



Deliverable D.7.3.1 Evaluation questionnaires for Training Programmes



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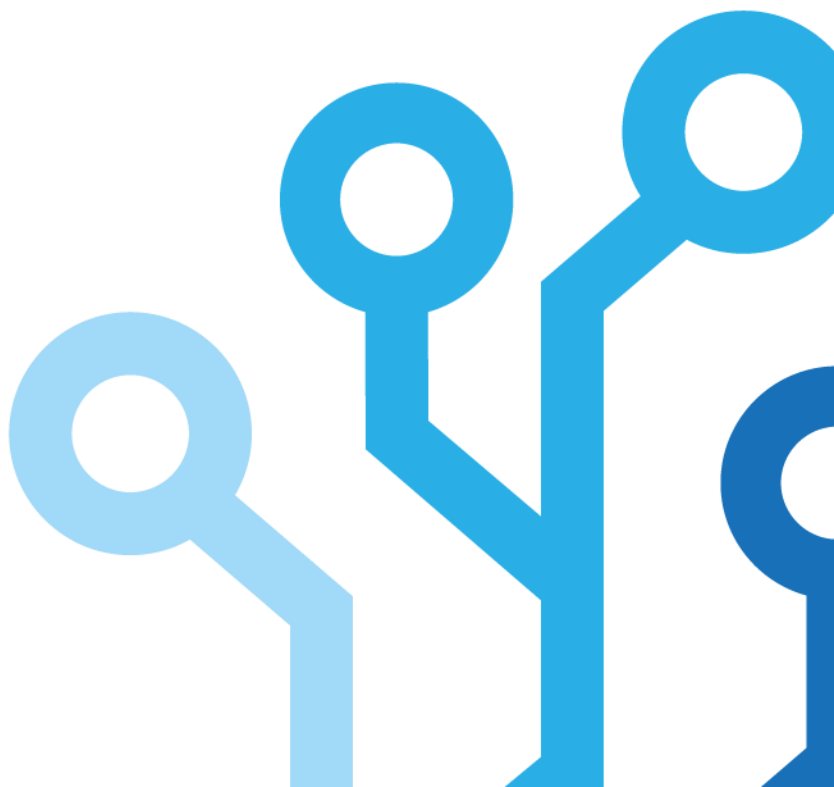


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1 Foreword

The project

ATHIKA project proposes to explore innovative approaches for technologically advanced training and support that explicitly integrates humanistic concerns, aimed at increasing the successful implementation of ICT – Internet of Things, Big Data and Artificial Intelligent Systems integrated into Decision-Support Systems, for the healthcare sector of European companies and ventures.

ATHIKA will combine training and competition activities with a set of workshops and symposiums in order to design and develop new courses on technology, innovation and the digitalization of healthcare.

Online training course: eHealth opportunities and challenges IoT, AI and ethics

The ATHIKA project has created an interdisciplinary online course for the digital transformation of the eHealth sector. This course allows the students to understand the basis of the eHealth sector from a perspective of real challenges, as well as the technologies (Internet of Things, Big Data, Artificial Intelligence, Machine Learning) that can be key to the evolution of the sector, always from a humanistic perspective and ethical reflection of the technological solution.

In order to evaluate the success and impact of this event we developed questionnaires for each Unit of the training course programme.

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2 Methodology

We carried out a survey which included a mix of qualitative and quantitative feedback to evaluate the success and impact of each unit. The questionnaires were embedded in the Online course Moodle platform in order to make easier for the students to fill them out.

The survey took in consideration for example:

- the effectiveness of the training course
- the impact of the programme
- the strengths and weaknesses of the training course approach used
- recommendations, feedback or suggestions

In this document we present a questionnaire that we have done to support the improvement of the training programme.

2.1 Evaluation questionnaires for Training Programmes

Unit 1: eHealth

Q1) Considering the Unit 1, evaluate the following statements: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- The Unit 1 was organized in a manner that helped me understand the underlying concepts.
- The resources (i.e., video pills, articles, hand-outs, study guides, multimedia) increased my knowledge and skills in the subject.
- The trainers and assignments complemented each other.

Q2) Related to the Section 1 Introduction on eHealth, evaluate the following statements: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- The tasks workload and requirements were appropriate for the course level.
- The tasks were well organized.

