

Elective Course Description Winter Term 2023/2024

Title	Pen & Paper AI: Creating a Game Master AI for a Smartphone				
Cluster Title PO 07 <small>To be filed by focus managers S.U.</small>					
Cluster Title PO 2012 <small>To be filed by focus managers S.U.</small>					
Cluster Title PO 2014 <small>To be filed by focus managers S.U.</small>	Game Development				
Date of first course event / first organizational meeting with students****/ Room	25.10.23 14:00-16:00	17/23	NN		
kind of room if not indicated above	online		Seminarraum		Labor
Belegung über OBS					
02.10. - 9.10.2023 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			
		weekday of course			
		WED +FR			
	frequency of course-events	weekly <input checked="" type="checkbox"/>	bi-weekly	blocked	
	prospective timeframe**** (Block = 90 min)	Block 1 8:30	Block 2 10:15	Block 3 12:00	
		Block 4 14:15 <input checked="" type="checkbox"/>	Block 5 16:00 <input checked="" type="checkbox"/>	Block 6 17:45	
	course language	English	<input checked="" type="checkbox"/>	German	
	suitable for students of course/focus	DM		AG	<input checked="" type="checkbox"/>
		IMD		MP	
		SMP		ER	<input checked="" type="checkbox"/>
		OJ/WJ/OK		KMI	<input checked="" type="checkbox"/>
Content(s): (check one or more)	Design <input type="checkbox"/>	Informatics / Technology <input checked="" type="checkbox"/>	Economy / Business <input type="checkbox"/>	Culture	
Time frame in case of blocked event	weekly WED 14:00 - 16:00 onsite weekly FR 11:00 - 12:00 online				

Course Portrait					
Lecturer(s) Name(s)	Stephan Jacob				
Lecturer(s) email	Stephan.Jacob@h-da.de				
Contact Prof. @ fbmd	Tilmann.kohlhaase@h-da.de				
Teaching Method	lecture <input type="checkbox"/>	lecture + seminar <input type="checkbox"/>	seminar <input type="checkbox"/>	project <input type="checkbox"/>	
Course Contents	In this immersive elective, students will delve into the intricate world of Dungeons and Dragons, where they will learn to create an AI that replicates the role of a Game Master on a smartphone interface. The AI will take command of a group of new players, guiding them through epic quests, ingenious puzzles, and captivating narratives, just like a human Dungeon Master would. The course is structured in such a way that we form teams for the individual tasks and meet every week, primarily to				

discuss progress. So there is a strong focus on project based learning rather than a lecture explaining the AI and App concepts.

Course Description: Step into the realm of imaginative storytelling and cutting-edge technology in a collaboration with “Ulisses”, the German publisher of Dungeons and Dragons, Warhammer and the Inventor of The Dark Eye (DSA). This course offers a unique opportunity to explore the fusion of artificial intelligence and classic tabletop role-playing games. We will get the complete lore of the role-playing games directly from the manufacturer and will try to integrate it into a large language model like GPT. One of the research questions is, which prompts have to be generated then to get meaningful output? As further goals the conversion of speech to text and text to speech are examined.

Course Objectives:

- Understand the fundamentals of Pen & Paper gameplay, rules, and lore.
- Explore the principles of AI development and natural language processing.
- Develop an AI system capable of emulating a skilled Dungeon Master's decision-making, improvisation, and storytelling abilities.
- Collaborate with Ulisses Games to integrate authentic P&P lore and elements into the AI's responses.
- Design a user-friendly smartphone interface for players to interact seamlessly with AI.

Course Highlights:

- Access to exclusive P&P lore and support from Ullises Games.
- Hands-on coding and AI development.
- Group projects that encourage teamwork and creativity.
- Different Teams for each Task: LLM Training, Text2Speech/Speech2Text, Prompt Engineering.
- Playtesting sessions to refine and enhance the AI system's performance.

Required Skills and Prerequisites: This elective is designed for students with a passion for both AI technology and Pen & Paper. Prerequisite skills and knowledge include:

- Proficiency in programming
- Familiarity with AI concepts, including machine learning and natural language processing.
- Basic understanding of Pen & paper gameplay mechanics and storytelling dynamics.
- Strong problem-solving abilities and creativity in devising AI-based solutions.
- Excellent communication skills for effective collaboration with team members and Ulisses Games representatives.

Enrollment Warning: This elective is NOT for Artists! We will NOT

