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D1.6 Legal and Ethical Issues Manual

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List of acronyms

Acronym	Description
ADAE	Hellenic Authority for Communication Security and Privacy
CAHAI	Ad hoc Committee on Artificial Intelligence
AI	Artificial Intelligence
ALTAI	Assessment List for Trustworthy AI
augMENTOR	Augmented Intelligence for Pedagogically Sustained Training and Education
DPIA	Data Protection Impact Assessment
DPO	Data Protection Officer
DSG	Datenschutzgesetz (Austrian data protection act)
D	Deliverable
DCE	Digital Citizenship Education
DSA	Digital Services Act
EAB	Ethics Advisory Board
EU	European Union
GDPR	General Data Protection Regulation
GA	Grant Agreement
HDPA	Hellenic Data Protection Authority
AI HLEG	High-Level Expert Group on Artificial Intelligence
MGA	Model Grant Agreement
NGO	Non-Governmental Organizations
DSB	Österreichische Datenschutzbehörde
DPA	Poverenik za informacije od javnog značaja i zaštitu podataka o ličnosti
ROPA	Records of Processing Activities
UN	United Nations
VDAI	VALSTYBINĖ DUOMENŲ APSAUGOS INSPEKCIJA
VR	Virtual Reality
WP	Work Package

Executive summary

The present deliverable D1.6 "Legal and Ethical Issues Manual" aims to provide a manual for the legal and ethical routines and guidelines that should be established and followed through the duration of the augMENTOR project. Data collection and processing will take place during several activities of the project and from different sources, such as involving end-users and other stakeholders using potentially questionnaires, interviews and focus groups, and collecting end-users' trace data as they engage with the technologies developed by the project.

The project consortium is committed to safeguard the protection of personal data and to respect ethical principles related to conducting research with human participants, and the use of Artificial Intelligence. This manual presents the necessary measures that the consortium needs to establish. Furthermore, this manual will be used as a "live" document. That is, it will be updated regularly throughout the project's duration, in collaboration with the Ethics Manager of augMENTOR and following the advice of the External Ethics Advisory Board. In this way, the project's consortium aims to ensure that potential legal and ethical issues that may arise and have not been foreseen, will be addressed timely and effectively.

The main topics covered in this deliverable are the European and national legislative frameworks and requirements for the augMENTOR project and the countries in which data collection will take place, the augMENTOR ethics framework to support the monitoring and identification of potential legal and ethical issues as well as the legal and ethical risks relevant to this project. Finally, we present the legal and ethics management plan that augMENTOR has established to address potential risks and issues.

1 Introduction

In augMENTOR, we engage end-users and other stakeholders in the design, application, and evaluation phases of the frameworks and tools that we develop throughout the project's duration. Therefore, aspects regarding data privacy and the protection of personal or sensitive information are crucial. Authorized access, pseudo-anonymization and anonymization are indicative measures to be applied to protect the confidentiality of collected data.

Furthermore, since augMENTOR aims to deliver AI-enhanced technology, we acknowledge that the use of Artificial Intelligence (AI) entails legal, social, and ethical implications that should be carefully considered and addressed, such as legal and ethical dilemmas regarding the algorithmic decision-making, and issues related to overall system explainability, accountability, transparency and fairness.

Concerning legislation, the project's activities including data collection will be performed in accordance with relevant European Union (EU) and national laws, which will be presented in this document.

Concerning ethical aspects of development and operation, the project's activities will follow existing guidelines and regulatory frameworks, seek for ethics approval where and when necessary, and consult the project's ethics manager and the external and independent Ethics Advisory Board (EAB), as will be presented in this document.

1.1 Scope and objectives of the deliverable

The deliverable D1.6 "Legal and Ethical Issues Manual" (from now on also referred to as "manual") aims to describe the legal and ethical issues that may arise within the augMENTOR project and the ways to address them effectively and efficiently.

This deliverable is the initial output of Task 1.5 Legal compliance and ethical assurance (University of Duisburg-Essen, UDE; M1-M36) which belongs to work package WP1 and which is *"responsible for the identification of all relevant legal and ethical issues during the implementation of augMENTOR, including - but not limited to - confidentiality, integrity, validity, objectivity, accuracy, fairness, accountability, transparency, ethics, trustworthiness, authenticity, respect for autonomy, facilitation of human agency, reciprocity, and equity"* according to the Grant Agreement (GA).

The main objective of this deliverable is to provide, in the form of a manual, "a list of guidelines concerning legal and ethical issues (to be ready before the kick-off of the planned demonstrations) to guide the ethical assurance, gender equality and overall compliance of the augMENTOR project with national and EU legislation."

The manual will be constantly updated with information on new developments of acquired know-how and will assist the work of the project's ethics manager and the external EAB.

