Preliminary User Study

User information

1. User ID *

   _____

2. Gender *

   _____

3. Age *

   _____

4. Major/Background *

   _____

Please rate the easiness and suitability of the gestures/motions that you perform to create the new generated dynamic furniture components in the videos.

5. How easy is it to perform that gesture/motion for creating the left swing door? *

   Mark only one oval.

	1	2	3	4	5	
very hard	◯	◯	◯	◯	◯	very easy

6. How suitable is it to perform that gesture/motion for creating the left swing door? *

   Mark only one oval.

	1	2	3	4	5	
very unsuitable	◯	◯	◯	◯	◯	very suitable

7. How easy is it to perform that gesture/motion for creating the right swing door? *

Mark only one oval.

	1	2	3	4	5	
very hard	◯	◯	◯	◯	◯	very easy

8. How suitable is it to perform that gesture/motion for creating the right swing door? *

Mark only one oval.

	1	2	3	4	5	
very unsuitable	◯	◯	◯	◯	◯	very suitable

9. How easy is it to perform that gesture/motion for creating the double swing door? *

Mark only one oval.

	1	2	3	4	5	
very hard	◯	◯	◯	◯	◯	very easy

10. How suitable is it to perform that gesture/motion for creating the double swing door? *

Mark only one oval.

	1	2	3	4	5	
very unsuitable	◯	◯	◯	◯	◯	very suitable

11. How easy is it to perform that gesture/motion for creating the sliding door? *

Mark only one oval.

	1	2	3	4	5	
very hard	◯	◯	◯	◯	◯	very easy

12. How suitable is it to perform that gesture/motion for creating the sliding door? *

Mark only one oval.

	1	2	3	4	5	
very unsuitable	◯	◯	◯	◯	◯	very suitable

13. How easy is it to perform that gesture/motion for creating the drop-down door? *

Mark only one oval.

	1	2	3	4	5	
very hard	◯	◯	◯	◯	◯	very easy

14. How suitable is it to perform that gesture/motion for creating the drop-down door? *

Mark only one oval.

	1	2	3	4	5	
very unsuitable	◯	◯	◯	◯	◯	very suitable

15. How easy is it to perform that gesture/motion for creating the drawer with horizontal handle? *

Mark only one oval.

	1	2	3	4	5	
very hard	◯	◯	◯	◯	◯	very easy

16. How suitable is it to perform that gesture/motion for creating the drawer with horizontal handle? *

Mark only one oval.

	1	2	3	4	5	
very unsuitable	◯	◯	◯	◯	◯	very suitable

17. How easy is it to perform that gesture/motion for creating the drawer with vertical handle? *

    Mark only one oval.

	1	2	3	4	5	
very hard	◯	◯	◯	◯	◯	very easy

18. How suitable is it to perform that gesture/motion for creating the drawer with vertical handle? *

    Mark only one oval.

	1	2	3	4	5	
very unsuitable	◯	◯	◯	◯	◯	very suitable

19. How easy is it to perform that gesture/motion for creating the shoe cabinet? *

    Mark only one oval.

	1	2	3	4	5	
very hard	◯	◯	◯	◯	◯	very easy

20. How suitable is it to perform that gesture/motion for creating the shoe cabinet? *

    Mark only one oval.

	1	2	3	4	5	
very unsuitable	◯	◯	◯	◯	◯	very suitable

21. How easy is it to perform that gesture/motion for creating the wheels? *

    Mark only one oval.

	1	2	3	4	5	
very hard	◯	◯	◯	◯	◯	very easy

22. How suitable is it to perform that gesture/motion for creating the wheels? *

Mark only one oval.

	1	2	3	4	5	
very unsuitable	◯	◯	◯	◯	◯	very suitable

23. How easy is it to perform that gesture/motion for creating the fold-down desk? *

Mark only one oval.

	1	2	3	4	5	
very hard	◯	◯	◯	◯	◯	very easy

24. How suitable is it to perform that gesture/motion for creating the fold-down desk? *

Mark only one oval.

	1	2	3	4	5	
very unsuitable	◯	◯	◯	◯	◯	very suitable

25. How easy is it to perform that gesture/motion for creating the drop-leaf plank? *

Mark only one oval.

	1	2	3	4	5	
very hard	◯	◯	◯	◯	◯	very easy

26. How suitable is it to perform that gesture/motion for creating the drop-leaf plank? *

Mark only one oval.

	1	2	3	4	5	
very unsuitable	◯	◯	◯	◯	◯	very suitable

27. How easy is it to perform that gesture/motion for creating the keyboard tray? *

Mark only one oval.

	1	2	3	4	5	
very hard	⬭	⬭	⬭	⬭	⬭	very easy

28. How suitable is it to perform that gesture/motion for creating the keyboard tray? *

Mark only one oval.

	1	2	3	4	5	
very unsuitable	⬭	⬭	⬭	⬭	⬭	very suitable

Please rate the easiness and suitability of the gestures/motions that you perform to create the new generated static furniture components in the videos.

29. How easy is it to perform that gesture/motion for creating the horizontal plank? *

Mark only one oval.

