

ArT6, 2017: Art and Technology as Experience



Warhol, Andy: *Do it Yourself (violin)*, 1986

<p>Semester details</p> <p>School:</p> <p>Study board:</p> <p>Study regulations:</p>	<p>Communication, ArT and Technology (CAT)</p> <p>Art and Technology</p> <p>September 2014</p> <p>BA Study Program in Art & Technology, The Faculty of Humanities, AAU, September 2015</p>
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Semester Theme

Art and Technology as Experience

Semester organisation and time schedule

2017: 6th Semester: Art and Technology as Experience (Bachelor Project), 30 ECTS

Module 19 "Art and Technology as Experience (Bachelor Project)" 20 ECTS

Programming IV (1 ECTS)
Artistic and Academic Methodology VI (1,5 ECTS)
Theory and Philosophy of Experience (1,5 ECTS)
Performance Technology II (1 ECTS)

Module 20/22 "Play & Event / Electives" 5 ECTS

Dramaturgy and Media II
(1 ECTS)
Mobile Technologies
(1 ECTS)

Module 21 "Art and Technology Entrepreneurship" 5 ECTS

Strategic Communication
(1 ECTS)
Art and Entrepreneurship
(2 ECTS)

1. The semester project module *Art and Technology as Experience* (20 ECTS)
Coordination: Falk Heinrich
Supervisors: Falk Heinrich, Line Bruun Jepsersen/Markus Löchtenfelt (1 group), Palle Dahlstedt, Ståle Stenslie, Anthony Brooks
2. Elective 5 ECTS (the study board offers the module *Play and Event*)
Coordination: Jakob Sabra
3. ArT and Entrepreneurship (5 ECTS)
Coordination: Line Bruun Jepsersen

The modules are independent entities with their own learning objectives and examinations. However, especially the content of *Play and Event* can, depending on the students' semester project ideas, contribute with new perspectives to the semester project.

Semester coordinator and secretariat assistance

Semester coordinator:

Falk Heinrich (falk@hum.aau.dk) and
Palle Dahlstedt (palle@hum.aau.dk)

Secretary: Anne Nielsen – amn@hum.aau.dk

Module 19 - Art and Technology as Experience - BA-project/20 ECTS

Oplevelsesteknologi – BA-projekt/20 ECTS

Activity Code: HSA66027H

Location: ArT 6. semester

Module coordinator: Falk Heinrich, Palle Dahlstedt

Type and language: project module, English

Learning objectives:

The objective of Module 19: Art and Technology as Experience - Bachelor Project is to enhance students' understanding of problem areas and solutions in relation to the creation of interactive artefacts, installations, and performances of artistic quality. During this module, students should acquire:

Basic knowledge about

artefacts, installations, and performances whose objective is either to entertain, inspire, raise awareness, or in other ways affect audience or participants

installations, artefacts or performative events, taking into account the weighting of artistic, technical, material, contextual and functional considerations

methods in connection with the creation of installations, artefacts or performative events as part of the experience culture

Skills in

identifying and formulating an artistic challenge and experience-oriented demands on the basis of a problem statement defined by the student

analyzing the artistic problem and developing alternative concepts to deal with it

creating and selecting artistic means and the application of technologies

developing and realization of installations or artefacts as part of the experience culture

Competencies in

creating engaging experience designs as a synthesis of creative expression, technology, and human performance/participation in artistic settings applying

theoretical and analytical skills to the design of an artefact, and reflecting on its functionality, technological choices and artistic means of expression choices

describing the completed design at a professional level and communicating it to external recipients.

The subject must be presented to the Board of Studies in the form of a brief problem statement. The Board of Studies must approve the subject of the BA project. A minimum of 3 subject focus fields represented by the main modules in semesters 1 – 5 of the program should be included in the BA project.

Examination 19 An external combined written and oral examination in Module 19 "Art and Technology as Experience" (Bachelor Project)" (Oplevelsesteknologi (Bachelorprojekt)).

Form of examination: b) The examination will take the form of a conversation between the student(s), 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. The project exam will also address other content from the module courses. Number of pages: the written work must consist of not less than 15 pages and not more than 20 pages per student (not more than 25 pages in the case of individual reports). Abstract: An abstract must be produced in Danish. The abstract must consist of not less than 1 page and not more than 2 pages. The abstract is included in the overall evaluation of the project. Duration of examination: 20 minutes per student and 10 minutes for assessment and communication of grades per group, however, the duration of the examination is maximum 2 hours. Evaluation: Grading according to the 7-point scale. Proportional weighting: An aggregate grade is awarded for the artefact, the written and oral performances. The assessment results in an individual grade.

Credits: 20 ECTS

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

(Excerpt from study regulations 2015)

Academic content

Method of working: Project work in groups or individually

Credits: 20 ECTS

Module contents:

As the study regulation indicates, this module (the semester project) will focus on 1) the concept of experience and its realization/materialization through concrete artefacts and events and 2) the integration of artistic and academic discourses and methods. That means that you will have to incorporate, validate and explain both the concept of experience and your different methods applied.

During this last BA semester, it is important to work towards and reflect on the integration of academic and artistic knowledge/methods and practical skills. This will enable you to choose a professional path either within academia (master) or within other professional fields related to culture, science and technology.

