



Figura 1. Mapeamento de textura.

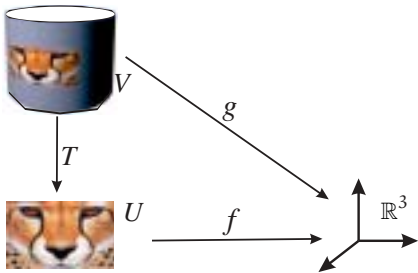
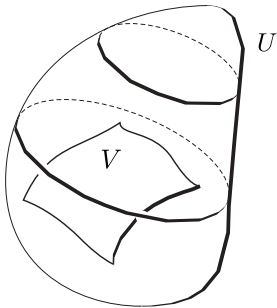


Figura 2. Mapeamento 2D.



(a) Mapeamento  $3D$



(b) Textura de madeira  $3D$

Figura 3.

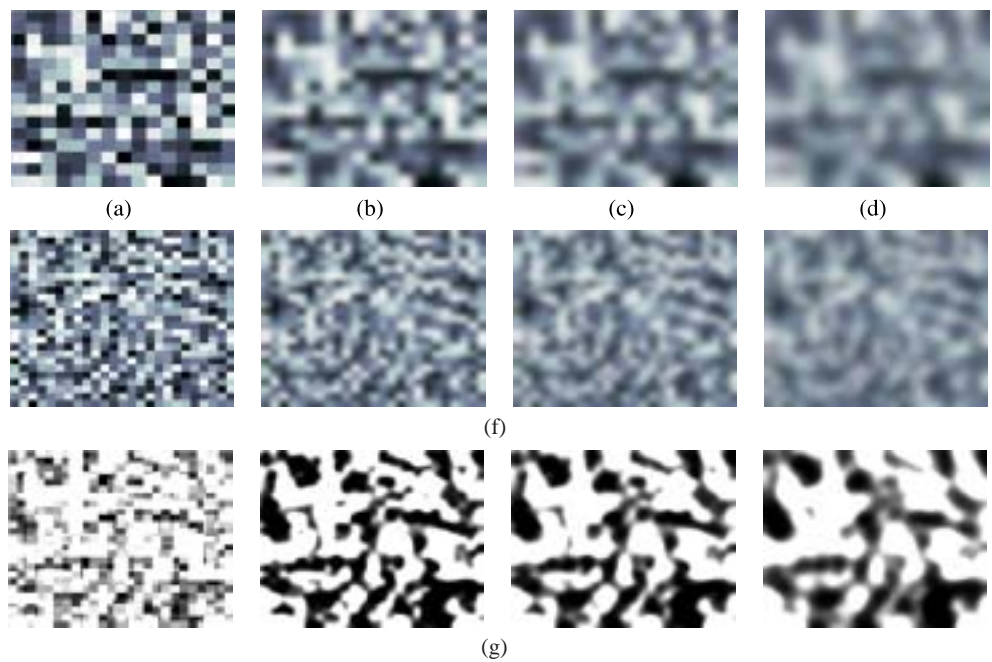
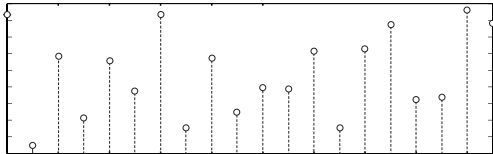
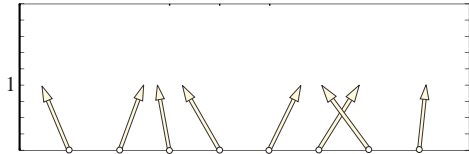


Figura 4. Textura com ruído em diferentes escalas.

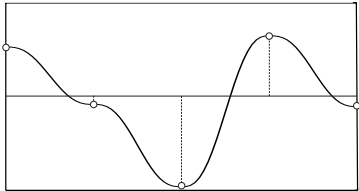


(a) Campo escalar aleatório.

