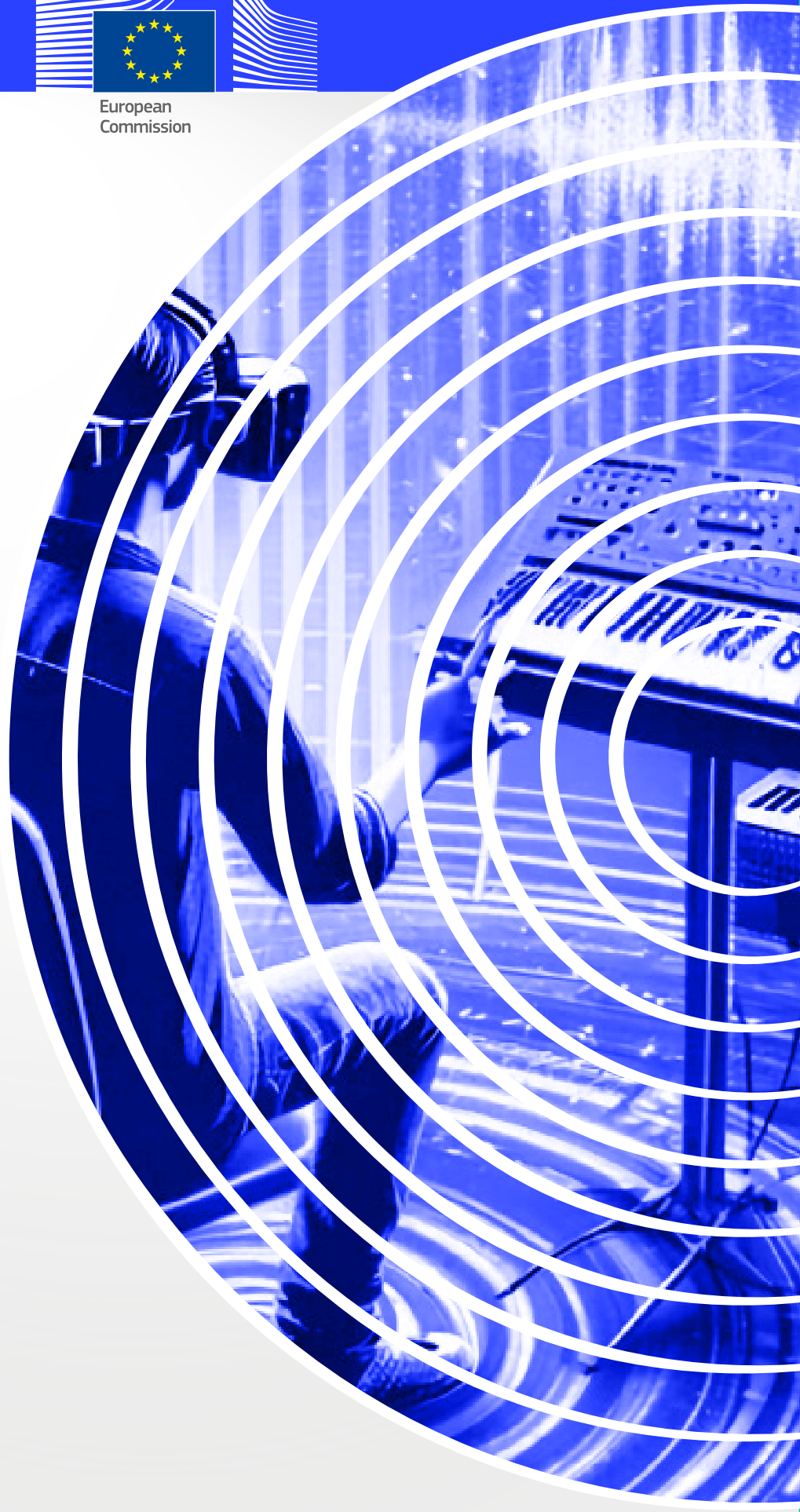


Music Creation in the Age of Digital Transformation



European
Commission



YASAR
UNIVERSITESI



CONSERVATORIO
DI MUSICA
ALESSANDRO
SCARLATTI
PALERMO



LUNDS
UNIVERSITET



MUSense



European
Association of
Conservatoires



HELLENIC REPUBLIC
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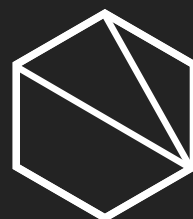
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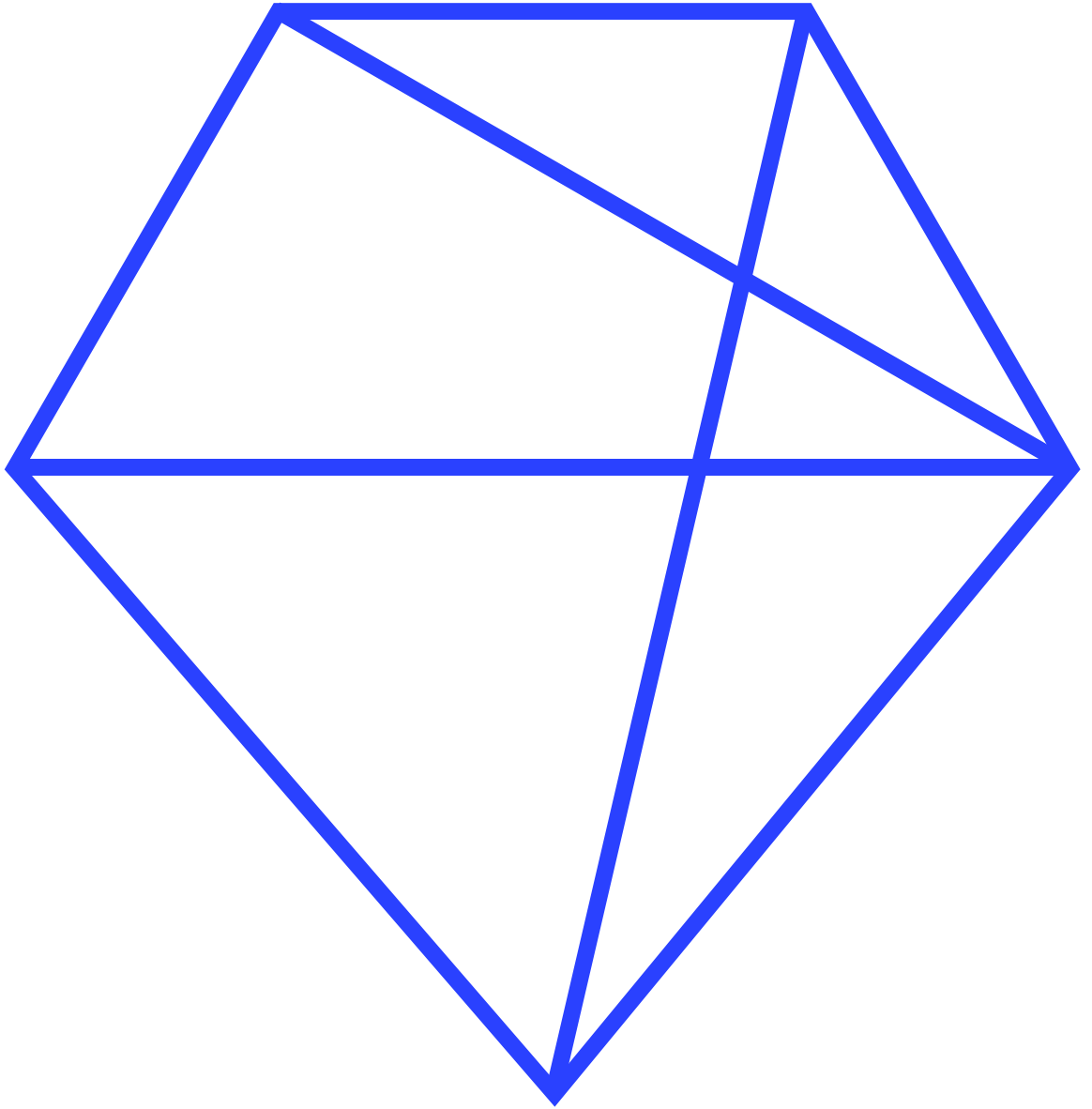
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Intro- duction

Musense Course Content, Context, and Justification.


The process of internet decentralization that has greatly affected all aspects of both education and job markets, necessitated the creation of undergraduate and graduate-level courses that enabled both students and educators to better adapt and succeed in the newly generated environment. The concept of entrepreneurship, once deemed the domain of business, was transformed and tailored to suite every educational discipline. This has also applied to what might seem the most unlikely fields of art and music. Entrepreneurship courses of every description are now part and parcel of the curriculums of fine arts and music institutions.

By comparison, the advent of Virtual Reality (VR) and Artificial Intelligence (AI) makes that transformation seem commonplace. These two revolutionary concepts have generated a vast array of opportunities as well as a plethora of problems hitherto unimagined. Until recently, it was almost unimaginable to be able to attend a music concert that occurs in the ether where audience members, in their millions, can be present while at home, anywhere on the planet. The meaning of this is only now beginning to dawn on the musical realm. This requires the redefinition of all aspects of music production, perception, and consumption because it defies all present norms and presents outcomes which none are able to predict both in terms of numbers and directions.

The whole world has witnessed the birth of Artificial Intelligence and watches, day by day, the earth-shattering disruptions AI is wreaking on every aspect of our existence. Even in its infancy, it questions the very way in which we think about ourselves and the world we live in. If it is steered toward self-awareness and achieves this state, predicting a future becomes impossible because we will have it will decide that as a separate entity. It is speculated that in its present form, it will substitute three hundred million jobs world-wide in the very near future. The evolutionary process of AI is so rapid that keeping abreast of it is impossible for the ordinary human being.

In the educational and musical realm, AI forces a discussion on our sense of identity and our code of ethics. At present we are now using AI in the creation and production of music as well as many facets of scholarly research and writing. The questioning of original and AI assisted thought in musical composition and production as well as the generation of music literature has already surfaced and requires urgent attention.





The Musense project is a forward-looking endeavour dedicated to the consideration and the answering of some of the most basic educational needs required by the new reality that presents itself to a new generation of students. It is the view of the project that raising the awareness of and informing students to some of fundamental aspects of this new reality can facilitate their musical and educational futures. To this end the project has created a course module and schedule that addresses these requirements. The course module consists of a fourteen-week course that covers the most essential materials of four main areas of concern. The first – Digitalization - deals with the meaning of cyberspace and artificial intelligence. It demonstrates how we are informed and reshaped by them as well as what we can do to thrive in this new environment. The second – Creative Destruction and New Opportunities - describes how digitalization has affected the world of music and introduced the entirely new concepts of the cyber stage and cyber performance. The third area - AI Tools - is perhaps the most music- specific as it covers the present state of the creative industries, presents music-specific design thinking and provides a detailed breakdown of AI tools that can be used for all stages of music creation and production. The fourth and final part - AI Ethical Issues - explores the fundamental elements of human ethics and how these relate to the use of artificial intelligence in creation of any original content, be it musical or scholarly. The fourteenth period is designed to have an open discussion about any of the contents presented as well as an opportunity to receive feedback for the improvement in any facets of the course.

The course may be best described as a survey in that each of the four areas covered can be expanded to full length courses in themselves. The course presents the materials in a concise yet sufficiently detailed manner that enables the recipient to easily incorporate the content in theoretical and practical applications.

All the lessons are fully described by their own content, set of aims, and outcomes. The reason for presenting it in this manner is to provide comprehensive details that are usually not available in a general course description. This guarantees the accuracy and sequencing of the progression of both the course as a whole as well as its individual components.

The materials that are used in each lesson are also briefly annotated so that one may have a summarized content of every item at a glance. This is useful to anyone who might want to adopt this course without having to spend much time wading through the multitude of printed, video, and application materials. This format also allows for the fact that the weekly lesson schedule provided does not have to be overwhelming in detail and lengthy as a short-hand document.

