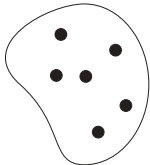


Espaço de objetos



R

Espaço de representação

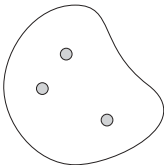


Figura 1. Representação de objetos gráficos.



(a)



(b)

Figura 2. Geometrias aproximadas com a mesma topologia.

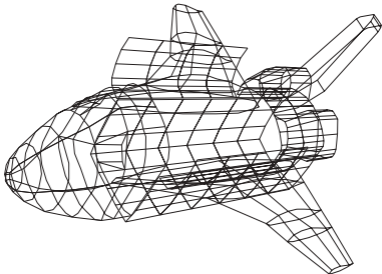
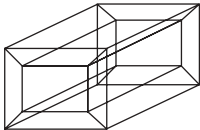
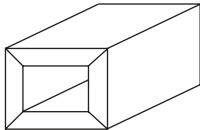


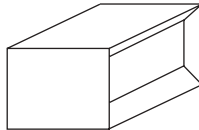
Figura 3. Representação em wireframe.



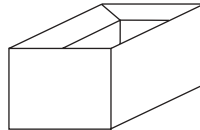
(a)



(b)



(c)



(d)

Figura 4. Diferentes modelos com mesma representação em wireframe.

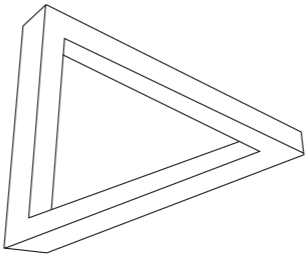


Figura 5. Geometria impossível representada em wireframe.

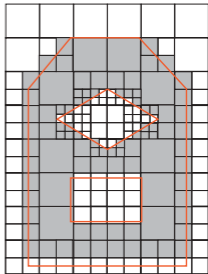
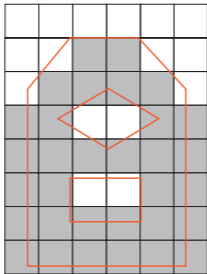
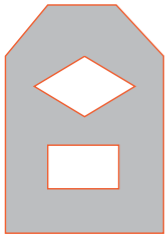


Figura 6. Representação por quadtree.

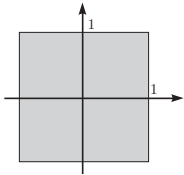


(a) Cachoeira.

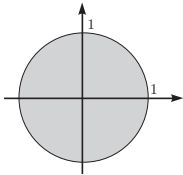


(b) Nuvem.

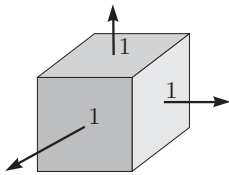
Figura 7. Modelos procedurais.



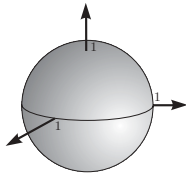
(a)



(b)



(c)



(d)

Figura 8. Primitivas geométricas no plano (a) e (b), e no espaço (c) e (d).

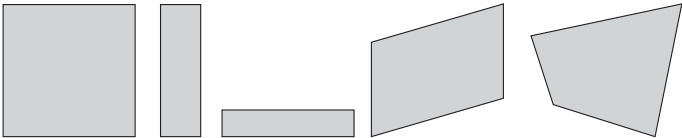
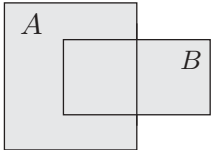
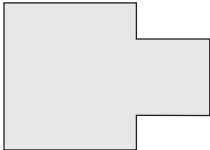


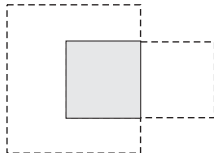
Figura 9. Mudança de um quadrado por transformações projetivas.



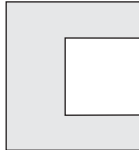
(a) A, B



(b) $A \cup B$



(c) $A \cap B$



(d) $A - B$

Figura 10. Operações booleanas.

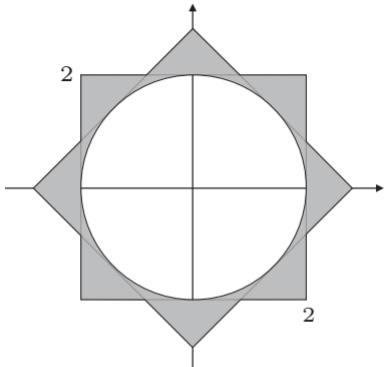


Figura 11. Sólido bidimensional.

