# **Course analysis 2013**

## **DT2300 Sound in Interaction**

Autumn 2013, period 1 Roberto Bresin

# Requirements

Written assignments1.5 hpProject work and report3 hpThree laboratory sessions3 hp

# Teachers, CSC

Roberto Bresin (course responsible, course administration, lectures) Kjetil Falkenberg Hansen (lectures) Gaël Dubus (lectures) Ludvig Elblaus (lab assistant)

**Guest lecturers** 

Gerhard Eckel, Institute of Electronic Music and Acoustics, Graz Andy Hunt, University of York Ulf Olaussen, Europa Foley and Adr, Stockholm

# Teachers that have contributed to the course content

Peter Nordqvist, Forskningsinstitutet Hörselbron, Stockholm Davide Rocchesso, IUAV University, Venice

# **Student representatives**

Ferran Bertomeu Castelles, fonserbc@gmail.com Alexej Ismailov, alexeji@kth.se

# Changes from last year

This was the 3<sup>rd</sup> time that the course was given (first time in 2011). Since the positive results received during the first two editions of the course, we made only a few changes to the structure of the course. They were mainly related to the order of some of the lectures. Relative to the previous year, we succeeded to start the project work at an earlier stage in the course. Following students' suggestions from 2012 evaluation of the course, we provided more information about software and sensor platforms; since it could be the first time that a student faces Pure Data, Android, Arduino, Kinect, or other sensor systems.

Also for this year edition of the course, the labs were updated both regarding equipment and content. The computers were updated (new screens) and the motion capture system software was updated as well. For the motion capture system, we continued using 16 cameras as in 2012, since this improved the working quality in the laboratory sections 2 and 3 that are based on the motion capture system.

# **Overall analysis**

There were 12 registered students. All of them passed the course with all required assignments in October 2013. As for the past edition of the course, the overall impression from the questionnaire is that the course is rated quite high on most scales, including overall quality, level of interest of the lectures, course organization, assignments, and course literature. This indicates that it basically works with the current course disposition and content. This has been confirmed by the students' final comments in the Course evaluation (see the section "Please add any additional comments about the course" in the Course evaluation in the next pages). Students appreciated the possibility of reviewing scientific papers and of working on a final project.

## Planned changes for next year

After discussion with the two course representatives, we decided that we will schedule the preparation of the project draft at an earlier stage in the course compared to last year, in order to give students more time for working on their project. A second meeting for checking the status of the project will also be introduced. We will support this change by reorganizing the order of some of the lectures. For compensating the novelty in the use of a programming tool such as Pure Data, the laboratory sessions will be introduced by short preparatory tutorials on Pure Data to be done online at home. The laboratory sessions will be simplified in order to give more focus on the sonic part and less on the physical interaction part.

The CSC school will inaugurate a new lab that will include a new motion capture system during spring 2014. We will try to use this new lab facility if possible. We will provide at least one more layout for the assignments, in order to deal with the different structure of papers to be reviewed. The schedule of DT2300 has overlapped with that of other courses given in Period 1. We noticed that there are many courses in period 1, especially for students following the Media technology master. We have therefore decided to move DT2300 to period 3 starting from 2014/2015.

# **Course evaluation**

The course evaluation was made with a survey in Bilda as in previous years. The percentage of participants that completed the survey was not very high, 7 out of 12 registered course participants, corresponding to 58%. The results of the survey are presented in their original format in the following pages.

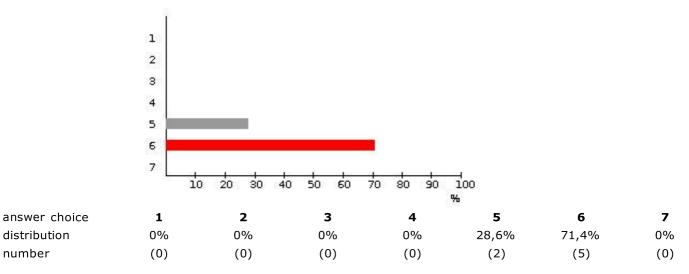
# Course evaluation results for DT2300 Sound in Interaction, HT2013

Survey:	Course evaluation
Status:	closed
Date:	2014-01-14 11:35:56
Group:	Participants (DT2300 Sound in interaction HT2013)
Answered by:	7(12) (58%)

# What is your view on the course in general?

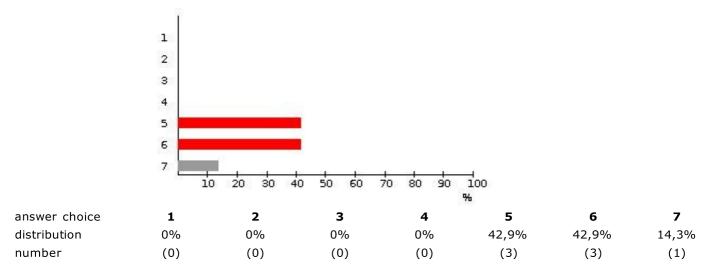
# 1=very bad/not at all, 7=very good/very much

