

Master module: Elective course - (PIE)

Programming Interactive Experience

Om kurset

uddannelse	Computer Science / Informatik
sted	Teorirum 08.2
Undervisningssprog	English
Kursus starter	14-02-2017
Kursus slutter	30-06-2017
ECTS	5 ECTS

Programming Interactive Experiences (PIE) is a course with emphasis on object-oriented programming and on technical aspects of Interactive Experiences. A main aim is to develop prototype programs that apply libraries, tools and frameworks and provide visual and interactive experiences for purposes such as story-telling, entertainment, learning, game or art. The course will be based in the Experience Lab at RUC (<http://experiencelab.ruc.dk/>) and prototypes may make use of the Experience Cylinder, which is an open framework/platform allowing display on a large 360 degree circular screen, interaction via user tracking and 3D directional sound. In addition virtual reality development will be briefly introduced and virtual reality headsets will be available as an optional platform for interactive experience development.

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The course contents will cover:

- Object-oriented programming using C# and C++,
- Object-oriented programming with Unity3D and OpenFrameworks,
- Study of and practise with techniques for tracking, rendering of different media and multimodal interaction,
- Experiments with Virtual Spaces situated in environments such as the Experience Cylinder,
- Experiments with Virtual Reality using Virtual Reality Headsets such as HTC Vive,
- Programming exercises focussing on different elements of building interactive experiences (images, sounds, graphics, 3D modelling, user tracking).

After completing the course, students will

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- Be familiar with the principles of object-oriented programming.
- Be able to design and implement interactive experiences using the available media, tracking devices and possibilities for multimodal interaction.
- Be familiar with platforms and techniques; theoretical frameworks for analysing, designing and constructing advanced digital interactive experiences.
- Be able to evaluate interactive experiences with respect with the appropriate target group.

litteratur Various handouts, articles, sample programs, online tutorials etc. will be made available. The following textbook is a very useful resource for openFrameworks and general aspects of the design and construction of interactive systems. (It is not expected that students will have the book).

Programming Interactivity (2nd edition). A designer's guide to Processing, Arduino and openFrameworks. Joshua Noble. O'Reilly.

Kursusdage Tuesdays at 13.15-17.00

20 min. individual oral exam based on a written assignment.

Eksamensform Students will work (in groups) on a project which will be submitted at the end of the course. The choice of project will be made during the first 2-3 weeks of the course after which a short synopsis will be submitted.

Submitting written assignment:

Monday at 12.00, May 1, 2017 at [Digital Eksamen](#)

Eksamenstidspunkt **Oral examination:**

From June 6 - June 13, 2017

You will be informed of details such as exact time and location later

Reksamensform 20 min. individual oral exam based on a written assignment.

reeksamenstidspunkt August 2017

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Valgkursus

STADS aktivitetskode : U40786

stamdata prøveform : Afleveringsopgave
(ut)

bedømmelse : 7-trinsskala

censur : Ekstern censur