**WORKSHOP ABAROMA**

**19-20-21 march 2025**

**INITIATION TO BLENDER ANIMATION AND SCENOGRAPHY IN WEB VR/AR**

**0\_ WORKSHOP OBJECTIVE**

* Objective of the workshop : basics of 3D animation (blender) and web VR (aframe)
* **a VR round of “dancers”**
  + **3D animation from 3D models rigged**
  + **Web VR interface coding**
  + **Scenography of 3D animations integration in VR space**
* Demo project VR / AR:
* **“Teach me to dance !”**

**1\_ ORGANIZATION**

* 2 teachers / 2 groups of 15 students
* Schedule :

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|  | **19/03** | | **20/03** | | **21/03** | |
| 9h-12h | Group1 **3D Anim** | Group2 **web VR** | Group2 **3D Anim** | Group1 **web VR** | **Animation** | **Scenography** |
| **Scenography** | **Animation** |
|  |  |  |  |  |  |  |
| 13h-16h | Group1  **3D Anim** | Group2  **web VR** | Group2  **3D Anim** | Group1  **web VR** | **Scenography+Animation**  *«The Shadow Move Contest»* | |

* Prequisites :
  + List of student mail address to open a drive to share files
  + Network : Internet access (wifi) to access files

**Web VR**

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| **student skills** | **hardware / software / network** |
| * basics knowledges in code editing * basics knowledges in HTML/CSS | * Hardware : 15+1PC + 1 videoprojector * Software : * VS Code * Internet brower (Firefox, Google) |

**Blender Animation**

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| **student skills** | **hardware / software / network** |
|  | * Blender v4.3 |

**2\_ SHORT PRESENTATION OF THE SCHOOL AND DEPARTMENT**

* ENSAAMA (public school, 900 students, diplomas Licence/Master, erasmus partnership)
  + <https://ensaama.net/site/>
  + <https://ensaama.net/site/home/formations/dnmade/numerique-expriences-narratives-et-interactives>
  + <https://ensaama.net/site/home/formations/dsaa/design-numerique>
  + <https://ensaama.net/site/home/international/genralit-s>
  + <https://ensaama.net/site/home/international/incoming-students>
* Positioning the Numeric Department

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| **Difference between Digital and Numeric Design : the paradigms of the Numeric Department**   * The premise is that **our reality today is as much a physical world as a numeric one** * Numeric is considered as a **medium** and not a (digital ) media, informational material to be shaped into representations.   + That’s why prefer “**Numeric Design**” as “Digital Design”, even if it is not good English * The position is delicate in a reality in which most digital technologies are used for the benefit of economic liberalism, population control, in commercials, security and military applications. * The students' projects are designed **to denounce these** **negative virtualities**, and even more so to **highlight the positive virtualities** of the informational medium. This leads to **constant critical questioning** of the definition and nature of new technologies, as well as the positioning of the Department. * The approach is therefore **more artistic, experimental and critical than design** (as applied to industry). * We borrow from design the notion of the user scenario, but we're closer to the arts and crafts, firstly because **creativity comes from the material and the techniques for shaping it**, and secondly because **we produce the artwork** (and not images of what the project should be).An heavy technical training is a prerequisite for the design of digital representations. * Representations based on 3 types of images:  1. **captured images** (photo, video, 3D scan, etc.) 2. **created images** (3D modeling, rig, animation), 3. **calculated images** (generative design, interactivity).  * The training program is based on **3 strong technological poles** (using mostly free softwares except Adobe when it doesn’t exist better alternatives)  1. **technologies of static and moving images** (retouching, post-production, …) 2. **3D technologies** (modeling, rig, animation with Blender and scan3D and 3D printing) 3. **programming** (generative design, AR-VR, interactivity)  * It's exciting and exhausting too, because it's all happening so fast. The issue of AI is a new big topic ! |

**3\_ SUMMARY**

* **Web VR/AR (aframe)**

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| **DAY 1 & 2**  **Part 0 : semantics and technical reminders**   * 0\_Semantics : * 0\_VR technical solutions : * 0\_HTML reminders   **Part 1 : js libraries for web VR/AR**   * 1\_aframe library * 2\_3D models in a VR scene * 3\_3D animations a VR scene   **Part 2 : files workflow for web sharing**   * 4\_VR workflow : aframe to VR Headset * 5\_ on line testing * - 6\_3D animations a AR scene | **DAY 3**  **Part 3 : and more (if possible)**   * 7\_aframe complements   **Part 4 : final VR/AR experiences**   * 8\_Scenography of animated dancers in a VR scene * 9\_ Real-time performance :  **“SHADOW MOVE CONTEST”** |

* **3D animation (blender)**
* **Scenography + Animation :** *«The Shadow Move Contest»*
  + Performance
  + Captation