Overall view



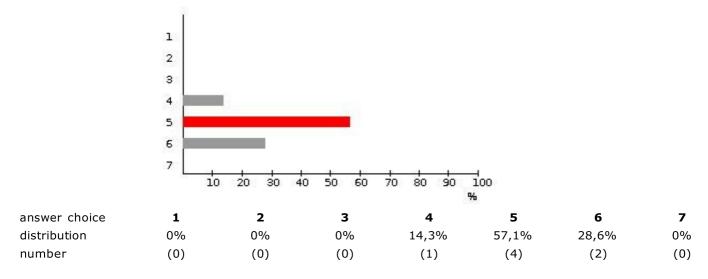
Average (for numeric-answers): 5,71

# How interesting is the course



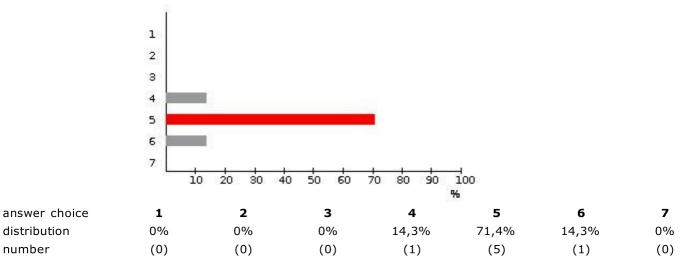
Average (for numeric-answers): 5,71

How was the disposition (lectures, labs, project, assignments etc)



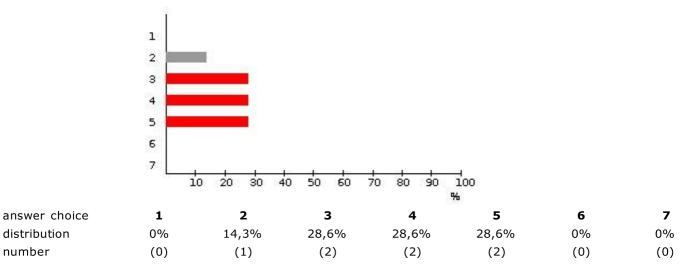
Average (for numeric-answers): 5,14

# How was the level of the course



Average (for numeric-answers): 5

# How was your knowledge level in relation to the course level



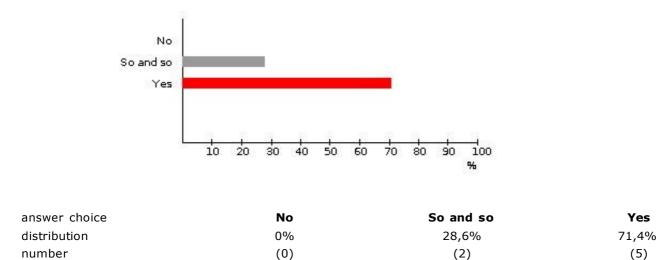
Average (for numeric-answers): 3,71 7 has answered of 12 (58%) Maximum number of choices: 1

number

## Are the goals of the course clear and relevant?

Aim: The student should after the course be able to

- critically read a scientific paper on sound and interaction, and extract useful information from it
- identify and describe the major principles for sound in interaction, including communication of information through sound, sound feedback in interaction, sonification of body movements
- identify, describe and analyze the control aspects in sound-based interactive
- applications evaluate the functioning of sound-based interactive applications
- use state-of-the-art free software tools and sensors (based on the Arduino board) for the design of new soundbased interactive applications
- propose efficient designs for new applications employing sound in interaction
- motivate, document and present the design, implementation, and evaluation of your new application.

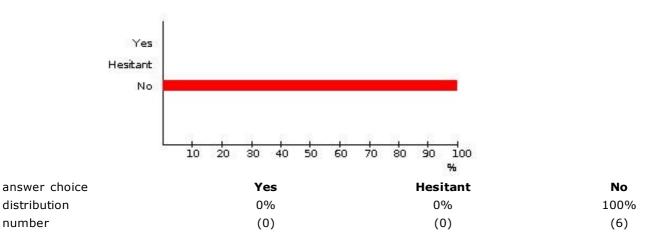


7 has answered of 12 (58%) Maximum number of choices: 1

## Comment:

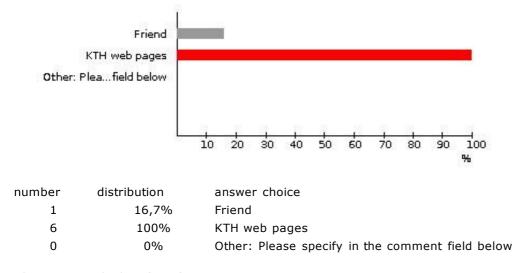
- I have gained knowledge through this that has elevated my position in courses following. I have even used some of the papers we were to read in this course, in a later course, following up on the topic at hand.
- Didn't use the Arduino board at all.

# Do you feel that you have been discriminated in this course, due to gender, sexuality, etnicity or functional impairment?