Q3) In relation to the lecturer of Section 1 Introduction on eHealth, evaluate the following statements: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- The instructor was effective as a lecturer.
- The lecturer presentations were clear and well organized.
- The lecturer was able to stimulate interest in the course.
- The lecturer was available and helpful to students.

Q4) Related to the Section 2 Digital Transformation, evaluate the following statements: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- The Section 2 gave me knowledge to define and address Health-related scenarios and challenges.
- The tasks were well organized.

Q5) In relation to the lecturer of Section 2 Digital Transformation, evaluate the following statements: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- The instructor was effective as a lecturer.
- The lecturer presentations were clear and well organized.
- The lecturer was able to stimulate interest in the course.
- The lecturer was available and helpful to students.

Q6) Related to the Section 3 Health and Smart City Ecosystem and Challenges, evaluate the following statements: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- The ATHIKA Framework was organized in a manner that helped me understand underlying concepts.
- The tasks were well organized.

Q7) In relation to the lecturer of Section 3 Health and Smart City Ecosystem and Challenges, evaluate the following statements:

- The instructor was effective as a lecturer.
- The lecturer presentations were clear and well organized.
- The lecturer was able to stimulate interest in the course.
- The lecturer was available and helpful to students.

Q8) Any overall comments, feedback, or suggestions?



Unit 2: Fundamentals

Q1) Considering the Unit 2, evaluate the following statements: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- The Unit 2 was organized in a manner that helped me understand the fundamentals of IoT, ML&AI, Governance & Ethics.
- The resources (i.e., video pills, articles, hand-outs, study guides, multimedia) increased my knowledge and skills in the subject.
- The trainers and assignments complemented each other.

Q2) Related to the Section 1 IoT, evaluate the following statements: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- The tasks workload and requirements were appropriate for the course level.
- The tasks were well organized.
- This section gave me the confidence to do more advanced work in the subject.

Q3) Related to the Task 1 IoT, evaluate the following statement: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- This task gave me the knowledge to understand what the Internet of Things (IoT) technology is.

Q4) Related to the Task 2 IoT, evaluate the following statement: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- This task gave me the basic knowledge of the layers that comprise IoT.

Q5) Related to the Task 3 IoT, evaluate the following statement: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- This task gave me the knowledge to understand the importance of people in the technology context, and the IoT itself.

Q6) In relation to the lecturers of Section 1 IoT, evaluate the following statements: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- The lecturers presentations were clear and well organised.
- The lecturers were able to stimulate interest in the course.
- The lecturers were available and helpful to students.

Q7) Related to the Section 2 ML & AI, evaluate the following statements: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- The tasks workload and requirements were appropriate for the course level.
- The tasks were well organised.
- This section gave me the confidence to do more advanced work in the subject.

Q8) Related to the Task 1 ML & AI, evaluate the following statement: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- This task gave me knowledge of the basic concepts of AI and data science.

Q9) Related to the Task 2 ML & AI, evaluate the following statement: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- This task gave me a knowledge of how AI/ML solutions are applied in practice.

Q10) Related to the Task 3 ML & AI, evaluate the following statement: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- This task gave me a knowledge to apply basic concepts of AI and ML.

Q11) In relation to the lecturer of Section 2 ML & AI, evaluate the following statements: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- The lecturer presentations were clear and well organised.
- The lecturer was able to stimulate interest in the course.
- The lecturer was available and helpful to students.

Q12) Related to the Section 3 Governance & Ethics, evaluate the following statements: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- The tasks workload and requirements were appropriate for the course level.
- The tasks were well organised.
- This section raised my interest in the subject.

Q13) Related to the Task 1 “Why artificial intelligence do not give us a ‘Get out of ethics free’ card”? Evaluate the following statement: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- This task helped me in gaining awareness of the relation between Philosophy and Engineering and to understand what a tragic dilemma is and how utilitarian ethics may help to rationalise it.

Q14) Related to the Task 2 “A Grotesque Cost-Benefit Calculation”, evaluate the following statement: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- This task gave me the knowledge to understand some decision-making tools used in policy making and helped me to reflect on how the technology advances may bring unforeseen problems and negative side effects.

Q15) Related to the Task 3 “Machine intelligence makes human morals more important”, evaluate the following statement: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- This task gave me the knowledge to understand the importance of ethics and governance in AI/IoT tech development.