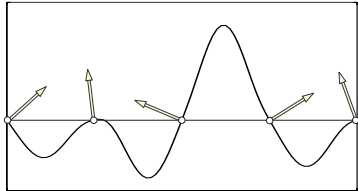


(b) Campo gradiente aleatório.

Figura 5.



(a) Função ruído escalar.



(b) Função ruído gradiente.

Figura 6. Reconstrução da função ruído.

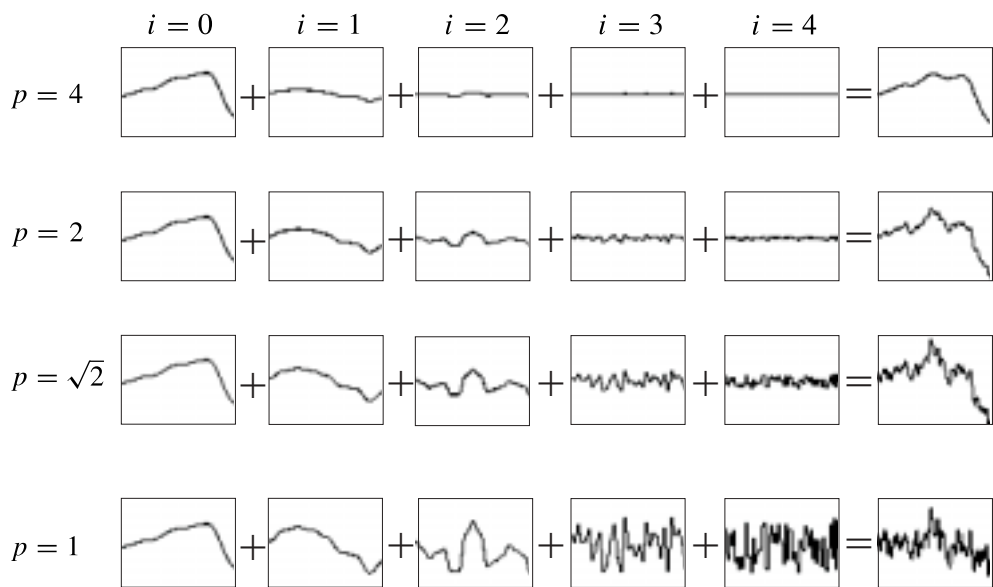
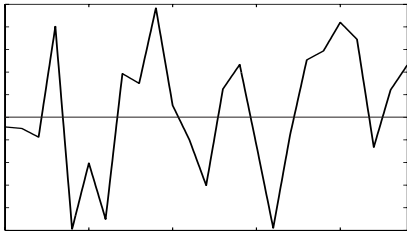
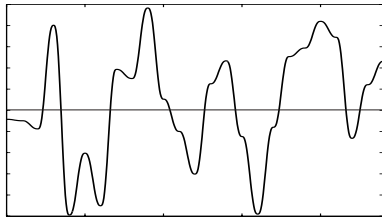


Figura 7. Funções ruído de Perlin com diferentes amplitudes.



(a) Reconstrução linear.



(b) Reconstrução polinomial.

Figura 8. Reconstruções distintas do ruído escalar de um mesmo campo aleatório.



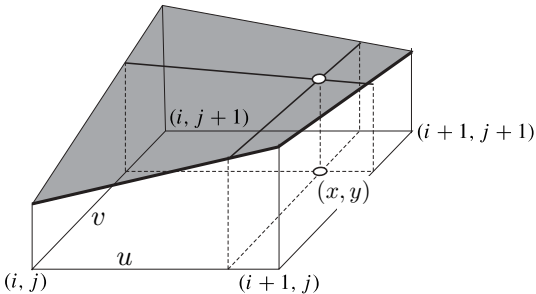
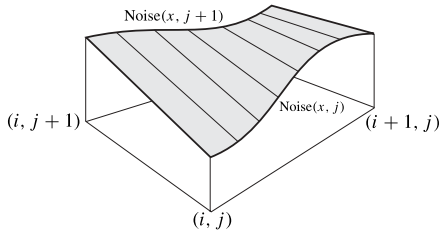
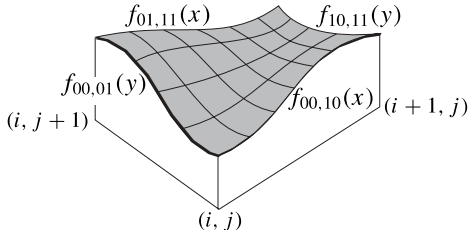


Figura 9. Interpolação em  $\mathbb{R}^2$ .



