Project Requirements

Interactive Graphics Course

Prof. Marco Schaerf
Dept. of Computer, Systems and Management Science (DIAG)
Sapienza University of Rome
marco.schaerf@uniroma1.it

Passing the exam

- Two ways to pass the exam

1. Homeworks (deadlines during the course) + Project (deadlines after the end of course, latest in September)
2. Oral Exam

- Oral examinations will take place at fixed dates (see InfoStud). Please register on InfoStud before coming.

Project requirements 1/2

- You choose the theme
- Can be done in groups of 1 to 4 person
- You can use «basic» WebGL or advanced libraries, such as ThreeJS (http://threejs.org/) or Babylon (http://babylonjs.com/) or others (in this case I must approve them)
- You can use models created with a modeler or found on-line. YOU CANNOT IMPORT ANIMATIONS

Project requirements 2/2

- The project MUST include:
  - Hierarchical models
    - At least one and more complex of the model used in homework2
  - Lights and Textures
    - At least one light, textures of different kinds (color, normal, specular, …)
  - User interaction
    - Depends on your theme, as an example: turn on/off lights, change viewpoint, configure colors, change difficulty, ….
  - Animations
    - Most objects should be animated, in particular the hierarchical models should perfomr animations that exploit theis structure. ANIMATIONS CANNOT BE IMPORTED, should be implemented by you in javascript (WebGL, ThreeJS or other approved library)

Library for smooth animations

- For smooth animations I suggest using tween.js https://github.com/tweenjs/tween.js/
- See here the documentation: https://github.com/tweenjs/tween.js/blob/master/docs/user_guide.md
- It includes Easing functions to accommodate for different interpolation functions

Physics-based animations

- You can include a physics engine in your project. Allowed libraries include:
  - PhysiJS https://chandlerprall.github.io/Physijs/ a plugin for ThreeJS
  - Oimo https://github.com/lo-th/Oimo.js/
  - Ammo https://github.com/kripken/ammo.js/
  - Many others are available and might be allowed, ask confirmation before starting your project with other libraries

Project steps

1. Come up with an idea for a possible project
2. Activate your GitHub Classroom repository at his URL https://classroom.github.com/g/IFpN06Q7 register all the team members and create there your project. This repository should contain ALL the source code (including the used libraries) plus the documentation
3. Work on the project, before the deadline please activate GitHub Pages in the main directory and check that your project is executable on GitHub. Put the link in the README file.
4. Register in Infostud in the correct session and send me email (before the deadline) that you completed the project and it can be evaluated

Project presentation

- The accompanying document should be both a technical presentation and a user manual and contain:
  - Description of the environment used (basic WebGL or other)
  - List of all the libraries, tools and models used in the project but not developed by the team
  - Description of all the technical aspects of the project
  - Description of the implemented interactions
  - The length is up to you, at least 5-10 pages

Deadlines

- The project MUST be completed in one of the three deadlines:
  - June 28th 11.59pm
  - July 26th 11.59pm
  - September 27th 11.59pm
- When a deadline arrives all completed projects will be marked.
- Late submissions will NOT be allowed, the repositories will close on the last deadline