1.2 Structure of the deliverable

The deliverable is structured as follows: Chapter 2 outlines the EU and national legislation and directives regarding data collection, management, and processing and it focuses on the countries where the data collection will be performed. Chapter 3 presents the augMENTOR ethical framework that discusses the critical aspects of the project regarding ethics and outlines the ethical recommendations and guidelines that augMENTOR will adhere to. Chapter 4 presents the legal and ethical management risks that the augMENTOR consortium foresees up to this day, the methodology that will be followed to address and mitigate risks, and the external EAB and its role within this context. Chapter 5 provides a summary of the conclusions and closing remarks.

1.3 Relation to other tasks and deliverables

This deliverable is closely related to the augMENTOR GA itself since it has been used extensively while preparing this document. Additionally, this manual extends to the following deliverables (D):

- D1.1: Project Management Manual
- D1.3: Data Management Plan
- D1.4: Data Management Plan 2
- D1.5: Data Management Plan 3
- D8.1: H - Requirement No. 1
- D8.2: POPD - Requirement No. 2
- D8.3: AI - Requirement No. 3
- D8.4: OEI - Requirement No. 5
- D8.5: OEI - Requirement No. 6
- D8.6: OEI - Requirement No. 7
- D8.7: OEI - Requirement No. 8
- D8.8: OEI - Requirement No. 9

Additionally, this manual will serve as input for work package WP6: Use Case Deployment, Operation, Validation and Assessment.

2 Legislation

augMENTOR involves data collection during the design, application, and evaluation phases of the project at the pilot sites to develop, test, and assess the pedagogical and technology solutions, as well as data collection during pre-pilot and pilot activities (a detailed description regarding the pre-pilot and the pilot activities is provided in deliverable D2.1, Chapter 4 and Chapter 6 and in deliverable D8.1, Chapter 3) and focus groups for eliciting user and technical requirements. To this end, human participants will be involved in activities related to data collection and monitoring, as well as potential participation in surveys, focus groups and interviews.

We acknowledge that such activities can raise privacy and data protection issues. Therefore, augMENTOR aims to ensure that data collection, management, and processing will be carried out in full compliance with European and National legislation and directives relevant to the country where the activities take place.

2.1 European Union legislation

All activities related to data collection, management and processing will be performed in full compliance with the following EU legislation and directives:

- The General Data Protection Regulation (GDPR) 2016/679 [1], and the EU directive 2016/680 [2] on the protection of natural persons with regard to the processing of personal data and on the free movement of such data
- The Privacy and Electronic Communications (ePrivacy) Directive 2002/58/EC [3]

GDPR is a European privacy and security law which was drafted by the EU and put into effect on May 25, 2018. GDPR imposes obligations onto organizations anywhere, if they target or collect data related to people in the EU. The regulation was entered into force on May, 24 2016 and applies since May 25, 2018.

The **Directive 2016/680** – in force on May, 5 2016, and transposed into National Law of EU Member States by May 6, 2018 – aims to ensure the protection of personal data of individuals involved in criminal proceedings, be it as witnesses, victims or suspects while taking into account the specific nature of the police and criminal justice field and to facilitate to increased trust and cooperation in the fight against crime in Europe, by harmonizing the protection of personal data by law enforcement authorities in EU member states and Schengen countries.

The **ePrivacy Directive 2002/58/EC** – it applies since July 31, 2002 – sets out rules to ensure security in the processing of personal data, the notification of personal data breaches, and

confidentiality of communications and information, treatment of traffic data, spam, and cookies. It also bans unsolicited communications where the user has not given their consent.

Furthermore, augMENTOR will follow and comply with the **Universal Declaration of Human Rights** [4], and the **Convention 108** for the Protection of Individuals regarding Automatic Processing of Personal Data [5].

2.1.1 Definitions

In augMENTOR, we adopt the definitions regarding data collection and management processes as outlined by GDPR Chapter 1, Article 4 [6].

2.1.2 Principles

We fully adhere to the GDPR principles related to the processing of personal data, processing, and consent as outlined in Chapter 2, Articles 5 to 11 [7]. These principles should be ensured before and during the data processing phase.

Special attention should be given during the project to principles regarding:

- a) the conditions for consent (Article 7 GDPR, [8])
- b) the conditions applicable to a child's consent in relation to information society services (Article 8 GDPR, [9])
- c) the processing of special categories of personal data (Article 9 GDPR, [10]). Such data relate to personal data *“revealing racial or ethnic origin, political opinions, religious or philosophical beliefs, or trade union membership, and the processing of genetic data, biometric data for the purpose of uniquely identifying a natural person, data concerning health or data concerning a natural person's sex life or sexual orientation shall be prohibited”*. These types of personal data are not related to the scope of the augMENTOR project and, therefore, collection and processing of such data should be avoided based on the data minimization principle Article 5 (1) (c) of the GDPR.