(a) Superfície de lofting.



(b) Superfície de Coons.

Figura 10. Reconstrução do ruído escalar bidimensional.

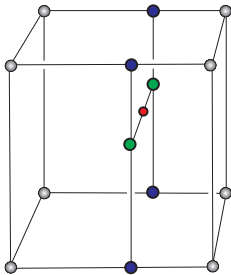
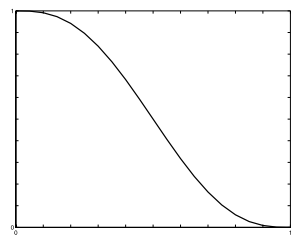
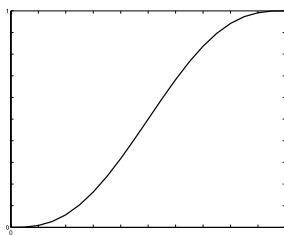


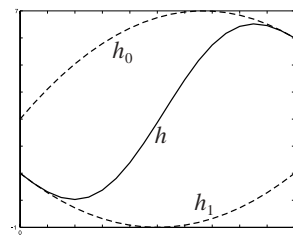
Figura 11. Reconstrução por interpolação trilinear.



(a) blending com base 0.



(b) blending com base 1.



(c) blending de  $h_0$  e  $h_1$ .

Figura 12. Blending de duas funções.

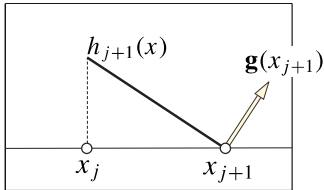
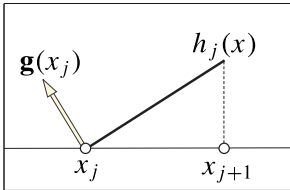


Figura 13. Funções  $h_j$  e  $h_{j+1}$ .

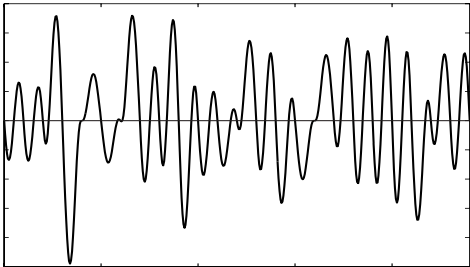
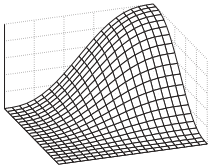
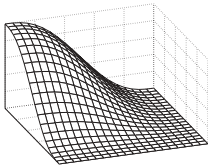


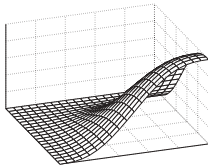
Figura 14. Ruído gradiente.



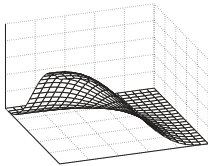
(a)  $b_{00}(x, y)$



(b)  $b_{01}(x, y)$



(c)  $b_{10}(x, y)$



(d)  $b_{11}(x, y)$

Figura 15. Funções de blending em  $[0, 1] \times [0, 1]$ .

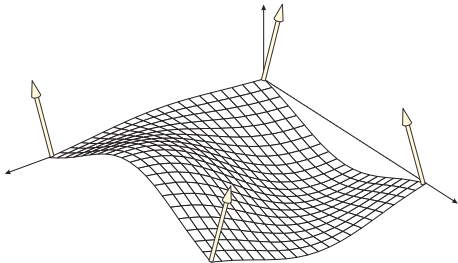
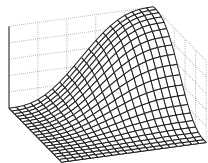
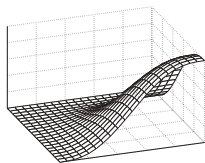


Figura 16. Função ruído e campo gradiente.