Within this framework, you will have free hands to work out the finale semester projects. You will have to work artistically on a self-defined societal problem within a chosen, but distinct subject field respecting the elements, theories and methods of art and technology learned during the past five semesters.

However, as a formal constraint, all semester projects will have to be presented at a common exhibition/show. You will choose the venue and you will have to work towards either a thematic or/and formal cohesion of all the projects presented. This will be the presentation of the bachelor projects.

The module courses:

This module courses will support your semester project by furthering your theoretical and practical knowledge and skills gained through the previous years of your study.

The course *Artistic and Academic Methodology VI* deals with the differences, communalities and integration of academic and artistic methods with the aim to create insight through engagement.

The course *Theory and Philosophy of Experience* presents and discusses aesthetic, psychological, economical and cultural theories of the concept of experience.

The course *Programming IV* furthers your programming skills.

The course *Performance Technology II* presents up-to-date technologies used in the performing arts and events.

Thus, the courses point to past semesters' content with the objective to increase your skills and knowledge to tackle existing problems by envisioning prospective possibilities.

The project assessment requires three parts: an artefact/event, the report and an oral examination. The quality of all three parts defined by the learning objectives stated in the study regulation contribute to the final grade.

Report Guideline:

All reports should contain the following parts; their order, however, may vary depending on the nature of your project.

ABSTRACT

A short paragraph in Danish summarizing the main aspects of the investigation---context, problem, results, and insights.

INTRODUCTION

This is where you set the context for your work. What is the motivation for investigating this area?

PROBLEM STATEMENT

Here you concisely state what the problem is you are investigating. You may also present a hypothesis to be supported or rejected through your own experiments.

BACKGROUND

This should contain previous, relevant work/research in the area you are investigating. You should clearly identify antecedents and point out both the importance of each in relation to your own work. Make clear what your own unique intervention, or contribution, to the field of art as experience.

METHOD

Describe which methods you want to apply, why and what outcome you expect. The chosen methods are key to a successful project in as your problem formulation calls for distinct methods that again depend on identified theoretical perspectives. In our context, it will be a mixture of academic and artistic methods. But precisely which mixture?

ANALYSIS OF THE PROBLEM FIELD / REVIEW OF THE LITERATURE

Here you introduce all relevant theories and methods that demonstrate your knowledge of the field of artistic artefacts as experience design. Deploy relevant theories for the analysis of your problem field. This process often yields a reformulation and specification of your problem statement.

You are encouraged to draw on the course literature for use in the reports. Always reference refutable sources (i.e., peer-reviewed journals, books, etc.) and, when possible, primary sources (i.e., the original author of the work) to avoid misinformation. Google and Wikipedia are okay only as starting points. This analysis (the gained knowledge) leads to your design.

DESIGN

Here is where you outline your process of creation and the decisions you made along the way. Elaborate on and justify your artistic, aesthetic, and technical choices. Describe your experiment design. Support your design with your results of your review

IMPLEMENTATION

How was the final work constructed? Include overall system diagrams and exhibition arrangement. Detail the most important aspects of the implementation and place the rest in the appendix. One should be able to fully and unambiguously re-create your artefact/event based on the information in this section.

ANALYSIS

What did your work actually work out in regards to functionality, per- and reception? Did your work create experience? If yes how and what kind of experience; if not why not? Support this with arguments, evidence, or empirical data. If you made an initial hypothesis, do the outcomes (the performance, the audience reaction, and your observations, or any experimental data) support or reject it?

FUTURE WORK

Is there anything you could have done better? How? If you were to develop this project further, what would you work on next?

CONCLUSION

This is where you bring it all together. The conclusion is NOT simply a summary of what you have done. You should connect all the dots and synthesize new insights here. What can others learn from this?

BIBLIOGRAPHY

List of references following the Harvard referencing style.

APPENDIX

Include all data produced during your investigation. This can include sketches, scenic design, performance scores, experimentation/observation logs, transcriptions of interviews, survey data, source code, etc. Note that the main text can reference the information in this section.

All figures, tables, and images in the report must be labelled with a brief description and cited in the main text. You are also required to make a video documentation of the final artefact and submit it with the report.

Video and any other relevant digital media (e.g., images, sounds) should be submitted with the report.

All material in the report that is not the original creation of the students in the group must be properly acknowledged by using the Harvard referencing style. Failure to do this will be considered plagiarism and will lead to immediate failure and possibly also to expulsion from the program.

All exams will be submitted using AAU Digital Exam, and subject to a plagiarism detection scan using software that produces an originality score for your report.

Scope and expected performance

Development of final BA project.

Participants 6. semester BA ArT students

Exam dates:	Week 25
Exhibition dates:	Maj 17 – Maj 19
Hand-in date:	Maj 31
To:	Through Digital Exam

Course: Theory and Philosophy of Experience 1,5 ECTS

This course will introduce some of the most important approaches to experience. Emphasis is put on the aesthetic experience, but also experience in relation to other dimensions in our everyday lives as well as experience as a sensorial and bodily concept ambient contexts. Though theoretical in content, the lectures urges the importance of reflection on the different approaches in relation to both the field of art and your projects: How are the different conceptual discussions of experience of relevance for your project and what consequences do the different approaches imply?

