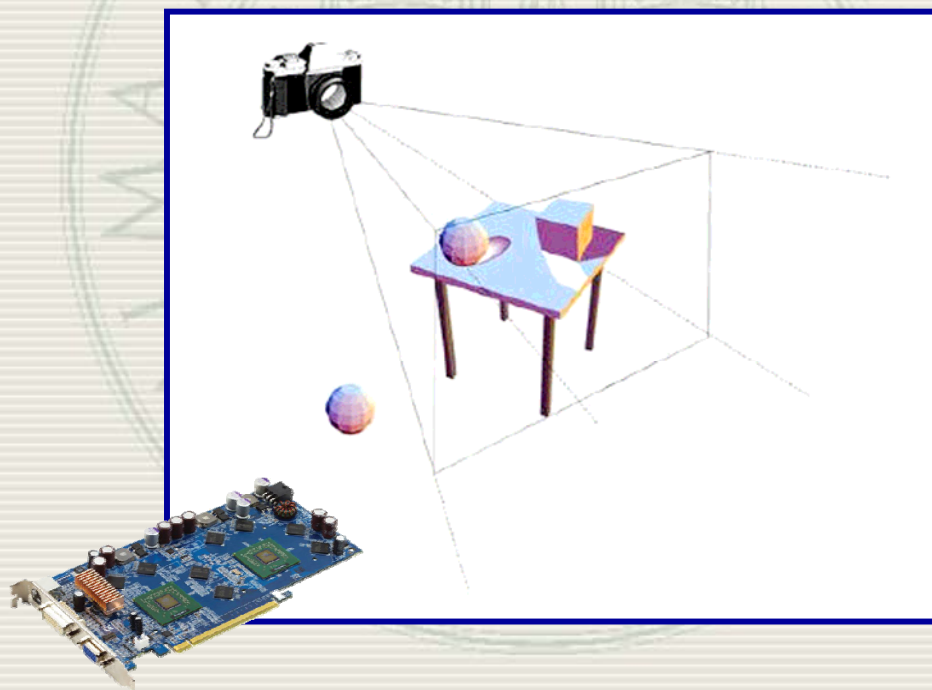
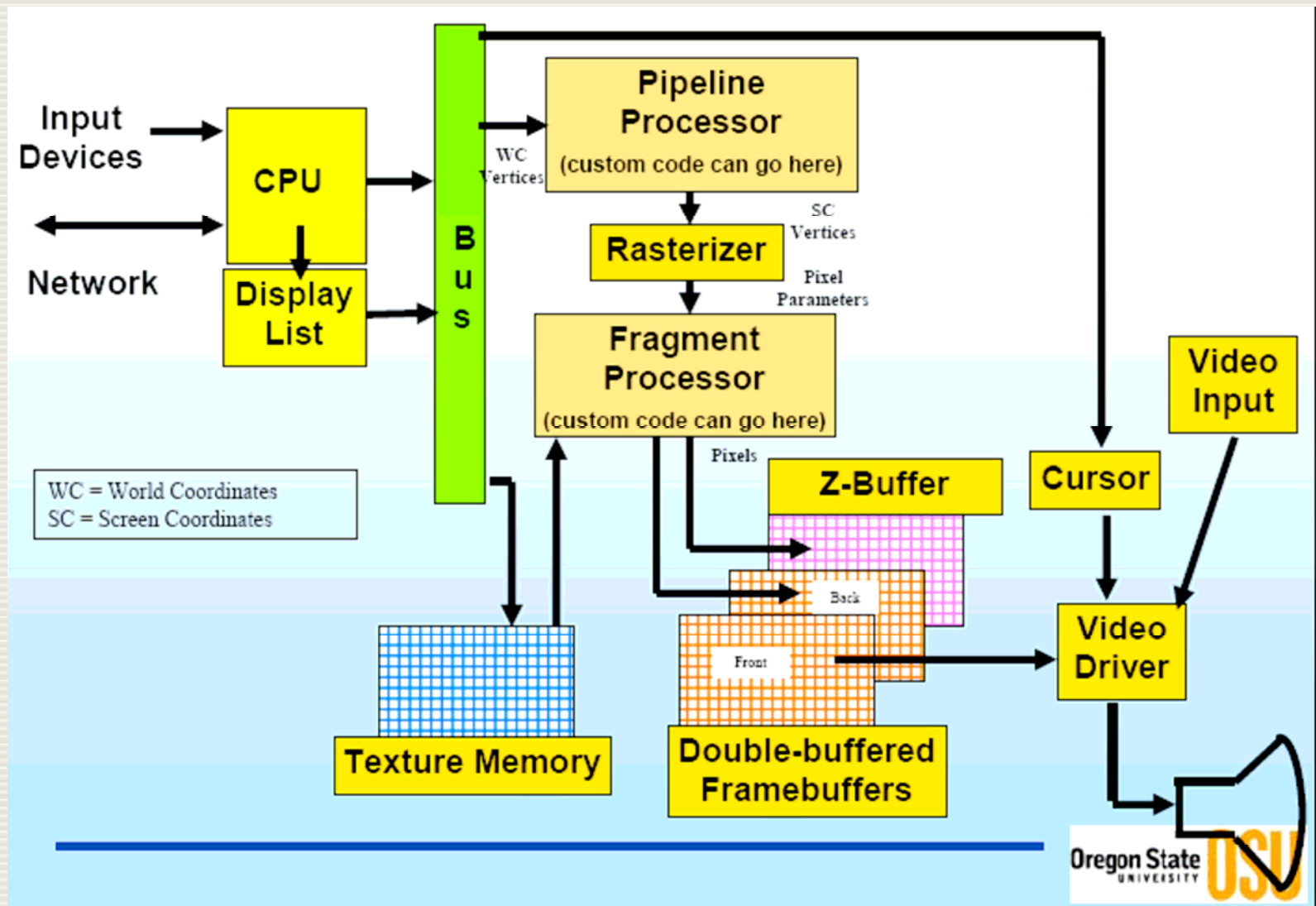


