

Geachte leden van de OLC,

In juli 2013 is de eerste studiereiscommissie van S.A. Proto begonnen met de organisatie van haar eerste studiereis. Voorafgaand, tijdens en na de studiereis is het de bedoeling dat de studentdeelnemers vakken volgen en onderzoek doen. Niet al de onderzoeksvakken bestaan al en daarom doen wij graag een voorstel voor de vakken ten behoeve van de deelnemende studenten. Onder deze studenten bevindt zich één master- en 22 bachelorstudenten.

De bedoeling van de onderzoeksvakken is dat deze binnen het curriculum van CreaTe studenten kunnen worden opgenomen, met als doel 10 EC van de Electives te kunnen vullen. De studenten die deelnemen hebben allen op zijn minst 90EC. Voor de deelnemende masterstudent is het de bedoeling dat de vakken als extracurriculair kunnen worden opgenomen.

Voorafgaand aan de reis moeten de vakken 'Ethics for Creative Technology' (5EC) en 'Theme Course' (5EC) gevolgd worden.

Het vak Ethics for Creative Technology (5EC, zie bijlage 1) zal ongeveer het zelfde worden gegeven als het al bestaande vak. Hetgeen dat veranderd wordt, is dat een aantal lectures zullen worden gerelateerd met het thema van de studiereis 'Explore the void' (zie bijlage 3). Op deze manier is dit vak een voorbereiding op de studiereis en de theme course.

Bij de theme course (5EC, zie bijlage 2), ook bekend als in-depth onderzoek, hebben de deelnemers de mogelijkheid om één van de negen beschikbare tracks binnen het thema te kiezen waar zij onderzoek in zullen gaan doen. Dit is een onderzoek in de relatie mens en technologie, waarbij gedrag en management een belangrijk aspect zijn. De inhoud van het vak bestaat uit het schrijven van een voorstel waarin de onderzoeksvraag wordt gepresenteerd. Vervolgens moeten de deelnemers hier een paper over schrijven en eventueel een prototype ontwikkelen om deze vervolgens aan het eind te presenteren. Bij het bezoeken van bedrijven in Amerika kunnen de studenten praktijk kennis opdoen en vragen beantwoord krijgen ten behoeve van hun onderzoek. Met behulp van supervisors worden de deelnemers begeleidt. De supervisors zullen daarbij het onderzoek beoordelen met een cijfer.

**Voorstel 1:** Theme Course wordt goedgekeurd.

De studiereis zelf valt onder het vak 'Theme Course' (5EC), waarin onderzoek wordt gedaan naar de tracks gerelateerd aan het onderzoeksthema the Information Revolution. Daarbij zullen de studenten in Nederland voorbereidend werk doen voor het verzamelen van praktijk informatie bij bedrijven in Amerika. Hierbij moet worden gedacht aan State of the Art en Related work. Ook is het belangrijk dat de studenten een vragen lijst hebben voorbereid. Deze, hoe de technologie (het thema van de reis) binnen verschillende bedrijven wordt toegepast.

Aan de bachelorstudenten willen we twee mogelijkheden bieden. Studenten die nog geen volledige Elective hebben gevuld aan EC's, kunnen maximaal 10 EC vullen aan studiereis. De studenten die hun Elective hebben gevuld, mogen de vakken als extra curriculaire opgeven.

**Voorstel 2:** Masterstudenten volgen dezelfde vakken als bachelorstudenten. Hier krijgen ze 10EC voor en voor hen zal het Explore the Information Revolution heten. Dit vak zal als extra curriculaire worden aangeboden.

Hoogachtend,

Aschwin Althoff

*Chairman Stichting ICE "International Creative Explorations"*

*Chairman project "Explore the void"*

Bijlagen:

1. Vakbeschrijving Ethics for Creative Technology
2. Vakbeschrijving Theme Course
3. Themabeschrijving The Information Revolution

## Bijlagen

### 1. Vakbeschrijving Ethics for Creative Technology (201200217, 5EC) (ter informatie)

**Course code:** 201200217

**ECTS-credits:** 5

**Teacher:** Johnny Hartz Søraker ([j.h.soraker@utwente.nl](mailto:j.h.soraker@utwente.nl))

**Literature:** Articles posted on blackboard (no textbook needed)

#### Aims

At the end of the course, the student should be able to:

1. Understand basic ethical theory, critical reasoning and professional responsibility, and on this basis be able to clarify how technologies may positively or negatively affect user behaviour and quality of life.
2. Draw inspiration from theoretical resources, and use for the design/prototype of a technological product.
3. Engage in unbiased and critical discussion of the ethical implications of technological innovation.

