AALBORG UNIVERSITY
DENMARK

ArT & Technology - www.art.aau.dk

Date: 06-03-2014

Semester Guide – ArT4

Art & Technology - 4th Semester 2014

Place and Space of Interaction

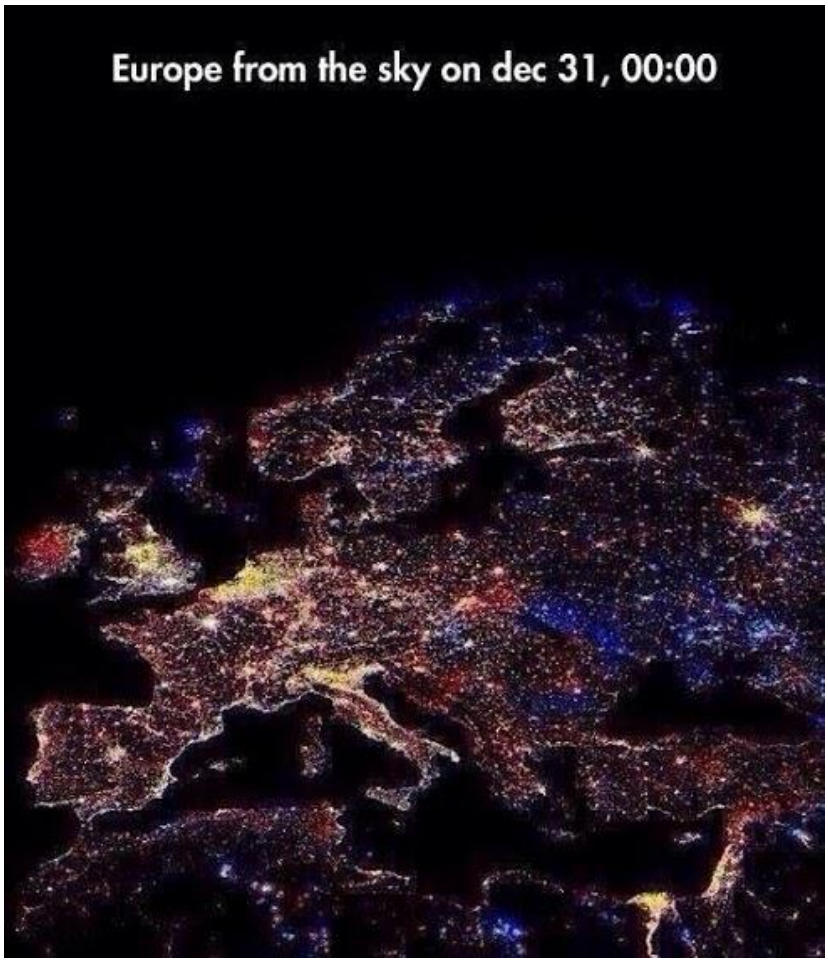

Figure 1. image *publically* **shared by Juha Ristolainen, 2014.**

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1.	***Welcome to ArT & Technology 4th Semester***
	It is a pleasure to welcome you to this semester. We will address an audio focus to your installation work this semester in an outdoor urban environment. We will work closely with stakeholders and other invested parties in the urban environment and address the theme of places (the site), embodied interaction combined with ideas around origins and transformations. This will be particularly exciting with a focus on audio transformations. Looking forward to an enjoyable semester and some good work! Ann Morrison Semester coordinator

2.	***The fourth semester of Art & Technology, an overview on goals of learning, structure and content***
	Responsible: Ann Morrison
	Curriculum 4th semester ***Structure*** **This semester contains 3 modules** Module 12: **"Place and Space of Interaction"** (20 ECTS) Module 13: **"Art in Context II - Media Art Theory "** (5 ECTS), and Module 14: **"International Collaboration"** (5 ECTS) Module 14 is a solo module for 4th semester. ***Content*** For information about the content of the three modules on this semester, please see the relevant sections later in this guide.

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3.	***Teachers and Secretary***		
Course	**Teacher**	**E-mail**	**Phone**
Place and Space of Interaction	Ann Morrison	morrison@create.aau.dk	9940 7452
	Lars Knudsen	knudsen@create.aau.dk	
	Lance Putnam	lp@create.aau.dk	
Art in Context II - Media Art Theory •Media Art Theory & Analysis	Morten Søndergaard	mortenson@hum.aau.dk	9940 2552
International Collaboration	Ståhl Stenslie	stenslie@hum.aau.dk	
Artistic and Academic Methodology IV (Interaction Design	Ann Morrison	morrison@create.aau.dk	9940 7452
Audio Design	Lance Putnam	lp@create.aau.dk	
Aesthetics and Interaction	Ranulph Glanville	ranulph@glanville.co.uk	
Interactive Technologies	Lars Knudsen	knudsen@create.aau.dk	9940 8092
Digital Representation 2 (CAD 2 – Spatial Animation)	Peter Skotte	peters@create.aau.dk	9940 8791
Coordinator	Ann Morrison	morrison@create.aau.dk	9940 7452
Secretary	Anne Nielsen	amn@hum.aau.dk	9940 9919

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4.	Module 12 - Place and Space of Interaction (13 ECTS project)+(7 ECTS courses) – 20 ECTS
Project period (from/to)	1/2/14-06/06/14
Work form:	Project work in groups.
Date for submission and critique:	03.06.2014, at 10.00
Secretary:	Anne Nielsen
Responsible Coordinator:	Ann Morrison
Supervisors:	Ann Morrison, Lars Knudsen and Lance Putnam

Location of module: 4th semester

Credits: 20 ECTS

Method of working: Project work in groups

Module contents: The module will be conducted as a series of experiments with interactive installations in a particular architectural context. This may be an urban place or stage, architectural setting, a community environment, an exhibition space, etc., where artistic installations are created and tested in relation to providing participant experiences of various kinds (such as the orchestration of social relations, learning experiences, sensory and aesthetic experiences, action-reaction patterns, etc.) In this regard, modalities such as architectural constructs, spatial atmospheres, sound, image, various interactive technologies, and embedded intelligence systems are investigated and applied.