Q15) Related to the Task 4 “From Mathematical Theories to Psychological Practices” evaluate the following statement: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

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- This task gave me the knowledge to question the usefulness of theoretical abstractions and understand the pros and cons of rationality when dealing with practical decisions.

Q16) Related to the Task 5 “Creativity & Romantic imagination”, evaluate the following statement: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- This task gave me the knowledge to understand that maybe human moral progress lies more in our imagination than in our analytic capacity and allowed me to reflect on the need for an engineering deontological code

Q17) Related to the Task 6 what ethics is about, evaluate the following statement: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- This task gave me the knowledge to identify different ethical theories, their main principles and discuss their strengths and weaknesses.

Q18) Related to the Task 7 Moral relativism, evaluate the following statement: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- This task gave me the knowledge to understand the idea of moral relativism, its strengths and weaknesses, and allowed me to critically apply moral relativism to a particular engineering ethics code.

**Q19) In relation to the lecturers of Section 3 Governance & Ethics, evaluate the following statements:
(Strongly disagree, Disagree, Neutral, Agree, Strongly agree)**

- The lecturers' presentations were clear and well organised.
- The lecturers were able to stimulate interest in the course.
- The lecturers were available and helpful to students.

Q20) Any overall comments, feedback, or suggestions?



Unit 3: Governance and Ethics

Q1) Considering the Unit 3 Governance and ethics, evaluate the following statements: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- The Unit 3 Governance and ethics was organised in a manner that helped me understand the ethics and governance of technologies.
- The resources (i.e., video pills, articles, hand-outs, study guides, multimedia) increased my knowledge and skills in the subject.
- The trainers and assignments complemented each other.

Q2) Related to the Task 1 Politics, culture and regulation of new technologies, evaluate the following statements: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- This task gave me the knowledge to recognise some of the ways in which national political cultures as well as global trends affect the way technologies are governed nationally and internationally.
- This task gave me the confidence to do more advanced work in the subject.
- The task workload and requirements were appropriate for the course level.

Q3) Related to the Task 2 Ethics of AI in healthcare, evaluate the following statements: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree) ¹⁰

- This task gave me the knowledge to recognise and discuss some ethical aspects of applications of AI in healthcare settings.
- This task gave me the confidence to do more advanced work in the subject.
- The task workload and requirements were appropriate for the course level.

Q4) Related to the Task 3 Ethics of health promotion, the case of nudging, evaluate the following statements: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- This task gave me the knowledge and ability to discuss the benefits, harms, appropriate areas of application as well as of limits of nudges, especially in relation to health care.
- This task gave me the confidence to do more advanced work in the subject.
- The task workload and requirements were appropriate for the course level.

Q5) Related to the Task 4 The Smart Campus Challenge, evaluate the following statements: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- This task gave me the knowledge and ability to identify and discuss the ethical and social challenges associated with smart environments.
- This task gave me the confidence to do more advanced work in the subject.
- The task workload and requirements were appropriate for the course level.

Q6) In relation to the lecturer of Unit 3 Governance and ethics, evaluate the following statements: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- The instructor was effective as a lecturer.
- The lecturer presentations were clear and well organised.
- The lecturer was able to stimulate interest in the course.
- The lecturer was available and helpful to students.

Q7) Any overall comments, feedback, or suggestions?



Unit 3: IoT

Q1) Considering the Unit 3 IoT, evaluate the following statements: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- The Unit 3 IoT was organised in a manner that helped me understand the metrics to take into account before designing and deploying the IoT architecture.
- The resources (i.e., video pills, articles, hand-outs, study guides, multimedia) increased my knowledge and skills in the subject.
- The trainers and assignments complemented each other.

Q2) Related to the Section 1 Use Case Analysis and Metrics, evaluate the following statements: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- The tasks workload and requirements were appropriate for the course level.
- The tasks were well organised.
- This section gave me the confidence to do more advanced work in the subject.
- This task gave me the knowledge to understand a Use Case and identify the critical metrics of it.
- This task gave me the knowledge to understand the Smart Campus scenario and its challenges.

Q3) In relation to the lecturer of Section 1 Use Case Analysis and Metrics, evaluate the following statements: 12 (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- The instructor was effective as a lecturer.
- The lecturer presentations were clear and well organised.
- The lecturer was able to stimulate interest in the course.
- The lecturer was available and helpful to students.