#### Content

The course will deal with issues related to the professional ethics of creative technology graduates, especially with regard to developing and deploying new and emergent technology to improve quality of life – in the private sphere, such as health and well-being, and in the public domain, for civic order, professional communication and for enabling innovations. The course will partly address ethical issues related to innovation and professional responsibility, including such issues as privacy, freedom of expression and intellectual property. Furthermore, we will pay extra attention to how creative technology may change user behaviour, for good and bad, and how such changes may be anticipated. Such analysis will not only be based on philosophy and ethics of technology, but also relevant research from psychology and behavioural economics. The course will consist of a mixture of lectures and seminars, upon which basis students will design a (prototype) technology while reflecting on its implications with regard to user behaviour, quality of life, and other ethical issues

**Schedule:**

Mon 3 Feb	13:45 - 17:30	HT 700A	[No lecture]
Mon 10 Feb	13:45 - 17:30	CR 3D	Central Topics in Ethics of Technology (Privacy, behavior steering, Gamification, embedded values, professional responsibility, ...)
Mon 17 Feb	13:45 - 17:30	HT 700A	Intellectual Property for Creatives Assignment: TBD
Mon 3 Mar	13:45 - 17:30	CR 3D	Designing for Discovery
Mon 10 Mar	13:45 - 17:30	HT 700A	Designing for Well-Being  <b>Assignment:</b> Design Prototype based on positive psychology
Mon 17 Mar	13:45 - 17:30	CR 3D	Student presentations (sales pitch) General Introduction to ethical theory and practical reasoning
Mon 24 Mar	13:45 - 17:30	CR 3D	Philosophy and Psychology of Creativity
Mon 31 Mar	13:45 - 17:30	HT 700A	[No lecture]

**Assignments (mandatory):**Interim Assignment

Before the class on March 10, search in the following journals and select one article that you find inspiring for a technological artifact. It is sufficient that you look at the abstracts, and you only need to write a short paragraph where you indicate how the research findings can be translated into a concrete technology. This can form the basis of your final assignment, but not necessarily.

These are the journals from which you can choose, full-text available via the UT network:

- **Journal of Happiness Studies**
- **Journal of Positive Psychology**
- **Psychological Research**

## Final Assignment

One of the objectives of this class is to learn how to get creative inspiration from theory to responsibly build a product. You are free to design any kind of creative technology in the form of a specification/blueprint for a technological artefact (web site, smartphone app, art installation, virtual entity, video, etc). The only requirement is that the project should be 1) inspired by the contents of the course and 2) in some way be beneficial to the well-being of the users and/or help solve an ethical/societal problem.

Report:

First, describe the key features of the project, and shortly describe the technological implementation (how you actually made it, or how you would have to make it). Then explain 1) what were the sources of inspiration for your project, 2) discuss how your project solves a (future) problem and/or contributes to the well-being of users, and 3) potential ethical and societal problems with your project (try to include some ethical theory in this section).

Number of words depends a little on how intricate your product and its implications are, but I assume that at least 2000 words (~4 pages) is necessary for a decent report.

## **2. Vakbeschrijving Theme Course (XXXXXXXXX, 5EC) (ter goedkeuring)**

**Course code:** XXXXXXXXX

**ECTS-credits:** 5

**Course type:** course

**Language:** English

**Is part of:** Study Trip "Explore the void"

**Contact person:** Aschwin Althoff

**Email:** a.althoff@proto.utwente.nl

**Teachers:** dr.ir. E.J. Faber ([e.j.faber@utwente.nl](mailto:e.j.faber@utwente.nl)), dr. R.B.N. Aly ([r.b.n.aly@utwente.nl](mailto:r.b.n.aly@utwente.nl)) dr. J. Zwiers ([j.zwiers@utwente.nl](mailto:j.zwiers@utwente.nl)), dr.ir. D. Hiemstra ([d.hiemstra@utwente.nl](mailto:d.hiemstra@utwente.nl)), dr. M. Poel ([m.poel@utwente.nl](mailto:m.poel@utwente.nl)), *(not confirmed yet: dr. A.H. van Reekum ([a.h.vanreekum@utwente.nl](mailto:a.h.vanreekum@utwente.nl)))*