In connection with the module, courses may be offered within the following areas:

- Artistic and Academic Methodology IV (Interaction Design)
- Interactive Technologies
- Audio Design I
- Aesthetics and Interaction
- Digital Representation II – CAD and Spatial Animation

Objective:

The objective of module 5: “Place and Space of Embodied Interaction” is to introduce the students to problem areas and designing solutions in relation to embodied interaction in interactive space, places and installations.

During this module, students should acquire:

basic **knowledge** about

- creation of interactive spaces and installations that encourage embodied activity and an understanding of the situated locale
- cybernetic technologies that support active participation
- mechanical and electronic technologies for the creation of experience and interaction
- methods and tools for the processing of auditive, tactile and visual information for the support of active interaction by participants within the installation

skills in

- identifying and formulating an art problem within the theme “Place and Space of Embodied Interaction” possibly including cooperation with external user groups
- analyzing the problem and developing alternative concepts for a defined problem within a defined context
- the application of audio and other technologies in connection with the design of content for interactive

installations and spaces
- identifying, developing and describing the interaction between audio and spatial effects, choice of materials and technological solutions with a view to achieving clear aesthetic expressions and motivating embodied performance
- selecting appropriate methods in connection with the development of artefacts

competencies in

- the creation of interactive spaces and installations with an artistic quality in terms of architecture, interaction patters, and soundscapes
- architectural and artistic methodology, including interaction between technology, choice of materials and aesthetic expressions
- the use of interactive technologies, including control of media, light and sound

- contextualising own artistic solutions (to state-of-art, socio-cultural requisites and consequences, art theoretical and aesthetic dimensions, etc.)

- describing the completed design at a professional level, and communicating this to external cooperation partners
- identifying own learning needs and to structure own learning related to the theme of the module

The module is completed with:

Examination 12

An external combined written and oral examination in **Module 12 "Place and Space of Interaction".**

The examination will take the form of a conversation between the student, the examiner and an external examiner on the basis of the project report prepared by the student(s), which may be in the form of a report or portfolio as well as the product created by the student.

Form of examination: b) Number of pages: the written work must not exceed 10 pages per student (15 pages in the case of individual reports).

Duration of examination: 30 minutes

Evaluation: Grading according to the 7-point scale.

Proportional weighting: An overall equal evaluation is made of the project report, the product, and the oral performance.

Credits: 20 ECTS

The written report, the product and the oral examination should demonstrate that the student has fulfilled the objectives outlined above.

In the evaluation of the examination performance, the grade 12 will only be awarded to students who demonstrate that they have fulfilled the objectives for the subject exhaustively or with only few insignificant omissions.

Content 2014:

This semester, students will divide themselves into groups of four to five students and each group will work on a single project with the goal of creating an interactive art installation and/or performance to be included in an exhibition to be held for two evenings outside in the urban environment.

This exhibition will be called "Place and Space of Interaction". Each project group will be required to focus on

audio interactive element(s), the experience for the audience and the specificity of the urban site as essential elements of their, interactive installation that promotes, provokes, stand in opposition to, symbolises or represents in some form a space of interaction and transformation. This semester we will work with Platform 4 at their Karolinelund environment with a booking at the park from 13-18 May, 2014.

Each group must work in close communication with their supervisors and the nature of (and the stakeholders of) the public site in order to ensure that their installation is approved for being set up at the site (for example, in a public space safety issues must be considered) and that the group has been allocated and/or negotiates.

Note that approval for installation and inclusion in the Place and Space of Interaction exhibition is a requirement for passing this course.

Deliverables and evaluation

In accordance with the study plan and the new examination rules, each group must deliver the following:

1. An interactive media art for final ArT4 exhibition.
2. A project report, written by the group as a whole, documenting the project.
3. A video and a collection of still photographs in digital form documenting the installation, suitable for publishing online.

Note that the grade awarded for Module 12 will depend only on the product (i.e., installation), the group report and performance in the individual oral examination. The grade does not depend on the video and it does not depend on the photograph collection.

The report should explain the theory behind the installation. It must also document the concept designs and work process involved in developing the installation. The design and interactive system of the final artefact must also be documented. The report should clearly locate the piece in its social, historical and technological contexts.

Two hard copies of the project report must be produced (one for the examiner, one for the censor and one for the department secretary and archiving purposes). Any digital media submitted (e.g., the video and collection of still photographs) should be provided on a CD/DVD and submitted with the printed report in a pocket inside the back cover.

All material in the report that is not the original creation of the students in the group must be properly acknowledged by using a standard citation/reference style (e.g., Harvard, Chicago, APA, AMS). **Failure to do this will be considered plagiarism and will lead to immediate failure and possibly also to expulsion from the program.**

Courses

4.1 Artistic and Academic Methodology IV (Interaction Design)	***1 ECTS***
Secretary:	Anne Nielsen
Responsible Coordinator:	Ann Morrison
Lecturers:	Ann Morrison
Purpose and goals:	A goal for artists working with technology is to integrate Interaction Design principles into their interactive installations and artefacts. That is, to strive to create meaningful relationships between the people who interact with the interactive systems that operate at the heart of the environments created. Interaction Design is useful for artists to develop a richer understanding of the experience for their participants and to improve the interactive systems they design and implement.

