EUROPEAN INFORMATION TECHNOLOGIES CERTIFICATION INSTITUTE, ASBL.

Brussels, Belgium, European Union

CERTIFICATE

Mateusz Pytel

Has successfully completed test requirements of
The European Information Technologies Certification Programme

EITC/CG/CGVF Computer graphics and visualization fundamentals

Certification Programme examination result: 91%

Certification Programme description:

Introduction to computer graphics (genesis and history of computer graphics, applications, hardware), raster and vector graphics, human-computer interaction, graphic standards; Light and colour: basic concepts and definitions (colourimetry, vision, perception), eye structure and properties of vision, theory of colour vision and perception, colour models (CIE XYZI, CIE Lab, RGB, CMK and CMYK, HLS and HSV), colour reproduction, compatibility problems - pitch distortion; Raster operations - basic: drawing a circle segment and arc, filling the area (by consistency, by parity), clipping algorithms, computational geometry elements (alpha function, points orientation on a plane, points in polygon problem), geometric transformations in computer graphics (2D transformations, matrix representation of transformations, normalized homogeneous coordinates, basic types of transformations (reflection symmetry, skewing, scaling, translation, rotation), transformations in 3D space, compositions of transformations, problem of numerical calculations accuracy, quaternions; 3D space representation in 2D space: projection onto a plane (projection types, projection properties, coordinate system in projection), parallel and perspective projection as matrix operations, projection and vision (cone of vision, projection parameters, perspective conversion, projection and photography, virtual camera)

Certificate Programme version/revision: EITC/CG/CGVFv1r1

CERTIFICATE ID: **EITC/CG/CGVF/MDL/10372430**

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