A detailed account regarding the processes established to address personal data protection measures is reported in D8.2.

2.1.3 Data Protection Impact Assessment

A Data Protection Impact Assessment (DPIA) will be established to evaluate potential risks regarding the rights and freedoms of individuals in terms of the risks' origin, nature, particularity, and severity. Through the DPIA, we will establish measures, safeguards, controls, and mechanisms to address these risks with the goal of protecting personal data.

The DPIA is required under the GDPR and aims to enhance data controllers' accountability. A DPIA is mandatory in case the project deals with special categories of data (for example, sensitive data) processed on a large scale, if a new technology will be deployed and tested or in the case a profiling operation is susceptible to affect people in a significant manner.

For augMENTOR, we foresee the use of DPIAs according to the requirements and in accordance with the provided checklists and templates provided under GDPR [11].

The augMENTOR consortium will monitor the ongoing work of regulatory bodies and relevant data protection recommendations and will seek for advice and input from the ethics manager and the EAB on a regular basis and before the collection of data.

A detailed description regarding the augMENTOR's working processes and measures regarding the DPIA is reported in D8.2, Section 3.3.

2.1.4 Data Controllers, Processors, and Records of Processing Activities

In augMENTOR, data collection and processing at the pilot sites will take place within WP6 – Use case deployment, operation, validation, and assessment when the system will be fully deployed as well as during development. In the four (4) pilot sites in Greece, Lithuania, and Serbia, data from end-users will be collected. Data will be potentially related to learners' performance; therefore, their processing may result in end-user identification. The data that will be generated from the activities at the four pilot sites will be pseudo-anonymized prior to their storage in the system database. augMENTOR consortium members are committed to treating the data anonymously. In relation to data handling activities, the roles of data controllers and data processors depend on the source of the collected data (see **Figure 1**). In brief:

- For Pilot 1 (IASIS Pilot): IASIS will act as Data Controller regarding data provided for LMS account generator and as Data Processor for LMS-generated data. UPATRAS will act as Data Controller for LMS-generated data and as Data Processor for data provided for LMS account generation. Seven (7) partners (NVCR, MSX, UNIGR, UDE, UCA, KT and CSI) will act as Data Processors for LMS-generated data.
- For Pilot 2 (UPATRAS Pilot): UPATRAS will act as Data Controller regarding data provided for LMS account generator and for LMS-generated data. Eight (8) partners (NVCR, MSX, UNIGR, UDE, UCA, KT, CSI and IASIS) will act as Data Processors for LMS-generated data.
- For Pilot 3 (EASD Pilot): EASD will act as Data Controller regarding data provided for LMS account generator and as Data Processor for LMS-generated data. UPATRAS will

act as Data Controller for LMS-generated data and as Data Processor for data provided for LMS account generation. Eight (8) partners (NVCR, MSX, UNIGR, UDE, UCA, KT, CSI and IASIS) will act as Data Processors for LMS-generated data.

- For Pilot 4 (KTU Pilot): KTU will act as Data Controller regarding LMS-generated data and as Data Processor for data provided for LMS account generator. ACP will act as Data Controller for data provided for LMS account generation. Nine (9) partners (NVCR, MSX, UNIGR, UDE, UCA, KT, CSI, IASIS and UPATRAS) will act as Data Processors for LMS-generated data.

The controllers will follow certain steps to ensure compliance with the GDPR, such as (a) the engagement of the Data Protection Officer (DPO) for each pilot site, and (b) ensuring that only the anonymous data will be shared with the processors. The DPO will monitor compliance with GDPR and internal policies and will provide advice on the necessity and implementation of DPIAs.