	Literature: Fieldwork for Design: Theory and Practice by David Randall Richard Harper and Mark Rouncefield. Slides and other resources will be made available on moodle.
Assessment:	Students will do practical exercises on the methods presented in the lecture. Documents produced for this course may be included as part of the final report, but need to be identified as content from this course.

Title 1:	Identify design, artistic, and interaction design goals. Lecture and workshop
Lecturer:	Ann Morrison
Content:	Identification of the design problem(s) addressed in the project. Identification of the artistic goals that are the focus of the 'work' proposed for this space. Identification and unpacking of the kinds of interactions the proposed work will effect for the participants.
Assignments:	As above. Each group will work on identifying design problems, artistic goals and the intended interaction design for their project.
Literature:	Chapters 2, Fieldwork for Design: Theory and Practice by David Randall Richard Harper and Mark Rouncefield.

Title 2:	Observation methods. Lecture and workshop
Lecturer:	Ann Morrison
Content:	Methods: Note-taking, photographs and/or videos. Focus and observation in situ without disrupting 'natural' behaviour of the space. Design open-ended interviews and questionnaires. Identify artistic and design focus for observation.
Assignments:	As above. Discuss and identify the priorities and focus of observations for your own project. Design and develop methods to use for sessions 3 & 4.
Literature:	Chapters 2, Fieldwork for Design: Theory and Practice by David Randall Richard Harper and Mark Rouncefield.

Title 3:	Ethnography: Study of stakeholders in situ I. Workshop at exhibition site
Lecturer:	Ann Morrison
Content:	Set up a low/fi life size version of the intended installation at the site. Each group acts as participants in each others work. Observation of the groups and individuals as they naturally move, interact in and use the space by project groups; observation by taking notes, photographs and/or videos.
Assignments:	Integrate observations and analysis of data collected into project work
Literature:	Chapter 6. Ethnography and How to Do It, *Fieldwork for Design: Theory and Practice* by David Randall Richard Harper and Mark Rouncefield.

Title 4:	Ethnography: Study of stakeholders in situ II Workshop at exhibition site
Lecturer:	Ann Morrison
Content:	Discuss findings in groups and narrow in on emergent findings. Critically refelect on own and other groups work. Continue with more honed observation focus. Identify interactions that occur naturally and fine-tune your own project from prolonged site observation.
Assignments:	Integrate observations and analysis of data collected into project work.
Literature:	Chapter 6. Ethnography and How to Do It, *Fieldwork for Design: Theory and Practice* by David Randall Richard Harper and Mark Rouncefield.

Audio Design	***2 ECTS***
Secretary:	Anne Nielsen
Responsible Coordinator:	Ann Morrison
Lecturers:	Lance Putnam

Purpose and goals:	Audio Design introduces fundamental concepts of digital sound synthesis and transformation for use in interactive (multi)media works. The goal of the course is for students to acquire a more in-depth understanding of sound from historical, physical, perceptual, mathematical, and computational/systemic perspectives and to use this knowledge to effectively translate sonic intuitions into practical results. Students will learn how to use "unit generator" building blocks to create more complex sound processing networks. Assignments will be done using AlloSystem and Gamma, thus prior experience in C++ programming is required. Literature: Roads, C. (1996). The Computer Music Tutorial. MIT Press. de Poli, G. (1983). A tutorial on digital sound synthesis techniques. Computer Music Journal, 7(4):8-26.
Assessment:	Students will do practical exercises on the methods presented in the lecture.

Title 1:	Mathematics and Psychoacoustics of Sound.
Lecturer:	Lance Putnam
Content:	Review of physics and mathematics of (digital) sound. Psychoacoustics and hearing (dynamics, frequencies, timbre). History of Max Mathews' MUSIC N programs and the unit generator concept.
Assignments:	Problem set related to lecture material. Students will do practical exercises on the methods presented in the lecture.
Literature:	Roads (1996). "Basics of Sound Signals", pp.14-20. (for review) Roads (1996). "Digital Audio Concepts", pp. 5-48. (for review) Roads (1996). "Psychoacoustics in Computer Music", pp.1053-1069. Mathews, M. V. (1963). The digital computer as a musical instrument. Science, 142:553-557. Optional: Sound and Hearing: http://www.cochlea.org/en/spe/sound.html

Title 2:	Sources and Additive Synthesis.
Lecturer:	Lance Putnam
Content:	Sample playback, oscillators, and noise generators; oscillator beating, detuning, and combing; amplitude control using envelopes. Additive synthesis using sinusoids and Fourier series.
Assignments:	Program one "voice" of an additive synthesizer. Students will do practical exercises on the methods presented in the lecture.
Literature:	Roads (1996). "Sampling and Addditive Synthesis", pp.115-156. de Poli (1983). "Fixed-Waveform Synthesis", pp.8-10. de Poli (1983). "Additive Synthesis", pp.10-11. Stauff (1999). "Celeste", http://www.organstops.org/c/Celeste.html "Jim Demonstrates the Voix Celeste", http://www.youtube.com/watch?v=e55H_I-6A5U

Title 3:	Filters and Subtractive Synthesis.
Lecturer:	Lance Putnam
Content:	Spectral filters (lowpass, highpass, bandpass, bandstop), comb filtering, and resonance. Source-filter model, formant synthesis, channel vocoder.
Assignments:	Program a "vox humana" synthesizer.
Literature:	Roads (1996). "Subtractive Synthesis". de Poli (1983). "Subtractive Synthesis", pp.14-15.

Title 4:	Modulation and Non-linear Synthesis
Lecturer:	Lance Putnam
Content:	Amplitude modulation, frequency modulation, and waveshaping.
Assignments:	Program single voices of AM, FM, and waveshaping synthesizers.
Literature:	Roads (1996). "Modulation Synthesis", pp.213-262. de Poli (1983). "Nonlinear Techniques", pp.15-24.

