<table>
<tr><td>Subject code:
IFI7303.DT</td><td colspan="3">Subject name: Physiological and Affective Computing</td></tr>
<tr><td>Study load:
4 (EAP/ECTS)</td><td>Load of contact hours: 20</td><td>Study semester:
Fall</td><td>Assessment
Exam</td></tr>
<tr><td>Objectives:</td><td colspan="3">The objective of the course is to enable students to use physiological and affective computing tools in various HCI applications.</td></tr>
<tr><td>Course outline:</td><td colspan="3">Topics to be covered in the course include (but not limited to):
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)</td></tr>
<tr><td>Learning Outcomes:</td><td colspan="3">After successfully completing the course students will be aware of the:
Main principles of affective and physiological computing;
Be able to apply this knowledge in design/creation of new HCI applications including digital games</td></tr>
<tr><td>Assessment Methods:</td><td colspan="3">The final quotation is computed based on intermediary assignments on topics as such:<table><tr><td></td><td>Individual assignment</td><td>Group assignment</td></tr><tr><td>Individual project presentation (assign 1)</td><td>10%</td><td>-</td></tr><tr><td>Assign 2.</td><td>15%</td><td>-</td></tr><tr><td>Assign 3.</td><td>15%</td><td>-</td></tr><tr><td>Final project idea presentation (assign 4)</td><td>-</td><td>10%</td></tr><tr><td>Project mid-term presentation (assign 5)</td><td>20%</td><td>10%</td></tr><tr><td>Final project presentation (assign 6)</td><td>-</td><td>20%</td></tr><tr><td>Total</td><td>60%</td><td>40%</td></tr></table>All assignments are compulsory and will be marked as either achieved or not achieved.</td></tr>
<tr><td>Teacher(s):</td><td colspan="3">Aleksander Valjamäe, Mati Mõttus</td></tr>
<tr><td>Subject name in</td><td colspan="3">Füsioloogia-põhine ja affektiivne tarkvaraarendus</td></tr>
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<tr><td>Estonian:</td><td></td></tr>
<tr><td>Prerequisite subject(s):</td><td>-</td></tr>
<tr><td>Compulsory Literature:</td><td>There will be a mix of recent book chapters, conference papers and journal articles. Some core books:
Picard, R. W., & Picard, R. (1997). Affective computing (Vol. 252). Cambridge: MIT press.
Andreassi, J. L. (2013). Psychophysiology: Human behavior & physiological response. Psychology Press.</td></tr>
<tr><td>Replacement Literature:</td><td>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.</td></tr>
<tr><td>Participation and Exam requirements:</td><td>This course in delivered face-to-face. In order to successfully conclude this course, students are required to individually:
Take part in all face-to-face lectures and other activities;
Actively engage and deliver the results of 3 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.</td></tr>
<tr><td>Independent work:</td><td>This course relies on a significant amount of independent work (individual and in groups) between sessions.</td></tr>
<tr><td>Grading criteria scale or the minimal level necessary for passing the subject:</td><td>All assignments are graded as such:
A - 90-100% of the work is done - excellent: outstanding work with only few minor errors.
B - 80-90% of the work is done - very good: above average work but with some minor errors.
C - 70-80% of the work is done - good: generally good work with a 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.</td></tr>
<tr><td>Information about the course:</td><td>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.
<table><tr><th>Date</th><th>Time</th><th>Topic</th></tr><tr><td>October 31</td><td>18:15-19:45</td><td>(L1) Intro to the course; tools available; lecture contents: basics of implicit and physiology based</td></tr></table></td></tr>
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			interaction
	November 3	*18:15-19:45*	*(L2) Individual ideas presentations (assignment 1); team forming; lecture contents: psychophysiology of emotions*
	November 7	*18:15-19:45*	*(L3) Lecture contents: properties of psycho-physiological signals and basic processing; Demo & tutorial 1 - heart-rate and electrodermal activity + ind. assignment 2 (for the next week)*
	November 14	*18:15-19:45*	*(L4) Properties of psychophysiological signals and basic processing - follow up; Demo & tutorial 2 - an example of eye tracker + ind. assignment 3 (for the next week)*
	November 17	*18:15-19:45*	*(L5) Presentation of the group project ideas (assignment 4); Lecture contents: emotions elicitation*
	November 21	*18:15-19:45*	*(L6) Lecture contents: Measurement of emotional and cognitive states; Affective "waveform" and temporal dynamics of emotional experience*
	November 28	*18:15-19:45*	*(L7) Basics of Brain computer interfaces*
	December 1	*18:15-19:45*	*(L8) Interim*

			presentation of the project components (assignment 5), feedback on the project
	December 5	*18:15-19:45*	*(L9) Lecture contents: Brain computer interfaces - applications,*
	Detsember 12	*18:15-19:45*	*(L10) Final project presentations (assignment 6) and concluding remarks*