Q4) Related to the Section 2 Internet of Things: evolution, concept and application, evaluate the following statements: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- The tasks workload and requirements were appropriate for the course level.
- The tasks were well organised.
- This section gave me the confidence to do more advanced work in the subject.

Q5) Related to Task 2.1 Internet of Things evaluate the following statement: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- The task gave me the knowledge to identify different technologies involved in an Internet of Things scenario and reason about their interaction and use.

Q6) Related to Task 2.2 Internet of Things interconnections evaluate the following statement: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- The task gave me the knowledge to explain why the creation of social relationships between IoT devices might render the discovery of data and services more effective.

Q7) Related to Task 2.3 Smartness of objects evaluate the following statement: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- The task gave me a better understanding of the benefits of a social network of objects.

Q8) Related to Task 2.4 Internet of Things, Web of Things and Social Internet of Things evaluate the following statement: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- The task gave me a clearer understanding of how WoT and SIoT complement each other.

Q9) In relation to the lecturer of Section 2 Internet of Things: evolution, concept and application, evaluate the following statements: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- The instructor was effective as a lecturer.
- The lecturer presentations were clear and well organised.
- The lecturer was able to stimulate interest in the course.
- The lecturer was available and helpful to students

Q10) Related to the Section 3 Big Data: Concept, evolution, and application, evaluate the following 13 statements: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- The tasks workload and requirements were appropriate for the course level.
- The tasks were well organised.
- This section gave me the confidence to do more advanced work in the subject.

Q11) Related to Task 3.1 Cloud computing evaluate the following statement: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- The task gave me the knowledge about the meaning of Cloud Computing and its main components/services.

Q12) Related to Task 3.2 Scalable cloud computing infrastructures evaluate the following statement: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- The task gave me the knowledge about Hadoop and its purpose.

Q13) Related to Task 3.3 Ambient Assisted Living (AAL) evaluate the following statement: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- The task gave me a better understanding of how to apply Big Data to an AAL application.

Q14) In relation to the lecturer of Section 3 Big Data: Concept, evolution, and application, evaluate the following statements: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- The instructor was effective as a lecturer.
- The lecturer presentations were clear and well organised.
- The lecturer was able to stimulate interest in the course.
- The lecturer was available and helpful to students

Q15) Any overall comments, feedback, or suggestions?



Unit 3: ML & AI

Q1) Considering the Unit 3 AI and ML, evaluate the following statements: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- The Unit 3 AI and ML was organised in a manner that helped me understand the fundamental concepts of computer science, data science and probability theory that are used in AI.
- The resources (i.e., video pills, articles, hand-outs, study guides, multimedia) increased my knowledge and skills in the subject.
- The trainers and assignments complemented each other.

Q2) Related to the Task 1 Fundamental mathematics of machine learning and data science, evaluate the following statement: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- This task gave me the knowledge about the probability theory and random processes, descriptive statistics of data, types of data, outlier detection and handling, and relevant concepts.

Q3) Related to the Task 2 Basic analytics of machine learning, evaluate the following statement: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- This task gave me the knowledge of pattern recognition, feature selection and feature extraction, and the most popular classification algorithms including kNN, Naïve Bayes, Decision trees, SVM, 15 linear regression, and logistic regression.

Q4) Related to the Task 3 Artificial neural networks and deep neural networks, evaluate the following statement: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- This task gave me the knowledge to understand the theoretical concepts of neural networks and deep neural networks along with the training technique using backpropagation, model evaluation parameters and overcoming issues like overfitting during training.

Q5) Related to the Task 4 Challenges of eHealth and precision medicine, evaluate the following statement: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- This task gave me an overview of eHealth and precision medicine challenges and how artificial intelligence and machine learning use to tackle them.

Q6) Related to the Task 5 Examples of AI and ML in different applications, evaluate the following statement: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- This task gave me an overview of examples of AI and ML in different applications in healthcare.

Q7) In relation to the lecturer of Unit 3 AI and ML, evaluate the following statements: (Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

- The instructor was effective as a lecturer.
- The lecturer presentations was clear and well organised.
- The lecturer was able to stimulate interest in the course.
- The lecturer was available and helpful to students.

Q8) Any overall comments, feedback, or suggestions?