Lesson 1

Lecture: Experience and Aesthetics

The concept of experience encompasses a wide range of meanings and events. It can refer to events affect us momentarily as well as something that we learn from and which forms us as person, and thus constitutes

practical knowledge. Experience and aesthetics have a long history of mutual relation – the aesthetic product or event can affect us in many ways, from evoking pleasure or some emotional response to profoundly changing our understanding of an object or phenomena.

Elizabeth Jochum

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
Goodman, Nelson. Ways of Worldmaking (1978) (Chapter IV: "When Is Art" pages 53-70).	17		
Shklovsky, V. " Art as Technique ", 1965.	5		
Dewey, John. Art as Experience (1934). (Chapter three: "Having An Experience).	21		

Lesson 2

Lecture: Atmosphere

Atmosphere, or ambiance, is a fundamental concept in aesthetics that characterizes how places and spaces affect us. We may experience a place to be tense, hectic, bright, cozy, etc. This is the matter when we are aware of how places are but we may also be affected without being aware of it. Atmospheres are products of sensorial elements such as the quality of the materials, the different smells, the proportions of the spatial elements, etc. Working with atmospheres is very much a matter of becoming aware of these elements.

Elizabeth Jochum

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
Böhme, Gernot " Atmosphere as a Fundamental Concept of a New Aesthetics "	13		
Berleant A. Berleant A. " Environmental Sensibility " in <i>Ambiances in Action</i>	4		
Vidler, Anthony. <i>The Architectural Uncanny</i> . Introduction.	17		

Lesson 3

Lecture: Phenomenology of Experience; Technology of Experience

This lecture introduces students to Merleau-Ponty’s aesthetics and Phenomenology of Perception. Merleau-Ponty’s notion of the lived body (more specifically “one’s own body”) as the primary site of knowing the world challenged the philosophical tradition of placing consciousness as the source of knowledge. His insight that the body and that which it perceives cannot be disentangled has profoundly impacted theories of perception and experience, and processes of art making.

Elizabeth Jochum

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
Merleau-Ponty " Phenomenology of Perception "	44		

McCarthy and Wright. " Technology as Experience " (Chapter 3 "A Pragmatist Approach to Technology as Experience" p. 49-78)	29		
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Lesson 4

Lecture: The Performative Turn: Performance, Art, and Installation

The performative turn is a paradigmatic shift in the humanities and social sciences that has influenced art making and art theory. This lecture considers the relationship between visual art and performance using Michael Fried’s landmark 1974 essay “Art and Objecthood” as a point of departure. Fried criticizes the “theatricality” of minimalist art and argues that the focus on presence forces us to consider how the viewer’s experience, rather than the relational properties of the work of art, is fundamental to meaning and interpretation. The tension Fried articulates between art and objecthood draws attention to the quality and conditions of reception and perception of the viewer, which have implications for visual art as well as performance.

Elizabeth Jochum

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
Fried, Michael " Art and Objecthood "	10		
Fischer-Lichte, E. " The Transformative Power of Performance ", 2008.	17		

Lesson 5

Lecture: Sensorial and bodily perspectives on experience

Insights from somatic practices and other body-oriented perspectives are relevant to the theory and philosophy of experience. The physical body functions as both a physiological and an aesthetic entity, that is, the internal corporeal experience of one’s own body from within. This lecture introduces students to the concept of somaesthetics, an aesthetic theory that addresses the cultivation of the body as an artistic practice, and considers how we can assess individual bodily experiences and tastes in critical terms.

Elizabeth Jochum

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
Shusterman, R. Pragmatist Aesthetics. Living Beauty, Rethinking Art. http://www.fau.edu/humanitieschair/pdf/Somaesthetics_A_Disciplinary_Proposal.pdf	14		
Artaud, A. " Theatre of Cruelty. "	34		

Lesson 6

Lecture: Phenomenology of the Virtual and Digital Aesthetics

Computer software and hardware, coupled with revolutions in animation and CGI programs have given rise to a special species of generative art and performance. Many of these works exist only in the virtual

environments and have interactive or generative components. Cyberart be produced programmatically by applying a set of design rules to a natural or preexisting process, enabling the program to produce a few million such “works of art” in a minute. This lecture explores features of cyber and virtual art and networked/cyber performance as experience, considering how these works of art function from both semiotic and phenomenological perspectives.

Elizabeth Jochum

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
Blau, H. “Virtually Yours: Presence, Liveness, Lessness” , 2007.	14		
Wilson-Smith, M. The Total Work of Art: From Bayreuth to Cyberspace	36		
Jochum and Lind. <i>“Virtual Worldmaking: Cultivating Digital Art Practice</i>	20		

Course: Artistic and Academic Methodology (AAM) VI (1,5 ECTS)

The course consists of three introductory lectures, one workshop and an evaluation/analysis of the workshop and the empirical data. The course thematic focus will be on the differences, analogies and potential integration of academic and artistic methods in various contexts in as it investigates possible modes and degrees of integration of so-called academic and artistic methods and methodologies.