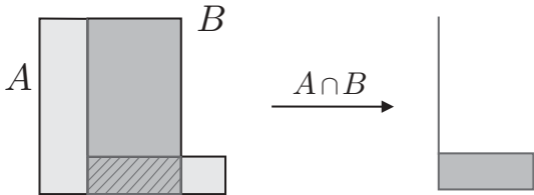


Figura 12. Interseção de sólidos pode não ser um sólido.

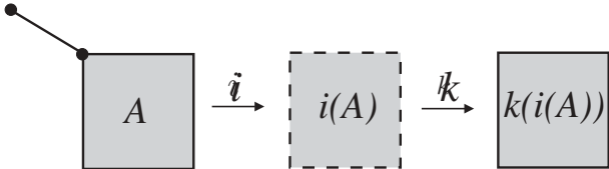


Figura 13. Operação de regularização.

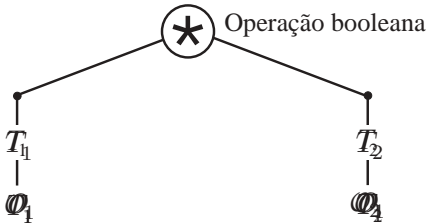


Figura 14. Representação de uma operação booleana em árvore.

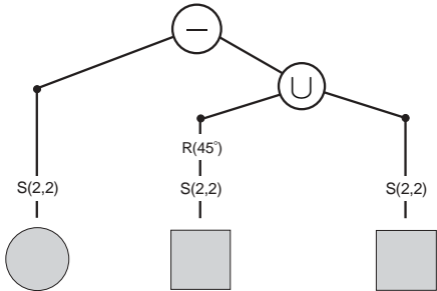


Figura 15. Árvore CSG.

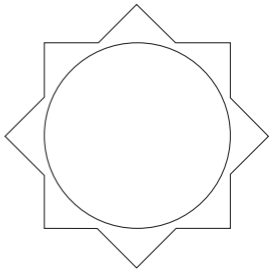
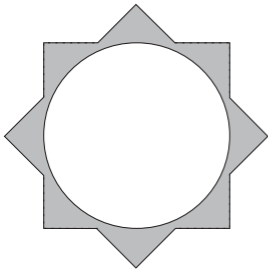


Figura 16. Conversão CSG para BRep.

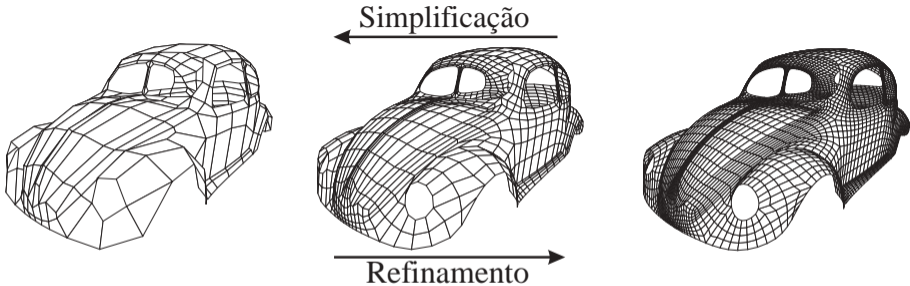
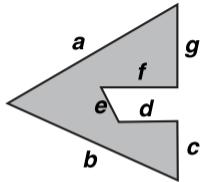
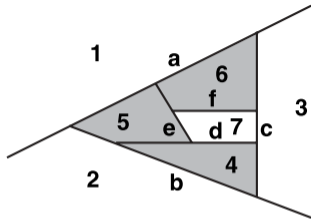


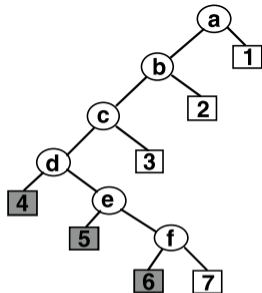
Figura 17. Simplificação e refinamento.



Sólido 2D poligonal

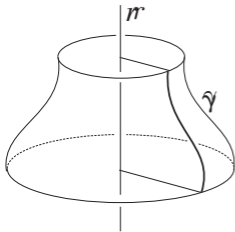


Partição do espaço

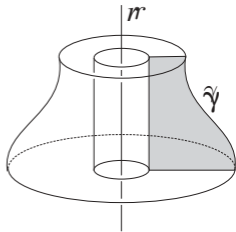


BSP-tree

Figura 18. Árvore de particionamento e geometria.



(a) Superfície.



(b) Sólido.

Figura 19. Superfície e sólido de revolução.