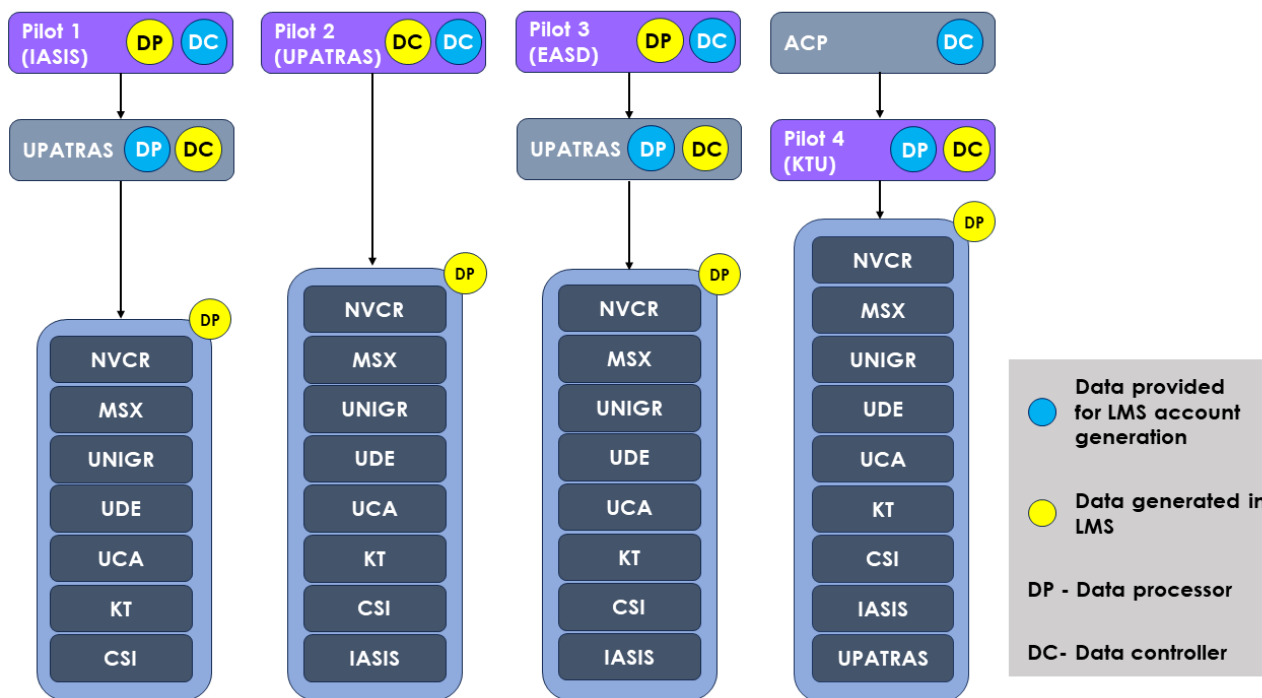


Figure 1. Diagrammatic representation of the data handling process

In case a company or organization is not required to employ a DPO, the corresponding Ethical Advisory Board member of the respective company or organization will be employed instead. Moreover, the controller will be responsible for compliance with Article 30 of GDPR – Records of Processing Activities (ROPA) [12]. A detailed description regarding the ROPAs established for augMENTOR is provided in D8.2, Section 3.1, and additional information regarding the data sharing among partners is provided in D8.2, Section 3.2.

2.2 National legislation

This section outlines the legislation related to data protection and provides information about the data protection authorities of the three countries (Greece, Lithuania, and Serbia) that are directly involved in the pilots.

2.2.1 Greek pilots (IASIS, UPATRAS)

The Hellenic Data Protection Authority (HDPa) (<https://www.dpa.gr/en>) is the constitutionally established independent public authority responsible for the application and enforcement of the data protection legislation. Additionally, the Hellenic Authority for Communication Security and Privacy (ADAE) (<http://www.adae.gr/en/>) is responsible for the protection of free correspondence and communication, including personal data issues in telecommunications.

The legislation on the protection of personal data at national and European level includes:

- the General Data Protection Regulation (EU) 2016/679 (GDPR). According to Article 288 of the Treaty on the Functioning of the European Union, the GDPR is directly applicable to all Member States, which are required to take the necessary measures to adapt their national legislation [1].
- Law 4624/2019, by which measures are laid down for the implementation of the GDPR and Directive (EU) 2016/680 is incorporated into national legislation [13].
- Law 2472/1997, repealed, except for the provisions specifically mentioned in article 84 of Law 4624/2019 [14].
- Law 3471/2006 in the field of electronic communications incorporates Directive 2002/58/EC (E-Privacy Directive), as amended by Directive 2006/136/EC, is complementary and specific to the institutional framework for the protection of personal data in the field of electronic communications [15].
- European legislation on the protection of personal data includes Article F of the Treaty on European Union, Article 8 of the Charter of Fundamental Rights of the European Union, Article 8 of the European Convention on Human Rights, Convention 108 of the Council of Europe and its modernization.

Detailed information about the legal framework in Greece can be found at <https://www.dpa.gr/en>.

2.2.2 Serbian pilot (EASD)

The National Data Protection Authority in Serbia is the Commissioner for Information of Public Importance and Personal Data Protection (Poverenik za informacije od javnog značaja i zaštitu podataka o ličnosti - (DPA)) (<https://www.poverenik.rs/sr/>).

The main piece of legislation currently regulating personal data protection in the Republic of Serbia is the Law on Protection of Personal Data (Official Gazette of the Republic of Serbia, No. 87/2018¹, available only in Serbian).

In addition, Serbian data protection legislation includes 10 by-laws (available only in Serbian²).