Lesson 1:

Lecture: Integration of academic and artistic methods I: academic methods

The lecture introduces the so-called scientific method(s) and gives an overview over selected, foremost qualitative, methods relevant for art and technology studies. It discusses the function of method and methodology.

Falk Heinrich

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
Andersen, Hanne & Hepburn, Brian (2015) “Scientific method” in <i>Stanford Encyclopedia of Philosophy</i> . Stanford: Stanford University	online		
Silvermann (1993/2008) <i>Interpreting Qualitative Data</i> . Sage (part 2)			

Lesson 2

Lecture: Integration of academic and artistic methods II: Artistic methods

The lecture introduces the concept of artistic methodology by posing the most basic question whether we can talk about and identify an artistic methodology at all? If so, what are the differences between artistic and academic methodologies? And how can be operationalize this contended difference? The lecture

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
Eisner, Elliot W. (1981) "On the differences between scientific and artistic approaches to qualitative research" Review of Research in Visual Arts Education, Vol. 7, No. 1(13) (Winter 1981), pp. 1-8			
McNiff, Shawn (2008) "Art-Based Research" In Knowles, J.G. & Cole, A.L., <i>Handbook of the arts in qualitative research: perspectives, methodologies, examples, and issues</i> . London: Sage. P. 29-40			
Borgdorff, Henk. (2008) "Artistic Research and Academia: An Uneasy Relationship". In: Torbjörn Lind (ed.) <i>Autonomi och egenart : konstnärlig forskning söker identitet. [Autonomy and Individuality - Artistic Research Seeks an Identity]</i> . Årsbok KFoU (Yearbook for Artistic Research), Stockholm: Vetenskapsrådet (Swedish Research Council)			

Lesson 3

Creating a method design: preparations for a workshop with student of the master programme Environmental Management & Sustainability Science.

The purpose of this session is the preparation for a one-day collaborative workshop with the above mentioned student. During the course. I will inform you about the concrete framework of the workshop, the learning goals and the responsible teachers' objectives. We will discuss contexts, discourses and methodical and methodological issues. This session must result in a method design in form of an experiment the investigates the potentials for transdisciplinary work with engineering students.

Falk Heinrich

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
Heinrich, F., 2015. 'A theoretical foundation for interlacing artistic and academic methodologies'. ISEA 2014: Conference Proceedings. ed. / Thorsten Lomker. Zayed University Books, 2015.			
Cole, Ardra; Knowles, Gary (2008) 'Arts-Informed Research' In Knowles, J.G. & Cole, A.L., <i>Handbook of the arts in qualitative research: perspectives, methodologies, examples, and issues</i> . London: Sage. P.			

Lesson 4 + 5

Workshop: A one-day workshop with student of the master programme Environmental Management & Sustainability Science (8. sem). The purpose of the workshop is to create, apply, evaluate and document transdisciplinary work. Thematically, the workshop is centred around a given problem within sustainability. The objective is to collaborate through accepting and understanding each other's scientific and artistic research discourses and objectives, through finding concrete methods of collaboration and through documenting and analysing the work. The concrete details will be communicated prior to the workshop (see also lecture 3).

Falk Heinrich

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
none			

Lesson 6

Lecture: Evaluation: How to analyse empirical material?

The last session looks at analysis and interpretation techniques of empirical data such as video and text in order to extract valuable knowledge. As such, these methods are part of the academic field extracting a certain kind of knowledge namely discursive knowledge. But how can we trace and document aesthetic knowledge to be found in artistic artefacts and events?

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
Silvermann, David (2006 (1993). <i>Interpreting Qualitative Data</i> . London: Sage (chap. 6 + 7, p. 201 - 267)			56
Adams, T. et al. (2015) <i>Autoethnograph</i> . New York: Oxford University Press Chap. 3 (p46-67)			21

Course: Performance Technology II (1 ECTS)

Description

This course, in supporting the semester project 'Art and Technology as Experience', considers performance technology, its evolution and use in impacting reception across contexts. Practically, students create and document realisation of a model that includes illusion and technology means to question audience art experience. A student-driven debate will close the module to support knowledge development.

Lesson 1:

Lecture: Overture

Module assignments and expectations will be introduced. This opening session introduces technological innovations, evolutions and applications in the arts along with the pioneers considered as main contributors in the field. Selected works and techniques will be showcased.

Literature and discussions in this session provides the grounding of preparations for the student-driven debate that is planned for the final session in the module. The debate is planned to include Medialogy students who will provide counterpoint and competition. Panel representatives will be selected in this session with roles and expectations in the debate outlined. All are expected to be familiar with the literature and thus active in the debate and preparations as panel or group.

Anthony Brooks

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload

Multimedia: From Wagner to Virtual Reality, edited by Randall Packer and Ken Jordan, with a foreword (and an excerpt) by William Gibson	x		
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Lesson 2

Lecture: Technology derived Illusion supporting performance art.

To prepare for this session, students further develop their knowledge, skills and competences by researching techniques in creating performance art illusions. These should include 'Pepper's Ghost', 'Video feedback', and 'Vocaloids' such as 'Hatsune Miku'... and beyond. State-of-the-art use of such animated projection techniques in performance art should be studied via specific publications such as Jelena (2015) and related student-found other publications.

