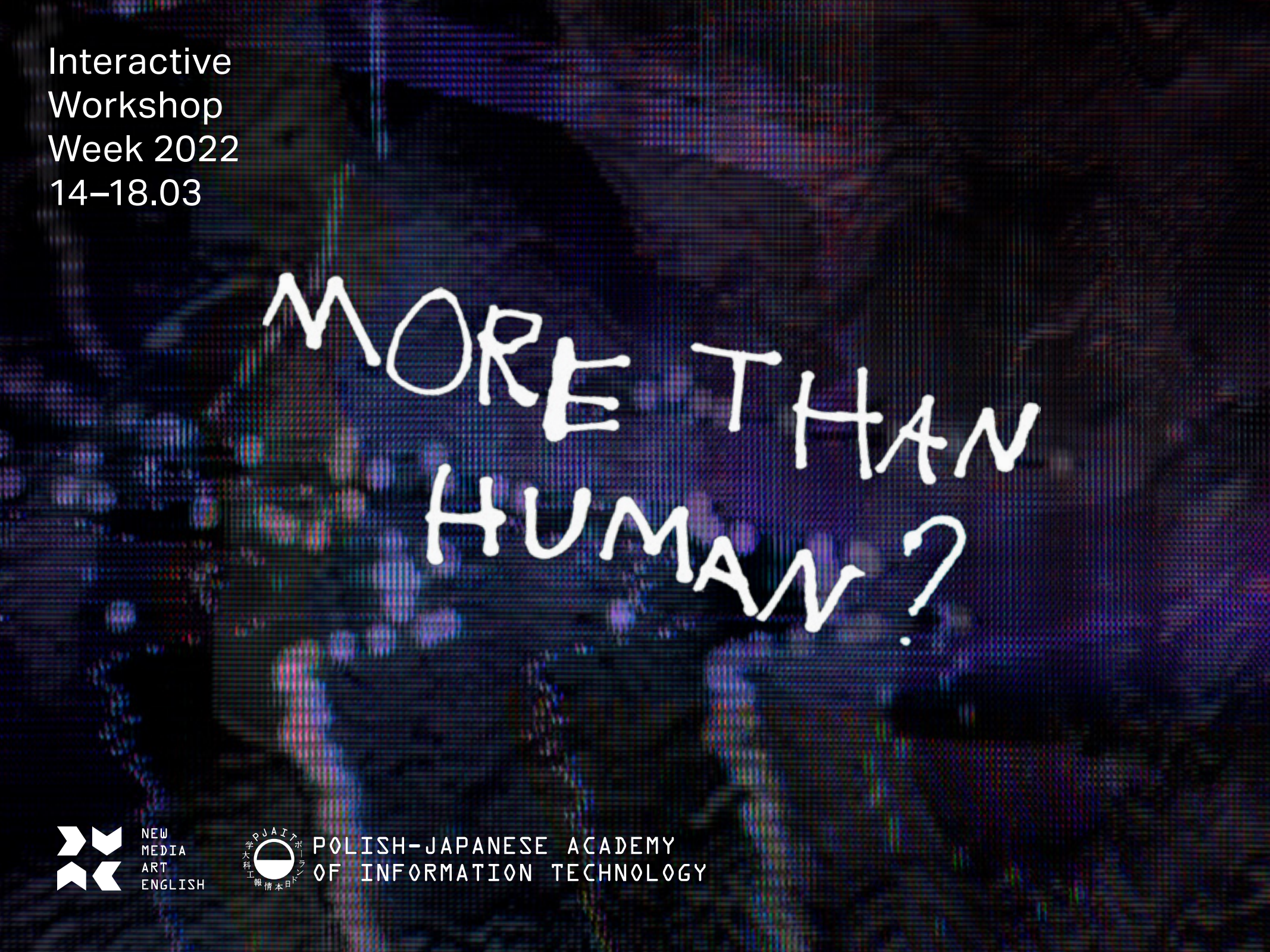

Interactive
Workshop
Week 2022
14–18.03
MORE THAN
HUMAN?
NEW
MEDIA
ART
ENGLISH
PJAIT
ポーランド日本情報工科大学
POLISH-JAPANESE ACADEMY
OF INFORMATION TECHNOLOGY

More than Human?