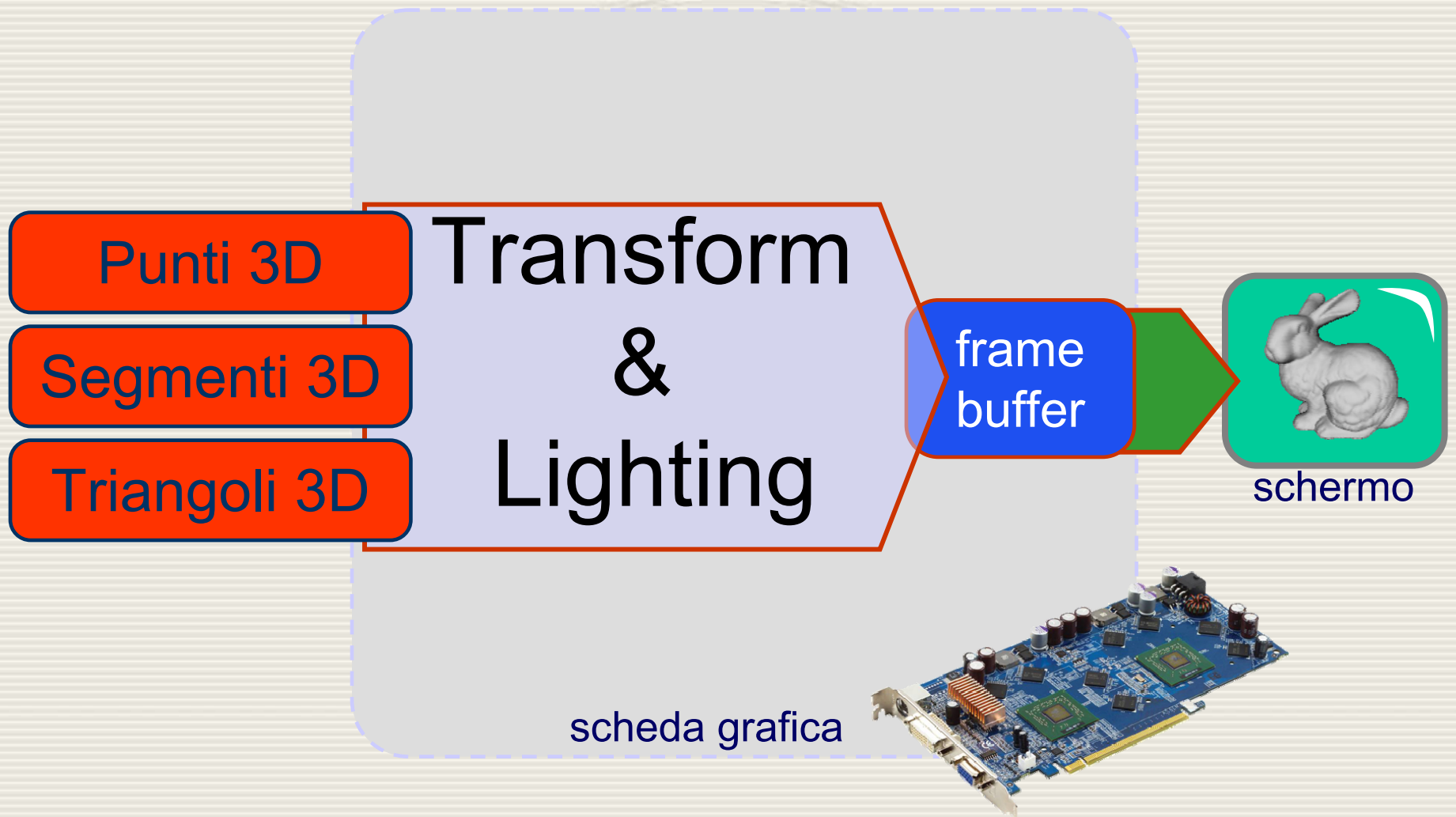
GPU e Pipeline Grafica



Generico Sistema Grafico