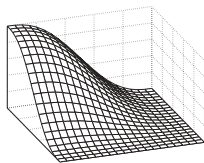




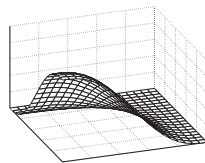
$b_{00}$



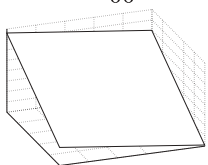
$b_{01}$



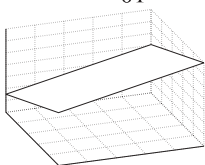
$b_{10}$



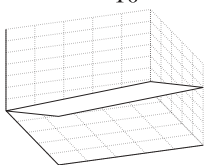
$b_{11}$



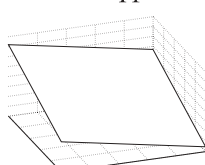
$h_{00}$



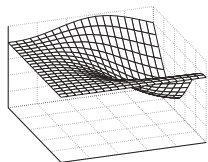
$h_{01}$



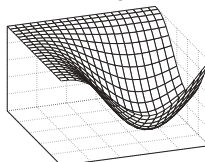
$h_{10}$



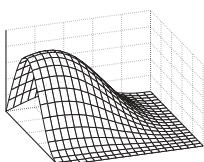
$h_{11}$



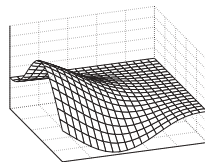
$h_{00}b_{00}$



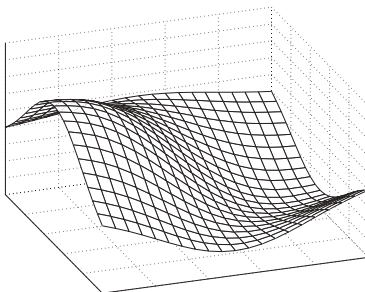
$h_{01}b_{01}$



$h_{10}b_{10}$



$h_{11}b_{11}$



$h_{00}b_{00} + h_{01}b_{01} + h_{10}b_{10} + h_{11}b_{11}$

Figura 17. Cálculo da função ruído bidimensional em uma célula.

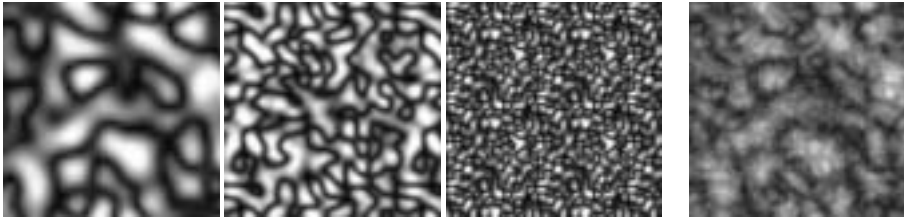


Figura 18. Ruído obtido pela soma de ruídos.

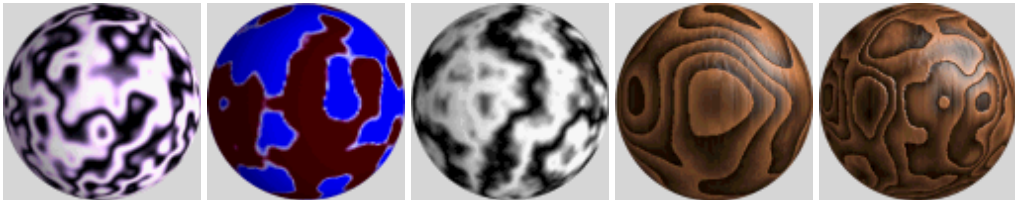
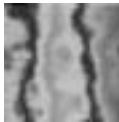
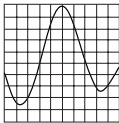


Figura 19. Esferas com texturas 3D definidas com a função ruído de Perlin.