In class, following a short lecture presenting advanced projection mapping, motion capture (marker/markerless), and other relevant technologies/techniques, students present for approximately 20 minutes per group, using PPT or similar, their research findings (aligned with above preparations text) toward concept design to realize their own performance art illusion piece (scaled to desktop size [or otherwise] if possible with demo). A reflection of audience experience reportage (technology sourced data collection) means should be included. Peer- reflection, -critique, and -support input are encouraged in all presentations.

Following presentations and discussions groups begin their model building.

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
Jelena, G. (2015) Virtual Idol Hatsune Miku. In Brooks, A.L. (Ed.) Arts and Technology: Fourth International Conference, ArtsIT 2014, Istanbul, Turkey, November 10-12, 2014, Revised Selected Papers (pp. 36-44) Springer, Berlin http://www.springer.com/us/book/9783319188355	9		

Lesson3

Lecture: (Performance) Technologies supporting experience evaluation.

Typically, performance requires an audience. Works incorporating technology, as a means for audiences to actively participate in order to impact the piece (thus their experience) as well as to support in evaluating their experiences, will be presented. Related in-class exercises are conducted. Following, students break to retire to group rooms to discuss potential audience participation and experience evaluation in respect of the created pieces.

After the break, each group returns to present their discussion and evolved design. A discussion in preparation for the debate in the next session closes the session.

Literature

AUB Library resources online etc – for example below + student-found	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
http://www.distributedmusic.gatech.edu/jason/publications/pdf_files_of_publications/technology_real-time_notati.pdf			

Baird, K. "Real-Time Generation of Music Notation via Audience Interaction Using Python and GNU Lilypond." <i>Proceedings of the 2005 International Conference on New Interfaces for Musical Expression (NIME)</i> , Vancouver, 2005.			
Carpenter, L., and Carpenter, R. "Audience Participation." <i>Ars Electronica: Facing the Future</i> , ed. T. Druckrey. Cambridge: MIT Press, 1999.			
Maynes-Aminzade, D., Pausch, R., and Seitz, S. "Techniques for Interactive Audience Participation." <i>Proceedings of the IEEE International Conference on Multimodal Interfaces</i> , Pittsburgh, 2002.			

Lecture 4

Lecture: This final session (possibly extended with a special guest from industry showcasing MoCap performance technology - tbc) reviews all under this module through a student-driven debate that also reflects student prior gained knowledge in other modules.

Debate topics relate to course content and education overall. A selected volunteer student panel decide on topics for audience. Details will be given in opening session and panel selected.

Literature

Students choices to support their chances of winning debate arguments!	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload

Course: Programming IV - 1 ECTS

The purpose of this course is to introduce techniques in image and video processing that can be used in programming real-time interactive systems. Specifically, the course will focus on the mapping of visual information into artistic representations. The course will be workshop based where students will be introduced to a topic and then work in small groups on a related exercise. The course is meant to complement Performance Technologies II in providing basic knowledge about programming performance-based and interactive artworks.

The primary tool used for the course will be the OpenCV computer vision library (<http://opencv.org>). The main sources of information will be the following as they are the most up- to-date:

"OpenCV API Reference", <http://docs.opencv.org/modules/refman.html>

"OpenCV Tutorials", <http://docs.opencv.org/doc/tutorials/tutorials.html>

Lesson 1:

Lecture 1 – Image Processing

Basic ways of manipulating images including blur, edge detection, other convolution-based filters, and median filtering.

Markus Löchtefeld

Assignment(s):

We will have exercises from material covered that are required to be completed in class and/or before next session.

Literature:

Smith, S. W. (2011). "The Scientist and Engineer's Guide to Digital Signal Processing", Chapter 23: Image Formation & Display: Digital Image Structure, http://www.dspguide.com/ch23/1.htm .	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
Smith, S. W. (2011). "The Scientist and Engineer's Guide to Digital Signal Processing", Chapter 24: Linear Image Processing: 3x3 Edge Modification, http://www.dspguide.com/ch24/2.htm .			

Reference:

<http://docs.opencv.org/modules/imgproc/doc/filtering.html>

http://docs.opencv.org/doc/tutorials/imgproc/erosion_dilatation/erosion_dilatation.html

<http://www.imagemagick.org/Usage/convolve/>

Lesson 2

Lecture – Video Capture

Displaying video from files and cameras. Time-based video effects including feedback and motion detection.
Markus Löchtefeld

Assignment(s):

Exercises from material covered that are required to be completed in class and/or before next session

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload

Lesson3

Lecture – Optical Flow

Estimation of apparent motion in visual scenes using optical flow.

Markus Löchtefeld

Assignment(s):

Exercises from material covered that are required to be completed in class and/or before next session

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
"Optical flow - Wikipedia, the free encyclopedia", http://en.wikipedia.org/wiki/Optical_flow			
Shah, M. 2012. "UCF Computer Vision Video Lectures 2012: Lecture 6 - Optical Flow", https://www.youtube.com/watch?v=5VyLAH8BhF8			
https://www.youtube.com/watch?v=TbJrc6QCeU0 https://www.youtube.com/watch?v=JILkkom6tWw			

Lecture 4

Lecture – Blob Detection

Identifying regions of similarity using blob detection.