Transform & Lighting

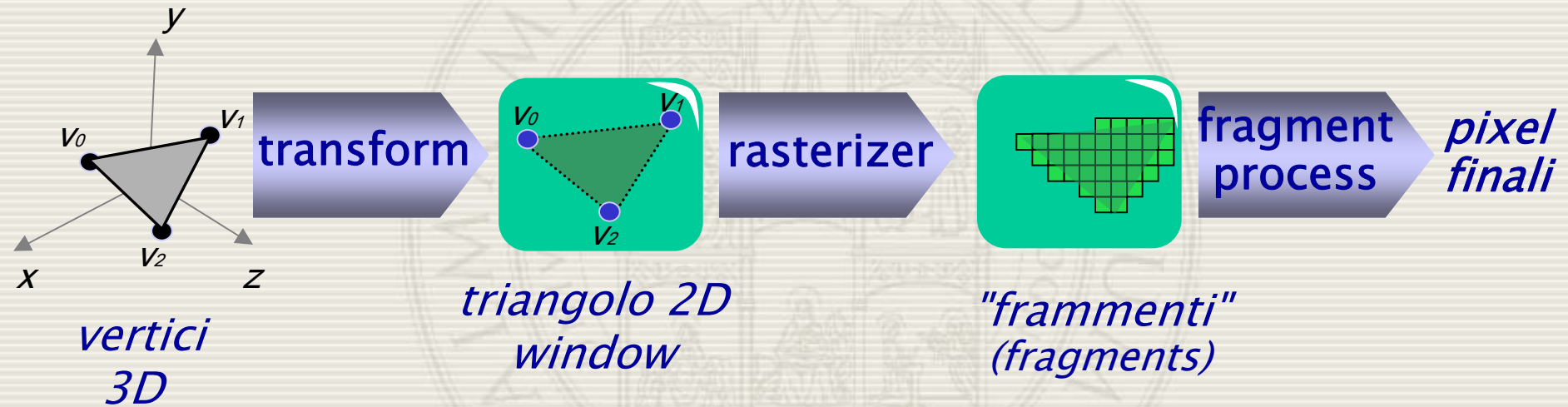


Transform & Lighting...