Interactive Workshop Week 2022
14–18.03

Ewa Satalecka – host

Graphic designer, a head of New Media Art Dep. of the Polish-Japanese Academy of Information Technologies in Warsaw, a leader of the English Language program and the scientific director of the international, interdisciplinary projects. Received an MFA (Master of Fine Arts) from the Academy of Fine Arts in Krakow (1984), a Doctorate from the Academy of Fine Arts in Katowice (2005) and habilitation (post-doc) from the Academy of Fine Arts in Warsaw. Ivolved in typography and motion type for stage (type stage settings for contemporary string quartet performaces). She organises international design workshops, conferences, and exhibitions on typography and information design (President of Polish ATypI committee, 2016). Together with Marjatta Itkonen established Social Design Course, as a regular subject of the program. Her art-work includes kinetic typography installations presented in Britain's Tate and in the Gutenberg Museum.

During this week we will explore creative potential of newest technology. We will test capabilities of AI, take a closer look at the social impact of technology, discuss the future of techno-spirituality and talk about AI ethic.
curator — Aleksandra Hojszyk

ARTIFICIAL STUPIDITY AND MACHINE UNLEARNING
Paweł Pokutycki

RE_IMAGINING INTERFACES
Paulina Zybińska

Artificial Intelligence as New Media
Neo Christopher Chung

Interactive, Augmented, And Generative Artistic Expressions
Enzo Gentile

Introduction to generative design with TouchDesigner
Bartosz Wyszyński

Installation Art with MAX, Holograms and Plants
Aleksandra Hojszyk, Aleksander Pawlus

Interaction with Kinect
Justyna Bielecka

Interactive Workshop
Week 2022
14–18.03

More than Human?

The rapidly developing technology that us daily, particularly AI, raises the question: what makes a human — a human? This question came up last time when we tried to define what makes us different from animals? There is a new thing – AI that we have started to see as a possible ***being***. A lot of questions appear: Can we be replaced? Is AI going to be CONSCIOUS? Is it going to take over this one thing that differentiates us from other organisms? Why we are so scared?

Technology is taking over some of our jobs, and we are threatened that there will be no place for us. We are overwhelmed by the information, which is causing a thing we do not even notice – we are losing the ability to think individually as the messages and data are floodings. We are so exploited and overwhelmed that we do not have a space to connect with our inner self ask what our genuine desire is.

When we take a broader perspective, maybe we can see that finally there will be a space for humans to focus on something more than strenuous repetitive work. Focus on more creative things, things more enhancing and bringing us pleasure. Maybe we will shift to focus on our relationship with others and nature. Or perhaps everything will be going faster and exploit us much more. The industrial and digital revolutions were supposed to take us in a completely different direction - a direction in which we gain more time thanks to automation. I'm not saying that we should turn everything back, but it's worth stopping in this fast-paced world and thinking about the direction we want to go.

Learning has also accelerated and transformed. There are constantly new forms of media available to work with, information is rapidly becoming outdated. With new editions of devices, we cannot adequately test them, or evaluate the effects over time. Let's keep that in the back of our minds and design responsibly, ethically, and ergonomically.

The industrial and digital revolutions were supposed to take us in a completely different direction - a direction in which we gain more time thanks to automation. I'm not saying that we should turn everything back, but it's worth stopping in this fast-paced world and thinking about the direction we want to go.

Learning has also accelerated and transformed. There are constantly new forms of media available to work with. With new editions of devices, everything becomes rapidly outdated. We cannot adequately test them, or evaluate the effects over time. We need to be aware what can be consequences of our decisions and how it can shape the future.