Markus Löchtefeld

Assignment(s)

Exercises from material covered that are required to be completed in class and/or before next session

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
http://docs.opencv.org/modules/features2d/doc/common_interfaces_of_feature_detectors.html#simpleblobdetector			

Prerequisites for participation

Student of Art and Technology, 6. Sem..

Module 20 - Play and Event (elective) (5 ECTS)

Location *6th semester*

Module coordinator Jakob Borrits Sabra

Type and language *Elective, English*

Method of working: Project work in groups or individually

Credits: 5 ECTS

Module contents:

The purpose of the module is to give an introduction to various theoretical positions within **urban game research** in order for students to get thorough knowledge about the field.

Furthermore, it is the purpose of the module, through lectures and workshops, to enhance students' competences in the design of ludic artefacts in relation to artistic events.

The module re-frames art works by applying ludological strategies to artistic interventions and interactivity with the purpose of expanding notions about interaction, participation and co-creation in relation to the immersive aspects of ludic experiences in the city. The course plays into the general approach on the main module to improve and enhance students' knowledge about art works as playable artefacts, audience experience and the relation between objective ludic mechanics and theoretical positions regarding ludic experiences.

Theme: Ludic & Lunatic Dramaturgy in the City (Viborg)

The practice-based research part of the module aims at producing an Urban Gaming and/or Urban Actionist Theatre with and through mobile phones. The students are expected to conceive and execute a scenario for Viborg that disrupt the city landscape. The Ludic theme is the Lunatic – as Absurd and Disruptive, possibly even Fun Games.

Success criteria can be such as audience involvement and feedback, responses on social media, media coverage, conducting public events etc.

Objectives

During this module, students should acquire:

“Basic knowledge about

- basic theories and dramaturgies of play-based design and events
- various mobile technologies and their usage in ludic artefacts and events

Skills in

- creating and describing concepts of play-based artefacts and events
- using and employing mobile technologies

Competencies in

- designing, implementing, and reflecting on ludic artefacts and events
- applying ludic strategies to other fields

The module is completed with:

Examination 20: an internal written examination in Module 20 “Play and Event” (Elective)

Form of examination: c) The examination is a free assignment, which is evaluated by one examiner and awarded a pass/fail grade. For the examination, students are required to produce a play-based artefact or event and hand-in a reflective report, which must not exceed 10 pages.

Evaluation: pass/fail. 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.

The examination should demonstrate that the student has fulfilled the objectives outlined above.”

(excerpts from study regulations, 2015)

Prerequisites for participation: Students are 6th semester students

The following courses are offered during the module

- **Dramaturgy and Media II (1 ECTS - 4 Lectures/workshops)**
- **Mobile Technologies (1 ECTS - 4 Lectures)**

Exam dates:	The course will be assessed by active participation. For students that do not fulfil the criteria of active participation, an assignment will be given on the basis of the content and literature of the module course.
Hand-in date:	
To:	Through Digital Exam

Course: Dramaturgy and Media II (1 ECTS)

The first part of the interventionist and actionbased assignment in Viborg will be to conduct a psychogeographical mapping of the city. Sources of inspiration is Guy Debords theories and the Spectacle of society. The mapping will serve as a point of departure for the implementation of a hands-on realization. Outcomes can be in the form of an App, or a prototype thereof, social plastics, physical interventions, change based proposals, disruptive technologies/interference etc.

Lesson 1:

Lecture: Dramaturgy and Urban Gaming.

The lecture will introduce the theme: Ludic & Lunatic Dramaturgy in the City, emotional cartography, psychogeography and urban gaming as an approach to experience design. The lecture will introduce urban gaming concepts based on an understanding of narrative, disruption, play and performative intervention. Approaching space and mobile technologies, the lecture will provide the student with a basic understanding of dramaturgy, digital mobile media and urban game perspectives.

Lecturer: Jakob Sabra

Literature:

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
Changing Metropolis III, Trevor Davies, Introduction, p 8-20 + Bodies in the City, p. 220-230, https://issuu.com/cphmetropolis/docs/changing_metropolis_iii			
Nold C. (Ed.), 2009: <i>Emotional Cartography – Technologies of the self</i> , p.3-15 (Ed.), Creative Commons, www.emotionalcartography.net			
Sheller, M. & Urry, J., 2006: <i>Mobile Technologies of the City</i> , p. 44-61, Routledge, NY			

Lesson 2:

Field Trip to Viborg: Sites of Spectacle and intervention

This workshop is comprised of a field trip to Viborg. The students will meet with culture consultant Henrik Hauritz, who on the behalf of the municipality will present cultural politics, agendas and new sites for urban and artistic, interventions and experience designs in down town Viborg.

Students transport themselves to Viborg by bus in the morning. A full program of the day will follow.

Jakob Sabra

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
Changing Metropolis III, Cultural Planning, p 20-34, https://issuu.com/cphmetropolis/docs/changing_metropolis_iii			

Lesson 3:

Field trip to Viborg: Carte Blanche - Silent spectacles

The afternoon in Viborg will be a visit to Carte Blanche theater, who specialize in small scale, "silent spectacles", interventions, scenographies and urban theatre. Students will be presented with insights to Viborg and Viborg Culture from the perspective of Carte Blanche.