**Semester:** second semester ( end of 2A and 2B)

**Study year:** 2013 – 2014

**Literature:** Articles posted on blackboard (no textbook needed)

### **Aims**

At the end of the course, the student should be able to:

1. View and research into the relation of human-technology inspired by behavioural and management sciences.

2. Discuss in the possible research tracks with the gathered information.
3. Write an academic report of the research
4. Present an academic report as a start for discussion.
5. Gather information from different academic sources.
6. Present their research.

## Content

Students are participants of the study trip Explore the void and will do research in the nine possible tracks who are made for this study trip. The tracks are relating to the theme “the Information Revolution”.

- Interfaces for decentral search engines (dr. ir. D. Hiemstra)
- Interfaces for automatic grading for Computer Science (dr. ir. D. Hiemstra)
- Generate a negative experience using (big) data / sensors (dr. M. Poel)
- Multiplayer artistic experience with multimodal input (dr. M. Poel)
- The visibility of things determined by Big Data (dr. R.B.N. Aly)
- The Next Big Thing: foreseeing customer wishes (dr.ir. E.J. Faber, ~~dr. A.H. van Reekum~~)
- Central Decentralization (dr.ir. E.J. Faber, ~~dr. A.H. van Reekum~~)
- Economics of the Information Revolution (dr.ir. E.J. Faber, ~~dr. A.H. van Reekum~~)
- Education reforms by the Information Revolution (dr.ir. E.J. Faber, ~~dr. A.H. van Reekum~~)

Every participant will do academic research which connects to one of the nine tracks above. On basis of the chosen track, a supervisor will be coupled to the student. This supervisor will help and coordinate the student in his or her research.

The aim of the research is to write an academic paper (like a mini-bachelorreferaat). The students start to write a research proposal, which is supported by related work and / or state of the art documentation. When the supervisor approves the research proposal, the student can start to work on the academic paper and if necessary build a prototype. The students will visit organizations in America after the approval of the research and before finishing the paper/prototype. These visits are for the students to get insight and inspiration for the subject of their research from practical experience of the companies. There will be question and answer moments at the companies. After the examination of the paper and eventually a prototype, the student will give a presentation to all the other participants, about his or her paper and results.

## Schedule:

Tue 15 Apr	19:30 – 21:00	Vrijhof / Agora	Lachen in Amerika en Europa – Prof. dr. Maarten van Rossum
Tue 6 May	19:30 – 21:00	Vrijhof / Amphitheatre	Big Data: A Big Issue – Dr. ir. Djoerd Hiemstra, Dr. Johnny Hartz Soraker

End of April	-	-	Changes in Education – ing. R.E. Wendrich
Beginning of June			Draft version of proposal finished
Middle of June			Additions and improvements for the proposal
End of June			Research proposal approved
Fri 4 July – 25 July			Studytrip in Amerika, visiting companies and q&a in Amerika for at least 80 hours.
August			Combine results of company visits and start to finish the paper and prototype
September			Finish the paper and eventually a prototype

**Participating education programs:** Creative Technology, Embedded Systems

**Examination types:** writing a research proposal, academic paper (mini-bachelorreferaat) in which the research questions are treated and presenting the paper (, prototype) and results of the research. Everything

**Contact time weekly:** 4 hours over 14 – 16 weeks. (excluding visits in America)

**Mandatory knowledge:** Ethics for Creative Technology (study trip “Explore the void” edition)

### 3. Thema studiereis Explore the void (ter informatie)

#### Information Revolution

In the past the industrial revolution led to centralization of product production.. With the rise of internet, information sharing became much easier and more popular, this contributed to new inventions and faster development of technologies. Nowadays 34% of the world population has access to the internet. Information nowadays has become often more valuable than the actual products themselves. A new revolution is taking place: the Information Revolution. For our study trip to the United States of America we want to research this information revolution. In the next four paragraphs we will enlighten the subthemes of the Creative Technology Proto Study Trip.