The modular weekly schedule is designed to be as detailed as necessary to fulfil as many internationally-established academic requirements as possible. It does, however, maintain a high level of elasticity so that it may be used in accordance to individual institutional requirements. Unnecessary portions may be discarded and substituted with locally-required portions. The accounting of the lesson time and ECTS are left balance so that individual institutions may adapt it as desired.

As there are a number of survey platforms, each institute may use a platform of its own choosing. Nevertheless, a simple template is provided to suggest both areas to be covered as well as the most relevant sample questions normally asked by course evaluation surveys. This too is not a set document but rather a guideline. It may be amended in any way seen fit.





Week 1 Digital Disruption: Thriving in Cyberspace

Week 2 Digital Transformation: How AI reshapes us.

Week 3 How has Digitalization Affected Music.

Week 4 Cyberperformance and the Cyberstage (Cyberperformance, Digital or Networked Performance) - Production and Consumption of Culture.

Week 5 Introduction to Creative Industries.

Week 6 Design Thinking and Innovation in Creative Industries

Week 7 An Experimental Approach to Film Music Composition Through Sonification of Moving Images.

Week 8 Music Production: Practice through AI and ML tools.

Week 9 Music Production Technics for Creative Music and Audio Applications.

Week 10 Network music performance through multichannel audio streaming applications.

Week 11 LOLA and Beyond

Week 12 Fundamental Tenets of Ethics and Artificial Intelligence.

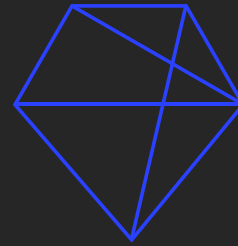
Week 13 Ethical Problems with the use of AI in Academic and Musical Pursuits.

Week 14 Forecasting future on Cyber Music Performance



WEEK 1

Digital Disruption: Thriving in Cyberspace



Lesson Content:

This lesson explores the concept of digital disruption, its underlying theories, and the impact of disruptive technologies on various sectors, with a special focus on the music industry. Students will learn how to thrive in an age of digital disruption, turn challenges into opportunities, and enable businesses to succeed in a rapidly changing digital landscape.

Lesson Aims:

- (1) Define digital disruption and explain its key components.
- (2) Identify and analyze disruptive technologies and their impacts.
- (3) Apply digital disruption theory to real-world scenarios.
- (4) Develop strategies to thrive and innovate in an era of digital disruption.
- (5) Assess the readiness of the music sector for digital disruption.
- (6) Propose ways for businesses to survive and thrive amid digital changes.

Lesson Outcomes:

- (1) Gain a comprehensive understanding of digital disruption and its implications.
- (2) Analyze case studies to identify successful strategies in managing digital disruption.
- (3) Develop critical thinking skills to create innovative solutions for digital challenges.
- (4) Collaborate on projects that explore the readiness of the music industry for digital change.

Readings

Christensen, C. M. (1997). *The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail*. http://lib.yasu.am/open_books/413214.pdf

The Innovator's Dilemma is intended to help a wide range of managers, consultants, and academics in manufacturing and service businesses—high tech or low—in slowly evolving or rapidly changing environments. Given that aim, technology, as used in this book, means the processes by which an organization transforms labor, capital, materials, and information into products and services of greater value. All firms have technologies. A retailer like Sears employs a particular technology to procure, present, sell, and deliver products to its customers, while a discount warehouse retailer like PriceCostco employs a different technology. This concept of technology therefore extends beyond engineering and manufacturing to encompass a range of marketing, investment, and managerial processes. Innovation refers to a change in one of these technologies.



Oroszi Terry (2020). Disruption Innovation and Theory, Journal of Service Science and Management Vol.13 No.3 <https://www.scirp.org/journal/paperinformation?paperid=100262>

The industry has identified several disruptive innovations that have decreased this loss. Disruptive technologies join the marketplace by offering more cost-efficient products and cater to a different consumer base. This paper will describe in detail Disruptive Technology and how it applies to business, education, and healthcare as a low-level entrant into the marketplace. It will also discuss how organizations can successfully meet the challenge of disruptive technology.

Videos

Embracing the Digital Revolution - Overview: <https://www.youtube.com/watch?v=w1txvfFa5TM>

This short film explores the impact of digital technologies globally and calls on government to use progressive policies to drive their countries, societies and economies ahead. It supports the messages in our recently published report Embracing the Digital Revolution, Policies for Building the Digital Economy

What is Disruptive Innovation by Clayton Christensen | Harvard Business Review: <https://www.youtube.com/watch?v=GPIOCMbpqcM>

This video is a quick recap of the idea: “Disruption” describes a process whereby a smaller company with fewer resources is able to successfully challenge established incumbent businesses. Specifically, as incumbents focus on improving their products and services for their most demanding (and usually most profitable) customers, they exceed the needs of some segments and ignore the needs of others. Entrants that prove disruptive begin by successfully targeting those overlooked segments, gaining a foothold by delivering more-suitable functionality—frequently at a lower price. Incumbents, chasing higher profitability in more-demanding segments, tend not to respond vigorously. Entrants then move upmarket, delivering the performance that incumbents’ mainstream customers require, while preserving the advantages that drove their early success. When mainstream customers start adopting the entrants’ offerings in volume, disruption has occurred.

Supplemental Materials

What Is Disruptive Innovation? 10 Examples <https://www.imd.org/reflections/what-is-disruptive-innovation-10-examples/>

This article will explore examples of disruptive innovation and how it can drive growth in market share and help companies achieve a competitive edge by challenging the status quo.

Learning Tools

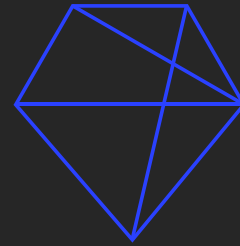
Toolkit on Digital Skills: <https://eu3digital.com/wp-content/uploads/2022/05/Toolkit-on-Digital-Skills.pdf>

A hands-on toolkit to support Social Enterprises and Third Sector Social Organisations with going digital. This Toolkit provides users with a hands-on guide to open access tools, resources, and services that can enable them to adapt dynamically and swiftly to societal changes.



WEEK 2

Digital Transformation:
How AI reshapes us.



Lesson Content:

This lesson explores the profound impact of digital transformation and artificial intelligence (AI) on various facets of society, with a specific focus on the music industry. Students will gain an understanding of digital transformation, its significance, and the intricate ways AI is integrated into this process. By the end of the course, students will have a comprehensive understanding of how AI is reshaping our world and the music industry.

Lesson Aims:

- (1) Define digital transformation and articulate its significance.
- (2) Explain the connection between AI and digital transformation.
- (3) Analyze how AI is reshaping various aspects of society.
- (4) Evaluate the impact of AI on the music industry.
- (5) Engage with AI tools and applications relevant to digital transformation and the music industry.

Lesson Outcomes:

- (1) Articulate a clear understanding of digital transformation and its importance in modern society.
- (2) Explain how AI contributes to and enhances digital transformation.
- (3) Identify and discuss various ways AI is influencing and reshaping the world, with specific examples.
- (4) Assess the impact of AI on the music industry and predict future trends.
- (5) Demonstrate practical knowledge of AI applications through interactive activities and assessments.

Readings

What is digital transformation?

<https://www.mckinsey.com/featured-insights/mckinsey-explainers/what-is-digital-transformation>

Digital transformation involves a comprehensive overhaul of how an organization functions, aiming to enhance customer experiences and reduce costs by leveraging technology at scale. This ongoing process, highlighted in McKinsey's book "Rewired," emphasizes the importance of continually integrating technology, especially AI, into business operations for a sustainable competitive edge.



What is digital transformation & why is it important?

<https://www.imd.org/reflections/what-is-digital-transformation-why-is-it-important/>

Digital transformation refers to the process through which businesses adopt technologies to drive change. Examples include a corporation implementing cloud computing software, a government organization utilizing big data analytics, or an entrepreneur embracing artificial intelligence (AI) tools. This article discusses how you can make sure you get it right using some best practices.

The Digital Transformation Playbook: Rethink Your Business for the Digital Age by David L. Rogers

<https://medium.com/@gavanescumedeea161690/the-digital-transformation-playbook-rethink-your-business-for-the-digital-age-by-david-l-rogers-b13ff92876db>

David L. Rogers' book "The Digital Transformation Playbook: Rethink Your Business for the Digital Age" is a thorough resource for navigating the challenges of the digital age. A valuable overview of the approaches and techniques that can aid companies in adapting to and thriving in the digital age is provided by this abstract, which explores the fundamental concepts and principles contained in the book.

Leading Digital: Turning technology into business transformation George Westerman, Didier Bonnet and Andrew McAfee (Harvard Business Review Press, October 2014). The study's key lessons for digital transformation, **Business Digest**: https://business-digest.eu/_media/pdfs/UsBD25301.pdf

In "Leading Digital," authors George Westerman, Didier Bonnet, and Andrew McAfee highlight how large companies in traditional industries—from finance to manufacturing to pharmaceuticals—are using digital to gain strategic advantage. They illuminate the principles and practices that lead to successful digital transformation. Based on a study of more than four hundred global firms, including Asian Paints, Burberry, Caesars Entertainment, Codelco, Lloyds Banking Group, Nike, and Pernod Ricard, the book shows what it takes to become a Digital Master. It explains successful transformation in a clear, two-part framework: where to invest in digital capabilities, and how to lead the transformation. Within these parts, you'll learn: How to engage better with your customers, How to digitally enhance operations, How to create a digital vision, and How to govern your digital activities. The book also includes an extensive step-by-step transformation playbook for leaders to follow. "Leading Digital" is the must-have guide to help your organization survive and thrive in the new, digitally powered, global economy.

Videos

Digital Transformation: An Illustrated Guide: https://player.vimeo.com/video/347761451?dnt=1&app_id=122963

This short film explores combination of historic perspective and an incisive approach to the specific technologies reshaping our World. It offers compelling insights from a practitioner's point of view and paints an inspiring vision for an inevitable future by taking us a tour of the key ideas inside Tom Siebel's book "Digital Transformation Survive and Thrive in an Era of Mass Extinction".

How AI Changes Your Workforce: <https://www.youtube.com/watch?v=ONw4jkSDG0I&t>

How will AI affect the future of work? It's a hot-button issue, but the most common questions around this topic often miss the bigger picture. In this video conversation, MIT SMR's David Kiron and UMass Lowell's Elizabeth Altman discuss some of the pitfalls and practicalities leaders are encountering as AI becomes part of a company's workforce ecosystem.



Supplemental Materials

MIT Sloan Strategies for Leading the Future of Work: <https://mitsloan.mit.edu/sites/default/files/2022-05/MITsloan-FutureOfWork.pdf>

How to empower your workforce to master new technologies and navigate evolving risks. The future of work requires nimble leadership. Here's how to cultivate a workforce able to accommodate new technologies and evolving risks.

Digital Transformation: Survive and Thrive in an Era of Mass Extinction by Thomas Siebel Audiobook Summary and Review: <https://www.youtube.com/watch?v=ZFt-IR-zMFY>

This audio book summary from visionary Silicon Valley entrepreneur Tom Siebel comes a penetrating examination of the new technologies that are disrupting business and government - and how organizations can harness them to transform into digital enterprises. The confluence of four technologies - elastic cloud computing, big data, artificial intelligence, and the internet of things - writes Siebel, is fundamentally changing how business and government will operate in the 21st century.

How AI is Reshaping The Music Industry: <https://www.musicbusinessworldwide.com/how-ai-is-reshaping-the-music-industry/>

AI's transformative potential brings an array of challenges to the industry. This article discuss the AI's key benefit lies in its ability to analyze vast data, identify patterns, and predict trends, aiding producers and marketers in crafting audience-engaging content. The principal issue is finding a balance that promotes technological innovation while protecting the rights and contributions of human artists.

Learning Tools

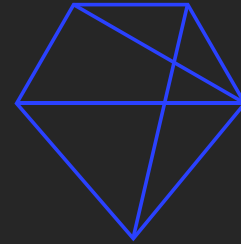
Digital Transformation Step by Step: <https://digital-transformation-tool.eu/quick-check-where-is-my-company-at-the-moment/>

The 20 questions in the following quick check tool will help to make you more aware of the challenges of digital transformation. It is likely that you will also have your first ideas about where to get started. Use these step-by-step instructions and develop a strategy for the digital transformation of your initiative.