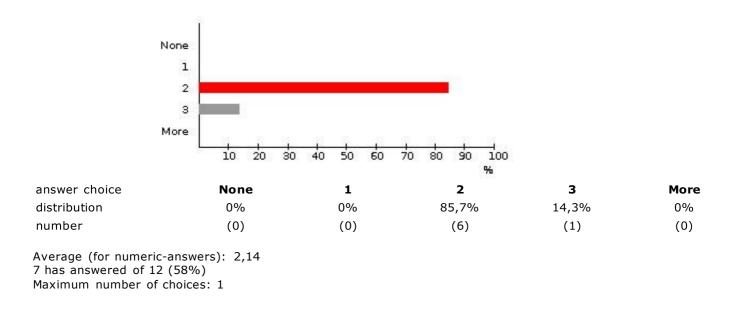
6 has answered of 12 (50%) Maximum number of choices: 1

### How did you get to know about this course?

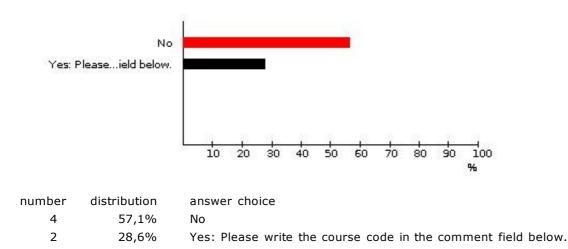


6 has answered of 12 (50%) Maximum number of choices: 3





### Did you attended courses whose schedule overlapped the DT2300 schedule?

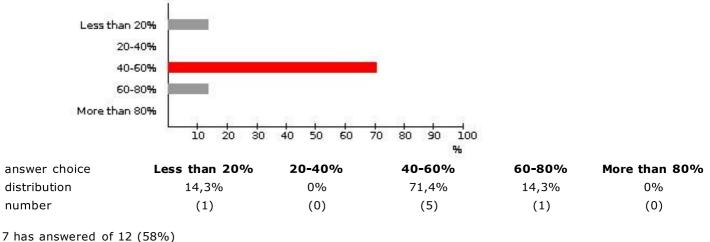


7 has answered of 12 (58%) Maximum number of choices:1

#### **Comment:**

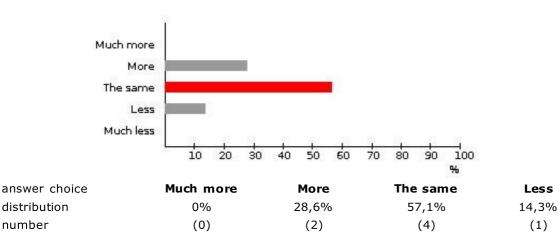
- LS1510
- I had to change the day of LS1349 to avoid overlapping with this course.
- DM2574 (Media Production)
- I gradually learned how to prioritize the lectures.
- I attended the other courses when they had mandatory moments or exercises.

### How much of your total study time did you spend on this course?



Maximum number of choices: 1

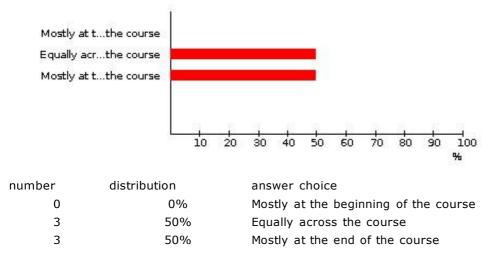
How much time do you think you spent on the assignments, compared to preparing for a traditional exam?



Much less 0% (0)

7 has answered of 12 (58%) Maximum number of choices: 1

### How was the workload distributed across the course?

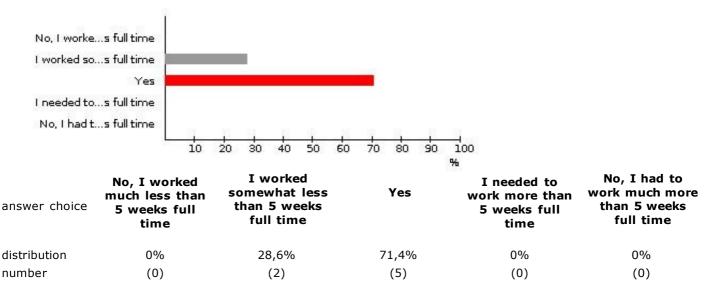


6 has answered of 12 (50%) Maximum number of choices: 1  $\,$ 

#### Comment:

- I think that the students need more time for the final project.
- The workload was very equal throughout the course. Of course the final project causes a little more stress (also because it was group work) but that's natural.
- Most work went into the project at the end, but it was not a bad thing, it was mostly that I ended up spending a lot more time on the project as we wanted it to be as good as possible.

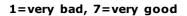
# The course is worth 7.5 ETCS. Is the required workload adapted to the credits that you get?

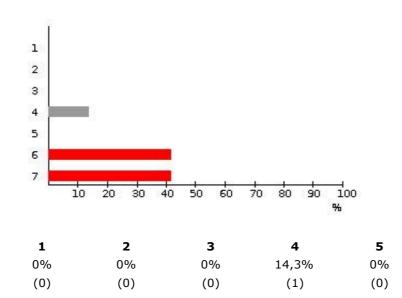


7 has answered of 12 (58%) Maximum number of choices: 1

# How did you like the lectures, the study visit, and the literature?

That the course literature was a compilation of texts instead of a book.





6742,9%42,9%(3)(3)

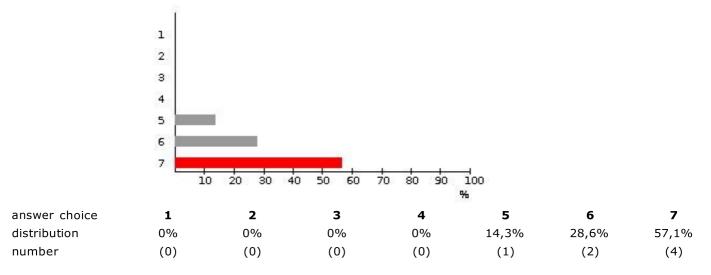
Average (for numeric-answers): 6,14

answer choice

distribution

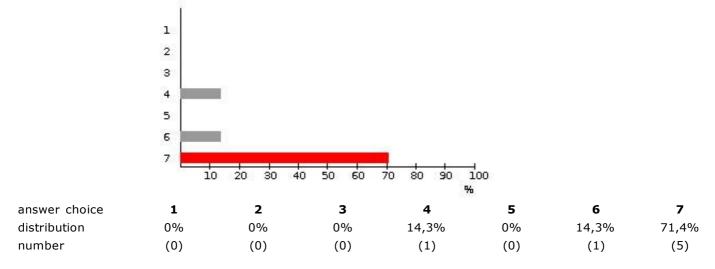
number

That there were guest lecturers, specialists in their fields.



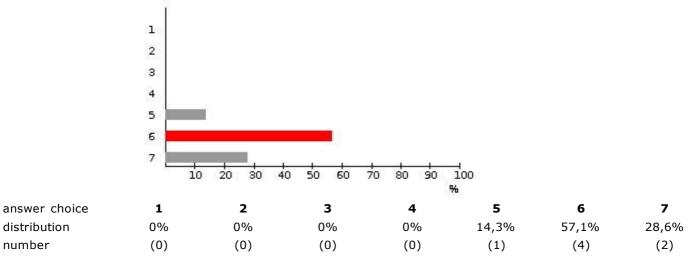
Average (for numeric-answers): 6,43

How did you find the study visit at the Europa Foley and Adr (sound effects in movies)?



Average (for numeric-answers): 6,43

Did you like getting bonus points for lecture attendance?



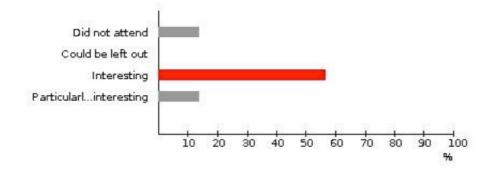
Average (for numeric-answers): 6,14

number

7 has answered of 12 (58%) Maximum number of choices: 1

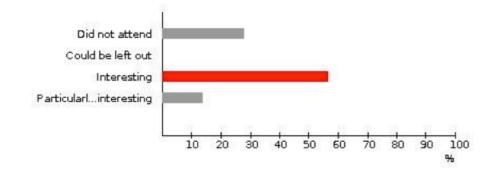
# Which lectures did you find particularly interesting? Which lectures could be left out of the course?

Lectures 1. Introduction.



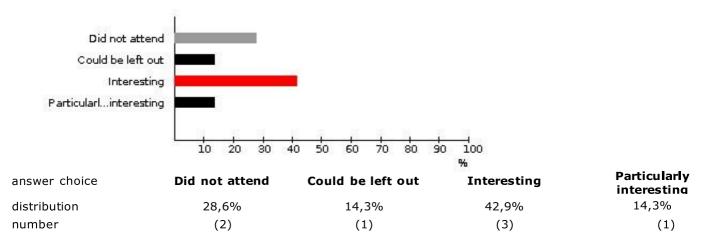
answer choice	Did not attend	Could be left out	Interesting	Particularly interesting
distribution	14,3%	0%	57,1%	14,3%
number	(1)	(0)	(4)	(1)

Lecture 2. Sound perception

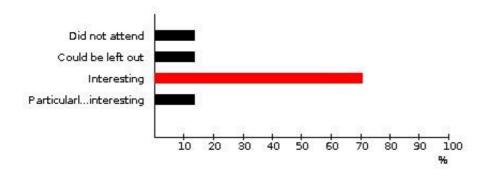


answer choice	Did not attend	Could be left out	Interesting	Particularly interesting
distribution	28,6%	0%	57,1%	14,3%
number	(2)	(0)	(4)	(1)

### Lecture 3. Sound as information carrier

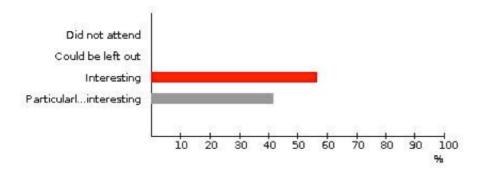


### Lecture 4. Data representation with sound: Sonification



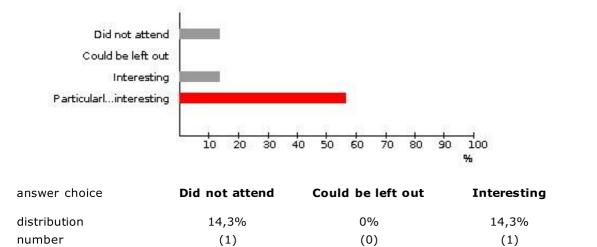
answer choice	Did not attend	Could be left out	Interesting	Particularly interesting
distribution	14,3%	14,3%	71,4%	14,3%
number	1	(1)	(5)	(1)

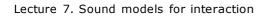
### Lecture 5. Interactive sonification

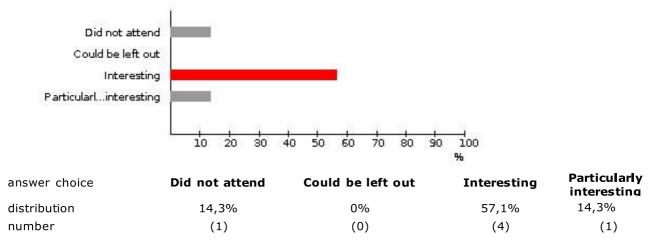


answer choice	Did not attend	Could be left out	Interesting	Particularly interesting
distribution	0%	0%	57,1%	42,9%
number	(0)	(0)	(4)	(3)

### Lecture 6. Sound and interaction in art





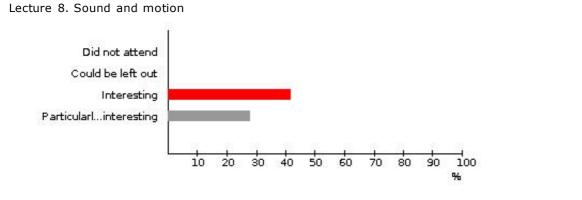


Particularly

interesting

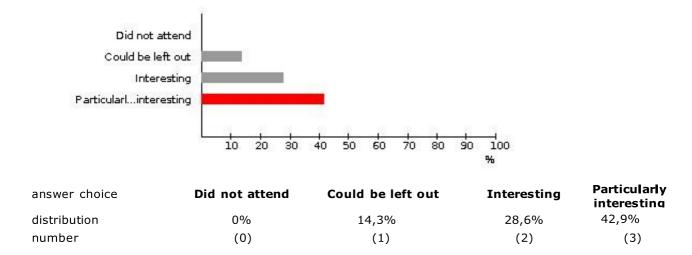
57,1%

(4)

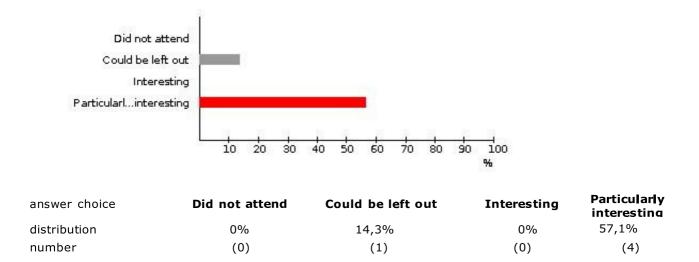


answer choice	Did not attend	Could be left out	Interesting	Particularly interesting
distribution	0%	0%	42,9%	28,6%
number	(0)	(0)	(3)	(2)

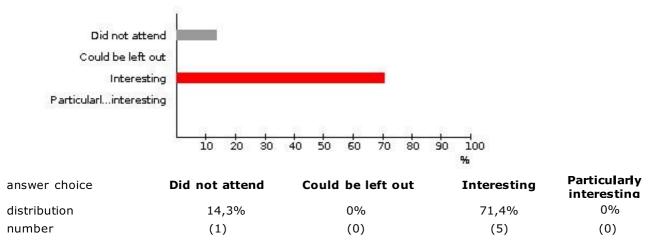
### Lecture 9. Sonic Feedback: interaction, control, design



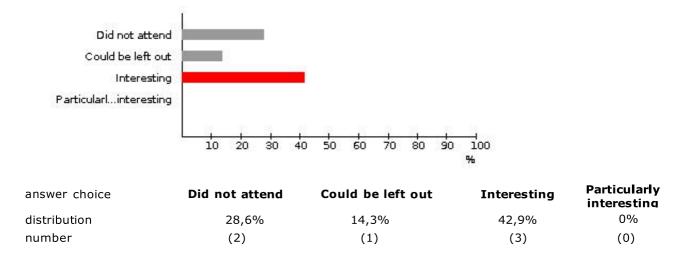
Lecture 10. Working with sounds. Sound design in films. Study visit at Europa Foley and Adr.





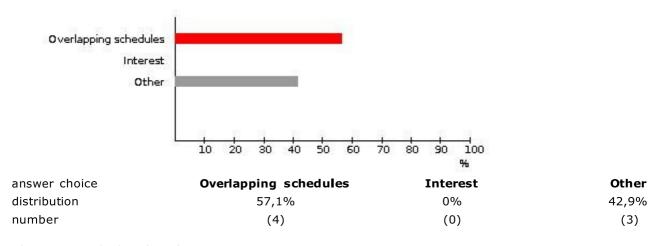


### Lecture 12. Perceptual evaluation of sound-producing objects and interfaces



7 has answered of 12 (58%) Maximum number of choices: 4

### What was the main reason for not attending a lecture?

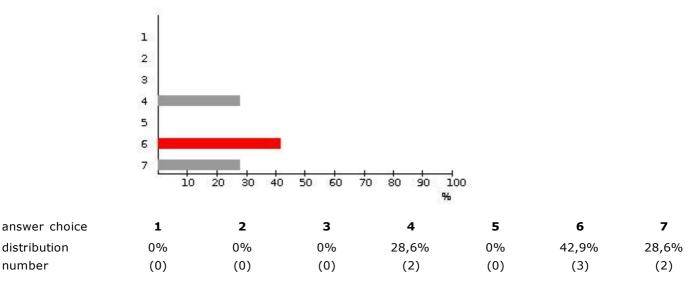


7 has answered of 12 (58%) Maximum number of choices: 3

### How did you find the lab exercises?

### 1=very bad, 7=very good

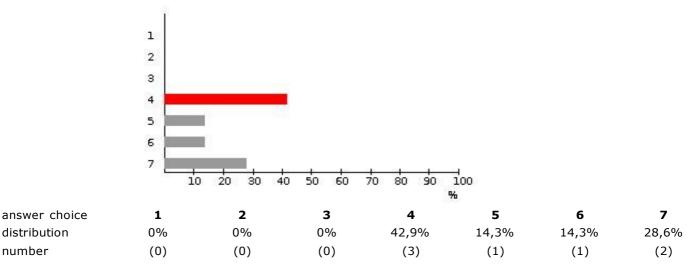
Laboratory 1: Sonification of mouse/mobile phone movements in a two-dimensional space using the Pure Data extended program.



Average (for numeric-answers): 5,71

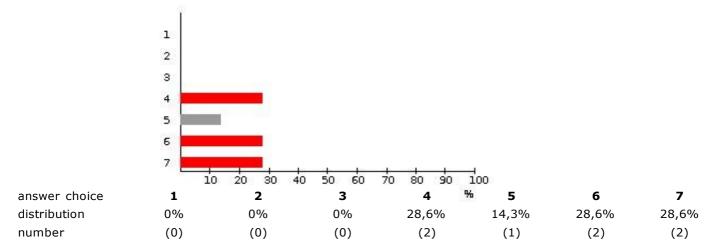
distribution number

Laboratory 2: Sonification of gestures with on cup (such as when pouring liquid, tilting, and filling the cup) using a real-time motion caption system and Pure Data.



Average (for numeric-answers): 5,29

Laboratory 3: Sonification of body movements of one and more persons in a room by using a real-time motion caption system and Pure Data.



Average (for numeric-answers): 5,57

7 has answered of 12 (58%) Maximum number of choices: 1

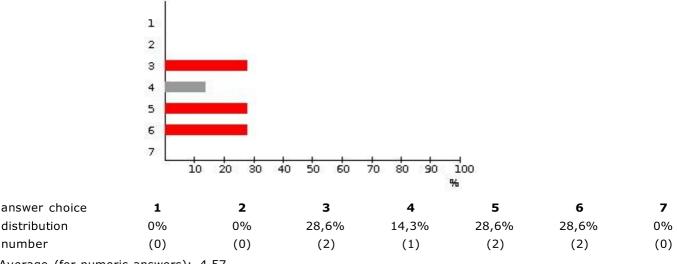
### Comment:

- I liked to much lab exercises specially the third lab.
- I'm completely new to Pd and programming in that sense, so it was hard to keep up at first. But later, after watching recommended youtube tutorials I started getting the hang of it and helpful members in the Lab-groups made all the difference. The group members were extremely helpful and patient and pushed my focus.
- The biggest drawback was how similar lab 2 and 3 was to each other and that everybody seemed to have trouble with getting the orientation to work properly while not having any problems with the detection of the motion capture 'blobs'.
- All the labs did not have really have specific grades for passing it. It felt on the last two laboratories that I only fullfilled half of the task. Also some of the labinstructions did have outdated info so there were a few times I got stuck because I did not find the file you needed.
- A proposal for next year is maybe to lower difficult on the labs final task and instead focus on giving out preparation tasks and give an 2-3 intermediate tasks. Also an introduction, or mini lecture, of what kind of mindset the lab requires of the student, in order to pass it would be good.

### Has the course helped you to develop your capability for presenting your work?

### 1=not at all, 7=very much

Oral communication



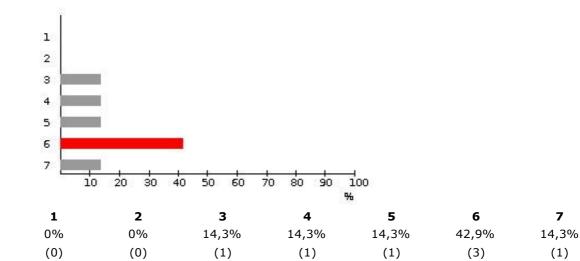
Average (for numeric-answers): 4,57

Written communication

answer choice

distribution

number

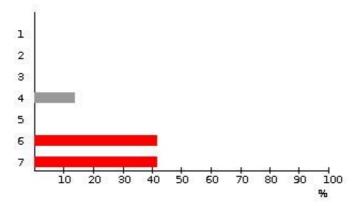


Average (for numeric-answers): 5,29 7 has answered of 12 (58%) Maximum number of choices: 1

### What is your opinion on the assignments and project work?

# 1=very bad, 7=very good

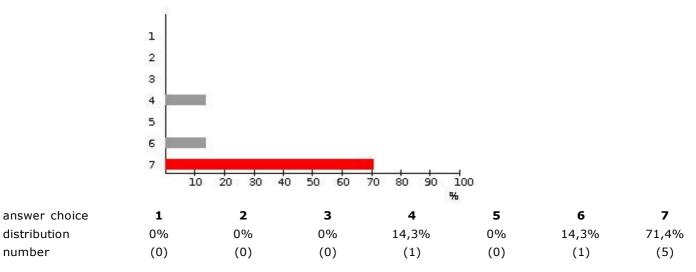
About having home assignments rather than a scheduled exam



answer choice	1	2	3	4	5	6	7
distribution	0%	0%	0%	14,3%	0%	42,9%	42,9%
number	(0)	(0)	(0)	(1)	(0)	(3)	(3)

Average (for numeric-answers): 6,14

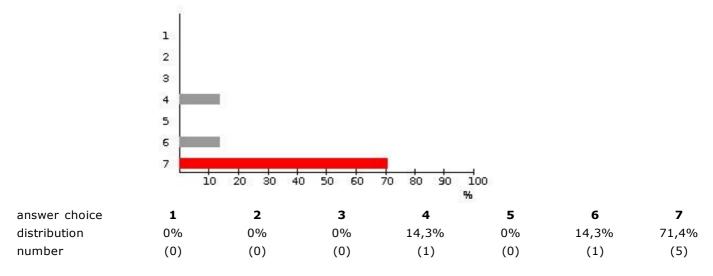
About having project work



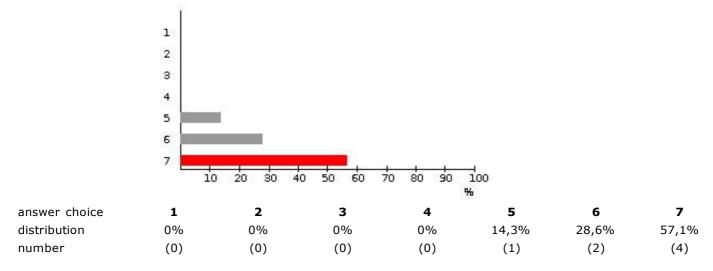
Average (for numeric-answers): 6,43

number

About having the project workshop for discussing the drafts of the project proposals

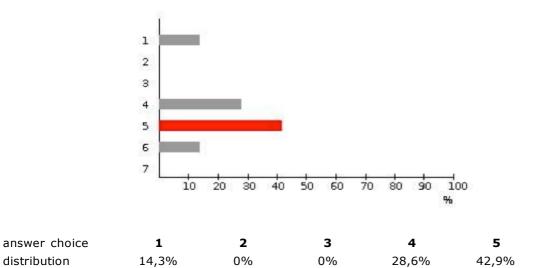


About having the final project seminar (both giving presentation and watching other presentations)



Average (for numeric-answers): 6,43

Assignment 1: Paper review (lectures 1 to 4)



(0)

Average	(for numeric-answers):	4,29

(1)

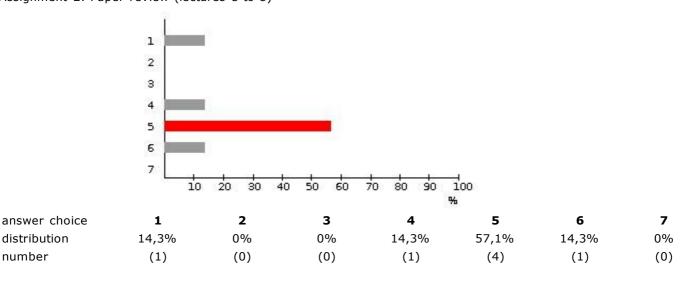
(0)

distribution

number

number

Assignment 2: Paper review (lectures 5 to 8)



(2)

(3)

6

14,3%

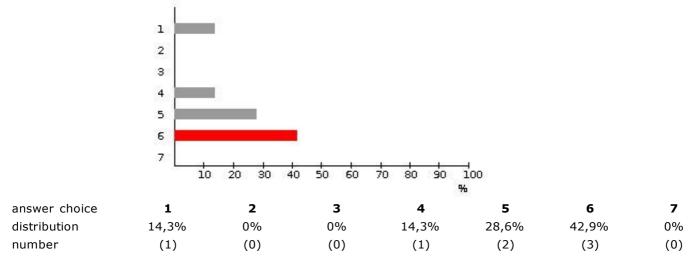
(1)

7

0%

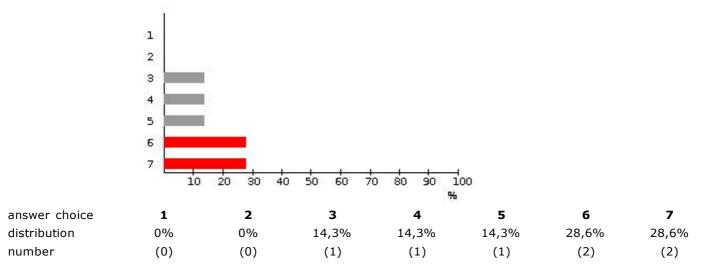
(0)

Average (for numeric-answers): 4,43



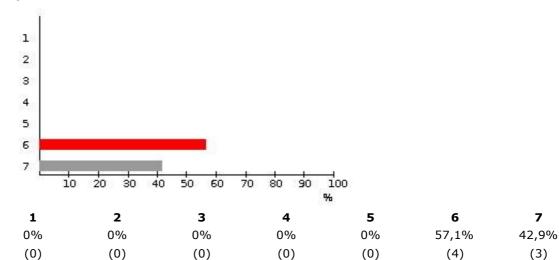
Average (for numeric-answers): 4,71

Assignment 4: Draft of the final project



Average (for numeric-answers): 5,43

Assignment 5: Final project



Average (for numeric-answers): 6,43 7 has answered of 12 (58%) Maximum number of choices: 1

### Comment:

answer choice

distribution

number

• One thing I did not like was how the articles varied in size, amount of content, quality of content and so on. It would be better if the articles chosen for the course were more similar in structure.

The layout in how you needed to write the assignment did not apply everytime to the content of the papers. . Also I felt that these assignments were somewhat a forced moment in the course. I did not learn much from it. However I think some kind of homeassignment in the form of specific task would be good. Also I believe in that homework is a better examination form than a exam.

# How do you think the course administration has worked?

### 1=very bad, 7=very well

Handing out material, handouts

	1 2 3						
	4 5						
	6 7						
	io	20 30 40	50 60 70	80 90 10 %	0		
answer choice	1	2	3	4	5	6	7
distribution	0%	0%	0%	0%	14,3%	42,9%	42,9%
number	(0)	(0)	(0)	(0)	(1)	(3)	(3)

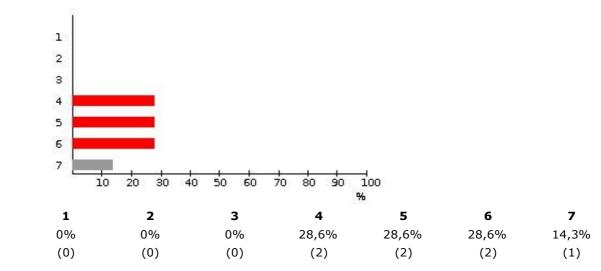
Average (for numeric-answers): 6,29

The course website

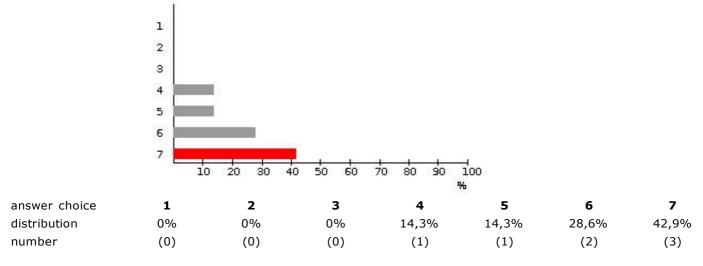
answer choice

distribution

number

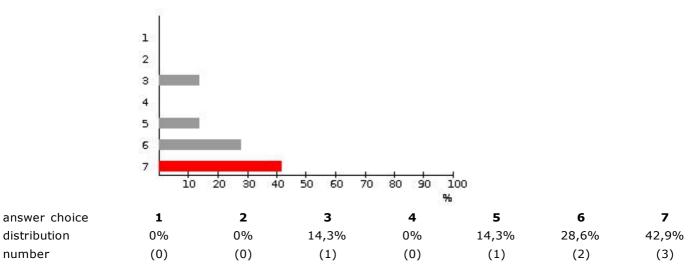


Average (for numeric-answers): 5,29



Average (for numeric-answers): 6

Email communication



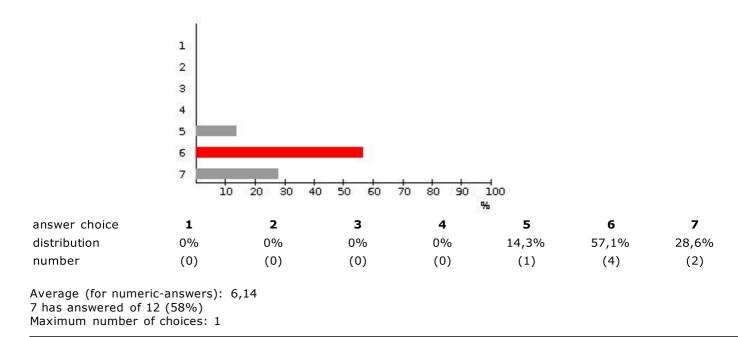
Average (for numeric-answers): 5,86 7 has answered of 12 (58%) Maximum number of choices: 1

### **Comment:**

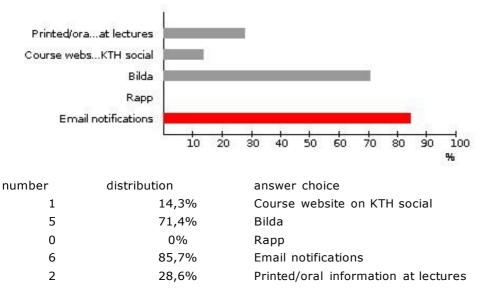
number

• A weekly reminder of when you should hand-in each assignment would be good.

# Did you get all the information you needed? 1=not at all, 7=absolutely



## Which methods for getting information do you prefer to have available (several answers possible)?



7 has answered of 12 (58%) Maximum number of choices: 5

# Please add any additional comments about the course (what needs to be changed, other things that were good or bad).

5 has answered of 12 (41%)

## Comment:

- More guest lectures would be nice, but the course was very good in general so I don't know if it needs to be changed at all.
- Overall it was a really interesting course I would recommend
- Needed: Notifications of the deadlines of the assignments.
- I found that the assignments gave me a good foundation for analyzing articles and getting myself
  acquainted with journals and research topics in the future.
- It was a good course but I feel there is definitly room for improvement, but it's a really interesting course, and I think it's gonna be very good in a few years!