

ABSTRACT

Lighting is required from any 3D software user to make the modelled scene visible but is hard because of the multitude of controls available and the possible absence of goal and guidance: searching within an opened space with no scale reference is infinite.

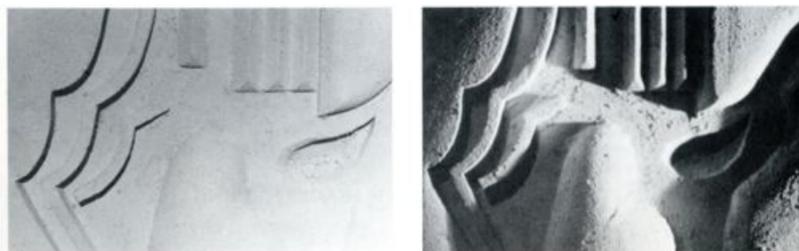
In contrast stage lighting happens in a constrained environment with design goals leading the creative process. Thus, we use examples of stage lighting practices to structure our learning of 3D software lighting, focusing on the placement and the direction of the light.

STAGE LIGHTING DESIGN



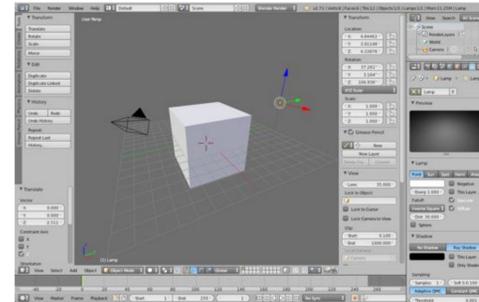
Light has the power to deny, alter, or accentuate line.

A low relief surface changes appearance as the light direction changes. Front lighting emphasizes its two-dimensional form: lines enclose space as outline. Directional side lighting accentuates its depth: contour lines (curves joining points at equal height) are revealed.



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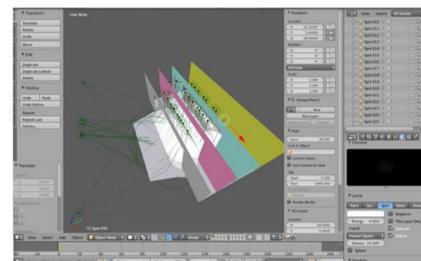
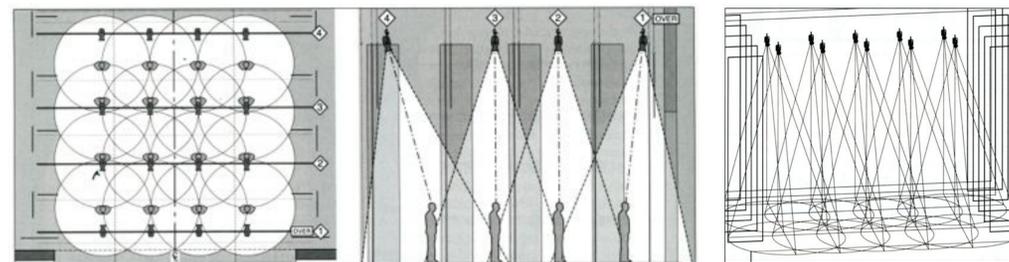
BLENDER LIGHTING INTERFACE



- Many types of lights.
- Hard to control: many parameters & infinite space to explore.

SET REPLICA

A 3D model, replica of an actual theatre stage, realistically constrains lights to specific locations around the stage while taking into account the audience sight lines. Following stage lighting practice we produce an arrangement of lighting rigs that creates a general cover of the stage floor. Dividing the stage in uniformly lit areas is a simple procedure.



PLACEMENT COMPUTATIONS

Actors faces are important. We explore the light angles that produce a balance between visibility, sculptural modeling, shadow and selectivity of an actor's face.



FUTURE WORK

The poster shows by illustration the results of three studies. Systematic imitation of the practices of stage lighting is promising for isolating and understanding the important parameters to control lighting, which is necessary to improve lighting in computer graphics.

Our long term goals are

- to figure which component(s) of lighting could be modelled or computed in 2D and
- to determine a flexible and expressive approach to lighting.