	1	2	3	4	5	
very hard	⬭	⬭	⬭	⬭	⬭	very easy

30. How suitable is it to perform that gesture/motion for creating the horizontal plank? *

Mark only one oval.

	1	2	3	4	5	
very unsuitable	⬭	⬭	⬭	⬭	⬭	very suitable

31. How easy is it to perform that gesture/motion for creating the vertical plank? *

Mark only one oval.

	1	2	3	4	5	
very hard	⬭	⬭	⬭	⬭	⬭	very easy

32. How suitable is it to perform that gesture/motion for creating the vertical plank? *

Mark only one oval.

	1	2	3	4	5	
very unsuitable	◯	◯	◯	◯	◯	very suitable

33. How easy is it to perform that gesture/motion for creating the cloth rail? *

Mark only one oval.

	1	2	3	4	5	
very hard	◯	◯	◯	◯	◯	very easy

34. How suitable is it to perform that gesture/motion for creating the cloth rail? *

Mark only one oval.

	1	2	3	4	5	
very unsuitable	◯	◯	◯	◯	◯	very suitable

35. How easy is it to perform that gesture/motion for creating two parallel vertical planks? *

Mark only one oval.

	1	2	3	4	5	
very hard	◯	◯	◯	◯	◯	very easy

36. How suitable is it to perform that gesture/motion for creating two parallel vertical planks? *

Mark only one oval.

	1	2	3	4	5	
very unsuitable	◯	◯	◯	◯	◯	very suitable

37. How easy is it to perform that gesture/motion for creating the legs? *

Mark only one oval.

	1	2	3	4	5	
very hard	○	○	○	○	○	very easy

38. How suitable is it to perform that gesture/motion for creating the legs? *

Mark only one oval.

	1	2	3	4	5	
very unsuitable	○	○	○	○	○	very suitable

39. How easy is it to perform that gesture/motion for creating the ladder? *

Mark only one oval.

	1	2	3	4	5	
very hard	○	○	○	○	○	very easy

40. How suitable is it to perform that gesture/motion for creating the ladder? *

Mark only one oval.

	1	2	3	4	5	
very unsuitable	○	○	○	○	○	very suitable

Please rate the easiness and suitability of the gestures/motions that you perform for the CAD operations shown in the videos.

41. How easy is it to perform that gesture/motion to translate the cube? *

Mark only one oval.

	1	2	3	4	5	
very hard	○	○	○	○	○	very easy

42. How suitable is it to perform that gesture/motion to translate the cube? *

Mark only one oval.

	1	2	3	4	5	
very unsuitable	○	○	○	○	○	very suitable

43. How easy is it to perform that gesture/motion to scale the cube? *

Mark only one oval.

	1	2	3	4	5	
very hard	○	○	○	○	○	very easy

44. How suitable is it to perform that gesture/motion to scale the cube? *

Mark only one oval.

	1	2	3	4	5	
very unsuitable	○	○	○	○	○	very suitable

45. How easy is it to perform that gesture/motion to delete the object? *

Mark only one oval.

	1	2	3	4	5	
very hard	○	○	○	○	○	very easy

46. How suitable is it to perform that gesture/motion to delete the object? *

Mark only one oval.

	1	2	3	4	5	
very unsuitable	○	○	○	○	○	very suitable

47. How easy is it to perform that gesture/motion to change component candidates? *

Mark only one oval.

	1	2	3	4	5	
very hard	◯	◯	◯	◯	◯	very easy

48. How suitable is it to perform that gesture/motion to change component candidates? *

Mark only one oval.

	1	2	3	4	5	
very unsuitable	◯	◯	◯	◯	◯	very suitable

49. How easy is it to perform that gesture/motion to pan the scene *

Mark only one oval.

	1	2	3	4	5	
very hard	◯	◯	◯	◯	◯	very easy

50. How suitable is it to perform that gesture/motion to pan the scene? *

Mark only one oval.

	1	2	3	4	5	
very unsuitable	◯	◯	◯	◯	◯	very suitable

51. How easy is it to perform that gesture/motion to rotate the scene? *

Mark only one oval.

	1	2	3	4	5	
very hard	◯	◯	◯	◯	◯	very easy

52. How suitable is it to perform that gesture/motion to rotate the scene? *

Mark only one oval.

	1	2	3	4	5	
very unsuitable	◯	◯	◯	◯	◯	very suitable

53. How easy is it to perform that gesture/motion to zoom in? *

Mark only one oval.

	1	2	3	4	5	
very hard	◯	◯	◯	◯	◯	very easy

54. How suitable is it to perform that gesture/motion to zoom in? *

Mark only one oval.

	1	2	3	4	5	
very unsuitable	◯	◯	◯	◯	◯	very suitable

Others

55. Do you have any prior CAD experience? *

Mark only one oval.

	1	2	3	4	5	
no experience	◯	◯	◯	◯	◯	a lot of experience

56. How much does your CAD experience influence the proposed gestures/motions? *

Mark only one oval.

	1	2	3	4	5	
no influence	◯	◯	◯	◯	◯	strong influence