Students transport themselves back to Aalborg by bus in the morning. A full program of the day will follow.

Jakob Sabra

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
Changing Metropolis III, Theories & Strategies, New Perspectives p. 42-84, https://issuu.com/cphmetropolis/docs/changing_metropolis_iii			

Lesson 4:

Lecture: Presentation of individual concepts of the Ludic -Lunatic

The course will be finalized with a presentation of concepts in plenum with invited teachers/supervisors who will give qualified feedback.

Jakob Sabra

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
Changing Metropolis III, Theories & Strategies, Radical Reflections, p 90-124, https://issuu.com/cphmetropolis/docs/changing_metropolis_iii			

Course: Mobile Technologies (1 ECTS)

The course explores mobile technologies through a practice based approach. The students will create augmented reality (AR) applications involving interactive images, video and sound. The learning goals are to acquire an evolved understanding of AR, its applications, tools & approaches. Students will further their knowledge and hands-on skills on how to construct AR projects and how to make 'invisible' data visible.

It is expected that students participate in the assignments given, which will be related to the main semester project.

Lesson 1:

Lecture: Introduction AR concepts, methods and techniques

The lecture will discuss emerging AR concepts, methods and techniques, including a look at emerging platforms such as Vuforia, Hololens and Unity. The lecture ends with workshop on geolocating/placing tags/markers and content through smartphones

Apply three or more tags/markers of your choice to an AR app of your choice

Lecturer: Ståle Stenslie

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
Kipper G., Rampolla J.(2012) Augmented Reality: An Emerging Technologies Guide to AR. Elsevier. Vuforia: https://developer.vuforia.com/ Hololens: https://developer.microsoft.com/en-us/windows/holographic/install_the_tools Unity: https://unity3d.com/ Location based AR: http://www.wikitudo.com/blog-build-pokemon-go-app/ Kipper G., Rampolla J.(2012) Augmented Reality: An Emerging Technologies Guide to AR. Elsevier. http://www.aurasma.com , www.buildar.com , https://www.layar.com/			

Lesson 2:

Lecture: Putting Reality back into the Augmented: POI's in Geotagged AR worlds

The lecture will continue discussing POI (Points of Interest) and methods and techniques for applying them in location based, geotagged AR applications with emphasis on city settings.

Sketch out an example with POI's for geotagged AR application

Ståle Stenslie

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
Morales, Carlos R. (2015) Developing Augmented Reality applications with Unity 3D and Vuforia. eAcademicBooks LLC			
https://www.layar.com/			
http://www.theguardian.com/technology/augmented-reality			
Kipper G., Rampolla J.(2012) Augmented Reality: An Emerging Technologies Guide to AR. Elsevier.			
Lackey, S. & Shumaker, R. (2016) Virtual, Augmented and Mixed Reality: 8th International Conference, VAMR 2016, Held as Part of HCI International 2016, Toronto, Canada, July 17-22, 2016. Proceedings. Springer.			

Lesson 3:

Lecture: Geotagging your AR experience

Content: The lecture will continue a hands-on approach of how to construct a geotagged AR experience. Prepare a prototype/sketch for presentation in class

Ståle Stenslie

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
Kipper G., Rampolla J.(2012) Augmented Reality: An Emerging Technologies Guide to AR. Elsevier.			
https://www.layar.com/			

Lesson 4:

Lecture: Dissemination: how to present, exhibit and promote AR projects

Once an AR application has been built, how do you present it for a wider audience? The lecture will discuss how AR projects can attract attention in real life.

Present your prototype AR application/concept to class

Ståle Stenslie

Literature:

None

Module 21 - Art & Technology Entrepreneurship (5 ECTS)

Location: ArT6

Study Board: Art & Technology

Module coordinator: Line Marie Bruun Jespersen

Module teachers are additionally:

Tem Frank Andersen, Sune Klok Gudiksen, Palle Dahlstedt, Lars Ulrich Tarp, Jakob Højgaard

NN

Method of work and language: Individual work in relation to course activities, English

Module contents:

Module contents: This module introduces entrepreneurship and marketing of art and technology products as an integrated design feature. On the basis of different theoretical positions, the module presents various marketing and strategic design methods and evaluation methods. The module entails analysis of the relationship between art and technology products, their contexts, and various marketing strategies with the view to create suitable entrepreneurial strategies for art and technology products.

Courses:

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

- **Strategic communication**
- **Art and Technology Entrepreneurship**

Learning objectives:

During this module, students should acquire:

Basic **knowledge** about

- theories on strategic communication and marketing of experience products
- methods of analysis and interpretation of well-known marketing practices in a given commercial context

Skills in

- applying methods of entrepreneurship and marketing practices in a given commercial context
- analyzing and identifying possible markets and consumer and target groups

Competencies in

- applying acquired knowledge about marketing and entrepreneurship to existing and future projects within the field of Art & Technology.
- constructing synergy between marketing, entrepreneurship and artistic artefacts.