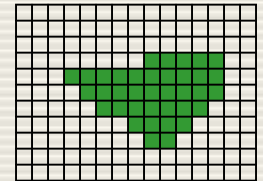
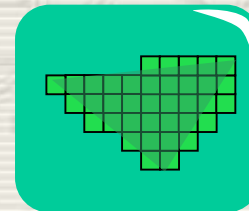
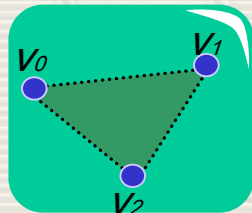
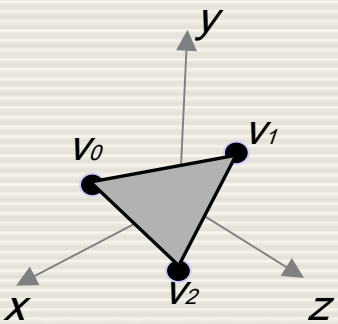
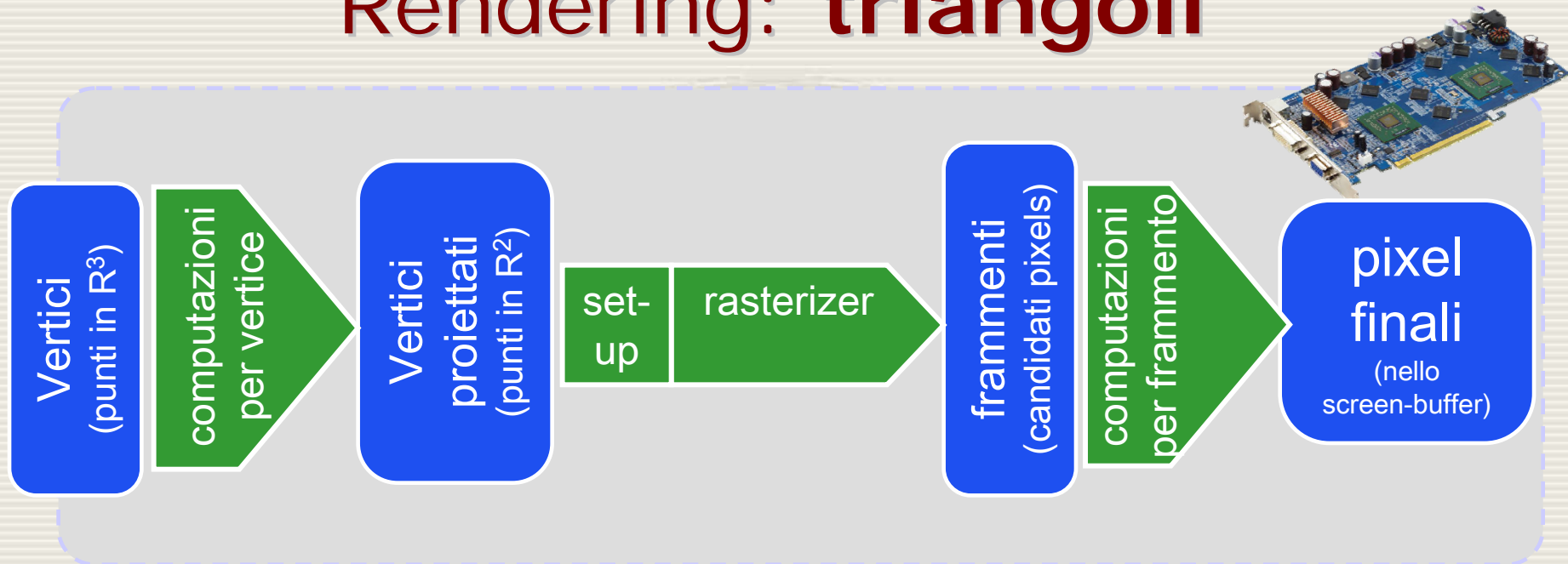
- *Transform* :
 - Trasformazioni: pipeline di vista
 - scopo: portare la scena davanti all'obiettivo della camera fotografica (virtuale)
 - generare i triangoli visibili sul piano di proiezione
- *Lighting* :
 - Illuminazione/colore
 - scopo: calcolare il colore finale di ogni parte della scena (pixel schermo)
 - risultante da
 - le sue caratteristiche fisiche
 - l'ambiente di illuminazione/colore

