Syllabus: Virtual Reality and Exercise Gaming

TU Berlin Summer University 2019 Term 3

Week 1 July 22nd-26th

	22	23	24	25	26
	Monday	Tuesday	Wednesday	Thursday	Friday
9:00 - 10:30	**Welcome Day!** Room tbc, building tbc 10:30: Orientation session 12:30-13:15: Buffet lunch 13:30-15:30: First class session 15:30-16:15: Campus Tour 16:15-16:45: Coffee & Cake	Welcome session	Introduction to Unity	Setup of development environment 2	No class
11:00 - 12:30		Introduction to VR	Setup of development environment 1	Field trip to Computerspiele-museum	Cultural Program
13:30 - 15:30		Introduction to Exergaming	Cultural Program	Field trip to Computerspiele-museum	
16:00 +					

Week 2 July 29th- August 2nd

	29	30	31	1	2
	Monday	Tuesday	Wednesday	Thursday	Friday
9:00 - 10:30	Fast ideation on field trip	Prototype concept creation 1	Field trip to fitness start-up	Prototype code development 2	No class
11:00 - 12:30	Group selection	Prototype concept creation 2	Field trip to fitness start-up	Prototype code development 3	
13:30 – 15:30	Design thinking session	Prototype code development 1	Cultural Program	Preparation of presentation	
16:00 +	Cultural Program				

Week 3 August 5th- 9th

	5	6	7	8	9
	Monday	Tuesday	Wednesday	Thursday	Friday
9:00 - 10:30	Presentation of first prototype	Prototype concept creation 1	Prototype code development 2	Prototype code development 4	No class
11:00 - 12:30	Between group feedback session	Prototype concept creation 2	Prototype code development 3	Preparation of presentation	
13:30 – 15:30	Design thinking session	Prototype code development 1	Cultural Program	Preparation of presentation	
16:00 +	Cultural Program				

Week 4 August 12th-16th

	12	13	14	15	16
	Monday	Tuesday	Wednesday	Thursday	Friday
9:00 - 10:30	Presentation of pre-final prototype	Prototype code development 1	User testing 2	Final presentations 1	Conclusion session
11:00 - 12:30	Between group feedback session	Prototype code development 2	Preparation of results	Final presentations 2	Feedback session
13:30 - 15:30	Design thinking session	User testing 1	Preparation of presentation	No class	**Certificates Ceremony**
16:00 +	Cultural Program				Lichthof, 1st floor, TU Berlin main building

Key

Lecture	Field Trip or Practical	Assessment	Cultural Program activity*

*The cultural program timetable will be emailed to you shortly before your course starts. For more information about the cultural program, and for examples of previous schedules, head here: https://www.tu-berlin.de/menue/summer_university/cultural_program/

Assessment information

You will be assessed in the following ways (see yellow sessions in schedule, if applicable):

- Presentation of first prototype on 05.08.2019
- Presentation of pre-final prototype on 12.08.2019
- Final presentation on 15.08.2019

Your assessments will be weighted as follows:

- Presentation of first prototype 20 %
- Presentation of pre-final prototype 20 %
- Final presentation 60 %

Grading information

All participants of the TU Berlin Summer & Winter University are required to select their grading option at the time of registration. The two options available are (i) graded or (ii) pass/fail.

All participants who select option (i) graded, will receive a grade under the German grading system. The following table provides an overview of the grading system and equivalent scores for international credit transfers:

Total mark	German grade	English description
More or equal to 95	1,0	Excellent
More or equal to 90	1,3	Very good
More or equal to 85	1,7	Good
More or equal to 80	2,0	Good
More or equal to 75	2,3	Good
More or equal to 70	2,7	Satisfactory
More or equal to 65	3,0	Satisfactory
More or equal to 60	3,3	Satisfactory
More or equal to 55	3,7	Sufficient
More or equal to 50	4,0	Sufficient
Less than 50	5,0	Failed

Credit Points

ECTS is a point system and European standard developed by the Commission of the European Community. ECTS stands for European Credit Transfer System. The aim is to provide common procedures and guarantee academic recognition of studies abroad. The credit system is based on student workload. All lectures, seminars, excursions and homework count towards the workload. One point is awarded for the equivalent of 25-30 hours of workload.

Reading list

Here are reading materials which will be used or referred to during the course. You are not required to read these in advance – this is for your information and reference.
All sources below are available either open source, in the TU Berlin library, or will be provided to you directly by your lecturers, during the course.

To search resources available in the TU Berlin library, check here: https://www.ub.tu-berlin.de/en/searching-for-resources/

1. Steuer, J. (1992). Defining virtual reality: Dimensions determining telepresence. Journal of communication, 42(4), 73-93.

2. F. P. Brooks, "What's real about virtual reality?," in IEEE Computer Graphics and Applications, vol. 19, no. 6, pp. 16-27, Nov.-Dec. 1999. doi: 10.1109/38.799723

3. Oh, Y., & Yang, S. (2010). Defining exergames & exergaming. Proceedings of Meaningful Play, 1-17.

4. Boulos, M. N. K., & Yang, S. P. (2013). Exergames for health and fitness: the roles of GPS and geosocial apps.

5. Peng, W., Lin, J. H., & Crouse, J. (2011). Is playing exergames really exercising? A meta-analysis of energy expenditure in active video games. Cyberpsychology, Behavior, and Social Networking, 14(11), 681-688.

6. Staiano, A. E., & Calvert, S. L. (2011). Exergames for physical education courses: Physical, social, and cognitive benefits. Child development perspectives, 5(2), 93-98.

7. T. Kojić et al., "Influence of Virtual Environments and Conversations on User Engagement During Multiplayer Exergames," 2018 Tenth International Conference on Quality of Multimedia Experience (QoMEX), Cagliari, 2018, pp. 1-3. doi: 10.1109/QoMEX.2018.8463370

8. S. Schmidt et al., "Impact of Virtual Environments on Motivation and Engagement During Exergames," 2018 Tenth International Conference on Quality of Multimedia Experience (QoMEX), Cagliari, 2018, pp. 1-6. doi: 10.1109/QoMEX.2018.8463389

9. Stefan Göbel, Sandro Hardy, Viktor Wendel, Florian Mehm, Ralf Steinmetz: Serious Games for Health - Personalized Exergames. In: Proceedings ACM Multimedia 2010, p. 1663-1666, October 2010. ISBN ISBN: 978-1-60558-933-6.