Mandatory Assignment 2

Due ?

1 Practical Information

This assignment is the exam in Computer Graphics and Virtual Environments ITF21215. It is the only source for setting the grade. It is allowed to work in groups of up to three people, but the individual workloads must be documented.

The project delivery should contain the following. The exam office requires two copies. This list specifies the content of each copy.

- A printed and bound report documenting the project.

- A copy of all the source code and the resources needed to run the project.

- A digital copy of the report.

- A documentation of the individual workload.

The report must provide an overview of the application, and a detailed and thorough description of all computer graphics related aspects. The report must also provide a review of the relevant theory, where applicable.

The code must be accompanied by a description of how to build and run. Java projects should be compilable and runnable from the command line (or using Eclipse). C/C++ projects must provide Visual Studio project files. No code modification should be required by the examiner in either case.

Each individual student should keep a work diary, which will provide the workload documentation. Every student is expected to spend between 10 and 15 hours on the project each week. The diaries should be read and attested by all the members of the group.

The groups are required to participate in a weekly meeting with the lecturer. The time for the meeting will be decided when the groups are registered.

2 Project Description

The student is free to choose whatever computer graphics related topic they want, but any desired topic must be verified with the lecturer. The topic must be chosen before the first group meeting.

The following sections provide a list of possible topics for the project.

2.1 Rendering with OpenGL

There student can choose to implement and document a number of available computer graphics techniques.

- Volumetric shadows
- Water refractions/reflections
- Skeletal animation
- Landscape rendering
- Volumetric clouds
- Triangulation
- Environmental effects
- User interfaces
- VR
- ...

2.2 Game Engine Project

The student can also choose to create something using an existing game engine.

- A game
- A serious game or simulation
- VR/AR application/simulation
- ...

2.3   Non-Graphical Topics with Computer Graphics

The student can also choose to work with a topic other than computer graphics, and use computer graphics to illustrate or demonstrate the concepts.

- Physics

- Big data

- Finance

- ...