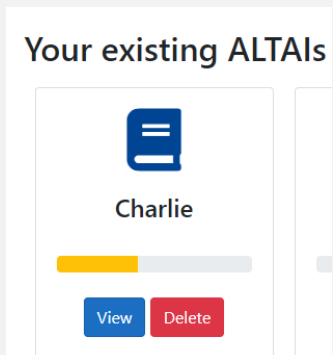
New Assessment List

Create a new Assessment List

Create a new Assessment List

Title of the AL *

Charlie

This website is a prototype of an interactive version of the Assessment List for Trustworthy AI. We encourage you not to use personal information or intellectual property while using this website. Full details of how we process personal data and your rights under Data Protection legislation are set out in our Privacy Statement.

Accept the terms and create the ALTAI

Step 4. View your existing ALTAI

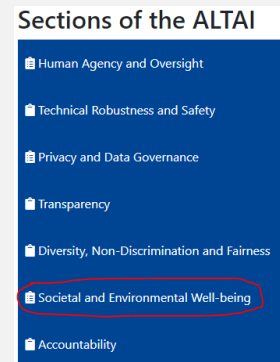Your existing ALTAIs

Charlie

View   Delete

Step 5. Click on the sections to see the content of the ALTAI tool

Sections of the ALTAI

- Human Agency and Oversight
- Technical Robustness and Safety
- Privacy and Data Governance
- Transparency
- Diversity, Non-Discrimination and Fairness
- Societal and Environmental Well-being
- Accountability

Step 6. Click on the Societal and wellbeing section

Sections of the ALTAI

- Human Agency and Oversight
- Technical Robustness and Safety
- Privacy and Data Governance
- Transparency
- Diversity, Non-Discrimination and Fairness
- Societal and Environmental Well-being
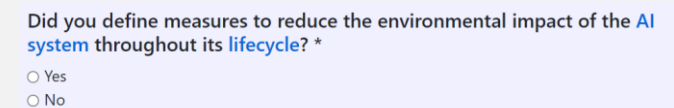- Accountability

Step 7. Browse the section and you'll find answer to question 3 by pressing the lifecycle button in this question in the tool

Did you define measures to reduce the environmental impact of the AI system throughout its lifecycle? *

○ Yes
○ No

Open answer formative assessment
Correct answers for the formative assessment

1. Which are the 7 key requirements of trustworthy AI, which AI HLEG has defined in the [Altai homepage](#)?

Correct answer can be copied straight from the first page of Welcome to the ALTAI portal! | Futurium (europa.eu)

These are the 7 key requirements mentioned there:
- Human Agency and Oversight
- Technical Robustness and Safety
- Privacy and Data Governance
- Transparency
- Diversity, Non-discrimination and Fairness
- Environmental and Societal well-being
- Accountability

2. Since the assessment of the AI solution is best completed involving a multidisciplinary team of people from within or outside the organisation, who are the stakeholders you should involve into your AI development project according to ALTAI?

Correct answer can be copied from this page How to complete ALTAI - ALTAI (insight-centre.org), which is to be followed directly from the fist page mentioned in the question number 1.

ALTAI is best completed involving a multidisciplinary team of people from within or outside your organisation with specific competences or expertise on each of the 7 requirements and related questions such as:
- AI designers and AI-developers of the AI system.
- Data scientists.
- Procurement officers or specialists.
- Front-end staff that will use or work with the AI system.
- Legal/compliance officers.
- Management

3. How is AI lifecycle described in the ALTAI tool?

Correct answer can be copied directly from the tool prototype under societal and environmental well-being and from the question box there. Step by step instructions are to be found from the slide 5.
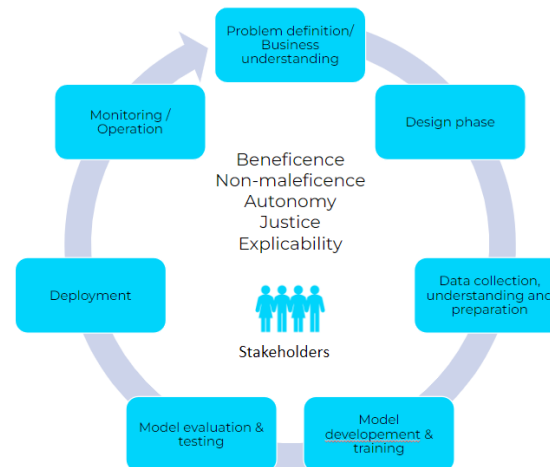
Correct answer:
"The lifecycle of an AI system includes several interdependent phases ranging from its design and development (including sub-phases such as requirement analysis, data collection, training, testing, integration), installation, deployment, operation, maintenance, and disposal. Given the complexity of AI (and in general information) systems, several models and methodologies have been defined to manage this complexity, especially during the design and development phases, such as waterfall, spiral, agile software development, rapid prototyping, and incremental."

4. Which steps are included in the AI development lifecycle presented in the CU1?
This is the only answer, which is not to be found from the tool, but from the course material instead:

Correct answer:
1) Problem definition/ business understanding
2) Design phase
3) Data collection, understanding and preparation
4) Model development and training
5) Model evaluation and testing
6) Deployment
7) Monitoring / operation

THANK YOU