It's hard to plan or predict anything nowadays, but we can have strong foundation that will allow us to adapt and perform. Let's keep that in the back of our minds and design responsibly, ethically, and ergonomically.

Maybe development of AI is a chance for us to be more human?

Interactive Workshop Week 2022 14–18.03

More than Human?

Duration:
5 days, around
6 hours of work
+ lunch break

Opening:
9:30AM on Teams
Final presentation:
Friday at 1PM on Teams

Place:
PJAIT in Warsaw

Number
of participants:
10–15 participants
per workshop

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Opening Dean's Address on Teams 9:30AM				10-1PM Workshops
10:15–17:00 Workshops	10:00–17:00 Workshops	10:00–17:00 Workshops	10:00–17:00 Workshops	Final Presentation Dean's Address on Teams 1PM

ARTIFICIAL STUPIDITY AND MACHINE UNLEARNING

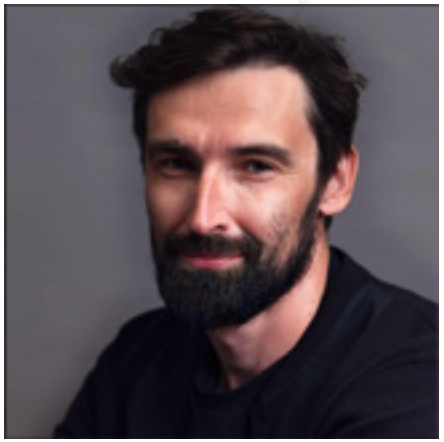
Paweł Pokutycki

How can contemporary design for social media, apps, and web interfaces protect people from AI bias, filter bubbles, fake news, and other forms of systemic digital, online manipulation? How can interaction designers foster the emergence of truly emancipatory, transparent, inclusive, and ethical alternatives? And last but not least, can a sense of irony and humor play a meaningful role in this endeavor?

"The future is already here, it's just not evenly distributed."

— William Gibson

(and also it sucks)



Paweł Pokutycki (PL/NL)

An interaction designer, researcher, and lecturer at the Royal Academy of Art (KABK) in The Hague and Design Academy Eindhoven, The Netherlands. He is a core member of the Alternative Learning Tank (ALT), a nomadic school and artistic organization that focuses on research, creation, and implementation of didactical programs on progressive and radical fields of knowledge that are often neglected or overlooked by educational institutions. His recent projects explore relationships between new media theory and political, social, and cultural studies through concept development and interactive media prototyping. Currently, he is conducting multidisciplinary research on „Humane Technology for the Global South: Ethics of Interaction Design in the (post)Colonial Context".

ARTIFICIAL STUPIDITY AND MACHINE UNLEARNING

Paweł Pokutycki

Description

Design for information technology often falls into generic, standardized, global solutions inconsiderate about specific personal, local, socio-cultural, political, economic, or environmental issues at stake. Mechanisms of surveillance capitalism only perpetuate that tendency. The user becomes a loser in the posthuman reality of the black mirror.

Objectives

In the spirit of hacktivism, free software, and the net.art movement of the 1990s, the course investigates several playful (open source) tools and methods for creative coding, AI/ML experiments, and (live) information/data visualization with a goal to conceptualize and prototype state-of-the-art design solutions for an imaginary “free user” of our times. Students develop ideas and concepts individually or in small groups and - following the “demo or die” principle, produce a working, functional demonstration of their project. With a structured set of entertaining lectures and presentations, concept development sessions, technical training, and practical exercises, the students create relevant work on the edge of interaction design, speculative design, and critical design fiction.