(a)



(b)



(c)

Figura 20. Textura 3D de mármore.

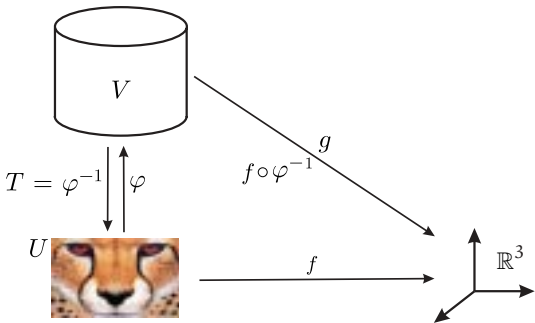
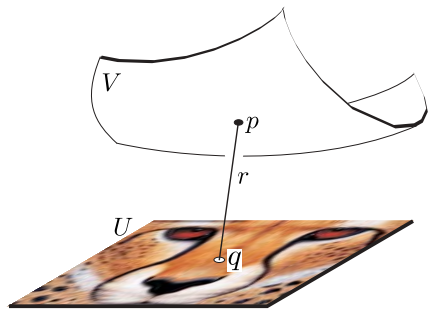


Figura 21. Mapeamento por parametrização.



(a)



(b)

Figura 22. Decal mapping.



Figura 23. Mapeamento projetivo.

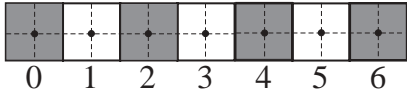
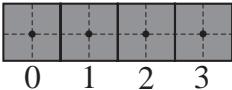


Figura 24. Escalamamento por um fator 2.



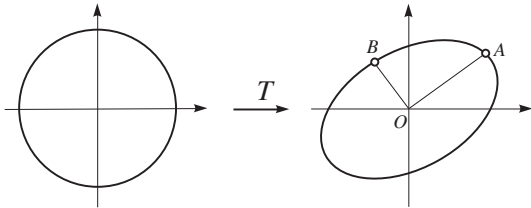


Figura 25. Imagem do círculo unitário por uma transformação linear.

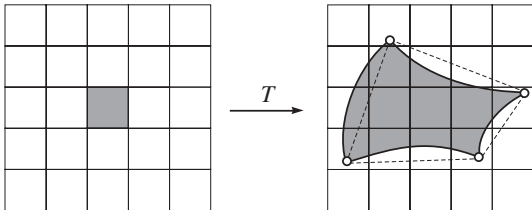


Figura 26. Imagem de um pixel no domínio contínuo.

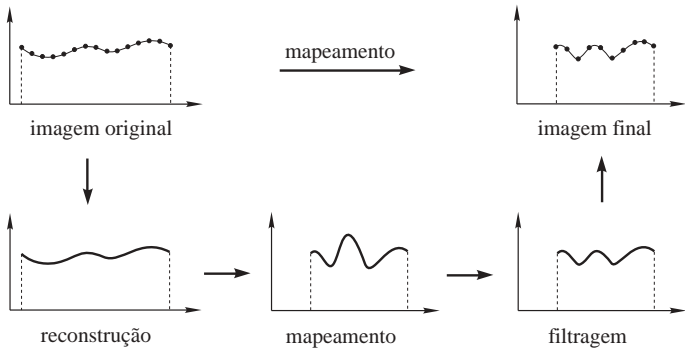
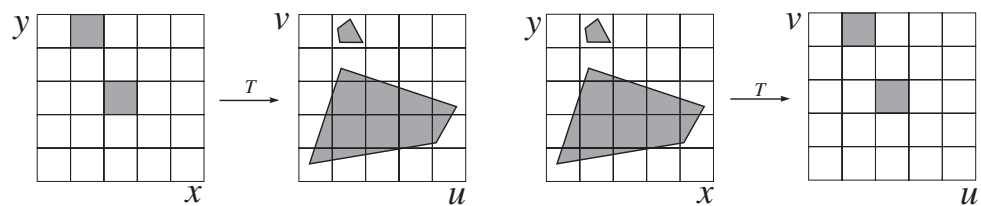


Figura 27. Etapas da transformação de uma imagem.