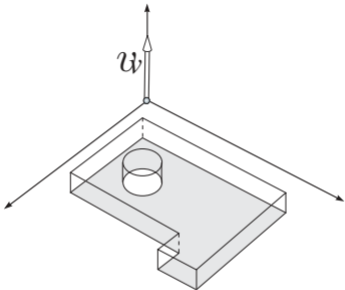
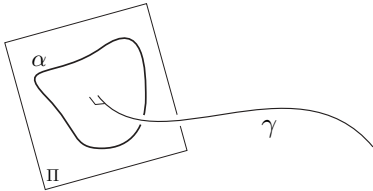
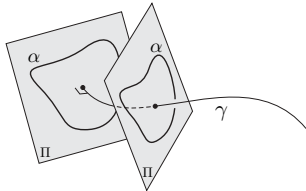


Figura 20. Modelagem por extrusão.

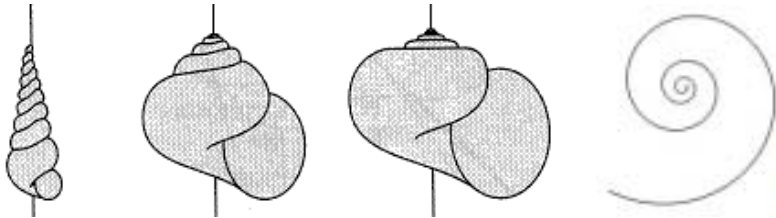


(a) Curva guia.



(b) Seções.

Figura 21. Superfícies tubulares.

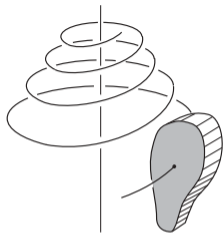


(a)

(b)



Figura 22. Geometria das conchas marinhas.



(a)



(b)



(c)



(d)



(e)

Figura 23. Hélice logarítmica (a); conchas marinhas sintetizadas no computador (b), (c), (d) e (e).

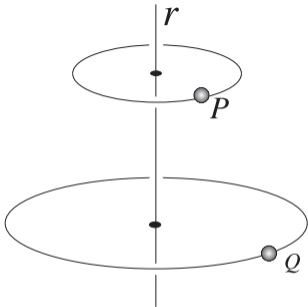


Figura 24. Órbitas de P e Q .

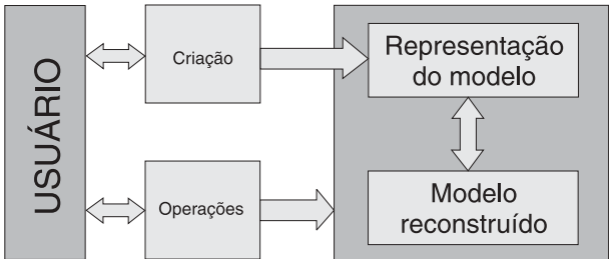


Figura 25. O processo da modelagem.

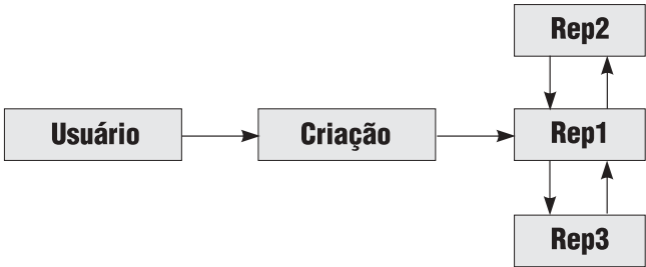


Figura 26. Sistema híbrido.

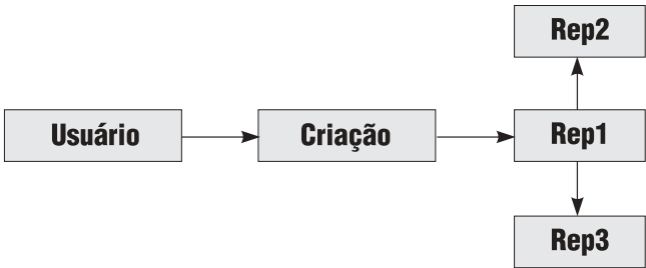


Figura 27. Sistema com multi-representação.

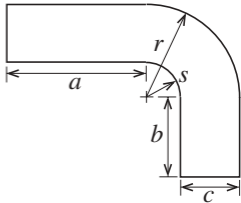


Figura 28.

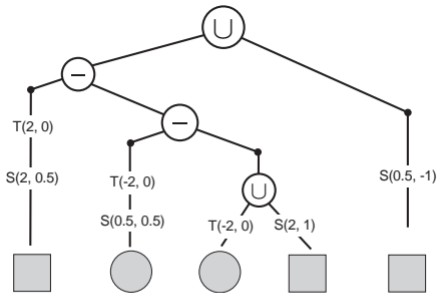


Figura 29. Árvore CSG.