... Rasterization-Based Rendering

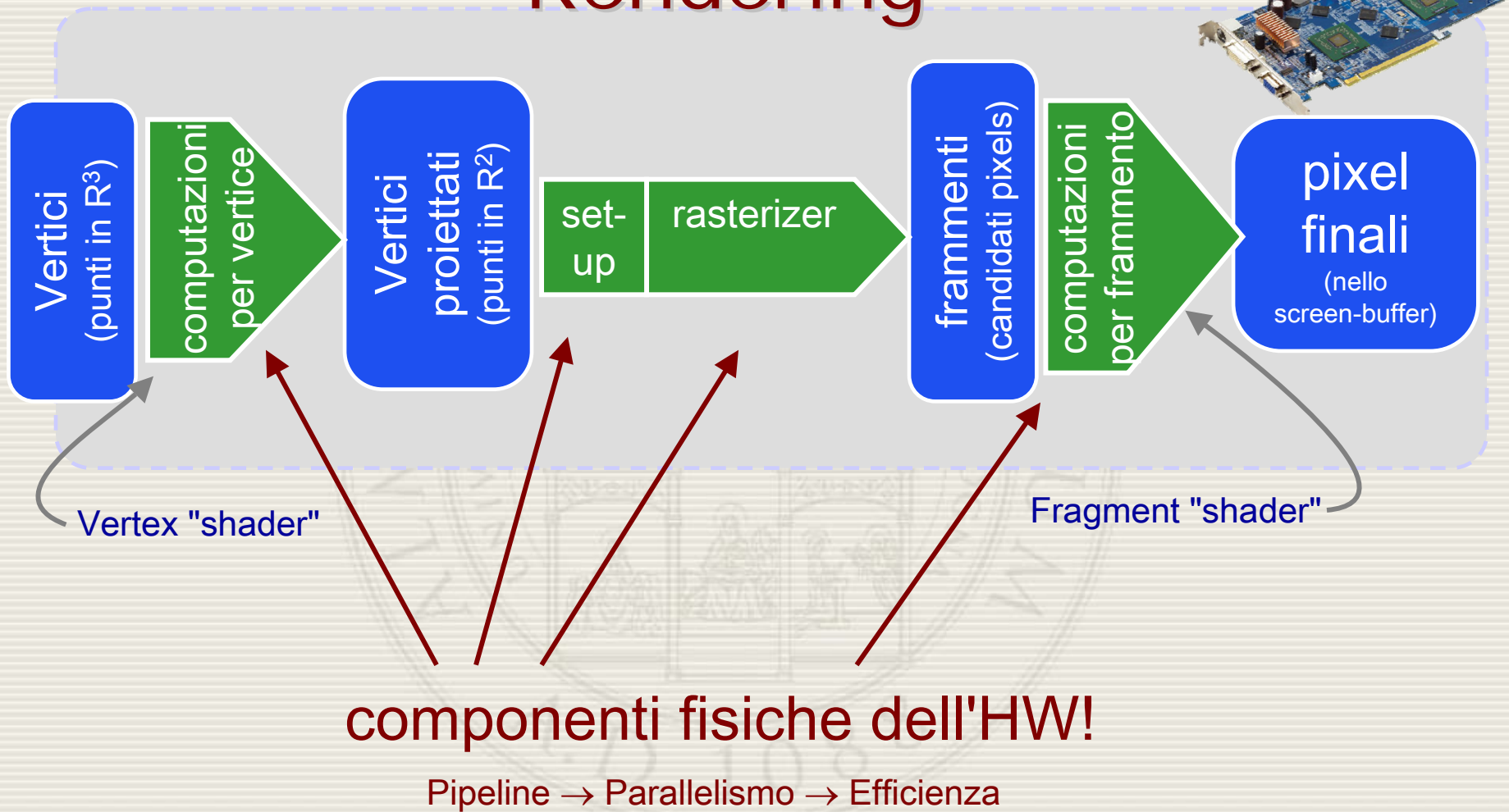
più specificatamente...



Rasterization-Based HW-Supported Rendering: **triangoli**



Rasterization-Based HW-Supported Rendering



Hardware dedicato alla grafica

- HW supported... transform and lighting
- HW supported... polygon fill
- HW supported... color interpolation (Gouraud)
- HW supported... texture mapping
- HW supported... per-pixel shading (Phong)
- HW supported... alpha blending
- HW supported... fog computation
- HW supported... Z-buffers
- HW supported... bump-mapping
- HW supported... environment mapping ("Cube-maps")
- HW supported... stencil buffers (per pixel masks)
- HW supported... color transform matrices
- HW supported... paletted textures
- HW supported... multiple texture accesses
- HW supported... texture filtering (MIP-maps)
- HW supported... Level-of-Detail computation
- HW supported... dependent texturing
- ...

- **Programmable HW**