Content

- Course content will be delivered in the form of:
- Hands-on technical training in creative coding (Processing, p5.js, openFrameworks or other, if relevant for a project) and experimental, creative AI/ML solutions (Google Colaboratory and other tools as listed at http://creative-ai.org/)
- General introductory lecture + additional short follow-up talks/presentations throughout the workshop
- Collective brainstorm
- Concept development and feedback sessions in small groups
- Prototyping and testing time
- Relevant, funny stories and jokes :)

Portfolio/outcomes

Course outcomes will be delivered in the form of engaging end presentations for both offline and online audiences:
A prototype demonstration on the last day of the workshop.

Schedule

Monday
General introductory lecture + hands-on technical training (morning)
Collective brainstorm session + concept development in groups (afternoon)
Tuesday
Hands-on technical training + excercises (morning)
Follow-up concept development + feedback sessions in groups (afternoon)
Wednesday
hands-on technical training + excercises (morning)
prototyping + feedback sessions in groups (afternoon)
Thursday
prototyping + testing (morning)
making of the video documentation (afternoon)
Friday
final prototype demonstration + video documentation (afternoon)

RE_IMAGINING INTERFACES

Paulina Zybińska

How can we imagine new ways of taking control over the software? Can we devise a better controller than a mouse? This workshop introduces students to the possibility of bi-directional control of web-based programs via DIY electronic devices. The students will rethink and design new ways of interacting with a browser using analog components, electronics, and self-written code.

Paulina Zybińska is a creative technologist, working in the field of projection mapping, creative coding, audiovisual installations, and human - machine interaction. She graduated from SAE Berlin with a BA in Games Art & Programming, from AKV St.Joost Breda with a MA in Interactive Animation, and from ZHDK with a MA in Interaction Design. After years of studying, and working abroad, Zybinska now teaches creative coding and physical computing in BA Interaction Design at ZHdK and runs her own studio in Zürich.
https://zybinska.io/

RE_IMAGINING INTERFACES

Paulina Zybińska

Objectives:

The course will introduce the basics of creative coding in p5.js and Arduino prototyping platform, enabling the students to develop basic electronics and creative coding skills. Using graphical user interface elements, like sliders, or buttons, students will learn to create custom interfaces. Furthermore, they will explore how to creatively think about daily technology and develop narratives around it.

Content:

The first two days of the workshop will be offered as lectures on the basics of programming in p5 and the basics of electronics. The theoretical part will mainly consist of small exercises to directly apply the newly gained knowledge. The following two days will be conducted in the form of a studio, where students will work on their own projects, with mentoring from the tutor.

Outcome:

The workshop's outcome will be a program hosted on a local server and a DIY analog interface. Using a microcontroller, the students will demonstrate how they re-imagined everyday technological interactions such as mouse clicks, captcha verification, etc.

Tools/materials:

At the beginning of the workshop, each student will receive a package with a microcontroller, cables, and various analog components. Each student is expected to bring a laptop to the workshop with the Chrome browser, Visual Studio Code, and Arduino already installed on it.

Schedule:

Monday

9 — 1 Intro to creative coding with p5.js

15 — 17 Conceptualizing the website

Tuesday

9 — 15 Intro to electronics with Arduino

15 —17 Conceptualizing the interface

Wednesday-Thursday

9 — 17 Prototyping / Free Studio

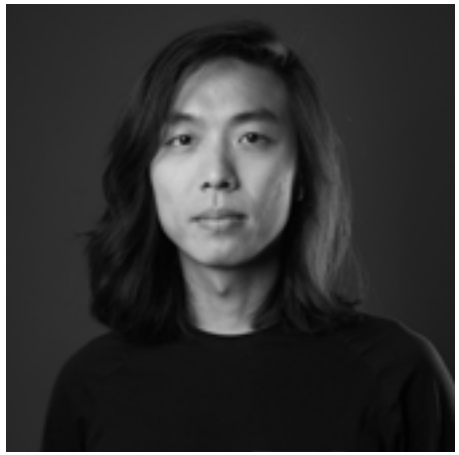
Friday

9 — 12 Wrap up

Artificial Intelligence as New Media

Neo Christopher Chung

Artificial intelligence (AI) is reconstructing the world inside out. From what we consume to how we think, neural processing of massive data is nudging us towards post-human conditions. We wonder how AI will reshape what and how we create at the frontier of its potentiality. Viewing AI as the latest media in art, this workshop explores its essential topics and practical applications.