#### The Next Big Thing: foreseeing customer wishes

In the past decade our way of living and working has changed dramatically due to the

uprising of the internet phenomena, and the information availability bias. New types of products have been developed and new markets came into being. Customers began to be more sensitive to new innovations and the new types of products these markets have been offering. However products and markets were still responding to the wishes of customers. The next big thing is foreseeing customer wishes instead of reacting to the market demands. A few large multinationals have with great success put this new kind of product placement into practice. With their businesses booming we can only but foresee a new trend in creating markets based on customer's unforeseen needs. What methods and tools do these companies apply to foresee new markets and products?

### **Central Decentralization**

With a continuous increase in the use of internet, sharing of services, knowledge and data is becoming more and more popular. Everyone is able to share and offer their services, knowledge and data in just a matter of a few clicks all around the world. The supply of goods and information has now been decentralized. In order for the decentralization to function, a number of large players and platforms are being used. However there are only a limited number of popular sharing platforms. Hence this makes us wonder if there is a paradox in this decentralization since it is being mediated by a central cluster of companies. What are the options for companies, whether to compete on these platforms or to create a new market?

### **Economics of the Information Revolution**

With the new possibilities of sharing a seemingly unlimited amount of information on the internet, it is getting much easier for customers to reproduce or combine raw materials into products. Thereby making themselves less dependent on manufactures. 3D printers have become more accessible to customers and so have the possibilities to share or download 3D models. Thus making it obsolete for customers to visit (web)shops in order for them to buy their products. The information/data needed for creating products is tending to become more valuable and more accessible than the actual product. How can businesses react to this development to ensure stable revenues in the future? And how are the economics of countries affected by this? Moreover how will this change our perception and valuation of goods and information?

### **Education reforms by the Information Revolution**

Since a great amount and diversity of information is available to anyone who has access to the internet, certain jobs and specializations may become redundant. Furthermore it is possible to hire people with expertise from all over the world. To become a more economically interesting person to hire, you will have to make yourself stand out. In many sectors creativity will be more in demand than actual knowledge, as knowledge can now be found on the internet. On the other hand it is likely to become more important to be able to find the right information. For example: There is no need for a mechanic to know exactly how every car engine is build up as he can most likely easily find out on the web.

Knowing how to gather and where to gather the information needed for solving problems



will become more important. Stimulating creativity and uniqueness in personality and skills will get more important in the development of people. A number of job-types will disappear and a lot of new (creative) jobs will appear. How should education be reformed to prepare and accompany the youth for the information revolution?

## **Spikker - Sieverink, B. (Barbara, CES)**

---

**From:** Aschwin Althoff <a.f.j.althoff@student.utwente.nl>  
**Sent:** vrijdag 7 februari 2014 23:18  
**To:** Spikker - Sieverink, B. (Barbara, CES)  
**Cc:** aschwin@explorethevoid.nl  
**Subject:** Studiereis Creative Technology  
**Attachments:** voorstel olc - studiereis Explore the void.pdf

Geachte leden van de OLC,

In juli 2013 is de eerste studiereiscommissie van S.A. Proto begonnen met de organisatie van haar eerste studiereis. Voorafgaand, tijdens en na de studiereis is het de bedoeling dat de studentdeelnemers vakken volgen en onderzoek doen. Niet al de onderzoeksvakken bestaan al en daarom doen wij graag een voorstel voor de vakken ten behoeve van de deelnemende studenten. Onder deze studenten bevindt zich één master- en 22 bachelorstudenten.

De bedoeling van de onderzoeksvakken is dat deze binnen het curriculum van CreaTe studenten kunnen worden opgenomen, met als doel 10 EC van de Electives te kunnen vullen. De studenten die deelnemen hebben allen op zijn minst 90EC. Voor de deelnemende masterstudent is het de bedoeling dat de vakken als extracurriculair kunnen worden opgenomen.

In de bijlage vindt u het volledige voorstel en de vakomschrijvingen.

In afwachting van uw antwoord verblijf ik.

Hoogachtend,

Aschwin Althoff

Chairman Stichting ICE “International Creative Explorations”

Chairman project “Explore the void”