Crane

Gruppo 02 - Di Bello Luca, Dell’Oca Mattia, Nolli Manuele

Link registrazione presentazione:
https://filesender.switch.ch/filesender2/?s=download&token=351d7b7c-a657-4218-b1aa-99d4ce16f38f

Motivazione e contesto

- Sviluppo applicazione C++ (Windows, Linux)
- Metodologia SCRUM
- Simulazione real-time (>24 FPS)
- OpenGL w/ FreeGLUT
- Unit testing

Problema

- Interazione con gli oggetti
- Controllo della gru (braccio, carrello, gancio)
- Separazione in più progetti
- Disponibile per Linux e Windows

Approccio al problema

- **3D graphics engine**: libreria dinamica o statica, API high-level, OpenGL
- **Crane client**: usa le API, carica il modello 3D, logica utente
- **3D graphics engine test**: unit test dell’engine

Approccio al problema
Dipendenze

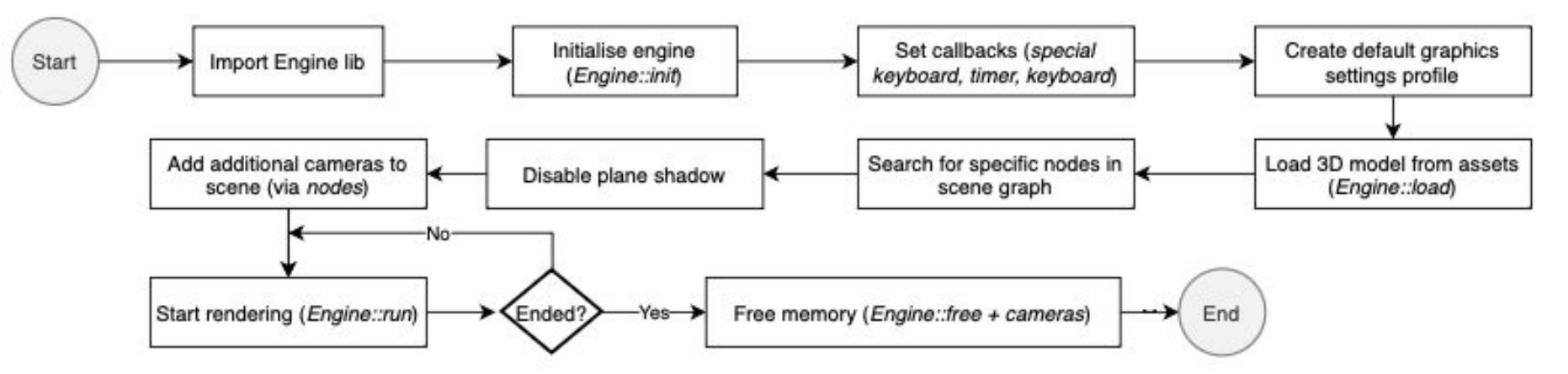
Libraries

1. FreeGLUT (*Free OpenGL Utility Toolkit*)
    - Alternativa a GLUT, gestione finestre e input
2. GLM (*OpenGL Mathematics*)
    - Libreria di matematica per CG
3. FreeImage
    - Elaborazione immagini di diversi formati.
4. Google Test
    - framework di Google per test

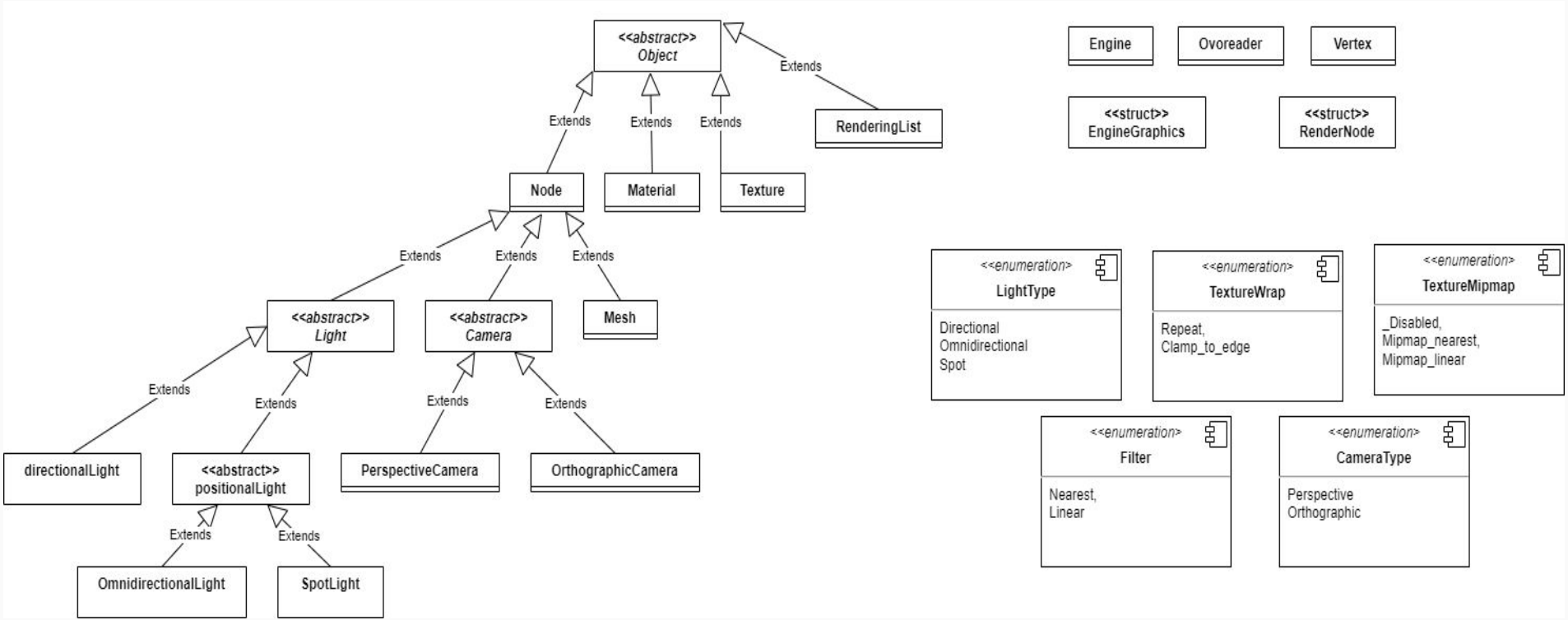
Tools

- Doxygen

Approccio al problema
Utilizzo Engine in Crane



UML Diagram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Extends
RenderingList
Node
Material
Texture
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Light
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Camera
Mesh
directionalLight
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positionalLight
PerspectiveCamera
OrthographicCamera
OmnidirectionalLight
SpotLight
Engine
Ovoreader
Vertex
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LightType
Directional
Omnidirectional
Spot
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Filter
Nearest,
Linear
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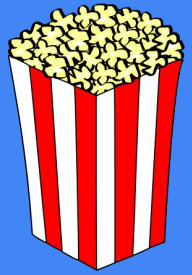
CameraType
Perspective
Orthographic



Demo

Conclusioni

- Requisiti soddisfatti
- Engine generico e riutilizzabile
- Documentazione doxygen
- Framework per test

Grazie!

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