Neo Christopher Chung is an interdisciplinary artist and computational scientist. With interest in data, biology, and machine learning, he explores emergent aesthetics of systems through multimedia, installation, and intervention. He investigates biological complexity and computational creativity that are interconnected with societal challenges. His recent works have been shown in Ars Electronica, Survival Art Review, Art Future / Future Signs, and Art Innovation Kyoto. He works as an assistant professor in computer science at the University of Warsaw and a research associate at the University of California, Los Angeles.

Artificial Intelligence as New Media

Neo Christopher Chung

Description

The workshop's main goal is to create art and design projects that incorporate AI thinking. Using RunwayML (no-coding AI software), we aim to generate and incorporate AI ingredients in conceptual frameworks and artistic practices central to students. For example, students may create a poster/montage, a zine, a video, or a social intervention. The students may work in pairs and do not need to have any background in programming or AI.

Objectives

The following are the main objectives for this course:

- Students practice brainstorming, collaboration, and critical thinking.
- Students explore AI art and computational creativity.
- Students obtain a high-level understanding of machine learning and AI.
- Students learn to use RunwayML (cloud-based no-code AI software).
- Students interact with AI models to synthesize and transform images and texts.
- Students develop artistic projects incorporating AI outputs.

Content

The lecture will introduce machine learning and AI and their brief history and artistic applications. We will look at a recent rise of artworks utilizing computation and AI. Through an interactive tutorial, students will learn how to use AI models on RunwayML and another no-coding AI tools to synthesize images, texts, and other data. Students will conceive and create art and design works that incorporate AI thinking during the project development. Consultation and discussion will be held daily.

Portfolio/outcomes

Course outcomes will be delivered in the form of multimedia content. Students will create mind maps, sketches, mock-ups, and/or storyboards. Students will create visual, textual, and other content from RunwayML or other AI tools. Students will create their own projects based on AI outputs, resulting in formats of their choices.

Tools/Materials

Windows (10 or greater) or Mac (10.13 or greater)
Google Chrome (latest version)
RunwayML (minimum Starter subscription)
Adobe and other creative software (student's choice)

Schedule

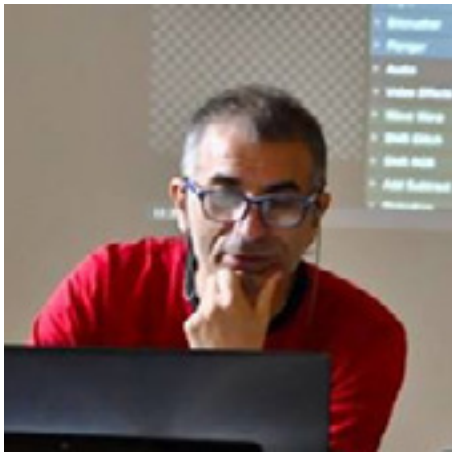
Monday
Introductory lecture on AI and AI art, RunwayML tutorial and ideation

Tuesday, Wednesday, Thursday
Project development; consultation

Friday
Internal presentation

Interactive, Augmented, And Generative Artistic Expressions

Enzo Gentile



The workshop will introduce software and hardware dedicated mainly to interactive environments. In particular, participants will be able to design a video projection, a virtual scenography or an interactive installation using some techniques and resources (some little known and experimental) presented during the first days.

Enzo Gentile

Academy of fine arts of Verona - Italy, Creative Technologist

I am graduated in electronic engineering with a thesis in computer music and art director in anughea studios associates. I teach Interactive Systems (New Technologies for Arts), Multimedia Set Design (Scenography) at Academy of Fine Arts in Verona and Multimedia Languages at Verona Opera Academy.