Title 5:	Effects 1: Amplitude-, Frequency-, and Filter-based Effects.
Lecturer:	Lance Putnam
Content:	The first lecture on effects will focus on direct parametric modulation of amplitude and frequency. Specific effects include tremolo, vibrato, legato/portamento, trilling/arpeggiation, spectral gliding, and wah-wah.
Assignments:	Enrich one of the previously programmed synthesizer voices with vibrato and tremolo.
Literature:	Formosa, D. (2014). A brief history of tremolo. Premier Guitar. http://www.premierguitar.com/articles/19777-a-brief-history-of-tremolo "Vibrato - Wikipedia, the free encyclopedia", http://en.wikipedia.org/wiki/Vibrato Schleske. "The Psychoacoustic Secret of Vibrato", http://www.schleske.de/en/our-research/handbook-violinacoustics/vibrato-of-the-musician.html.

Title 6:	Effects 2: Delay-based Effects.
Lecturer:	Lance Putnam
Content:	The second effects lecture will introduce effects based on the modulation of delay lines that can be applied to any sounds. Effects covered are echo, vibrato, flanger, phasing, chorus, pitch-shifting, frequency-shifting, and reverb.
Assignments:	Program your own chorus effect to simulate multiple voices in unison.
Literature:	Bode, H. (1984). History of electronic sound modification. Journal of the Audio Engineering Society, 32(10):730-739. Dutilleux, P. (1998). Filters, delays, modulations, and demodulations: A tutorial. In Proceedings of the DAFX98 Workshop on Digital Audio Effects. de Poli (1983). "Reverberation", pp.15.

Title 7:	Frequency-domain Processing.
Lecturer:	Lance Putnam
Content:	Introduction to the discrete Fourier transform (DFT), short-time Fourier transform (STFT) and phase vocoder. Analysis, transformation, and resynthesis in the frequency domain.
Assignments:	Write a program to manipulate a sound in the frequency domain.
Literature:	Roads (1996). "Spectrum Analysis", pp.533. Wishart, T. (2000). Computer sound transformation. http://www.trevorwishart.co.uk/transformation.html (read "The Instruments - (1) Spectral Transformation using the Phase Vocoder").

Title 8:	Feature Extraction.
Lecturer:	Lance Putnam
Content:	This lecture covers some of the basic high-level features that can be extracted from audio streams. Topics include: amplitude envelope estimation, filter banks, zero-crossing rate, and spectral centroid/spread.
Assignments:	Create a program that maps several audio features of an input sound (line input, recording, etc.) onto parameters of a synthesized sound or graphical object.
Literature:	Sections 1, 2.4.3, 2.5, 4.2, 6.1.1, 6.1.2 from: Peeters, G. (2004). A large set of audio features for sound description (similarity and classification) in the CUIDADO project. Technical report, Ircam, Analysis/Synthesis Team. (Note: There are many other features presented in this report that we will not discuss, but you are welcome to use them in the assignment.) Zwicker, E. (1961). Subdivision of the audible frequency range into critical bands (frequenzgruppen). Journal of the Acoustical Society of America, 33(2):248.

Aesthetics and Interaction	***1 ECTS***
Secretary:	Anne Nielsen
Responsible Coordinator:	Ann Morrison

Lecturers:	Ranulph Glanville
Purpose and goals:	To explore the concepts of aesthetics in an interactive world, and interaction in an aesthetic world, and to bring the two together in a manner that explores the concepts and relationships, rather than merely illustrating them.
Assessment:	Assessment will be based on the final group work and will reflect particularly how well students implement the reflexive nature of this course's investigations.

Title 1:	Introduction: Aesthetics of Interaction. Project: "Asethetics seen in or through Interaction".
Lecturer:	Ranulph Glanville and students
Content:	We will start with an anti-lecture in which we explore what we understand by the concepts aesthetics and interaction, building some shared concept maps. This will provide a basis from which we may work during the week.
Assignments:	Throughout this course, students will create performances/installations, based on the material developed in class, which provide a launch pad for the week. Work will be carried our in groups. Students will also be asked to develop a reading list during the progress of this course. The assignment for the first part of the course is to explore "Aesthetics seen in or through Interaction". Documents produced for this course may be included as part of the final report, but need to be identified as content from this course.
Literature:	Because part of the course is to develop a literature list, I do not offer much literature here. Students are asked to come to the course having thought about the theme, and come to some initial conclusions. Some helpful briefing material includes: Ranulph Glanville "Architecture and Computing: a Medium Approach"; "An Approach to Cybernetics"; "Five Machines and One Pask" and "A (Cybernetic)Musing: Cybernetics and Circularity". Copies of these papers will be available on moodle.

Title 2:	Presentation of project: "Aesthetics seen in or through Interaction". Introduction to project 2, "Interaction as an Aesthetic".
Lecturer:	Ranulph Glanville
Content:	Presentation of project: "Aesthetics seen in or through Interaction", together with class discussion. Introduction to assignment project 2, "Interaction as an Aesthetic". Discussion of the developing reading list.
Assignments:	As above. Each group will work on…
Literature:	See above.

Title 3:	Presentation of project: "Interaction as an Aesthetic". Introduction to project 3, "The Aesthetics of Interaction and the Aesthetics of Interaction".
Lecturer:	Ranulph Glanville
Content:	Presentation of project: "Interaction as an Aesthetic" together with class discussion. Introduction to assignment project 3, "The Aesthetics of Interaction and the Aesthetics of Interaction". Discussion of the developing reading list.
Assignments:	As above. Each group will work on…
Literature:	See above.