WEEK 3

How has Digitalization Affected Music



Lesson Content:

- (1) The lesson aims to put the tremendous impact of digitization in the music industry in historical context.
- (2) This impact will be traced since its inception in the 1990's until today. The lesson will explore the development of formats, platforms, and the gradual shift of the music industry's financial paradigm. Finally, it will look on how these trends have affected current music production and distribution.

Lesson Aims:

- (1) To give the student a basic knowledge of technological developments occurring in the music industry in the last five decades;
- (2) To provide an overview on the current means of production and distribution and what are the challenges facing them today;
- (3) To contextualize the challenges of today's artist in this highly digital landscape.

Lesson Outcomes:

- (1) A historical perspective on the shifting paradigms of the music industry;
- (2) An increased awareness of current trends;
- (3) Better understanding of current challenges and opportunities for the individual freelance artist.

Readings

The role of technology in the field of classical music. <https://music.yale.edu/2012/02/10/the-role-of-technology-in-the-field-of-classical-music>

The article discusses the role of technology in the field of classical music and how it can be leveraged to engage and grow audiences. The piece is based on a panel discussion at the Yale School of Music, featuring experts with experience in classical music and technology. The panel emphasized that technology enhances but does not replace live events, and that creating a compelling online experience can drive interest in live performances.

Digitalization in music and the role of music-tech companies. https://www.musicinnovation-hub.org/wp-content/uploads/2020/10/Digitalization_in_music.pdf

Digitalization has revolutionized the music industry, offering new opportunities for artists and changing how music is created, shared, and monetized. The report outlines the benefits and challenges of this digital shift, highlighting the increased accessibility and discovery of music globally. Artists now have more direct routes to fans and can self-promote and distribute their work independently. However, the report also acknowledges the challenges of piracy and the impact of streaming on artists' revenue.



The report discusses the rise of streaming platforms and their impact on music consumption. Streaming has made music more accessible and convenient for listeners, with a vast array of songs available on-demand. This has led to a shift in listening habits, with users creating personalized playlists and discovering new music through algorithms. The data generated by streaming platforms also provides valuable insights for the industry and artists.

Videos

From Phonographs to Spotify: A Brief History of the Music Industry

<https://youtu.be/-bVketPj5to>

From the invention of the phonograph in 1877 to the boom in streaming services today, the music industry has had to constantly adapt to emerging technology. In this video, the Wall Street Journal explores whether music can continue to reinvent itself to survive.

Do You Know How Much Classical Music Is Edited?

https://youtu.be/o2P_dRbYn_4

When we think of editing in music, we might think of quantizing lining up rhythm in an R&B song or autotune fixing the vocals of a pop singer. Many people don't realize that editing exists in classical recordings as well. This episode of Sound Field explores the current debate in classical music of how much recordings should be edited. Nahre Sol interviews a panel of classical musicians about their take on editing. Jon Nakamatsu, Joyce Yang, Tanya Gabrielian, and Corin Lee share their opinions on how much editing is okay and when it goes too far. At the end of the episode Arthur Buckner and Nahre face off in a quiz to see who can tell which instruments are virtual and which are real.

Streaming Platforms:

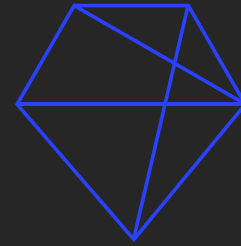
Mainstream: YouTube, Spotify, Deezer, etc.

Classical Music specific: medici.tv, IDAGIO, Digital Concert Hall



WEEK 4

Cyberperformance and the Cyberstage (Cyberperformance, Digital or Networked Performance) - Production and Consumption of Culture



Lesson Content:

The lesson intends to provide the students a brief but varied overview on the integration of technology in the art form of music, its composition, performance and ultimately reception. The lesson will start by giving a historical perspective on the pioneers of the gradual integration of technological means into the practice of music, as well as pioneers in multimedia art, whose work defined the modern integration of music in art works that result from the interaction of various media. The lesson will also aim to give an overview on current trends of music reception, and the avenues opened by Virtual and Augmented Reality in music appreciation, as well the current use of AI in composition and performance.

Lesson Aims:

- (1) To give the student a basic understanding of the gradual integration of technology in music composition and performing;
- (2) To provide an overview of the gradual 'multimediazation' of music;
- (3) To give an understanding of the current artistic trends in the field of cyber art and cyberperformance;
- (4) To provide real-world, relatable study cases serving as inspiration for students to think of their practice out of the box.

Lesson Outcomes:

- (1) An increased understanding of technological integration in music as a gradual and incremental process.
- (2) Awareness of multimedia art forms and how music has been part of this landscape for many decades.
- (3) A broad comprehension on current trends in the arts, classical music and commercial music, related with high tech.
- (4) The exploration of case examples of Cyberperformance and AI in both music composition and music performance.

Readings

What you need to Know about VR Concerts.

<https://www.tickpick.com/blog/what-you-need-to-know-about-ar-and-vr-concerts/>

The world of live music is undergoing a fascinating transformation with the integration of augmented reality (AR) and virtual reality (VR) technology. These innovative technologies are revolutionizing the way fans experience concerts and live performances, offering unprecedented interactivity and immersion. In an AR or VR concert, audiences can use a headset or their smartphone to access a virtual environment, where they are transported to a virtual venue, often a replica of a real-life location, or a fantastical setting. The performance is then overlaid with stunning visuals, creating a multi-sensory experience.



Long-Read

Youngblood, Gene. "Expanded Cinema: Fiftieth Anniversary Edition." S.L.: Fordham University Press, 2020. Expanded Cinema by Gene Youngblood (1970), is the first book to consider video as an art form, was influential in establishing the field of media arts. [1] In the book he argues that a new, expanded cinema is required for a new consciousness. He describes various types of filmmaking utilizing new technology, including film special effects, computer art, video art, multi-media environments and holography.

The Practice of Art and AI

<https://archive.aec.at/media/assets/0987aa0bffa7b2e5d4653a75e9362101.pdf>

This volume is dedicated to the incredibly fast development of Artificial Intelligence. European ARTificial Intelligence Lab approaches the complex topic: "The Practice of Art and AI" and provides insight into previous projects in the field of art and AI.

Videos

Musique Concrete

<https://www.youtube.com/watch?v=c4ea0sBrw6M>

Musique Concrete is the experimental technique of musical composition using recorded sounds as raw material. The principle uses the assemblage of various natural sounds to produce an aural montage. A precursor to the use of electronically generated sound, musique concrete was among the earliest uses of electronic means to extend the composer's sound resources. Before the days of sampling and computer manipulation of sounds, musicians used analogue tape recorders to record natural sounds and tape splicing techniques. Music concrete uses natural sounds to create aural compositions. This excerpt is taken from the BBC 1979 documentary "The New Sound of Music".

Wendy Carlos Interview 1989 BBC Two

<https://youtu.be/Z3cab5lcCy8?si=UFjvw6eTwv7EHC6x>

Wendy Carlos (1939) is an American musician and composer best known for her electronic music and film scores. Carlos came to prominence with Switched-On Bach (1968), an album of music by Johann Sebastian Bach performed on a Moog synthesizer, which helped popularize its use in the 1970s and won her three Grammy Awards.[1] Its commercial success led to several more albums, including further synthesized classical music adaptations, and experimental and ambient music. She composed the score to two Stanley Kubrick films, A Clockwork Orange (1971) and The Shining (1980), and for Tron (1982) for Walt Disney Productions.

An Afternoon With John Whitney

<https://www.youtube.com/watch?v=cP5Mj6ZvZJc>

Interview with the pioneer of computer graphics and animation, John Whitney

Inside Imogen Heap's cutting-edge VR concert | The Future of Music with Dani Deahl

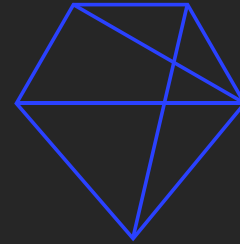
<https://youtu.be/HoDqeunBH10?si=woM2ORdeACWT-vA9>

Is virtual reality the future of concerts? Imogen Heap is a Grammy-award winning singer/songwriter/audio engineer who has explored various emerging technologies in the past several years -- from creating music with her MiMu motion controlled gloves to Mycelia, an experimental music distribution platform using blockchain-based technology. She is now creating an immersive virtual reality experience with TheWaveVR.



WEEK 5

Introduction to Creative Industries



Lesson Content:

An introduction to the theoretical and critical elements of cultural work and cultural industries; case studies focusing on music industries and areas of society where culture is produced and distributed; interaction between creators, audiences and institutions.

Lesson Aims:

- (1) Introduce students to contemporary issues on the creative industries,
- (2) Explore a range of current events alongside theoretical frameworks that allow students to develop a keen awareness,
- (3) Inform students as future professionals in the creative industries about the impact of AI on transforming creative industries,
- (4) Using case studies, critically engage with key issues in the creative sector and the emergence of smart technology (e.g., AI and VR)

Lesson Outcomes:

- (1) Become familiar with practical and theoretical issues that face contemporary artists, cultural entrepreneurs, professionals and policymakers,
- (2) Develop the ability to write about art, culture, cultural work and cultural industries fluently and confidently,
- (3) Investigate a number of scholarly approaches to the structure, history, and socio-cultural significance of cultural work and the cultural industries.

Readings

British Council (2010) Mapping the Creative Industries: A toolkit.

https://creativeconomy.britishcouncil.org/media/uploads/files/English_mapping_the_creative_industries_a_toolkit_2-2.pdf

This report is an interesting reading to introduce students to the realm of creative industries. It provides an analytical explanation of the meaning by showing the evolution of the term and how it has been influenced by the cultural policy. In turn, it provides different perspectives about mapping of creative industries by using a specific toolkit of criteria and axes. An interesting comparison among UK, Germany, Spain and France about the definition of creative industries has been incorporated to stress how creative industries are formed by different social backgrounds and cultures. At the end, it provides the future challenges of creative industries.

O'Connor, J. (2009). Creative industries: a new direction?

International journal of cultural policy, 15(4), 387-402. https://www.tandfonline.com/doi/full/10.1080/10286630903049920?casa_token=C2j1X0AowKAAAAAA%3AriW6S95FEejTt5fhuE02V_tvQhBLhAd2-Ew9USD3kczS-DIBYUPzgsdifi4FAJztnAAfVK-30g

This paper looks at the work of the ARC Centre for Creative Industries and Innovation at Queensland University of Technology. The paper focuses on three central objectives. First, that Art falls outside the creative industries; second, that the creative industries moves beyond a cultural policy paradigm towards that of innovation systems; third, that the notion of 'social network markets' represents the central defining characteristic of the creative industries. The paper suggests that the attempt to separate out art and culture from the creative industries is misplaced and represents a significant shift away from a longer trajectory of 'cultural industries' policies with some damaging consequences for cultural policy and creative businesses.

Anantrasirichai, N., & Bull, D. (2022). Artificial intelligence in the creative industries: a review. *Artificial intelligence review*, 55(1), 589-656. <https://link.springer.com/article/10.1007/s10462-021-10039-7>

This paper reviews the current state of the art in artificial intelligence (AI) technologies and applications in the context of the creative industries. A brief background of AI, and specifically machine learning (ML) algorithms, is provided including convolutional neural networks (CNNs), generative adversarial networks (GANs), recurrent neural networks (RNNs) and deep Reinforcement Learning (DRL). A categorization of creative applications into five groups, related to how AI technologies is used: (i) content creation, (ii) information analysis, (iii) content enhancement and postproduction workflows, (iv) information extraction and enhancement, and (v) data compression. The paper examines the successes and limitations of this rapidly advancing technology in each of these areas.

Videos

Simpleshow Foundation. Creative Economy. <https://www.youtube.com/watch?v=11c2nH7sCSI>

This 2:26 minute video discusses shortly and straightforward the meaning and the content of creative economy by making a distinction between the terms creative industries and cultural industries. It refers also to the content of creative work and creators. This short video is introductory and helpful to understand the term creative industries.