My main fields of interest are:

- Interactive systems
- Video and architectural mapping
- Motion tracking and new media design
- Audio-Video processing, generative art, creative coding
- 3d modelling and animation
- Virtual set design

I am a creator and co-author of:

- European Project ENPI CBC Med „IAM" with 14 partner of 7 Country and focused on the use of Augmented Reality (AR), multimedia and interactive techniques to help maintain and enhance the attractiveness of the Mediterranean destinations.
- Creative Europe „ViSet" (Virtual stage designer), 4 Country to create and promoting virtual stage sets for the performing arts.
- I am the Artistic Manager for the Academy of Fine Arts of Verona, partner in the Z-Elem Project (Creative Europe).

Personal website: www.enzogentile.com

Company website: www.anughea.com

Interactive, Augmented, And Generative Artistic Expressions

Enzo Gentile

Objectives

- Enriching personal capacities and applying them in the development of expressive performances and different environments of modern visual communication;
- Create an understanding of the qualitative and technical aspects in some areas (interactive video mapping, generative art, markerless motion tracking, lights, video management).
- Monitor and analyze the latest developments, the most interesting new technologies and experiments;

Content

- Image perception;
- Interactive generative art and video-mapping (with sound, music, voice, musical instruments) with software Resolume Arena, Touchdesigner, and Processing mainly focused on Sculpture;
- Virtual scenography; Mozilla hubs for the interactive virtual room;
- Body tracking and gesture recognition with kinectV2 and leap motion;
- Generative art and shaders;
- Protocols: Midi, OSC (music and data), NDI (video on the network), OBS (video direction), DMX (lights), apps for remote control (touchOSC or similar)

Portfolio outcomes

Course outcomes will produce an interactive video projection on an object or sculpture or a “theatre paper” using the techniques discussed in the workshop. The works can be published online in a virtual showcase with Mozilla hubs.

Tools / materials / equipment / software:

- Laptops (PC or MAC), with webcam and microphone
- Android or iPhone mobile
- Resolume Arena 7.xx (mandatory, free tryout version)
- Projectors (1 every 3-4 students) Kinect v2 for windows, Leap Motion - Provided by the teacher.

Optional hardware and software

- Midi mixer, DMX mixer, DMX lights, hardware interfaces
- Photoshop or equivalent
- Virtual MIDI port: loopbe1 (free) for PC or ipMidi (MAC)
- VMPK Virtual Midi Piano Keyboard (free, PC and MAC)
- Processing (open source) site: www.processing.org (PC and MAC)
- Touchdesigner (free tryout version)
- NDI, OBS Studio (free)

Interactive, Augmented, And Generative Artistic Expressions

Enzo Gentile

Detailed program per day

Day 1

- Presentation, objectives, and structure of the workshop
- Introduction to the 3 thematic areas (Augmented, Interactive and Generative);
- Interactive video mapping and image perception
- Video examples
- Introduction to design, projectors, main techniques, 3D and mapping
- Image encoding, RGB, compression, jpg, png, gif, video, sound
- Software: Resolume, alley, dxv3, and explanation of individual blocks

Day 2

- Bpm, sync, timeline, beatsnap, merge clip, BeatLoop
- FFT, mic, speaker, audio-reactive with Resolume
- Midi, OSC, touchOSC
- Output advanced - Input/Output - Mach Input e Output shape, mask IN and OUT.
- Resolume: advanced techniques, animations, custom transitions, envelope curves, Dmx protocol for lights management
- Resolume: edge blending, use of 2 or more projectors to cover a larger surface
- OBS, NDI, Spout, Syphon

Day 3

- The basic theory of computer science, encodings, binary, hexadecimal, integer, and real numbers
- Flowcharts, logic
- Introduction to Processing, interface, reference
- Computer vision. Image segmentation techniques.
- Tracking (color, face detection)
- Motion Controller: Kinect 1 e 2, leap motion
- Notes on Touchdesigner. Examples with leap motion, DMX, and TouchOSC app.

