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## **Preliminary Speech Outline**

### **Bump Mapping**

- Intro to Bump Mapping*
- Different Bump Mapping Techniques*
- Normal Mapping*
- Displacement Mapping*
- Relief Mapping*
- In-Depth Information on the Applications of Bump Mapping*

### *Intro to Bump Mapping*

Bump mapping is a technique used in 3D computer modeling to give objects the illusion of depth by altering their appearance [1], [2]. A number of different techniques exist for creating bump maps, including normal mapping, displacement mapping, and relief mapping. These techniques will be described later in greater detail.

Bump mapping typically works by modifying the normal angle of a surface, thus affecting how it is shaded. What this means is that the light which is hitting the surface is made to reflect in a way in which it appears as though the object has a more uneven or complex shape than it actually has [2]. This proves to often be much less intensive for computers to render than a highly detailed model.