(a) Mapeamento direto.

(b) Mapeamento inverso.

Figura 28.



(a) Pré-filtragem no mipmap.



(b) Pirâmide do mipmap.

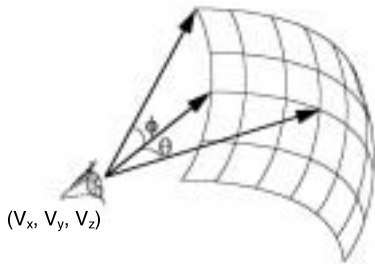
Figura 29.



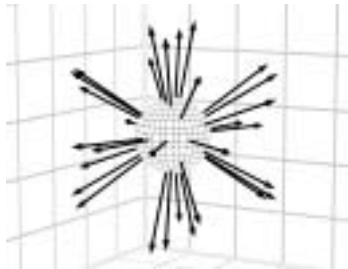
Figura 30. Detalhes sem complexidade geométrica.



Figura 31. Mapeamento de textura na esfera.



(a) Amostra da função plenótica.



(b) Feixe de raios em  $p_0$ .

Figura 32.





Figura 33. Panorama cilíndrico.

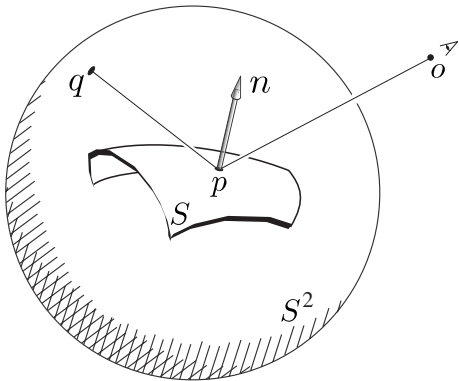


Figura 34. Cálculo do vetor de reflexão.

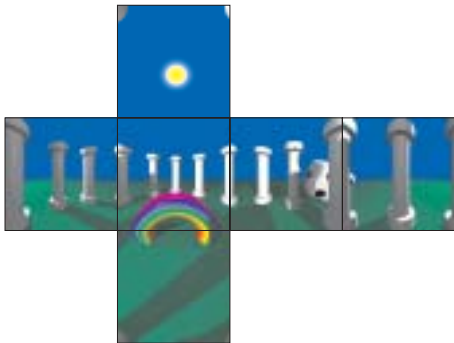


(a)

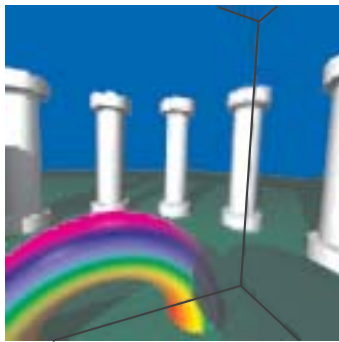


(b)

Figura 35. Exemplos de mapeamento de reflexão.

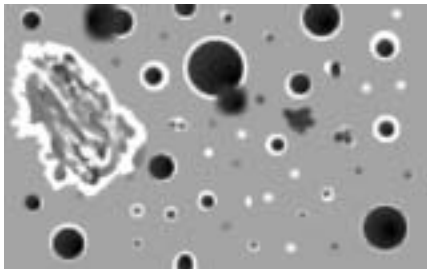


(a) Mapa do ambiente.



(b) Visualização.

Figura 36. Panorama virtual com mapeamento cúbico (Gomes *et al.* , 1998).



(a) Textura fonte.



(b) Mapeamento.

Figura 37. Mapeamento de rugosidade.



Figura 38. Face de uma moeda gerada com mapeamento de rugosidade.



(a) De rugosidade.



(b) De deslocamento.

Figura 39. Mapeamentos.



Figura 40. Textura bidimensional simulando fogo.





(a) Mapa esférico 360°.



(b) Mapeamento

Figura 41. Mapa esférico no teapot.