



# AVT - Team 12 Project Proposal

Our project concept will be based on checkers, which is a strategy board game where two players play against each other, involving diagonal moves of uniform game pieces and mandatory captures by jumping over the opponent's pieces.



With this concept in mind, we can divide our project into various parts, namely generating the scene and geometry needed to represent the board itself and the pieces, as well as applying the materials to make it look more realistic. Lightning will also be a challenge to this project, as well as picking and moving the pieces with the mouse.

## Technical Challenges:

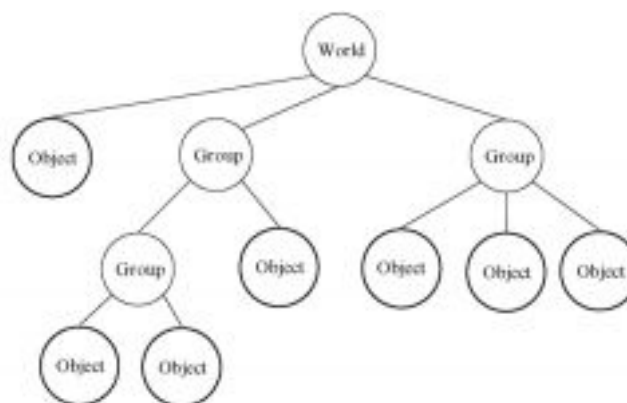
- A realistic or stylised solid material for the objects of your scene (wood) **(1.0)**  
(Nuno Laranjo – 90760)



- Picking and manipulating objects with mouse and keyboard **(1.0)**  
(Marc Jelkic – 84741)



- Generic scene graph handling hierarchical drawing (e.g. matrices, shaders, textures) **(1.5)**  
(Pedro Leitão – 90764)



- Shader based special effects, e.g. bump, normal or displacement mapping **(1.0)**  
(Nuno Laranjo – 90760)



- Saving a snapshot of the application to a known image file format **(0.5)**  
(Guilherme Monteiro – 90724)
- A non-physically based "photorealistic" lighting / shading model **(0.5)**  
(Pedro Leitão – 90764)



- Scene post processing through render targets, e.g. using multiple image filters **(1.5)**  
(Guilherme Monteiro – 90724)

- Buffer based special effects such as reflections or shadows **(1.0)**  
(Marc Jelkic – 84741)



### Weekly Development Plan:

30 Nov - 6 Dec - 1 challenge

7 Dec - 11 Dec - 1 challenge

14 Dec- 18 Dec - 1 challenge

18 Dec - 8 Jan - 2 challenges

11 Jan - 15 Jan - 2 challenges

18 Jan - 19 Jan - 1 challenge