Environment Mapping

In practice

• Shiny spheres
  Gene Miller

• Interface
  (L. Williams 1985)

• Terminator 2 (1991)

Story of Reflection Mapping

Paul Debevic’s Story of Reflection Mapping

http://www.pauldebevec.com/ReflectionMapping/
Spherical Environment Maps

**Pros:**
- Single texture (no “if’s”)
- Triangles don’t span texture boundaries
  - Per-vertex computation!

**Cons:**
- Bad sampling
- Only works for single viewpoint / view direction

Sphere Mapping Demos

Parabolic Environment Maps
**Nayar ‘97**

**Cube Environment Maps**
- Per-fragment
- Supported in HW
- No warp (perspective maps)

**Nvidia Cube Mapping**
Paul Debevec

- St. Cross
- Panorama stitching
- Cube projection