2.2.3 Lithuanian pilot (KTU)

The State Data Protection Inspectorate (VALSTYBINĖ DUOMENŲ APSAUGOS INSPEKCIJA, VDAI) (<https://vdai.lrv.lt/en/>) is the national data protection authority for Lithuania and oversees enforcing GDPR. Besides GDPR, the regulation of the operation of VDAI is determined by national law. In particular, the data protection law authorizes the DVAI to perform the following tasks:

- To provide advice to data subjects, data controllers and processors on the protection of personal data and privacy protection, and also to develop methodological recommendations for the protection of personal data and to publish them publicly on their website.
- To cooperate with personal data protection supervisory authorities of other countries, European Union institutions and international organizations and to take part in their activities.
- To participate in the formation of state policy in the field of personal data protection and to implement it.
- To implement the provisions of the Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data (ETS No. 108) and its Protocols;
- To perform other functions specified in the Data Protection Law and other legal acts.

For the KTU pilot, participants will be sourced from the Austrian Center of Peace (ACP) networks who come from peacebuilding and Non-Governmental Organizations (NGO) professionals.

¹ <https://tinyurl.com/bdh9axee>

² <https://tinyurl.com/55973apf>

There is no personal relationship between partners and participants. Participants will only interact with the consortium members from KTU and ACP who will organize the pilot and act as tutors during the pilot.

The Austrian Data Protection Authority (Österreichische Datenschutzbehörde, DSB) is the national supervisory authority for data protection in Austria (<https://www.data-protection-authority.gv.at/>). The Legal Information System of the Republic of Austria (www.ris.bka.gv.at) provides Austrian legislation in its current version (federal and state), law gazettes (federal and state) and case law.

The Austrian data protection act (Datenschutzgesetz, short DSG)³ and the General Data Protection Regulation (Regulation (EU) 2016/679) (GDPR) apply to privacy-related issues in Austria. The DSG is complementary the GDPR. Furthermore, Austria complies with European Regulations and Directives as reported by the DSB⁴.

³ https://www.ris.bka.gv.at/Dokumente/Erv/ERV_1999_1_165/ERV_1999_1_165.html

⁴ <https://www.data-protection-authority.gv.at/data-protection-laws/relevant-data-protection-laws.html>

3 augMENTOR ethics framework

This section presents the ethical framework in which the augMENTOR project will operate. At first, we identify potential ethical issues that may arise during the project's lifetime, and we elaborate regarding regulations and guidelines that should be taken into consideration to safeguard ethics.

In the context of augMENTOR, we identify three critical aspects regarding ethics:

1. Ethical issues in research
2. Ethical issues and requirements regarding the use of human subjects in project activities
3. Ethical issues and requirements regarding AI

In the following sections, we elaborate on each aspect.

3.1 Ethical issues in research

Ethics is a fundamental component and prerequisite for achieving excellence in research and innovation. Specifically for Horizon projects, researchers are asked to consider ethics at the conceptual stage of the proposal and to use the ethics-by-design approach to contribute toward the development of knowledge, technology, and applications that improve people's lives, prospects, and possibilities.

The Horizon Ethics Manual [16] will be used as the first and fundamental resource for guiding the project's activities.

Compliance with ethical principles and the highest ethical standards is among the guiding principles of Horizon Europe according to Regulation (EU) 2021/695, Article 19 [17] and the Model Grant Agreement (MGA), Article 34 [18].

Particular attention, according to Regulation (EU) 2021/695 should be paid to:

- the principle of proportionality, as laid down in Article 5(4) of the Treaty on European Union [19]
- the right to privacy
- the right to the protection of personal data
- the right to the physical and mental integrity of a person
- the right to non-discrimination
- the need to ensure protection of the environment
- the need to ensure high levels of human health protection

Furthermore, the consortium will respect and comply with fundamental ethical principles including:

- respect for autonomy
- justice
- beneficence
- non-maleficence, and
- human dignity

Equally important is that the augMENTOR project consortium and the project related activities will comply with the “European code of conduct for research Integrity” [20] and the United Nations’ (UN) “Universal declaration of human rights” [4]. For activities carried outside the EU, the augMENTOR consortium will provide a confirmation that the same activities would have been allowed in a member state.

Complementary to the guidelines and regulations already mentioned, augMENTOR will adhere to the “Global code of conduct for research in resource-poor settings”⁵ and to the “Charter of fundamental rights” of the European Union (2010/C 83/02) [21].