The Economist (2021). How AI is transforming the creative industries. <https://www.youtube.com/watch?v=cgYpMYMhzXI>

The 8:26 video presents into detail how AI has impacted creative industries. It provides useful and interesting examples on how the evolution of AI transformed the work of creators and the dynamics of creative industries. The video starts with a dilemma whether AI fosters imitation or innovation in creative industries.

Supplemental Materials

n/a

Course related applications

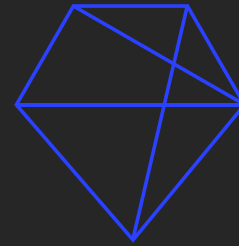
ERIC. <https://www.meet-eric.com/>

The app is primarily for young people who are 16+ with an interest in careers in the creative industries. The typical user is looking for work experiences or internships, creative competitions, careers events or workshops & other early-careers opportunities to build their skills and confidence. They are looking to get work-ready and enhance their CV or portfolio but aren't necessarily ready to apply for a job just yet. The app is also used by careers teams, teachers & parents who want to find careers opportunities for their students or children.



WEEK 6

Design Thinking and Innovation in Creative Industries



Lesson Content:

This lesson will change the way students dealing with complex problems – it looks at common principles of design and thinking that lead to creative ideas and solutions in creative industries context. Through theoretical and practical work, students will develop an understanding of design, acquire new design skills, and build a portfolio of design projects as a strong foundation for future study or work experience. Students will work within teams the design thinking canvas in order to develop innovative solutions in creative industries realm.

Lesson Aims:

- (1) Reframe your problem and create new, innovative solutions,
- (2) Generate meaningful insights from your audience and followers,
- (3) Build a culture of innovation at your profession,
- (4) Use prototyping and testing to gauge risk and market interest

Lesson Outcomes:

- (1) Practice empathy and apply human-centered design through techniques such as ideation, prototyping, user journey mapping, and analyzing mental models,
- (2) Assess group dynamics and maximize your team's potential for developing and iterating prototypes and managing the implementation of new designs,
- (3) Develop an innovation toolkit, and determine when to apply design thinking frameworks, tools, and exercises to your own strategic initiatives.

Readings

Brenner, W., Uebernickel, F., & Abrell, T. (2016). Design thinking as mindset, process, and toolbox: Experiences from research and teaching at the University of St. Gallen. *Design thinking for innovation: Research and practice*, 3-21. https://link.springer.com/chapter/10.1007/978-3-319-26100-3_1

In this study, Design Thinking is defined as: mindset, process, and toolbox. As a mindset, Design Thinking is characterized by several key principles: a combination of divergent and con-vergent thinking, a strong orientation to both obvious and hidden needs of customers and users, and prototyping. As a process, Design Thinking is seen as a combination of a micro- and a macro-process. The micro-process—as innovation process per se—consists of these steps: “Define the Problem”, “Needfinding and Synthesis”, “Ideate”, “Prototype” and “Test”. The macro-process consists of milestones manifested in prototypes that must fulfill defined requirements. As a toolbox, Design Thinking refers to the application of numerous methods and techniques from various disciplines: design, but also engineering, informatics, and psychology.



Dell'Era, C., Magistretti, S., Cautela, C., Verganti, R., & Zurlo, F. (2020). Four kinds of design thinking: From ideating to making, engaging, and criticizing. *Creativity and innovation management*, 29(2), 324-344. <https://onlinelibrary.wiley.com/doi/full/10.1111/caim.12353>.

This paper clarifies the theoretical contribution of design thinking by identifying the practices that connote different interpretations of the paradigm. Moreover, it investigates the innovation challenges that the adoption of the design thinking paradigm aims to address.

Videos

Coollest Innovations (2022). Design Thinking And Innovation - What Is Design Thinking And How Useful Is It For You?. <https://www.youtube.com/watch?v=5Ga7goOq1i4>

This 6:04 minute video describes within a practical way the design thinking or “human-centered” process. Design thinking was first coined by Tim Brown in 2008 and as a process is used both by existing organizations or potential innovators / entrepreneurs in order to generate innovative ideas. Design thinking is composed of five (5) steps: (a) empathize, (b) define, (c) ideate, (d) prototype, (e) test. The video gives several interesting examples coming from industries (e.g., Starbucks).

Supplemental Materials

OnlineExamMaker. 30 Design Thinking Quiz Questions and Answers. <https://onlineexammaker.com/k-b/30-design-thinking-quiz-questions-and-answers/>

This is a questionnaire for the self-assessment of all attendees in terms of design thinking know-how and practices. This questionnaire includes 30 questions which are related to design thinking and innovation.

Course related applications

Batterii. <https://batterii.com/>

This online tool supports Empathizing. It is an open platform for visual thinkers and designers to get on the same page, structure their thoughts and create more visually. You can browse through templates including empathy maps and customer journey maps to stakeholder analysis.

Userforge. <https://userforge.com/>

This online tool supports Defining. It helps to create in-depth and realistic personas with less clicks than it takes in design software. To foster collaboration and fast decision making you can share personas by URL instead of by the slow process of invitation.

Stormboard. <https://stormboard.com/home>

It is a whiteboard app that supports Ideation. It is practical if you need a platform for brainstorming online with your team. Stormboard stands out with its functionality to manage sticky notes on different templates, allow collaborators to rate and evaluate ideas and powerful reporting options.

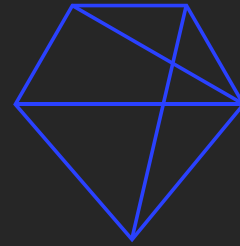
POP. <https://marvelapp.com/pop/>

This online tool supports Prototyping. It is a mobile application for turning your sketches into animations. It is very easy - just take snaps of your sketches or pictures and the app merges them into an interactive prototype.



WEEK 7

An Experimental Approach to Film
Music Composition Through
Sonification of Moving Images.



Lesson Content:

This workshop on sonification and live music improvisation for screen aims to teach participants the basics of sonification, explore improvisation techniques, and integrate both in a live performance. It includes sessions on defining and demonstrating sonification and principles of musical improvisation. Activities involve creating sonification projects, group and solo improvisation exercises, and combining real-time sonification with live performance. The workshop culminates in a live performance where participants showcase their integrated skills. Emphasis is placed on creativity, collaboration, and technical support, with resources provided for continued learning.

Lesson Aims:

This workshop aims to equip participants with a foundational understanding of sonification and its uses, teach them how to use tools like Sonic Pi and SuperCollider for sonification, and develop their live music improvisation skills. The goal is to integrate these skills into a cohesive live performance. The workshop emphasises creativity, collaboration, and provides resources for further exploration beyond the sessions.

Lesson Outcomes:

By the end of the workshop, students will have enhanced their musical improvisation skills and successfully integrated sonification with live music performances, demonstrating both individual creativity and effective collaboration in a group setting. Additionally, students will acquire technical skills for managing audio interfaces and MIDI controllers, and will be equipped with resources for continued exploration and development in sonification and musical improvisation.

Videos

<https://circles-phd.weebly.com/preliminary-work.html>

<https://circles-phd.weebly.com/01-snow.html>

<https://circles-phd.weebly.com/02-water.html>

<https://circles-phd.weebly.com/03-people.html>

<https://circles-phd.weebly.com/04-love.html>

<https://circles-phd.weebly.com/05-time.html>

<https://circles-phd.weebly.com/06-desert.html>

<https://circles-phd.weebly.com/07-agriculture.html>

<https://circles-phd.weebly.com/07-agriculture.html>

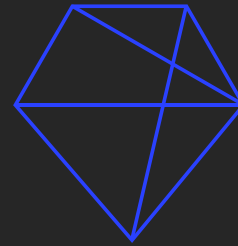
<https://circles-phd.weebly.com/09-prayer.html>

<https://circles-phd.weebly.com/10-art.html>



WEEK 8

Music Production: Practice through
AI and ML tools



Lesson Content:

The lesson defines some fields of application of Artificial Intelligence and Machine Learning to the practice of music production such as Digital Signal Processing, mixing, mastering, unmixing, sound design. The characteristics of the various technologies presented will be explained.

Lesson Aims:

To give the student an understanding of some of new audio technologies based on AI and ML: audio processing; equalization; unmasking procedure; compression; composition of musical pieces through AI based technologies.

Lesson Outcomes:

An acquisition and increase in students' knowledge of AI technologies applied to music production and digital audio processing. Greater awareness of the potential of recent technologies and applications.

Artificial Intelligence Applications

SynthGPT. <https://fadr.com/synthgpt>

SynthGPT is a VST audio plugin that enables you to create playable instruments using text descriptions. Simply describe the sound you want, and SynthGPT will provide you with 100 different options. Developed by Fadr Research Lab, SynthGPT is still in development. However, by joining the Beta program, you will get access to the latest versions as the research evolves and can contribute feedback and ideas to help shape the technology's future.

Suno. <https://suno.com/>

Suno is an AI sound generator capable of producing everything from song lyrics to vocals and instrumentation based on a simple prompt. It can also be guided to create music in the specific genre you desire.

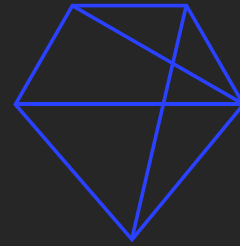
Udio. <https://www.udio.com/>

Udio can create vocals and instrumentation from a simple text prompt. By generating song lyrics with a ChatGPT-like text generator and feeding them into a generative voice model, it combines the vocals with generated music to produce a song.



WEEK 9

Music Production Techniques for Creative Music and Audio Applications.



Lesson Content:

This lesson delves into the basics of digital audio and the fundamental knowledge of creative music production techniques. It focuses on the use of modern AI and spatial audio applications in music, defining what immersive audio is and outlining the various AI applications in music production. Students will be required to participate by completing small exercises using open-source and free software as well as audio material provided in the course.

Lesson Aims:

- (1) To provide students with a basic understanding of digital audio practices in the digital studio.
- (2) To introduce students to modern AI applications in music.
- (3) To familiarize students with current immersive audio technologies.
- (4) To empower students to autonomously manipulate digital audio and create innovative music applications.

Lesson Outcomes:

- (1) Increased student knowledge of the mentioned subjects.
- (2) Students will be capable of designing their own applications tailored to their needs.
- (3) Introduction of students to the creative potential of these subjects, leading to a desire for further research.

Readings

On the Development and Practice of AI Technology for Contemporary Popular Music Production.

https://www.researchgate.net/publication/358438843_On_the_Development_and_Practice_of_AI_Technology_for_Contemporary_Popular_Music_Production

This article offers insights into the use of AI tools for music production in today's popular music genres. It is based on an analysis of music production practices in these genres and real-world usage of AI music tools through collaboration with professional artists. The content of this paper is easily understandable for all readers and doesn't require a specific background in music technology.

What is spatial audio?

<https://www.bbc.com/academy-guides/spatial-audio-where-do-i-start#:~:text=Spatial%20audio%20is%20a%20way,sound%20is%20used%20in%20headphones.>

This is a straightforward and all-encompassing guide to Spatial Audio, a key component of this course. It begins by defining spatial audio, and then provides brief but concise information on basic 3D audio technologies, relevant recording techniques, and important tips that you need to know.



Introduction to Ambisonics.

https://www.researchgate.net/publication/280010078_Introduction_to_Ambisonics

This document offers a detailed exploration of Ambisonics immersive audio technology (scene-based audio), a key component of this course. It explains the historical development of Ambisonics, analyzes its features, and provides essential information for understanding Ambisonics encoding and decoding, as well as the use of Higher Order Ambisonics (HOA), subjects that students will practice during this course. Additionally, it includes an assessment of the advantages and disadvantages of this technology.

Videos

Joint improvisation between human and AI.

<https://www.youtube.com/watch?v=sIFbvgmYBA0>

This video showcases a live, real-time interactive system between a human performer and an AI "music partner". The AI system uses machine listening techniques to analyze the audio signal from the human performer and then responds musically. This advanced use of AI in live music performance demonstrates the significant creative potential of AI in music.