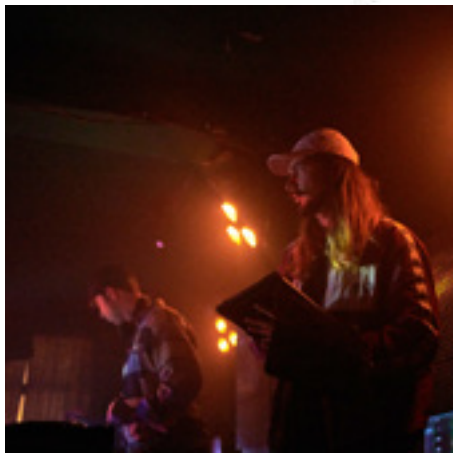
Day 4 and Day 5:

Preparing final project. Virtual room in Mozilla Hubs.

Introduction to generative design with TouchDesigner

Bartosz Wyszyński

The course is an introduction to the TouchDesigner creative coding platform, and it acquaints the students with the concepts of creative coding and generative design. The course comprises introductory lectures and on-hand studio workshops. The course program includes generative 2D and 3D graphics, real-time graphic control, and the development of custom user interfaces.



Bartosz Wyszyński works as a motion designer and a video editor. Experienced with hundreds of hours of rendering, decided to go for live-generated content. Works with TouchDesigner for two years, performing on corporate and public events, preparing scenography for fashion and film sets, building interactive installations, and performing visuals at music festivals and parties.

Objectives

The students will develop their own real-time generative artworks using the TouchDesigner platform. They also will explore the user-artwork interaction through control inputs and time-based events. At the end of the course, the students will design and develop customized control interfaces.

Content

- Course content will be delivered in the form of:
- Introductory class lectures on given topics
- On-hand studio workshops
- Class discussions on student-generated content of learning portfolios and critique of student-generated content

Portfolio/outcomes

Course outcomes will be delivered in the form of:

- Real-time interactive artwork presented on students' computer
- Video recordings and stills presenting the students' projects

Tools/Materials

This is an on-hand workshop, and each course participant is required to have access to a computer with the TouchDesigner platform installed. Participants should have a mouse with a scroll wheel. Please download and install the latest official version of TouchDesigner (https://derivative.ca/download). Also, please create your own account and activate a non-commercial license.

Installation Art with MAX, Holograms and Plants

Aleksandra Hojszyk, Aleksander Pawlus

We will create an immersive experience in a live collaboration with non-human organisms like plants or mushrooms during this workshop. We will translate biodata into music/soundscapes and distort videos through the MIDI controller and MAX.
The real-world experience will be enhanced with Mixed-Reality interactive holographic elements to express the ephemeral nature of your vision with abstract forms. We will tell a story about your connection and experiences with nature with these mediums.

Aleksandra Hojszyk
UX designer specializing in digital and Mixed Reality design. Especially interested in spatial applications, multimodal installations, ethical and ergonomic design. Teacher of UX and Human-Computer Interaction at PJATK. Curator and designer of multiple Virtual Exhibitions. Alumni of the department of New Media Arts in PJAIT and Modern Art – Expertise and Business.

Aleksander Pawlus
Electronic music producer, video artist, and electronics enthusiast based in Kraków, Poland. He focuses on sonic and visual representations of a connection between culture, technology, and nature in his projects. Fascinated by the DIY scene. He uses self-designed and self-built instruments and devices to create sound sculptures and analog video glitches. Interested in modular synthesizers, obsolete electronic devices, and old TVs.

Installation Art with MAX, Holograms and Plants

Aleksandra Hojszyk, Aleksander Pawlus

Description

We will translate the language of plants to a signals that could be understand by a humankind with the usage of technology. We will question If the usage of tech could be used for spiritual purposes and take the advantage to present your connection with nature with new mediums. As a final project we will create installation made in collaboration of a human, plants and technology. We will put a lot of pressure to learn you how to translate non-human input to the language of a computer so be ready for a lot of work in MAX/MSP and also Unity for creation of holograms. Besides of technical skills you will be also taught how to describe and document your artwork.