3.2 Ethical issues and requirements regarding the use of human subjects

augMENTOR will involve human participants during the project’s lifetime as participants in the four pilots and for the elicitation of user requirements. Detailed information regarding the use of human subjects in project activities is reported in D8.1. In brief, to ensure that humans participating in the project’s activities are protected throughout all project’s processes and procedures, the augMENTOR consortium will adhere to the following actions and guidelines that are in place as ethical requirements when performing an activity that involves data collection from end-users:

- Provide informed consent forms for the participation of humans, paying particular attention to minors, underrepresented, or marginalized populations (see D8.1, Chapter 4)
- Provide information about the data management process: collection, storage, protection, retention handling and destruction, according to national and EU legislation (see D8.2, D1.3 and D1.4)
- Acquire confirmation by the DPO and/or obtain authorization or notification by the corresponding National Data Protection Authority according to GDPR and national laws
- Provide reasonable justification for collecting and processing personal data

⁵https://ec.europa.eu/research/participants/data/ref/h2020/other/hi/coc_research-resource-poor-settings_en.pdf

- Prior to both pre-piloting phase and pilot deployment (as described in D2.1, Chapter 4 and Chapter 6; and D8.1, Chapter 3), all involved end-users must agree and sign informed consent forms
- All personal data will be held private and will be pseudo-anonymized as soon as possible during data processing
- The acquired personal data will under no circumstances be used for commercial purposes
- The consortium partners responsible for carrying out a project activity that involves human participants will seek for an ethical research approval from the appointed ethics officer or ethics committee of their organization prior to the activity. If the consortium partners do not have access to an ethics officer or ethics committee, the augMENTOR's ethics manager and the consortium partners will consult with the EAB to establish an acceptable alternative solution.
- The project's ethics manager, who coordinates the augMENTOR consortium's internal ethics monitoring activities, will oversee all the processes involving human participants and will review all documentation as needed. The ethics manager will also be monitoring the use of human participants' data to ensure that it is being handled in accordance with data protection regulations and ethical standards. This will involve regular reviews of data handling practices and monitoring of data usage to detect any potential breaches or misuse of data. Any issues that may arise will be reported to the relevant authorities and corrective actions will be taken as necessary.
- The project's EAB is required to approve any project activity that involves human participants before the activity begins.

Regarding project activities that took place before this manual was delivered – that is, the elicitation of user requirements carried out from M3 to M6 – the consortium followed the process as described as indicated by preceding deliverables on ethics (D8.1, D8.2, D8.3, D8.4), the data management plan (D1.3) and after consultation with the EAB.

3.3 Ethical issues and requirements regarding AI

AugMENTOR will align with the ethical principles for designing AI systems for education [22] namely:

- to encourage and not demoralize, dehumanize and depersonalize users
- to encourage collaborative learning and building of healthy human interactions
- to support the development of positive character traits as well as encourage cognitive and social development of individuals
- to avoid information overload and over-technification of learning

- to build environments that promote inquisitiveness and curiosity and that encourage students to learn and explore
- to consider ergonomic features to avoid injuries such as eyestrain, repetitive strain injuries, back problems, etc.
- to develop systems that give teachers new and creative roles that might not have been possible before the use of technology. Systems should not attempt to replace the teacher but instead should enhance teachers' potential in teaching effectively
- to respect differences in cultural values and avoid "cultural imperialism"
- to accommodate diversity and acknowledge that students might have different learning styles and skill levels, and
- to avoid glorifying the use of computer systems there by diminishing the human role and the human potential for learning and growth

Specifically, when it comes to minors, augMENTOR will take into consideration recommendations that relate to the cognitive development of young learners, whether and to what extent the use of AI may potentially affect it. AugMENTOR will avoid routinely profiling of children and ranking or categorizing minors with a detrimental effect on their development and future selves [23].

The augMENTOR consortium will follow and comply with the ethical guidelines on the use of AI and data in teaching and learning for educators [24]. The consortium will closely follow the advancements regarding the EU Regulation on Artificial Intelligence (AI Act) [25] (<https://artificialintelligenceact.eu/the-act/>), consult with earlier work of the European Commission's high-level expert group on artificial intelligence (AI HLEG)⁶ and in particular regarding the Assessment List for Trustworthy Artificial Intelligence (ALTAI)⁷ for self-assessment [26], and update the consortium's plans and activities accordingly. AugMENTOR will follow the recommendations and guidelines proposed by Ad-hoc Committee on Artificial Intelligence (CAHAI) commenced by the Council of Europe⁸ and the work on Artificial Intelligence and Education of the Digital Citizenship Education (DCE) initiative⁹. Finally, augMENTOR will monitor the progress regarding the Digital Services Act (DSA)¹⁰ and will update its operations and activities accordingly.

⁶ <https://digital-strategy.ec.europa.eu/en/policies/expert-group-ai>

⁷ <https://digital-strategy.ec.europa.eu/en/library/assessment-list-trustworthy-artificial-intelligence-altai-self-assessment>

⁸ <https://rm.coe.int/cahai-2021-09rev-elements/1680a6d90d>,

<https://rm.coe.int/prems-107320-gbr-2018-compli-cahai-couv-texte-a4-bat-web/1680a0c17a>

⁹ <https://www.coe.int/en/web/digital-citizenship-education/artificial-intelligence>

¹⁰ <https://digital-strategy.ec.europa.eu/en/policies/digital-services-act-package>