Title 4:	Final presentation, project 3: "The Aesthetics of Interaction and the Aesthetics of Interaction".
Lecturer:	Ranulph Glanville
Content:	Presentation of final project, "The Aesthetics of Interaction and the Aesthetics of Interaction" together with class discussion. Finalisation and discussion of the reading list. General discussion of the course.
Assignments:	As above. Each group will presen.
Literature:	Part of the final presentation will be the creation and collation of a literature list that the

	students believe is/will be valuable.

Interactive technologies	***1 ECTS***
Secretary:	Anne Nielsen
Responsible Coordinator:	Lars Knudsen
Lecturers:	Lars Knudsen
Purpose and goals:	This course will address building interactive systems for active and embodied audience participation. The course will survey a variety of technologies, which can be applied in the context of the semester project. This also means a lot of different sources of literature are used as introductory readings. The introductory literature will be available online or from the library, with additional suggestions for in depth literature suggested. The course will be a combination of lectures and exercises. Four lecture are planned on the topics wearable electronics, biosensing, location based interactions and image processing. The course will be taught by Lars Knudsen. Literature: Syuzi Pakhchyan, 2008, Fashioning Technology, O'Reilly Media Sean M. Montgomery and Ira M. Laefsky, Biosensing in MAKE Volume 26, 2011 Michael Margolis, 2011, Arduino Cookbook, 2nd edition Recommended additional literature: Syuzi Pakhchyan, 2012, Fashioning tech, http://www.fashioningtech.com/ Jeremy Blum, 2012, Tutorial 15 for Arduino: GPS Tracking, available at http://www.jeremyblum.com/2012/07/16/tutorial-15-for-arduino-gps-tracking.
Assessment:	See project assessment

Title 1:	Wearable electronics.
Lecturer:	Lars Knudsen
Content:	*Wearable electronics* will explore the possibilities and challenges in relation to wearable interactive artifacts, and present the possibilities which are available at ArT for supporting these types of projects.
Assignments:	Implement a wearable interactive artefact (bring an old piece of clothing).
Literature:	Fashioning technology 57-67 + 78-85 (available at aub). Additionally, http://www.fashioningtech.com/ can be visited to explore the state of the art of wearable electronic fashion.

Title 2:	Biosensing.
Lecturer:	Lars Knudsen
Content:	*Biosensing* will cover different ways of measuring biosignals from living beings, such as galvanic skin responses, heart beat, EMG, EEG, etc. The lecture will also contain exercises in creating a biosensing artefact, based on available sensors (presumably we will work with heart beat).
Assignments:	Implement an interactive artefact using a biosignal.
Literature:	Make Volume 26, Biosensing (p102).

Title 3:	Location based interactions.
Lecturer:	Lars Knudsen
Content:	*Location based interactions* will cover how to create artifacts which are able to support location based interactions.
Assignments:	Implement an artefact with GPS based interactions.
Literature:	Arduino Cookbook, 2nd Edition, 6.14 Getting location from a GPS.

Title 4:	Project problems.
Lecturer:	Lars Knudsen
Content:	This lecture will be used to present and investigate technological challenges from pro-

	jects.
Assignments:	Present project related challenges.
Literature:	As required by student projects and requests.

Digital representation II (CAD II - spatial animation)	***2 ECTS***
Secretary:	Anne Nielsen
Responsible Coordinator:	Ann Morrison
Lecturers:	Peter Skotte
Purpose and goals:	Students will get a basic to intermediate knowledge in simple design and animation principles through hands-on exercises. Learn how to model simple 3D scenes to assist in making up a virtual design of their own installations. Learn how to animate these and add “life” to the 3D scene and replicate intended interaction.
Assessment	Satisfactory completion of assignments given during the course. These assignments should be submitted to the course-leader. The collected assignments will be evaluated by the course-leader and the student will be awarded either a pass or a fail for the course.

Title 1-4:	CAD 2 – Spatial Animation.
Lecturer:	Peter Skotte

Content:	CAD2-1 – Gettting Started
	• Space
	• Navigation
	• Objects.
	• Pro vs. free
	• Hands on
	  • ”The House”
	CAD2-2 - Advancing
	• More tools
	• Units, mixed even.
	• Arrays, duplicates and more
	• Hands on
	  • ”Adding detail to the house”
	CAD2-3 - Props
	• Components
	• Groups
	• Arc, Tangents
	• ”Solid” Tools
	• Materials
	• Hands on
	  • TBD
	CAD2-4 – Advanced sets
	• Photo matching
	• Sets, Scenes and ”Animation”
	• Hands on
	  • TBD

Assignments:	Using sketchUp to setup both simple exterior models, as well as complex sets, build a simple geometry virtual model of your intended installation. Add animation layers of the intended interaction. Students will do practical exercises on the methods presented in the lecture.
Literature:	Online help centre: http://support.google.com/sketchup/?hl=en

5.	***Module 13 - Art in Context II - Media Art Theory (5 ECTS)***
Work form:	Individual coursework in relation to course activities
Date for submission	Various assignments (students presentations) during the course with final submission of the assignment: April 4 at 10.00
Secretary:	Anne Nielsen
Responsible Coordinator:	Morten Søndergaard
Supervisors:	Morten Søndergaard

Location of module: 4th semester
Credits: 5 ECTS
Method of working: Individual work in relation to course activities
Module contents: The module "Art in Context II" examines media art works and their cultural, aesthetic, social, and technological positions in the 20th and 21st centuries. Students learn about relevant theoretical perspectives on media art. They learn to apply those theories in analysis of media art works. They will also investigate varying audience and user concepts of different instantiations of media art.
The module will consist of lectures, workshops and seminars.
In connection with the module, courses may be offered within the following area:

- Media Art Theory & Analysis

Objectives:
During this module, students should acquire:
basic **knowledge** about