What is Immersive Audio and why is it so cool?

<https://www.youtube.com/watch?v=nsoDChjHNtY>

This video provides a detailed overview of existing immersive audio technologies, covering major surround and 3D audio formats, the significance of the 'Renderer,' and the role of metadata in these technologies. It also explores the widespread applications of spatial audio and explains why it's considered 'cool.' In conclusion, the video offers valuable insights for those interested in gaining a strong foundation in the field of immersive audio.

Supplemental Materials

Audio examples and exercises.

collection of audio examples will be provided to the students to practise with the discussed during the course.

Course-related Applications

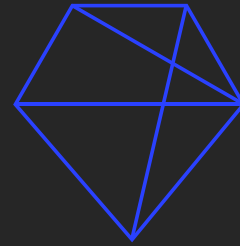
Reaper. <https://www.reaper.fm/>

This is the main DAW that will be used during the course. Reaper is an open-source and free-to-use application, available on all major computer platforms, which makes it accessible to all students. Alternatively, participants are free to choose a DAW of their preference.



WEEK 10

Network music performance
through multichannel audio
streaming applications.



Lesson Content:

The course focuses on the fundamentals of Network Music Performance (NMP), addressing the main challenges of playing music remotely and offering strategies to mitigate them. It proposes the use of immersive audio streams (binaural or multi-channel) to enhance the experience for remote players. Participants will learn how to set up networks for remote music performance using open-source and free software, as well as how to navigate limitations and harness these technologies creatively.

Lesson Aims:

- (1) To provide students with a basic understanding of how remote music performance networks work.
- (2) To introduce students to modern NMP software.
- (3) To help students successfully set up remote music performance applications, utilizing immersive audio streams.

Lesson Outcomes:

- (1) Increased student knowledge of the NMP capabilities.
- (2) Students will be able to unleash their creativity and design their own networks based on their ideas.
- (3) Empower students to research on the creative potential of NMP technologies.

Readings

Networked Music Performance in Virtual Reality: Current Perspectives.

<https://commons.library.stonybrook.edu/ionma/vol2/iss1/2/>

This text discusses the challenges (geographic distance, network performance, bandwidth, low latency, etc.) that affect the nature of remote musical interaction. It also explores the necessity of visuals in remote music performance and suggests potential improvements for networked musical collaborations, as well as areas for further study.

Immersive networked music performance systems: identifying latency factors.

<https://www.semanticscholar.org/paper/Immersive-networked-music-performance-%3A-Turchet-Tomasetti/84c0f3337e8ae0573097b58da1e256820609c561>

This article focuses on the use of immersive audio technologies on network music performances. It refers to recent simulated studies that have shown that musicians prefer using headphones for spatialized listening during collaborative playing, rather than conventional stereophonic systems. This highlights the need to improve current network music performance systems with spatial sound, leading to the development of immersive networked music performance systems. It also addresses the important role of the spatial audio stream in the overall latency of the audio processing and transmission between network nodes.



Videos

A complete guide to Networked Music Performance using free and open-source software.

https://www.youtube.com/watch?v=qFzoT_uDRwE

video from Source Elements is a comprehensive guide on free and open-source software for Network Music Performances. It is highly relevant to a significant part of the course's content and covers the subjects in a simple yet comprehensive way.

Real-Time Online Jamming (video playlist)

<https://www.youtube.com/playlist?list=PL1S-ETGYUhWpUPhh56r8P2bkJsovKYXHL>

This series of videos is about the real-time online jamming software Sonobus. In these videos, you will find information about what equipment is required for a network jam and helpful tips on setting up a system. The focus of the videos is on Sonobus, which is the open-source software that will be used in the course.

Supplemental Materials.

Course notes with suggested music performance network ideas.

A list of NMP ideas will be given and discussed during the course. The aim is to help students think creatively and come up with their ideas for remote performances.

Course-related Applications

Sonobus. <https://sonobus.net/>

SonoBus is an easy-to-use multi-user, multi-platform application for streaming high-quality, low-latency peer-to-peer audio between devices over the internet or a local network. It is an open-source application and is completely free. It also runs on smart portable devices and supports audio recording.

Reaper. <https://www.reaper.fm/>

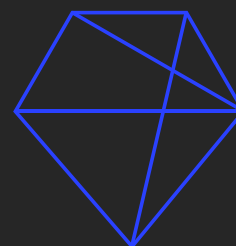
This is the main DAW that will be used during the course. Reaper is an open-source and free-to-use application, available on all major computer platforms, which makes it accessible to all students.

Alternatively, participants are free to choose a DAW of their preference.



WEEK 11

LOLA and Beyond



Lesson Content:

The musical and social interaction in performance and teaching situation depends on a combination of aural and visual cues (i.e. body movements, gestures, facial expression and eye contact). The lesson provides a hands-on experience of networked music performance and gives a new perspective on musical interaction, communication and interpretation in the context of digital environment.

Lesson Aims:

- (1) To highlight the main factors that affect the coordination and communication in an ensemble impacted by separation in online performance;
- (2) To address both challenges and opportunities of LoLa technology in music performance and education;
- (3) Exploring the new paradigm of music making and its impact on musical interpretation, composition and perception.

Lesson Outcomes:

- (1) Awareness of current trends and developments of available technology in networked music performance;
- (2) Understanding of challenges and opportunities in using the LoLa technology in performance and education.
- (3) Recognizing shifting paradigms of music performance and education in post-covid era.

Readings

Davies, G. (2015). The effectiveness of LOLA (LOW Latency) audiovisual streaming technology for distributed music practice

https://www.academia.edu/28770528/The_effectiveness_of_LO-

[LA_LOw_LATency_audiovisual_streaming_technology_for_distributed_music_practice](https://www.academia.edu/28770528/The_effectiveness_of_LO-LA_LOw_LATency_audiovisual_streaming_technology_for_distributed_music_practice)

This study focuses on the effectiveness of LOLA (LOW Latency), an audiovisual streaming system, for distributed music practice. LOLA facilitates the transmission of synchronous audio and video and is designed for use over high-speed national research and education networks. Case studies took place at Edinburgh Napier University and a number of remote music institutions between September 2012 and April 2015.

Lorwerth, M., & Knox, D. (2019). Playing together, apart: Musicians' experiences of physical separation in a classical recording session. *Music Perception*, 36(3), 289-299.

<https://doi.org/10.1525/mp.2019.36.3.289> https://www.musicinnovationhub.org/wp-content/uploads/2020/10/Digitalization_in_music.pdf

Empirical research points towards the necessity of direct communication between musicians to create coordinated and meaningful performances. Physical separation affects the aural and visual communication. The aim of this study is to investigate the subjective experiences of classical duos when physically separated and connected via an audio and video link.

Fernández, V. , Gerasimova, B. (2022). IRL to URL: Digitalization in the live music scene during and post-COVID-19: A platform-driven study of the live music scene and its approaches. Student paper, Jönköping University. <https://www.diva-portal.org/smash/get/diva2:1685943/FULLTEXT01.pdf>

As the strict lockdowns during the global COVID-19 pandemic made the world more digital, nearly every industry was affected. The music industry in particular had already been going through many changes, though maybe none of them as big so far—musicians were restricted from performing "in real life" and had to think out of the box. Thus, coming to life virtual con-certs and festivals. The purpose of this paper is to investigate how the transition to a digital live scene has been handled in the live music industry during the pandemic, and what the experienc-es of Generation Z and Millennials have been with specific video streaming platforms. To find the answers to these questions, a mixed-methods approach was taken, combining semi-structured qualitative interviews and an online questionnaire.

The study provides an insight into what approaches music industry professionals took in handling different aspects of the changing world of concerts, both in terms of technical aspects and in the general shift that the music community experiences. Moreover, it provides an insight into users' preferences for streaming platforms, together with their respective advantages and flaws. More generally, a deeper understanding of what people perceive as gains and losses from the digitization of live events is also provided, with a look into the potential future of concerts.

Dessen. M (2022). Networked music performance: An introduction for musicians and educators <https://mdessen.medium.com/networked-music-performance-an-introduction-for-musicians-and-educators-d31d33716bd2>

An article that describes an overview of the technical and artistic concepts underlying networked music performance. What has changed since 2020 is the many new software options, so in June 2023, and therefore updated the brief section on software suggestions to reflect more recent apps.

C. Drioli, C. Allocchio, and Nicola Buso (2013). Networked Performances and Natural Interaction via LOLA: Low Latency High Quality A/V Streaming System https://www.internetsociety.org/wp-content/uploads/2013/09/32_LOLA.pdf

LOLA (LOw LAtenCy audio visual streaming system), a system for distributed performing arts interaction over advanced packet networks. It is intended to operate on high performance networking infrastructures and is based on low latency audio/video acquisition hardware and on the integration and optimization of audio/video data acquisition, presentation and transmission. The extremely low round trip delay of the transmitted data makes the system suitable for remote musical education, real time distributed musical performance and performing arts activities, but in general also for any human-human interactive distributed activity in which timing and responsiveness are critical factors for the quality of the interaction. The experimentation conducted so far with professional music performers and skilled music students, on geographical distances up to 3500 Km, demonstrated its effectiveness and suitability for distance musical interaction, even when professional players are involved and very "tempo sensitive" classical baroque music repertoire is concerned.





Esaiasson, M. (2021). Using video in teaching.

<https://www.education.lu.se/en/article/using-video-teaching>

An overview from Lund University of international research in the area of using video as a tool in higher teaching, such as pre-recorded video, length of videos, live video (video conferencing tools), student-produced videos for assessment and self-reflection, video blogs, recorded presentations, and virtual office hours.

Frisk, H. (2020). Intercultural Collaboration through Networked Performance. Conference proceeding.

<https://www.diva-portal.org/smash/get/diva2:1500846/FULLTEXT01.pdf>

As the Covid-19 pandemic continues to affect individual musicians, ensembles and concert institutions, streaming technology has become a central vehicle through which musicians and audiences can meet. But this forced move to digital presence also suggests new possibilities, beyond the ongoing coronavirus pandemic. This paper discusses how networked performance, a format which has engaged artists for decades as an artform in its own right, may also contribute to the sustaining of cultural heritage among migrant/minority communities as well as to the development of innovative intercultural artistic practices.

Videos

Exchange Talk: Low-Latency audiovisual streaming (LoLa) for instrumental music teaching

<https://www.youtube.com/watch?v=Sjo0KIQcZb0>

This video discusses the challenges of music teaching via video link, and the development of alternative technologies to address them.

LOLA (Low Latency audio/video) Internet2 Innovators: Real Time Musical Interaction over Advanced Networks

<https://www.youtube.com/watch?v=vZ0xSb8mz6o>

This video captures some of the early steps of Lola technology into the field of performance and education.

Data Transmission Modes | Simplex, Half Duplex and Full Duplex in a Computing Network

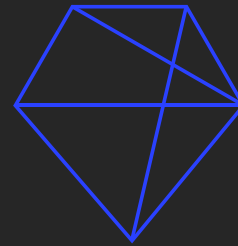
<https://www.youtube.com/watch?v=9m3E2hwkU34>

Duplex or full-duplex data transmission means that data can be transmitted in both directions on a signal carrier at the same time. For example, on a local area network with a technology that has full-duplex transmission, one workstation can be sending data on the line while another workstation is receiving data. Full-duplex transmission implies a bidirectional line that can move data in both directions simultaneously. This video explains the different types of data transmission modes i.e. simplex mode, half duplex and full duplex.



WEEK 12

Fundamental Tenets of Ethics and Artificial Intelligence.



Lesson Content:

The lesson defines the fundamental tenets of Ethics from historical, cultural, religious, and social perspectives. It defines what Artificial Intelligence is and offers a detailed explanation of how it works. On occasion, the information presented in the preparatory materials will be compared and contrasted to answers provided in real time by ChatGPT. The similarities and differences will be subject to interactive discussion. The Questionnaire will be handed out and required to be completed by the subsequent lesson.