On top of complying to ethics regulations and requirements, and informing the project's actions based on proposed guidelines and recommendations, augMENTOR will take the following actions:

- integrate the above principles in the design, implementation and evaluation of the AI infrastructure
- deploy control loops (in conjunction with the control loops for accountability) to ensure that the aforementioned principles are not violated
- request external assessment from experts on ethics, including the ethics manager and the external EAB
- organize discussions with stakeholders to gain insight regarding their perspectives
- design a feedback loop mechanism that participants can use in the form of an anonymous channel or “safe-space” to voice their concerns and/or issues with the infrastructure, or the project in general without having to identify themselves
- design opportunities for training on AI Ethics for the members of the project, external collaborators and participants
- comply with the EU Ethics guidelines for trustworthy AI¹¹, existing national guidelines and the partners' organizations guidelines.

¹¹ <https://digital-strategy.ec.europa.eu/en/library/ethics-guidelines-trustworthy-ai>

4 augMENTOR legal and ethical management

4.1 Legal and ethical risks

The augMENTOR project consortium has identified several legal and ethical risks that relate either to privacy, security and ethical issues from the use of the proposed system or risks that relate to issues regarding the planned pilots. In the following, we elaborate about these risks, and we discuss mitigation strategies:

- **Risk 1:** Negative or undesirable impact of data-driven interventions on the student/learner population. To ensure that the data-driven interventions will not have an undesirable impact on the users, augMENTOR will communicate with the end-users the potential risks, and will provide support by involving humans (in this case, educators) in quality control and risk assessment loops, according to the ALTAI recommendation #1 [26].
- **Risk 2:** Undesirable impact on the progress and performance of students/learners. To ensure that this research does not entail any risk regarding the progress and performance of students/learners, the pilots will take place in control and regulated environments where humans are involved, according to the ALTAI recommendation #1 [26].
- **Risk 3:** Users' concerns regarding the collection and use of their personal data. To address this risk, augMENTOR will respect the national and EU legislation and the partners will inform users about their rights and the collected data (see D8.1, annex II).
- **Risk 4:** Limited participations of users to pilot activities due to privacy concerns. AugMENTOR will provide users with materials that explain the data collection and privacy measures. The consortium will prepare such materials as well as informed consent forms that are easy to comprehend, and it will ensure that each pilot will have on-site an informed individual (member of the consortium) who can provide further explanations to users' questions if needed. Finally, the consortium will provide communication channels to users who want to discuss issues regarding data and privacy concerns further.
- **Risk 5:** Potential data breaches due to inappropriate security measures for data collection, management, and handling. To that end, augMENTOR has chosen not to communicate de-anonymized data within the consortium. Instead, the partners responsible for the pilot studies are instructed to pseudonymize or anonymize the collected data as soon as possible and to not share any personal or private information. At the same time, augMENTOR will offer additional support in terms of consulting partners who want to implement additional security mechanisms that will ensure data protection, privacy, and confidentiality (see D8.2, Chapter 6).

Further elaboration of the aforementioned risks and their manifestation is presented in the project's DPIA (D8.2, Annex I). All risks will be monitored throughout the project and reported accordingly.

An initial assessment of risks around the use of Virtual Reality (VR) is reported in D8.1, Chapter 7. Additionally, a detailed ethics risks assessment for the augMENTOR project is reported under D8.2, Chapter 4.

4.2 Methodology and time-planning

To support the activities of augMENTOR regarding the legal and ethical aspects, we define a four-steps process that the project pilots and pre-pilot activities should adhere to: Planning, Ethical requirements appraisal, data management plan appraisal, and pre-pilot and pilot activities realization.

- **Planning:** During the planning phase, the augMENTOR consortium defines the ethical requirements according to EU and national legislation that applies to each pilot or pre-pilot activity. The preparation of necessary documents, such as the Informed Consents the Ethical Approvals, the ROPAs and the Research Protocol, is taking place.
- **Ethical requirements appraisal:** The augMENTOR consortium agrees on the procedures and guidelines that will be followed, identifies potential privacy and security risks, and establishes mitigation measures. During this step, the augMENTOR consortium seeks for the approval of the EAB regarding the ethical requirements appraisal.
- **Data management plan appraisal:** The consortium ensures that the Data Management Plan (as described in Deliverables D1.3, D1.4 and D1.5) complies with the EU and national legislation, and specifies –if needed– policies for data collection, data storage, data retention and destruction. The EAB is consulted regarding the data management plan appraisal.
- **Pre-pilot and pilot activities realization:** During this phase, the consortium can proceed with the recruitment of participants in compliance with GDPR and national laws. Informed consent forms are signed by the participants beforehand, as well as agreements regarding data access and exchange among project partners.

The process is presented in **Figure 2**.