- media art theories and concepts with special focus on cross-disciplinarity and synergy between art and media technology
- various methods of analysis of media art product and projects in regard to their cultural, personal, aesthetic and epistemological significance
- audience and user concepts of media art and the related behavioural and aesthetic preferences

skills in

- using and applying basic theories and methods in the analysis of media art works
- describing artistic challenges and aesthetic formats of media art
- identifying target groups and their behaviour and aesthetic preferences in relation to experience potentials of media art works

competencies in

- applying theories and methodologies of media art
- analysing and discussing media art works as cultural and aesthetic phenomena
- applying knowledge about user groups and user behaviour in analysis and concept design of media art works

The module is completed with:
Examination 13
An internal written examination in **Module 13: "Art in Context II – Media Art Theory"**
Form of examination: c)
The examination is a 7-day assignment on a set subject. The examiner and an additional internal examiner according to 7-point scale evaluate the assignment.
Number of pages: the written work must not exceed 10 pages.
Credits: 5 ECTS
The examination should demonstrate that the student has fulfilled the objectives outlined above.
In the evaluation of the examination performance, the grade 12 will only be awarded to students who demonstrate that they have fulfilled the objectives for the subject exhaustively or with only few insignificant omissions.

Courses:

5.1 Art in Context 2 ***Course: Media Art Theory & Analysis***	***2 ECTS***
Secretary:	Anne Nielsen
Responsible	Morten Søndergaard

Coordinator:	
Lecturers:	Morten Søndergaard
Purpose and goals:	The course is an introduction to art and technology as a theoretical field of study. As such it continues the trajectory of Art in Context 1, however this semester with a focus on media art before and after the 'digital revolution'. Whereas the theories and humanistic themes of perception, hermeneutics, phenomenology, systems, imagination, and beauty introduced in AiC 1 are still very relevant for the study of art they tend to be challenged and criticized when technology, science and media enters the scene. From this, different theoretical and artistic practices emerge that not only circulate ideas about technology, science and media into critical thinking but also take up new paths of investigations and methods. This course is structured around two interconnected parts both focussed on giving the students an introduction to different seminal theories, practices and ideas accompanying the still more intensive relationship between art, technology, media and science in the 20th and 21st Century – in short, here, termed Media Art. The first part introduces to Media Art - the early impact of technology on art and the pre-configurations of media art aesthetics before the 'digital revolution'. The second part of the course will focus on media art after the 'digital revolution' and similarly introduce to seminal theories, practices and ideas from this scenario. A red thread through the entire course will be to determine, if possible, the aesthetic paradigms of media art – and to discuss these in the contexts of the students' own practice. You will need to buy this book for the course: Christiane Paul: Digital Art, Thames and Hudson (World of Art Series), 2008. Apart from reading in this book you will be asked to read specific texts for each lecture that will be available on Moodle. The texts will form the basis of oral and written assignments, which the students will carry out during the course. This will further the students' ability to carry out expository writing exercises to a certain level and lead to the final exam (see below).
Assessment:	The module *Art in Context 2* includes 5 writing days allocating time to write all the assignments given during the lectures. In case of 80 % attendance: The student has to produce a written presentation and analysis of one of the subject matters and different perspectives on art and aesthetics presented during the course. The analysis should present and discuss the main points and arguments of the chosen subject (max 5 pages of text). In case of less than 80% attendance, the student is expected to extend the mentioned assignment The course/assignment is evaluated pass/fail at the end of the course. The submission date is Friday April 4, 2014 at noon.

Title 1:	Pre-configurations I: Media Art – Introduction (a short genealogy of) Practices, Theories, Histories).
Lecturer:	Morten Søndergaard
Content:	Media and its many different forms and uses are important contexts of the development of modern and contemporary art. Only recently, this has begun to be recognized as the most important new paradigm within art since the Renaissance. It has transformed art beyond recognition – and operates with great care across genres and art forms towards a consciousness of art-as-communication and investigation into the contexts and politics of human action. We will investigate some key-examples – focusing on a row of the essential media art pieces. With starting point in an introduction to the aesthetic paradigms of media art with direct reference to Christiane Paul's Introduction in **Digital Art** (Thames & Hudson, 2003) and Glaudia Gianetti's text the "Aesthetic Paradigms of Media Art" from the beginning of '00, this final part of the course will entice theoretical perspectives and discussions about the transformation and possible (pre)configurations of media art (now & in the future). How are the (pre)configurations visible (or audible) in present-day media art? How are they renegotiated. Lots of examples - bring your!

Assignments:	
Litterature:	Claudia Giannetti, Aesthetic Paradigms of Media Art (Mediaartnet.org, ZKM, 2004). http://www.mediaartnet.org/themes/aesthetics_of_the_digital/aesthetic_paradigms/ Christiane Paul, Digital Art, Thames & Hudson, Chapter 1

Title 2:	Pre-configurations II: Art in the Age of Mechanical Reproduction – Walter Benjamin.
Lecturer:	Morten Søndergaard
Content:	Historically, avant-garde art adopted a critical position towards societal developments, capitalism, and alienation (cf. Peter Bürger). But what about media art? Has media art inherited this strand of autonomous art or has media art become a credulous part of experience economy? This lecture introduces the students to Walter Benjamin's seminal text and discusses the role of art in the age of technological reproduction. This will be further discussed in the context of the "Five Faces of Modernity" (Matei Calinescu) - Modernism, Avant-garde, Decadence, Kitch, and Post-modernism as the critical contexts for media art. Furthermore, the course will address the question if a sixth face (and seventh, eight...) has emerged since Calinescu wrote his book in 1989 (1977) - and what those might be? This discussion, in which the students will be asked to take part in groups, will set the theme of 'identifying and describing' the modalities, aesthetics, and configurations of media art, vis-à-vis Gianetti and Paul (see lecture 1), during the rest of the course.
Assignments:	
Litterature:	Walter Benjamin (1935) "The Workd of Art in the Age of Mechanical Reproduction". (Moodle) Further reading: Calinescu, Matei "Intellectualism, Anarchism, and Stasis" & "Bad Taste, Ideology, and Hedonism" in: Matei Calinescu 1996 (1987/77). Five Faces of Modernity, Duke University Press. Excerpts (Moodle). Greenberg, Clement 1939. "Avant-Garde and Kitsch" in Harrison, c. ; Wood, P. 2002. Art in Theory. Malden, USA: Blackwel. Or to be found here: http://www.sharecom.ca/greenberg/kitsch.html