Lesson Aims:

- (1) To give the student a basic yet functional understanding of the concepts and principles of the two subjects.
- (2) To demonstrate question framing when using ChatGPT.
- (3) To make students aware of the similarities and difference between traditional (expert) and AI generated information.
- (4) To be able to use information gathered in the lesson for the purposes of further investigation.

Lesson Outcomes:

- (1) An increase in student knowledge of said subjects.
- (2) An increased awareness of how Ethics may affect both their person and its relationship to the outside world.
- (3) An increased desire to explore and question concepts and principles hitherto unknown or underdeveloped.

Readings

Ethics: A General Introduction. https://www.bbc.co.uk/ethics/introduction/intro_1.shtml

This concise yet comprehensively detailed text covers all the fundamental concepts and principles that both define and explain the subject of Ethics. It is subdivided into seven parts that explore the following

- (1) What is ethics?
- (2) What use is ethics?
- (3) Ethics and people.
- (4) (Are ethical statements objectively true?
- (5) Four ethical "isms."
- (6) Where does ethics come from?
- (7) Are there universal moral rules? The site also provides links to a host of other information sources. It is written in a simple and clear manner that makes the information immediately accessible to anyone.



What is Artificial Intelligence.

<https://www.ibm.com/topics/artificial-intelligence>

Aptly, this text is contributed by IBM, a foundational company in the field of technology. It provides simple and clear explanation of the components, mechanics, and procedures that underpin Artificial Intelligence. It explains the different models of learning and how these differ from one another. It presents the rise of generative models and how AI is used for different applications. It also covers the historical evolution of AI to provide a context for its present state. Again, the site offers a range of links to explore and deepen the reader's knowledge of a host of related subjects.

Videos

What is Ethics? <https://youtu.be/Rr7U49RPpTs>

This 10:18 minute video discusses, in great detail, the meaning, nature and dynamics of ethics. It may be described as an animated whiteboard presentation in which the concepts and principles are presented in both written and image form. It follows a logical and sequential progression that leads to a clear understanding of the subject. A full transcript of the video can be found at <https://philonotes.com/2022/05/ethics...>

Artificial Intelligence in 10 minutes.

<https://youtu.be/cW9shEB8h5E>

The 10:05 video may be described as a sequence as a sequence of explanatory stills underpinned by a narration. The text and artistic completion of each still work in synchronicity to unfold a clear and simple explanation of the evolution of AI using simple and common everyday examples that can be easily understood. Some levity is introduced to make the presentation pleasant and enjoyable to follow.

Supplemental Materials

Questionnaire: What is your personal code of Ethics?

This is a questionnaire to be completed by all attendees. It explores elements of general and personal ethical principles. It also asks questions pertaining to scenarios where the individual's ethics pertaining to the use of AI models is questioned. It is exploratory in nature and is designed to stimulate questioning of generally accepted ethical norms and the individual's adherence or divergence from these.

Artificial Intelligence Applications

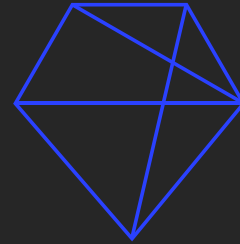
ChatGPT. <https://ai-pro.org/>

This is the official OpenAI website that offers all the applications created by the company. It free versions of all the available chat boxes, AI art and photo generators, articles and courses on AI. It is the site from which the ChatGPT application will be launched for lesson purposes.



WEEK 13

Ethical Problems with the use of AI in
Academic and Musical Pursuits.



Lesson Content:

ChatGpt will be used real-time to compare and contrast the student answers to the questionnaire handed out the previous week and the preparatory materials made ready for the present lesson.

Lesson Aims:

- (1) To demonstrate the advantages and shortcomings in using AI for academic research, writing and musical composition.
- (2) To show the problems of origin, identity, intellectual property, and copyright.
- (3) To heighten the awareness of students to the nature of change that Artificial Intelligence brings with it.

Lesson Outcomes:

- (1) Students will be better able to make ethical decisions regarding their academic and musical pursuits.
- (2) Students will be fully aware of the rapid changes that will affect their futures.
- (3) Students will be forced to question issues that they have never had to hitherto faced.

Readings

AI in Music Creation and the Ethical Challenges of it.

<https://medium.com/@othilia.norell/ai-in-music-creation-and-the-ethical-challenges-of-it-c20d7fae6adf>

This article presents the fundamental issues of how AI is forcing a new urgency to examine all aspects of the musical realm. The main issues presented are (1) Ethical and Legal challenges. (2) The role of AI in the process of attribution (identity)

Trust the “Science” that just Retracted 11 000 “Peer Reviewed” papers.

<https://www.zerohedge.com/markets/trust-sciencethat-just-retracted-11000-peer-reviewed-papers>

AS the title suggest, the article presents the dark and dangerous side of how AI can be missused in

- (1) the generation of false knowledge
- (2) the creation of a multi-billion dollar industry dedicated to the destruction of truth
- (3) the corruption of structures that have existed to ensure the integrity of human knowledge.
- (4) the proliferation of the worst kind of ethical practices.



Videos

Cheating or Learning. Walking the AI Tightrope in Education.

<https://youtu.be/mEtAfbFr6RE>

This 16:18 minute video is a TedTalk that examines many of the ethical dilemmas created by the use of AI in education. These are faced by both educators and students. It is exploratory in nature and stimulates reflection.

AI Will Change Music Forever.

<https://youtu.be/cjh4I5AGz34>

This 4:33 video is part of an interview with music composer and producer Billy Corgan. It deals mainly with original and AI generated music. It explores how AI challenges the issue of identity.

AI Impact: How AI is transforming the Music Industry.

<https://youtu.be/E1wDOAmYHSs>

This 4:32 minute is a CNBC report on how the changing relationship between musicians, the music industry and AI is being shaped.

Supplemental Materials

Questionnaire: What is your personal code of Ethics?

This is a questionnaire to be completed by all attendees. It explores elements of general and personal ethical principles. It also asks questions pertaining to scenarios where the individual's ethics pertaining to the use of AI models is questioned. It is exploratory in nature and is designed to stimulate questioning of generally accepted ethical norms and the individual's adherence or divergence from these.

Artificial Intelligence Applications

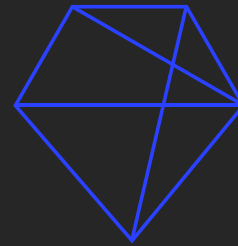
ChatGPT. <https://ai-pro.org/>

This is the official OpenAI website that offers all the applications created by the company. It includes free versions of all the available chat boxes, AI art and photo generators, articles and courses on AI. It is the site from which the ChatGPT application will be launched for lesson purposes.



WEEK 14

Forecasting future on
Cyber Music Performance



Lesson Content:

This period will be used to discuss the course as a whole and to answer any outstanding issues and to provide feedback in terms of content, structure and delivery.

Lesson Aims:

- (1) Clarification of outstanding issues.
- (2) To provide a record for the improvement of the course in any of its facets.

Lesson Outcomes:

Annotated Materials

The Musense Project is conducting a survey to collect data that will help it forecast possible future outcomes in the area of cyber music performance. This notion forms one of the core components of the Musense Project, dedicated to the exploration of musical issues in an ever-evolving cyberspace. The survey rests partially on the belief that human premonition is helpful in forecasting future events.

Survey to be handed in :

<https://docs.google.com/forms/d/e/1FAIpQLScK2wApXgRXdpyHTHibX-uDcNwexEilezBmRSb1fjyuAWHNUhw/viewform>



Appendix: Course Syllabus

University Faculty				
Department/Program				
Course Title	Semester	Course Hour/Week		ECTS
		Theory	Practice	
Music in the age of Artificial Intelligence and Virtual Reality				
Course Type				
1. Compulsory Courses				
2. Program Elective Courses				
3. Prerequisites Courses				
Language of Instruction				
Level of Course				



Course Coordinator	
Course Instructor(s)	
Course Assistant(s)/Tutor (s)	
Aim(s) of the Course	<p>(1) To inform music students of the quintessential developments in the fields of artificial intelligence and other technologies that may be applied to music creation, production and performance.</p> <p>(2) To provide hands-on instruction in the use of such technologies.</p> <p>(3) To have students apply newly acquired knowledge and skills to their own projects.</p> <p>(4) To provide ethical guidelines in the use of said technologies.</p>
Learning Outcomes of the Course	<p>(1) To raise awareness of the rapidly changing environment of the music industry.</p> <p>(2) To render students as independent as possible with regards to their being able to apply newly acquired knowledge to their own work. (3) To instill a questioning attitude with regards to further personal musical development. (4) To consider questions of personal work ethics in a rapidly transforming musical environment.</p>
Course Content	<p>This course covers the most essential materials of four main areas of concern. The first - Digitalization - deals with the meaning of cyberspace and artificial intelligence. It demonstrates how we are informed and reshaped by them as well as what we can do to thrive in this new environment.</p> <p>The second - Creative Destruction and New Opportunities - describes how digitalization has affected the world of music and introduced the entirely new concepts of the cyber stage and cyber performance.</p> <p>The third area - AI Tools - is perhaps the most music-specific as it covers the present state of the creative industries, presents music-specific design thinking and provides a detailed breakdown of AI tools that can be used for all stages of music creation and production.</p> <p>The fourth and final part - AI Ethical Issues - explores the fundamental elements of human ethics and how these relate to the use of artificial intelligence in creation of any original content, be it musical or scholarly.</p>

WEEKLY COURSE SCHEDULE		
Week	Topics and Delivery	Preparation Materials
1	Digital Disruption: Thriving in Cyberspace Self Directed Learning.	<p>Readings</p> <ul style="list-style-type: none"> Introduction: The Innovator's Dilemma, (pp. 6-19) http://lib.ysu.am/open_books/413214.pdf Disruption Innovation and Theory https://www.scirp.org/journal/paperinformation?paperid=100262 <p>Videos</p> <ul style="list-style-type: none"> Embracing the Digital Revolution - Overview: https://www.youtube.com/watch?v=w1txvfFa5TM What is Disruptive Innovation by Clayton Christensen Harvard Business Review: https://www.youtube.com/watch?v=GPIOCMbpqcM <p>Supplemental Materials</p> <ul style="list-style-type: none"> What Is Disruptive Innovation? 10 Examples https://www.imd.org/reflections/what-is-disruptive-innovation-10-examples/ <p>Digital Transformation Learning Tool</p> <ul style="list-style-type: none"> Digital Transformation Step by Step: https://digital-transformation-tool.eu/quick-check-where-is-my-company-at-the-moment/ Toolkit on Digital Skills: https://eu3digital.com/wp-content/uploads/2022/05/Toolkit-on-Digital-Skills.pdf

2	Digital Transformation: How AI reshapes us Self Directed Learning	<p>Readings</p> <ul style="list-style-type: none"> • What is digital transformation? https://www.mckinsey.com/featured-insights/mckinsey-explainers/what-is-digital-transformation • What is digital transformation & why is it important? https://www.imd.org/reflections/what-is-digital-transformation-why-is-it-important/ • The Digital Transformation Playbook: Rethink Your Business for the Digital Age: https://medium.com/@gavanescumedeeea161690/the-digital-transformation-playbook-rethink-your-business-for-the-digital-age-by-david-l-rogers-b13ff92876db • Leading Digital: Turning technology into business transformation. Business Digest the study's key lessons for digital transformation (pp. 3- 5) : https://business-digest.eu/media/pdfs/UsBD25301.pdf <p>Videos</p> <ul style="list-style-type: none"> • Digital Transformation: An Illustrated Guide: https://player.vimeo.com/video/347761451?dnt=1&app_id=122963 • How AI Changes Your Workforce https://www.youtube.com/watch?v=ONw4jkSDGOI&t <p>Supplemental Materials</p> <ul style="list-style-type: none"> • MIT Sloan Strategies for Leading the Future of Work: https://mitsloan.mit.edu/sites/default/files/2022-05/MTSloan-FutureOfWork.pdf • What is digital transformation? https://www.mckinsey.com/featured-insights/mckinsey-explainers/what-is-digital-transformation <p>Digital Transformation Learning Tool</p> <ul style="list-style-type: none"> • Digital Transformation Step by Step: https://digital-transformation-tool.eu/quick-check-where-is-my-company-at-the-moment/
3	How has digitalization affected music? Interactive Lecture	<p>Readings</p> <ul style="list-style-type: none"> • The role of technology in the field of classical music. https://music.yale.edu/2012/02/10/the-role-of-technology-in-the-field-of-classical-music • Digitalization in music and the role of music-tech companies. https://www.musicinnovationhub.org/wp-content/uploads/2020/10/Digitalization_in_music.pdf <p>Videos</p> <ul style="list-style-type: none"> • From Phonographs to Spotify: A Brief History of the Music Industry https://youtu.be/-bVketPj5to • Do You Know How Much Classical Music Is Edited? https://youtu.be/o2P_dRbYn_4 <p>Streaming Platforms:</p> <ul style="list-style-type: none"> • Mainstream: YouTube, Spotify, Deezer, etc. • Classical Music specific: medici.tv, IDAGIO, Digital Concert Hall

