Title	Innovative pixel games for a super wide LED screen				
Cluster Title PO 07 To be filed by focus managers s.u.					
Cluster Title PO 2012 To be filed by focus managers s.u.					
Cluster Title PO 2014 To be filed by focus managers s.u.	Game Development				
Date of first course event / first organizational meeting with students***/ Room**	F17/23 und F17/25	19.04.23		NN	
kind of room if not indicated above	Hörsaal		Seminarraum		Labor	x

Belegung über OBS
 27.3.- 3.4.23 14:00

Course Data							
	credit points					5 credit points	
	workload/semester					125-150 h	
	presence/week on average**					4 SWS	
	Group size according to cnw						
	Min. size					8 students	
	19.04. – 06.07.23						
				weekday of course		WED	
	frequency of course-events	weekly		bi-weekly		blocked	
	prospective timeframe**** (Block = 90 min)	Block 1 **8:30**		Block 2 10:15		Block 3 12:00	
		Block 4 **14:15**		Block 5 16:00	x	Block 6 **17:45**	x
	course language			English	x	German	
	suitable for students of course/focus			**DM**		**AG**	x
				IMD	x	**MP**	
				SMP	x	**IW (BA)**	
				OJ/WJ/OK		**KMI**	x
Content(s): (check one or more)	Design	x	Informatics / Technology	x	Economy / Business		Culture
Time frame in case of blocked event							

Course Portrait								
Lecturer(s) Name(s)	Prof. Dr.-Ing. Martin Leissler							
Lecturer(s) email	martin.leissler@h-da.de							
Contact Prof. @ fbmd								
Teaching Method	lecture		lecture + seminar	x	seminar		project	
Course Contents	This course is designed for pixel artists, game designers, and game programmers who want to create innovative games for a special LED matrix screen with an aspect ratio of 3:1 and a resolution of 384x128 pixels. Students will learn how to leverage the unique screen format to design and develop games that stand out from the crowd, using the PICO-8 fantasy console and Lua programming language (https://www.lexaloffle.com/pico-8.php). The course will begin with an exploration of the capabilities and limitations of							

the special LED matrix screen, including the challenges and opportunities presented by the 3:1 aspect ratio. Students will think about innovative game design concepts that take advantage of this unique format, such as asymmetric gameplay, wide-scrolling levels, and split-screen multiplayer.

Next, students will dive into game programming using PICO-8 fantasy console and Lua. They will learn about the PICO-8/Lua programming language and how to use it to create games that are optimized for the LED matrix screen.

Students will work on a variety of game projects throughout the course, starting with simple games and gradually increasing in complexity. They will learn how to use Lua to create custom game mechanics, implement advanced graphics and animation effects, and optimize performance.

Finally, students will apply their game design and programming skills to create a final project that showcases their unique vision for a game on the LED matrix screen. They will work in teams to design, develop, and test their games, incorporating feedback from peers and instructors throughout the process.

By the end of the course, students will have developed a range of innovative game designs that leverage the 3:1 aspect ratio of the LED matrix screen. They will have gained valuable skills in game design, programming, and collaboration that can be applied to a wide range of game development projects. They will also have a portfolio of completed games that showcase their creativity and technical proficiency.

Type of Exam	homework		work+presentation	x	paper			
Milestones if known								
			Examination					
			Examination / Presentation					
End of Elective								
Suitability	Intermediate student course							
Preconditions	Some understanding of either basic game programming, creation of pixel art, or creation of waveform-based music (chiptunes)							
Info about lecturer (especially if guest)								
Other information								

* According to our examination law, the course titles have to be matched to a given catalogue with common course titles. This title will appear in the Transcript of Record and the Bachelor Certificate. Field has to be filed by Focus Managers, all clusters can be found below
** The official presence-time is 3 SWS for the whole semester. As the elective period is condensed to 12 weeks instead of 16 weeks, the presence time for the electives is 4 SWS.
*** Courses and focal points: dm = Digital Media , oj = Online Journalismus; wj = Wissenschaftsjournalismus, blank field = please insert appropriate course. *(check as many as apply)*
**** Block 1 = 8.30 - 10.00 Uhr, Block 2 = 10.15 - 11:45 Uhr, Block 3 = 12.00 - 13.30 Uhr, Block 4 = 14.15 - 15.45 Uhr, Block 5 = 16.00 - 17.30 Uhr, Block 6 = 17.45 - 19.15 Uhr
***** In case that the course does not start in the first week 6.10.2014 there has to be a first organisational meeting to finalize the application process

Elective Start: 11.04.23
Holy days 1.5.23, 14.5.23, 28.5.23, 8.6.23
Electives End 14.07.23 (Examinations coulds be scheduled after this date if necessary)