Title 3:	Pre-configurations III: Sound Art.
Lecturer:	Morten Søndergaard
Content:	Sound art in its many different variants are important preconfigurations of media art. Only recently, sound art has begun to be recognized as one of the most important precursors of a new paradigm within art since the Renaissance. It has transformed art, some would say beyond recognition – and operates with great care across genres and art forms towards a consciousness of art-as-communication and investigation into the contexts and politics of human action. We will investigate some key-examples – focusing on a row of the essential sound art pieces.
Assignments:	
Litterature:	Brandon LaBelle, "4'33": Sound and Points of Origin" in. *Bacground Noise - Perspectives on Sound Art*, (Continuum 2006) (Moodle); Morten Søndergaard, "Sound Art - An Interaesthetic Project" in Søndergaard et.al.,eds: See Sound / Look at the Music, Roskilde 2002 (Moodle).

Title 4:	Pre-configurations IV: Cybernetics and Art – Erkki Kurenniemi.
Lecturer:	Morten Søndergaard
Content:	NB: Lecture will be conducted at Aarhus Kunsthal! According to Edward E Shanken, artists play an important role in making ideas from diverse fields feed into each other and thereby actively facilitating those ideas being concretized and historized into cultural configurations. This session will introduce to theories and examples of Cybernetics and Telematics and ask the crucial question: Is art facilitating science in the same way? With examples ranging from Nam June Paik, via Danish media artist Mogens Jacobsen,

	to the Swedish Electrohype Biennial we shall examine and discuss what art & science is - and is not.
Assignments:	In-course assignments.
Litterature:	Edward E. Shanken, "From Cybernetics to Telematics" (excerpts) in: Roy Ascott 2007 (2003), *Telematic Embrace - Visionary Theories of Art, Technology, and Consciousness*, University of California Press. (Moodle) Further Reading - will be referred to during class: Stephen Wilson, "Art & Science as Cultural Acts" In: Wilson 2002, *Information Arts - Intersections of Art, Technology, and Science*. MIT Press, pp. 11-33. Andrew Pickering: Neo-Sigma: Art, Agency and Revolution, 2012. (Moodle).

Title 5:	Pre-configurations IV: Intermedia Art & Systemic Art – Visit to Aarhus Kunsthal.
Lecturer:	Morten Søndergaard
Content:	The dynamics and experiments of the 60s are manifold – and has been told and retold in many versions. It's impact on the field of Art & Technology, however, is immense – and still to be felt. In other words, the context of any discussion and practice in the field of Art & Technology always points back to this specific time in some way – not excluding influence from other periods or artists, of course. This lecture will introduce the students to the important experiments of intermedia art and systemic art. We will visit Aarhus Kunsthal and the exhibition Systemics 3.
Assignments:	In-course assignments.
Litterature:	tba.

Title 6:	Re-configurations I: The Database as Art Space / Data Art – Lev Manovich / Thorbjørn Lausten (DK) as an example.
Lecturer:	Morten Søndergaard
Content:	An introduction to the concept, practice, theory, condition and (short) genealogy of the database as an art space with special reference to Lev Manovich's The Language of New Media (1999). From 'environmental' experiments by Nam June Paik, Jack Burnham and Steina Vasulka in the 1960s and 1970s to the digital experiments and 'global' information-flow of the 90s and 00s by, for instance, Mark Hansen and Ben Rubin. We will run through different examples of 'data-art' with a certain focus on Thorbjørn Lausten. Perspectives will be drawn to media art theory, digital art theory – but most importantly will be the contextualisation of art as communication and real time information from the world beyond our perceptual boundaries.
Assignments:	Student presentations.
Litterature:	Lev Manovich (1999), The Language of New Media, MIT Press. Pp.43-75 (Moodle).

Title 7:	Re-configurations: Post-digital Culture (Archives, Archives, Archives….)
Lecturer:	Morten Søndergaard
Content:	The ubiquity of the computer creates new situations for art. In the 1960s, the modern public space was described as a 'citizen space' constituted by a literary awareness – laws, newpapers, textualizations of thought (Habermas). Moreoever, the public space was thought of as a physical space fascilitating dialogue and clash of opinions. However, the very constitution of this citizen space has been changing rapidly since the 60s – undergoing several transformations. The literary awareness is partly and increasingly being replaced by a 'media awareness' during the 70s and 80s, which, in the digital age, has transgressed even further towards a 'distributed awareness' (being mediated on several platforms at the same time changing the configuration of the physical public space and the very notion of the city (as the place for citizens) one of complexity). Today, the citizen space always involves mediation to some degree – with ubiquitous information technology everywhere – and boundaries between private and public are blurring ever more. The citizen today is challenged by this fight for their attention, but also by the ever decreasing time that privacy actually occours. Privacy, and time for

	privacy, is rare – even to a degree that the very understanding of what is private is blurring. This may be witnessed in the attempt to create 'nasty sound designs' in the US to prevent certain (young) citizens to stay too long in public spaces (like car parcs) thus, so the argument goes, preventing them from comitting crimes There is indeed a need for better, more egalitarian forms of 'urban media designs' (Jonathan Sterne) which respect and understand the citizen and the challenges to awareness that a distributed mediated situation creates. So, the 'citizen of the artwork' – who is that? And how can she be activated by art and sound? What constitutes a 'sound citizen?
Assignments:	In-course assignments.
Litterature:	tba.