4	Cyberformance and the Cyberstage (Cyberformance, Digital or Networked Performance) - Production and Consumption of Culture Interactive Lecture	<p>Readings</p> <ul style="list-style-type: none"> • What you need to Know about VR Concerts. https://www.tickpick.com/blog/what-you-need-to-know-about-ar-and-vr-concerts/ <p>Long-Read</p> <ul style="list-style-type: none"> • Youngblood, Gene. "Expanded Cinema: Fiftieth Anniversary Edition." S.L.: Fordham University Press, 2020. • The Practice of Art and AI https://archive.aec.at/media/assets/0987aa0bff a7b2e5d4653a75e9362101.pdf <p>Videos</p> <ul style="list-style-type: none"> • Musique Concrete https://www.youtube.com/watch?v=c4ea0sBrw6M • Wendy Carlos Interview 1989 BBC Two https://youtu.be/Z3cab5lcCy8?si=UFjvw6eTvw7EHC6x • An Afternoon With John Whitney https://www.youtube.com/watch?v=cP5Mj6ZvZJc • Inside Imogen Heap's cutting-edge VR concert The Future of Music with Dani Deahl https://youtu.be/HoDqeunBH10?si=woM2ORdeACWT-vA9
5	Introduction to Creative Industries Interactive lecture	<p>Readings</p> <ul style="list-style-type: none"> • British Council (2010) Mapping the Creative Industries: A toolkit. https://creativeconomy.britishcouncil.org/media/uploads/files/English_mapping_the_creative_industries_a_toolkit_2-2.pdf • O'Connor, J. (2009). Creative industries: a new direction?. International journal of cultural policy, 15(4), 387-402. https://www.tandfonline.com/doi/full/10.1080/10286630903049920?casa_token=C2j1X0AowKAAAAA%3AriW6S95FEejTt5fhuE02V_tvQhBLhAd2-Ew9USD3kczS-DIB-YUPzgsdlfi4FAJztnAAfVK-30g • Anantrasirichai, N., & Bull, D. (2022). Artificial intelligence in the creative industries: a review. Artificial intelligence review, 55(1), 589-656. https://link.springer.com/article/10.1007/s10462-0 <p>Videos</p> <ul style="list-style-type: none"> • Simpleshow Foundation. Creative Economy. https://www.youtube.com/watch?v=cgYpMY-MhzXI • The Economist (2021). How AI is transforming the creative industries. https://www.youtube.com/watch?v=cgYpMYMhzXI w.tandfonline.com/doi/full/10.10 • Course related applications ERIC. https://www.meet-eric.com/

6	Design Thinking and Innovation in Creative Industries Team Activity	<p>Readings</p> <ul style="list-style-type: none"> Brenner, W., Uebernickel, F., & Abrell, T. (2016). Design thinking as mindset, process, and toolbox: Experiences from research and teaching at the University of St. Gallen. Design thinking for innovation: Research and practice, 3-21. https://link.springer.com/chapter/10.1007/978-3-319-26100-3_1 Dell'Era, C., Magistretti, S., Cautela, C., Verganti, R., & Zurlo, F. (2020). Four kinds of design thinking: From ideating to making, engaging, and criticizing. Creativity and innovation management, 29(2), 324-344. https://onlinelibrary.wiley.com/doi/full/10.1111/caim.12353 <p>Videos</p> <ul style="list-style-type: none"> Coollest Innovations (2022). Design Thinking And Innovation - What Is Design Thinking And How Useful Is It For You?. https://www.youtube.com/watch?v=5Ga7goOq1i4 <p>Supplemental Materials</p> <ul style="list-style-type: none"> OnlineExamMaker. 30 Design Thinking Quiz Questions and Answers. https://onlineexam-maker.com/kb/30-design-thinking-quiz-questions-and-answers/ <p>Course related applications</p> <ul style="list-style-type: none"> Batterii. https://batterii.com/ Userforge. https://userforge.com/ Stormboard. https://stormboard.com/home POP. https://marvelapp.com/pop/
7	An Experimental Approach to Film Music Composition Through Sonification of Moving Images Interactive Lecture, Live Workshop and Discussion.	<p>Readings</p> <ul style="list-style-type: none"> Sonification of Moving Images: CIRCLES Sonification: Sonification <p>Videos</p> <ul style="list-style-type: none"> General example of sonification: https://circles-phd.weebly.com/the-movie Preliminary work: https://circles-phd.weebly.com/preliminary-work.html <p>Supplemental Materials</p> <ul style="list-style-type: none"> Live Q&A, live workshop about live music improvisation for video and films



<p>8</p>	<p>Music Production practice through AI and ML tools Interactive Lecture and Discussion</p>	<p>Readings</p> <ul style="list-style-type: none"> • https://en.wikipedia.org/wiki/Equalization_(audio) • https://en.wikipedia.org/wiki/Dynamic_range_compression • https://en.wikipedia.org/wiki/Reverberation • https://en.wikipedia.org/wiki/Audio_restoration • Focusrite FAST Bundle. https://www.soundonsound.com/news/fast-series-plugins-focusrite • https://www.musicradar.com/news/izotope-neutron-4-elements-free • https://www.musicradar.com/news/soundid-voiceai-voice-changer-plugin • https://www.musicradar.com/news/10-ways-ai-music-production • https://www.musicradar.com/news/izotope-vea-plugin <p>Videos</p> <ul style="list-style-type: none"> • FAST Bundle. https://www.youtube.com/watch?v=aSKGVZTTLfE
<p>9</p>	<p>Music Production Technics for Creative Music and Audio Applications. Lecture and Live Demonstration</p>	<p>Readings</p> <ul style="list-style-type: none"> • On the Development and Practice of AI Technology for Contemporary Popular Music Production. https://www.researchgate.net/publication/358438843_On_the_Development_and_Practice_of_AI_Technology_for_Contemporary_Popular_Music_Production • What is spatial audio? https://www.bbc.com/academy-guides/spatial-audio-where-do-i-start#:~:text=Spatial%20audio%20is%20a%20way,sound%20is%20used%20in%20headphones. • Introduction to Ambisonics. https://www.researchgate.net/publication/280010078_Introduction_to_Ambisonics <p>Videos:</p> <ul style="list-style-type: none"> • Joint improvisation between human and AI. https://www.youtube.com/watch?v=sIF-bvqmYBAQ • What is Immersive Audio and why is it so cool? https://www.youtube.com/watch?v=nsoDChjHNtY • Supplemental Materials • Audio examples and exercises. • Course-related Applications • Reaper. https://www.reaper.fm/ • IEM plug-in suite. https://plugins.iem.at/



10	<p>Network music performance through multichannel audio streaming applications. Lecture and Live Demonstration</p>	<p>Readings:</p> <ul style="list-style-type: none"> • Networked Music Performance in Virtual Reality: Current Perspectives. https://commons.library.stonybrook.edu/ionma/vol2/iss1/2/ • Immersive networked music performance systems: identifying latency factors. • https://www.semanticscholar.org/paper/Immersive-networked-music-performance-systems%3A-Turchet-Tomasetti/84c0f3337e8ae0573097b58da1e256820609c561 <p>Videos:</p> <ul style="list-style-type: none"> • A complete guide to Networked Music Performance using free and open-source software. https://www.youtube.com/watch?v=qFzoT_uD-RwE • Real-Time Online Jamming (video playlist) • https://www.youtube.com/playlist?list=PL1S-ET-GYUhWpUPhh56r8P2bkJsovKXHL <p>Supplemental Materials</p> <ul style="list-style-type: none"> • Course notes with suggested music performance network ideas. <p>Course-related Applications</p> <ul style="list-style-type: none"> • Sonobus. https://sonobus.net/ • Reaper. https://www.reaper.fm/
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<p>11</p>	<p>LoLa and Beyond Interactive Lecture.</p>	<p>Readings</p> <ul style="list-style-type: none"> • Davies, G. (2015). The effectiveness of LOLA (LOw LATency) audiovisual streaming technology for distributed music practice https://www.academia.edu/28770528/The_effectiveness_of_LOLA_LOw_LATency_audiovisual_streaming_technology_for_distributed_music_practice • Iorwerth, M. Knox, D. (2019). Playing Together, Apart https://www.musicinnovationhub.org/wp-content/uploads/2020/10/Digitalization_in_music.pdf • C. Drioli, C. Allocchio, and Nicola Buso (2013). Networked Performances and Natural Interaction via LOLA: Low Latency High Quality A/V Streaming System https://www.internetociety.org/wp-content/uploads/2013/09/32_LOLA.pdf • Fernández, V. , Gerasimova, B. (2022). IRL to URL: Digitalization in the live music scene during and post-COVID-19: A platform-driven study of the live music scene and its approaches. Student paper, Jönköping University. https://www.diva-portal.org/smash/get/diva2:1685943/FULLTEXT01.pdf • Dessen. M (2022). Networked music performance: An introduction for musicians and educators https://mdessen.medium.com/networked-music-performance-an-introduction-for-musicians-and-educators-d31d33716bd2 • Esaiasson, M. (2021). Using video in teaching. https://www.education.lu.se/en/article/using-video-teachin • Frisk, H. (2020). Intercultural Collaboration through Networked Performance. Conference proceeding. https://www.diva-portal.org/smash/get/diva2:1500846/FULLTEXT01.pdf <p>Videos</p> <ul style="list-style-type: none"> • Exchange Talk: Low-Latency audiovisual streaming (LoLa) for instrumental music teaching https://www.youtube.com/watch?v=Sjo0KlQcZbQ • LOLA (Low Latency audio/video) Internet2 Innovators: Real Time Musical Interaction over Advanced Networks https://www.youtube.com/watch?v=vZ0xSb8mz6o • Data Transmission Modes Simplex, Half Duplex and Full Duplex in a Computing Network https://www.youtube.com/watch?v=9m3E2hwkU34
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12	Fundamental Tenets of Ethics and Artificial Intelligence. Interactive Lecture and Discussion	<p>Readings</p> <ul style="list-style-type: none"> Ethics: A General Introduction. https://www.bbc.co.uk/ethics/introduction/intro_1.shtml What is Artificial Intelligence. https://www.ibm.com/topics/artificial-intelligence <p>Videos</p> <ul style="list-style-type: none"> What is Ethics? https://youtu.be/Rr7U49RPPtTs Artificial Intelligence in 10 minutes. https://youtu.be/cW9shEB8h5E <p>Supplemental Materials</p> <ul style="list-style-type: none"> Questionnaire: What is your personal code of Ethics? Artificial Intelligence Applications ChatGPT. https://chatpro.ai-pro.org/chat/new
13	Ethical Problems with the use of AI in Academic and Musical Pursuits. Demonstration and Discussion	<p>Readings</p> <ul style="list-style-type: none"> AI in Music Creation and the Ethical Challenges of it. https://medium.com/@othilia.norell/ai-in-music-creation-and-the-ethical-challenges-of-it-c20d7fae6adf Trust the "Science" that just Retracted 11 000 "Peer Reviewed" papers. https://www.zerohedge.com/markets/trust-science-that-just-retracted-11000-peer-reviewed-papers <p>Videos</p> <ul style="list-style-type: none"> Cheating or Learning. Walking the AI Tightrope in Education. https://youtu.be/mEtAfbFr6RE AI Will Change Music Forever. https://youtu.be/cjh4l5AGz34 AI Impact: How AI is transforming the Music Industry. https://youtu.be/E1wDOAmYHSs <p>Supplemental Materials</p> <ul style="list-style-type: none"> Questionnaire: What is your personal code of Ethics? Artificial Intelligence Applications ChatGPT. https://chatpro.ai-pro.org/chat/new
14	Forecasting future on Cyber Music Performance	

Required Course Materials.	Please See the detailed description for each individual lesson.
Recommended Course Materials.	Please See the detailed description for each individual lesson.