Objectives

- Translating electric signals generated by plants to MIDI messages;
- Achieving knowledge about sound design and Ableton to build soundscapes;
- Learn MAX/MSP visual programming language for realtime audiovisual installation
- Acquire basics of Mixed Reality development and spatial design;
- Learn how to conduct design process, describe and present a project;

Content

- MAX/MSP software basics;
- Ableton for designing instruments and achieving basic knowledge about sound design;
- Unity for Mixed Reality development;
- Design for HoloLens;
- Learning to use space as a medium and designing ergonomical Mixed Reality experiences;
- Translating your visions/experiences or literature into the art installation;
- Percieving virtual user choreography;
- Installation design basics;

Portfolio outcomes

Course outcomes will be delivered in a form of documented live performance, interactive installation made by interactive plant-interface influencing audio and video projection. We will enhance the experience with abstract or typographic holographic objects.

Tools / materials / equipment / software:

- Laptops (PC or MAC)
- MAX/MS (mandatory, free tryout version);
- Ableton (mandatory, free tryout version);
- Unity 2017;
- Plants (bring your own fellows!);
- Projectors (1 every group of 2-3 students), Arduino, HoloLens provided by school;

Installation Art with MAX, Holograms and Plants

Aleksandra Hojszyk, Aleksander Pawlus

Detailed program per day

Day 1

Explanation of the final assignment. Lecture on philosophy, Bio-sonification, Installation Design, Mixed Reality and discussion on Techno-Spirituality. Exercise on imagination and recognizing your relationship with nature. Lecture describing tools (Max MSP/Jitter, Ableton live + sound design, Arduino IDE). What is Max and what is it used for plus examples (MIDI, video, audio). Ableton live and introduction to basics of synthesis and sound design. Showcase of Arduino, PCB, sensors and how it works that we collect signals from plants. MIDI basics (what does a MIDI message consist of) and sending a simple signal from Max to Ableton. Homework - preparation audio / video files according to idea for installation

Day 2

- Navigating MAX/MSP and basic program features. Getting started building a project and working with Max in blocks:
- Receiving a signal from a serial port,
- Creating counters and triggers using appropriate elements,
- Calculating arithmetic average and smoothing signals
- Ways of triggering notes,
- Creating control signals and ways of scaling in Max,
- MIDI messages and makenote blocks, noteout etc.
- Consultations

Day 3

Finishing things in Max, polishing and debugging

- Video basics in MAX
- Building instruments in Ableton and controlling them with MIDI from Max
- Basics of designing for HoloLens in Unity
- Creating a designed holographic installation in software and testing

Day 4 and Day 5:

Preparing final project and consultations

Interaction with Kinect

Justyna Bielecka

During the workshop students will be introduced to the „Video Design" term. I will explain the dependences between different elements and fields of art connected together on the stage and tell a little bit about how to work live during the rehearsals. Then we'll jump into playing with Kinect. We'll learn what it is, how does it work and how it tracks the person in real time. Finally, we'll prepare simple interactive animations and map them on the specific element of set design or any element in our surrounding.

Justyna Bielecka
Multimedia Artist and Graphic Designer, associated with The Icon Agency where she works as a Creative/Graphic Designer dealing with fashion & beauty brands mostly. She also co-creates Immer Studio – an independent multimedia arts studio focused on projects blurring the boundaries between art and technology. Academy Of Fine Arts in Warsaw gradue, on the Multimedia Artistic Creation Studio. Especially Interested in video design for stage performances and installations where different fields of art and senses are connected. Motivated by the idea of immersion – total dive in digital reality, which is an impulse to generate individual experiences.
www.jabielecka.pl