Title 8:	Re-configurations: Bio Art / Biotopia revisited – Stelarc.
Lecturer:	Morten Søndergaard
Content:	With starting point in my 2012 online exhibition, Biotopia Revisited, at Leonardo's Electronic Almanac Digital Platform, we shall discuss the outlook and possible transformations of media art in the light of the bio-art 'experience'. In this, Stelarc's piece Internet Ear, which is still touring the world, played an important role in an on-going discussion about possible future ways of engaging a public into a discursive wet zone of art, technology and science.
Assignments:	In-course assignments.
Litterature:	http://www.facebook.com/home.php?#!/pages/Leonardo-Electronic-Almanac/209156896252 and process sheet from the online exhbition Selected texts from upcoming Ai & Society Issue on Art in the Wet Zone. (Moodle). Morten Søndergaard (2013) "Ear in the Cloud: Acoustical Accidents and Clouded Texts in Stelarc's Internet Ear" (ISEA 2013/ University of Sydney) to be downloaded here: http://ses.library.usyd.edu.au/bitstream/2123/9750/1/earcloudacoustical.pdf Also: www.earonarm.net

6.	Module 14: "International Collaboration" – (5 ECTS)
Work form:	Group work in relation to course activities and seminars
Date for submission and critique:	June 1st
Secretary:	Anne Nielsen
Responsible Coordinator:	Ståle Stenslie and Morten Søndergaard
Supervisors:	Ståle Stenslie / Morten Søndergaard

Location of module: 4th semester
Credits: 5 ECTS
Method of working: group work in relation to course activities and seminars
Module contents: The module "International Collaboration" is a theoretical and practical introduction to methods of collaboration with international art institutions and/or art and design companies, and its possibilities and challenges. The students learn how to organize and implement an international collaborative project. The teaching format is a workshop. The project is supported by relevant literature and cases studies that thematize and discuss central ideas such as globalization, networked culture, and collaborative creativity.
In connection with the module, courses may be offered within the following areas:

- International Collaboration – theory and practice

Objectives:
During this module, students should acquire:
basic **knowledge** about

- theories and methods of collaborative and networked creativity
- the influence of globalization on media art, global interventions and urbanity
- technological conditions and solutions of collaborative work

skills in

- creating conceptual and technological frameworks for collaboration
- devising concrete methods of collaboration on the basis of existing methodologies in the field

competencies in

- analysing existing conditions of collaboration including analysis of user groups and participating institutions
- reflecting on present cultural-historical and media technological conditions and prospective solutions of international collaboration

The module is completed with:
Examination 14
An internal written examination in **Module 14 "International Collaboration"**
Form of examination: c)
The examination consists is an international collaboration project and a reflective report, which must not exceed 10 pages.
Evaluation: pass/fail. One examiner evaluates the assignment. In case of a Fail grade, an additional examiner will also evaluate the assignment.
Substitution: the examination may be substituted by satisfactory and active participation in courses, i.e. 80% presence and submission of all assignments set during the course.
Credits: 5 ECTS
The examination should demonstrate that the student has fulfilled the objectives outlined above.

The international collaboration in 2014 will be with the Dutch Electronic Art Festival (DEAF) in Rotterdam, Holland, between 21. - 25. Mai, see http://deaf.nl/news/deaf2014-coming-up
The festival is organized by V2, www.v2.nl, and the main curator is Boris Debackere that was a guest here with us in Aalborg twice in 2013.
The theme of this years Festival is still not finalized, but will revolve around new and previously unforeseen of phenomenons caused by media technology. One example is Guy Standings lecture on 'The Precariat: The New Dangerous Class', see http://www.youtube.com/watch?v=FRNhtGtO9pg
The more precise course description will have to wait until V2 have laid their further plans. This is positive in the sense that it gives us a very fresh content and a festival in the making. We will try to co-organize events, do workshops in Rotterdam, research the Dutch Media Art Scene and facilitate for lots of social interaction.
One workshop/course in the planning is a course in 3D sound composition with the Spasm sound tool from V2:

http://v2.nl/lab/projects/spasm-4-live/?searchterm=spasm
All lectures before departure to the festival will happen in week 12, April 7th to 11th.

Courses:

AALBORG UNIVERSITY
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7.	Guest Lecturers

Guest Lecturers	
Secretary:	Anne Nielsen
Responsible Coordinator:	Ann Morrison
Lecturers:	Lecturers include: Ranulph Glanville
Purpose and goals:	To support the projects carried out in Module 12, 13 and 14.

8.	Timetable
03.02.2014	Semester Start 13:00-16:00 Afternoon at ST1-124: ArT4 semester kick off. Form groups and committees and large discussion of theme for semester and visit new building.
04.02.2014 (tbc)	ArT4 visit to Karolinelund to look at site and meet with Bo Nicolaisen, Director P4, Assessment of site
28.02.2014	Semester group meeting 1, 13.00-14.00 at (tbd) week 9
27.03.2014	Semester group meeting 2, 13.00-14.00 at (tbd) week 13
08.05.2014	Semester group meeting 3, 13.00-14.00 at (tbd) week 19
14-15.05.2014	Exhibition Opens, opening 17:00 14.05.2014
TBD 2014	Study Trip
03.06.2014	HAND-IN Project report– 10.00
19.-21.06.2014	Examination
26.06.2014	ArT-Party and BA-graduation