ASSESSMENT		
Semester Activities/ Studies	NUMBER	WEIGHT in %
Mid- Term		
Participation		
Quiz		
Assignment (s)		
Project		
Laboratory		
Field Studies (Technical Visits)		
Presentation/ Seminar		
Practice (Laboratory, Virtual Court, Studio Studies etc.)		
Other (Placement/Internship etc.)		
Final Exam		
TOTAL		
Contribution of Semester Activities/Studies to the Final Grade		
Contribution of Final Examination/Final Project/ Dissertation to the Final Grade		
TOTAL		100

ECTS /STUDENT WORKLOAD				
ACTIVITIES	NUMBER	UNIT	HOUR	TOTAL (WORKLOAD)
Course Teaching Hour (14 weeks* total course hours)				
Preliminary Preparation and finalizing of course notes, further self- study				
Assignment (s)				
Presentation/ Seminars				
Quiz and Preparation for the Quiz				
Mid- Term(s)				
Project (s)				
Field Studies (Technical Visits, Investigate Visit etc.)				
Practice (Laboratory, Virtual Court, Studio Studies etc.)				
Final Examination/ Final Project/ Dissertation and Preparation				
Other (Placement/Internship etc.)				
Total Workload				
Total Workload/ 25				
ECTS				

ETHICAL RULES WITH REGARD TO THE COURSE (IF AVAILABLE)
STUDENT WITH DISABILITIES OR SPECIAL NEEDS
ASSESSMENT and EVALUATION METHODS:
PREPARED BY
UPDATED
APPROVED



Appendix: Ethics Questionnaire

- 1) Do you consider stealing a good or bad thing? Why?
- 2) Do you remember how you learned that stealing was either a good or bad thing? Please list all the sources you can remember.
- 3) If your parent, sibling or best friend were dying from a terrible disease and you could save them by stealing the last remaining medication from a dispensary, would you. Why?
- 4) Are you mostly or completely driven to constantly improve yourself? How?
- 4) Have you ever used ChatGPT or any other AI app to do create a piece of written content that you could have researched and written but did not?
- 5) Do you think that creating a bot based on solid personal and ethical parameters and charging it continuous content creation is acceptable i.e. automating personal function?
- 6) In terms of what you believe truth to be, which of the views on truth do you most identify with?

Realist view:

Truth is objective reality that exists outside of human perceptions and beliefs.

Relativist or Anti realist view: Truth can vary depending on the criteria or standards we use to evaluate it.

Constructivist view:

Truth is seen as a product of human thought and interaction and is influenced by culture, society and history.

Pragmatist view:

Truth should be evaluated according to it's usefulness or effectiveness in achieving goals or solving problems.

Pluralist view:

There is no single, all-encompassing way to determine truth.
Survey Guidelines.



Area 1 – Course Materials

- 1) Did the preparatory materials increase my knowledge and skills in the subject matter.
- 2) Were the preparatory materials appropriate for the course level.
- 3) Were the course materials valuable
- 3) Were the lesson contents sequenced in such a way that helped me understand underlying concepts.
- 4) Were the explanations of concepts and ideas clear and accessible

Area 2 – Student Learning

- 1) Did the course help me develop intellectual and thinking skills
- 2) Did the course instil a sense of curiosity that would encourage further study
- 3) Did the course help me string information together so that I may correlate the materials for my own purposes
- 4) Did the course present me with completely new concepts and ideas
- 5) Did the materials presented allow me to transform these into applied knowledge

Area 3 – Student engagement

- 1) Did I attend all the lectures
- 2) Did I interact with others
- 3) Did I learn from my interactions
- 4) Was I always prepared for class

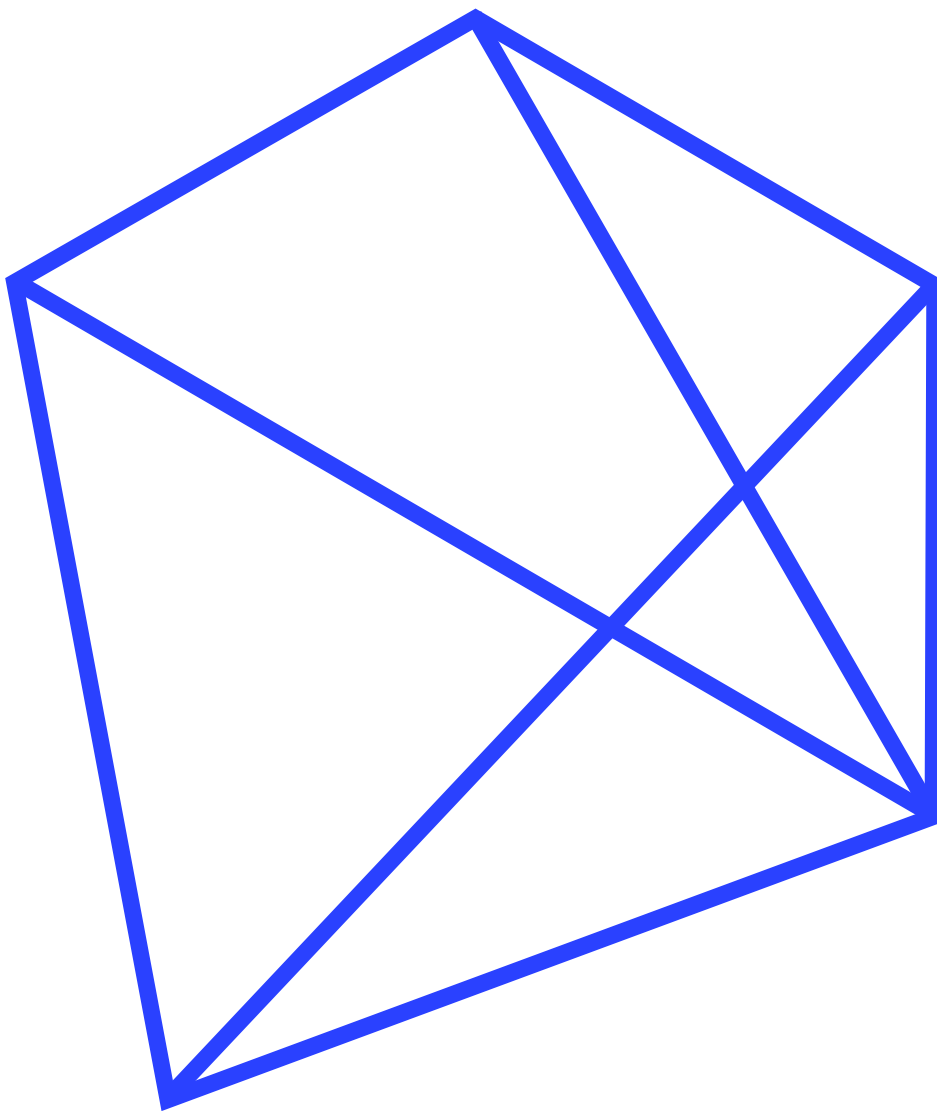
Area 4 – General

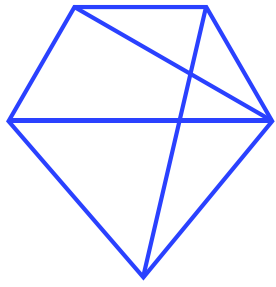
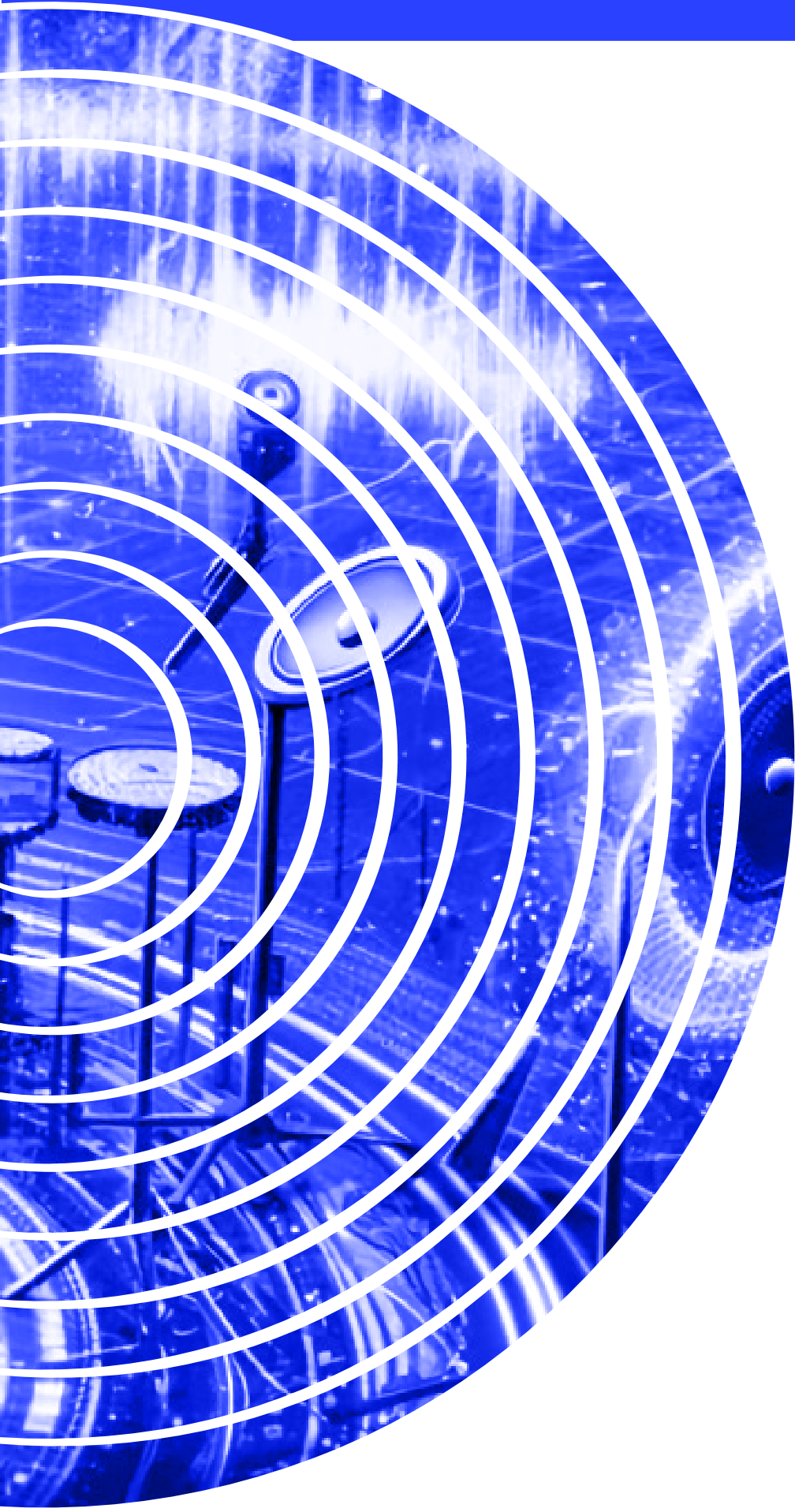
- 1) Did the course succeed in fulfilling its intended aims
- 2) Was this course of high educational impact
- 3) Would I recommend this course to other students
- 4) Was this course useful in providing practical solutions for my personal efforts



Area 5 - Open ended

- 1) What are the strengths of this course
- 2) What are the weaknesses of this course
- 3) What changes would you make to the course to improve it
- 4) What are your observations of the instructor/s





The Museense Project