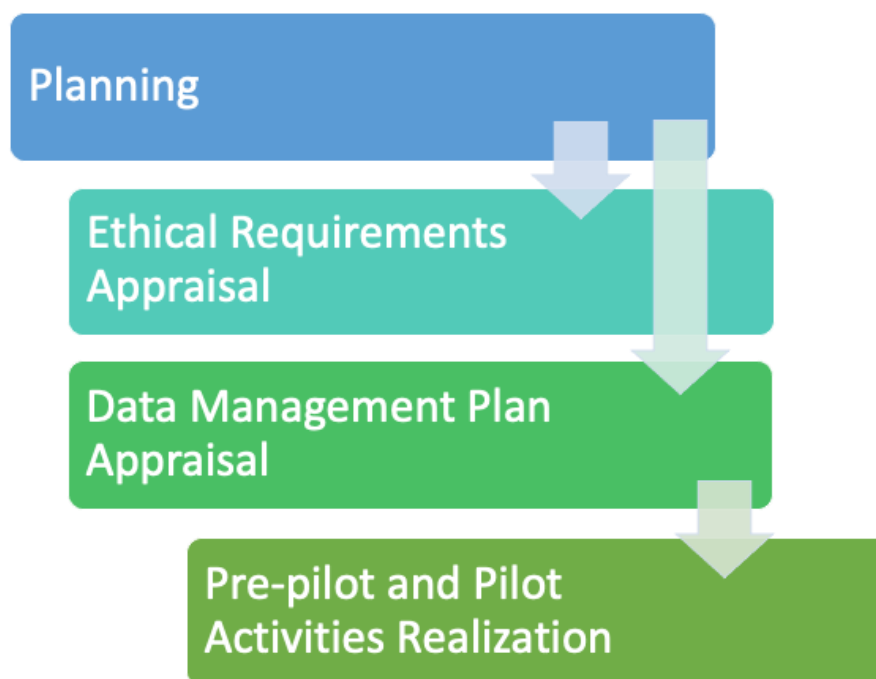


Figure 2. *augMENTOR Legal and Ethical Methodological Process*

4.3 Ethics manager and Ethics Advisory Board

The project's ethics manager is responsible for the ethics management, support of researchers, providing guidance, review of deliverables, and all ethics documentation. The role is interrelated to the EAB since the ethics manager also serves as an EAB member. Thus, the ethics manager serves as a channel to facilitate the communication and enhance the collaboration between the EAB and the project consortium. In *augMENTOR*, Georgia Livieri serves as the ethics manager.

The EAB will provide ongoing support concerning ethical and legal issues to the consortium, including support on privacy issues related to data collection in pilot sites. Moreover, it will provide guidelines and recommendations to consortium partners involved in the development of the *augMENTOR* tools, as well as to end users in the pilot sites. The EAB will monitor and oversee the pilots, validation and evaluation of *augMENTOR* results in terms of ethics, security and privacy requirements.

The EAB consists of four (4) members (see **Table 1**). The chairperson is appointed by the EAB members and serves for the duration of the project but may be replaced if needed. The Chair of EAB shall have the authority to invite other members to temporarily advise the committee on specific issues within their field of expertise. EAB will meet at least two times per year, in person

or electronically and request all documents needed from the project coordinators. The chair of the EAB will report on its activities to the designated plenary meetings. Communication between EAB members will primarily be by email records of all meetings and decision with supporting documentation will be maintained in the project's Google Drive under the WP8 folder (Ethics Requirements).

Detailed information regarding the EAB, its role, responsibilities, processes, and procedures can be found in Deliverable D8.4.

Table 1. *augMENTOR EAB Members*

#	EAB Member	Expertise
1	Eleni Mangina (Chair) (IRELAND)	XR Ethics in Education expert
2	Georgia Livieri (GREECE)	Pedagogical and AI Ethics expert
3	Stephanos Cherouvis (BELGIUM)	Pedagogical and ethics of school-based research expert
4	Ioannis Ntouvas (GERMANY)	Law and GDPR Compliance expert

5 Conclusion

This deliverable presented the legal and ethical requirements and guidelines to be followed within the duration of augMENTOR project, and it will serve as a Legal and Ethics Issues Manual. Various types of data will be collected from the four pilot sites located in Greece (2 sites), Lithuania and Serbia, involving human participants.

In the aforementioned, we described the necessary measures that will be taken to protect the privacy of the participants involved. The data management procedures will be performed in accordance with EU and national legislation of the countries involved in the data collection locations. An outline of relevant legislation and regulations was presented in this document.

Moreover, an ethics management methodology was defined and presented along with important ethics principles that will be considered. Furthermore, privacy, security, and ethical risks relevant to the project have been identified and presented along with mitigation measures. The augMENTOR Ethical Advisory Board has been formed for ensuring that all project measures are performed in compliance with both the EU and national legislation and will monitor the application of the augMENTOR ethical framework.

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