The module is completed with:

Examination 21

An internal written examination in Module 21 “Art & Technology Entrepreneurship” (Oplevelsesteknologi og entrepreneurskab).

Form of examination: c)

The examination is a free assignment, which is evaluated by one examiner and awarded a pass/fail grade.

Number of pages: the written work must not exceed 15 pages.

Evaluation: pass/fail. In case of a Fail grade, an external 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

Exam dates:	The course will be assessed by active participation. For students that do not fulfil the criteria of active participation, an assignment will be given on the basis of the content and literature of the module course.
Hand-in date:	
To:	Through Digital Exam

Course: Strategic Communication, 1 ECTS

Lesson 1-3

Workshop: Strategic Communication

Keywords: Strategic communication, media, IT, participation, collaboration, social media, marketing, contemporary art

The purpose of this workshop is to present theoretical and practical elements enabling students to understand and work with strategic communication within the context of art, and beyond. The workshop will provide the students with knowledge, competence and the opportunity to revisit strategic communication as part of their academic professional profile.

The workshop will present different models of strategic communication based on theoretical and empirical studies. These models differ in the conceptualization of both audiences, stakeholders and users

Pedagogical organization: The workshop consists of two part. The first part focuses on strategic communication as a scholarly phenomenon with focus on media, IT and social media. The second part focuses on the concrete work with strategic communication in the context of Teater Nordkraft’s endeavour to be a key institution in Denmark for contemporary performance practice.

The workshop presents students with One-Day problems to be solved within the workshop. These One-Day problems will require the students to analyse, reflect, create input and plan for implementation/execution of strategic communication.

Venue: The workshop will be executed as a two day workshop with Teater Nordkraft as venue (Nordkraft Center, AAU City Campus).

Lecturers: Tem Frank Andersen, AAU, and Jakob Højgård Jørgensen, Teater Nordkraft

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
Andersen, Tem Frank (2017). Kreativ interaktion som ritual for innovationsprocesser. In Jens F. Jensen et al.: <i>Kunsten på innovationsarbejdet</i> . Aalborg Universitetsforlag (in press)	20		
Burgess, Jean & Joshua Green (2009). <i>YouTube. Online Video and Participatory Culture</i> . Cambridge: Polity. P. 15-37, 58-74.	40		
Felix, Reto, Philipp A. Rauschnabel & Chris Hinsch (2017). Elements of strategic social media marketing: A holistic framework. In <i>Journal of Business Research</i> 70, p. 118-126.	9		
Hallahan, Kirk Hallahan , Derina Holtzhausen, Betteke van Ruler, Dejan Verčič & Krishnamurthy Sriramesh (2007). Defining Strategic Communication, <i>International Journal of Strategic Communication</i> , 1:1, 3-35.	35		
Kietzmann, Jan H. et al. (2011). Social media? Get serious. Understanding the functional building blocks of social media. <i>Business Horizons Vol. 54</i> , 241-251.	10		

Lesson 4:

Lecture: Communcation at Kunsten

Lars Ulrich Tarp, Head of Communication, Kunsten, will show examples of how Kunsten communicate their different projects: exhibitions, events, out-reach programs, learning etc. to a broader audience through multiple media platforms. As a major art institution Kunsten are experts in communication and PR that focus on art, and Kunsten has developed several new formats of communication and outreach in relation to Kunsten-to-Go, that primarily took place while the museum was closed for renovation.

Lecturer: Lars Ulrich Tarp Hansen, head of communication, Kunsten

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
Kunsten Web-page: http://www.kunsten.dk			

Kunsten you tube channel: https://www.youtube.com/user/KunstenAalborg			
Browse Kunsten's use of Facebook and Instagram			

Course: Art and Technology Entrepreneurship, 1 ECTS

Lesson 1:

Lecture:

This lecture will introduce to entrepreneurship with a focus on entrepreneurial processes in comparison with art and design thinking and doing. We will mainly build on Saravathys investigations into entrepreneurial processes and mind sets based on research by observing highly successful entrepreneurs. During the last two hours, we will move into dialogue with a regional art/design entrepreneur on the challenges, obstacles, bumps etc. she/he has struggled with in an entrepreneurial endeavour.

Lecturer: Sune Gudiksen

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
Sarasvathy, S. D. (2009). <i>Effectuation: Elements of entrepreneurial expertise</i> . Edward Elgar Publishing. P. 45-121.	76		
Gioia, D. A., & Chittipeddi, K. (1991). Sensemaking and sensegiving in strategic change initiation. <i>Strategic management journal</i> , 12(6), 433-448.	12		x
Carsrud, A., & Brännback, M. (2011). Entrepreneurial motivations: what do we still need to know?. <i>Journal of Small Business Management</i> , 49(1), 9-26.		17	x

Lesson 2:

Lecture: Continuation of Lecture 1

Lecturer: Sune Gudiksen

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
See literature for lecture 5			

Lesson 3: titel

Lecture: A "guest lecture" by professor Palle Dahlstedt, giving a personal account of his experiences of building and sustaining a career as an artist and musician in an ever-changing world, with focus on building international networks, finding funding and renewing oneself.

Lecturer: Palle Dahlstedt

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload