

Course programme

Course code: IFI7303.DT	COURSE TITLE Physiological and Affective Computing																				
ECTS credits: 4 ECTS	Amount of contact lessons: 26	Teaching semester: Autumn	Assessment form: Exam																		
Course objectives:	The objective of the course is to enable students to use physiological and affective computing tools in various HCI applications.																				
Brief description of course content: (including the description of the independent work)	Topics to be covered in the course include (but not limited to): <ul style="list-style-type: none"> ● Physiology of emotion ● Emotions elicitation ● Measurement of emotional and cognitive states ● Properties of psychophysiological signals and basic processing ● Affective “waveform” and temporal dynamics of emotional experience ● Physiology-based interaction ● Implicit interaction ● Brain-Computer Interfaces (both active and passive) 																				
Learning outcomes:	After successfully completing the course students will be aware of the: <ul style="list-style-type: none"> - Main principles of affective and physiological computing; - Be able to apply this knowledge in design/creation of new HCI applications including digital games. 																				
Assessment Methods:	The final quotation is computed based on intermediary assignments on topics as such: <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th></th> <th>Individual assignment</th> <th>Group assignment</th> </tr> </thead> <tbody> <tr> <td>Individual project presentation (assign 1)</td> <td>15%</td> <td>-</td> </tr> <tr> <td>Assign 2.</td> <td>25%</td> <td>-</td> </tr> <tr> <td>Final project idea presentation (assign 3)</td> <td>-</td> <td>10%</td> </tr> <tr> <td>Project mid-term presentation (assign 4)</td> <td></td> <td>20%</td> </tr> <tr> <td>Final project presentation</td> <td>-</td> <td>30%</td> </tr> </tbody> </table>				Individual assignment	Group assignment	Individual project presentation (assign 1)	15%	-	Assign 2.	25%	-	Final project idea presentation (assign 3)	-	10%	Project mid-term presentation (assign 4)		20%	Final project presentation	-	30%
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Lecturer(s):	Aleksander Väljamäe, Ilkka Kosunen						
Course title in Estonian:	Füsioloogia-põhine ja affektiivne tarkvaraarendus						
Prerequisted course(s):	None						
Compulsory literature:	<p>There will be a mix of recent book chapters, conference papers and journal articles. Some core books:</p> <p>Fairclough, S., & Gilleade, K. (Eds.). (2014). Advances in physiological computing. Springer Science & Business Media.</p> <p>Cacioppo, J. T., Tassinary, L. G., & Berntson, G. (Eds.). (2007). Handbook of psychophysiology. Cambridge University Press.</p> <p>Picard, R. W., & Picard, R. (1997). Affective computing (Vol. 252). Cambridge: MIT press</p>						
Replacement literature:	<p>There will be a mix of recent book chapters, conference papers and journal articles. Please note that it is not possible to pass the course only on the base of replacement literature.</p>						
Participation and exam requirements:	<p>This course is delivered face-to-face. In order to successfully conclude this course, students are required to individually:</p> <ul style="list-style-type: none"> ● Take part in all face-to-face lectures and other activities; ● Actively engage and deliver the results of 2 individual assignments; and ● Actively engage and deliver the results of the final group project, which will be assessed both as a whole and by the individual contribution. 						
Independent work:	<p>This course relies on a significant amount of independent work (individual and in groups) between sessions.</p>						
Grading criteria scale or the minimum level necessary for passing the subject:	<p>All assignments are graded as such:</p> <p>A - 90-100% of the work is done - excellent: outstanding work with only few minor errors.</p> <p>B - 80-90% of the work is done - very good: above average work but with some minor errors.</p> <p>C - 70-80% of the work is done - good: generally good work with a</p>						

number of notable errors.
 D - 60-70% of the work is done - satisfactory: reasonable work but with significant shortcomings.
 E - 50-60% of the work is done - sufficient: passable performance meeting the minimum criteria.
 F - less than 50% of the work is done - fail: more work is required before the credit can be awarded.

Information about the course:
 (Topics by contact session, deadlines of independent works and exams/assessments times)

Activities are organized in bi-weekly modules, each focusing on specific topics, and students are requested to engage in both preparatory readings and follow up activities.

Date	Time	Topic
October 5	10:45-11:45	(L1) Intro to the course; theoretical background; lecture contents Introduction to Psychophysiology
October 19	10:15-15:45	(L2) Individual ideas presentations (assignment 1); team forming; lecture contents: Practical introduction to Physiological computing
October 20	10:15-11:45	(L3) Lecture contents: properties of psychophysiological signals and basic processing;
October 20	14:15-15:45	(L4) Brain Computer Interfaces; ind. assignment 2 (for the next week)
November 17	10:15-11:45	(L5) Presentation of the group project progress (assignment 4);
November 18	14:00-18:00	(L6) Help with the group project prototype;
December 14	18:15-19:45	(L7) Demos Internal: presentation of the group project, lessons learned etc.
December 15	10:15-15:45	(L8) demo/poster session/open house!

Teaching Unit in charge:	School of Digital Technologies
Course programme is prepared by:	Aleksander Väljamäe
Date:	28.08.2017

The course program is registered in the academic unit:

Date:	28.08.2017
Name of academic coordinator:	Kristi Oikimus