## Preliminary User Study

\* Required

U:	ser information
1.	User ID *
2.	Gender *
3.	Age *
4.	Major/Background *
	lease rate the easiness and suitability of the gestures/motions that you perform to create 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

Mark only o			2	4	E						
	1	2	3	4	5						
very hard						very ea	ısy				
How suita	ble is i	t to pe	rform	that ge	esture/	motion	for crea	ating t	ne righ	nt swing	door
Mark only o	ne oval	1.									
		1	2	3	4	5					
very unsui	table						ery suita	ble.			
How easy	is it to	perfo	rm tha	t gestı	ure/mo	tion for	creatin	g the o	double	swing c	loor?
Mark only o	ne oval	1.									
	1	2	3	4	5						
very hard						very ea	ısy				
How suit	able is	it to p	erform	n that g	gesture	e/motio	n for cre	eating	the do	ouble sw	ing d
Mark only	one ov	al.									
		1	2	3	4	5					
very uns	uitable						very sui	table			
How eas	y is it t	o perf	orm th	at ges	ture/m	otion fo	r creati	ng the	slidin	g door?	*
Mark only	one ov	al.									
	1	2	3	4	5						

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

-	e oval.								
		1	2	3	4	5			
very unsuita	ble (					very	suitable		
How easy is	s it to	perfo	rm tha	t gesti	ure/mo	tion for cre	eating the	drop-do	wn door? *
Mark only on				Ü			ŭ	·	
	1	2	3	4	5				
very hard						very easy			
How suitab	le is it	to pe	rform	that g	esture/	motion for	creating	the drop	-down door?
Mark only on	e oval.								
		1	2	3	4	5			
very unsuita	able (					verv	suitable		
How easy is handle? *			rm tha	t gesti	ure/mo	tion for cre	eating the	drawer v	with horizont
	1	2	3	4	5				
	•	2	O						
very hard						very easy			
very hard						very easy			
	ole is it	to pe		that go			creating	the draw	er with horiz
How suitab	ole is it	to pe		that go			creating	the draw	er with horiz

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

	1	2	3	4	5				
very hard						very easy	-		
How suita	ble is i	t to pe	rform :	that ge	sture/i	motion fo	r creatin	ıg the d	rawer with
Mark only o	ne oval	1.							
		1	2	3	4	5			
very unsui	table					very	suitable /		
10,4,000,,	is it to	perfo	rm tha	t gestu	re/mo	tion for cr	eating t	he shoe	cabinet? '
now easy	10 10 00								
			3	4	5		-		
Mark only o	ne oval	·.		4	5	very easy	-		
very hard	ne oval	·.		4	5	very easy	-		
Mark only c	ne oval	·.		4	5	very easy	-		
Mark only o	1	2	3				-	ng the s	hoe cabine
very hard	1 ble is i	2 t to pe	3				-	ng the s	hoe cabine
wery hard	1 ble is i	2 t to pe	3				-	ng the s	hoe cabine
very hard  How suita	1 ble is i	2 t to pe	3 rform	that ge	esture/i	motion fo	r creatin	_	hoe cabine
very hard	1 ble is i	2 t to pe	3 rform	that ge	esture/i	motion fo	-	_	hoe cabine
very hard  How suita	1 ble is i	2 t to pe	3 rform	that ge	esture/i	motion fo	r creatin	_	hoe cabine
very hard	1 ble is i	t to pe	rform 2	that ge	esture/i	motion fo	r creatin	_	
very hard  How suita  Mark only of	1 ble is i	t to pe	rform 2	that ge	esture/i	motion fo	r creatin	_	
very hard  How suita	1 ble is i	t to pe	rform 2	that ge	esture/i	motion fo	r creatin	_	

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

	1	2	3	4	5		
very unsuitable						very suitable	
How easy is it t	o perfo	rm tha	t gestu	ire/mo	tion fo	or creating the	fold-down desk
Mark only one ov	al.						
1	2	3	4	5			
very hard					very	easy	
How suitable is	it to pe	rform	that ge	esture/	motio/	n for creating t	he fold-down d
Mark only one ov	al.						
	1	2	3	4	5		
very unsuitable						very suitable	
How easy is it t	o perfo	rm tha	t gestu	ire/mo	tion fo	or creating the	drop-leaf plank
	al.						
Mark only one ov		_					
Mark only one ove	2	3	4	5			
Mark only one over	2	3	4	5	very	easy	
1	2	3	4	5	very	easy	
1	2	3	4	5	very	easy	
very hard							he drop-leaf pla
very hard	it to pe						he drop-leaf pla

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

	Mark only o	one ova	<i>I</i> .								
		1	2	3	4	5					
	very hard						very easy				
28.	How suita	ble is i	it to pe	erform	that ge	esture/r	motion fo	r creating	a the ke	vboard tra	av? *
	Mark only o								,	, 10 C G. 10 C. 11 C.	-, .
			1	2	3	4	5				
	very unsui	table	·			·		y suitable			
Ple	ase rate th	e easi	ness ai	nd suit:	ahility (	of the c	nestures/	motions t	hat vou	nerform	to create
	new gene				•				nat you	perioriii	to create
29.	How easy	is it to	nerfo	rm tha	t aestu	ıre/mot	ion for c	eating th	e horiza	ontal nlani	∡? <b>*</b>
۷٦.	Mark only o		·	TITI CITA	t geste	1101	.1011101 C1	cating th	CTIONIZO	orital plani	Χ:
			2	3	4	5					
	very hard	1		3	4	5	very easy				
	very mara						very easy	_			
30.	How suita			erform	that ge	esture/r	notion fo	r creating	g the ho	rizontal p	lank? *
	Mark only o	one ova	<i>I</i> .								
			1	2	3	4	5				
	very unsui	table					ver	y suitable			
31.	How easy	is it to	perfo	rm tha	t gestu	ıre/mot	ion for c	eating th	e vertic	al plank?	*
	Mark only o	one ova	Ι.								
		1	2	3	4	5					
	very hard						very easy	_			

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

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  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 unsuitable very unsuitable vertical planks? *  Mark only one oval.  1 2 3 4 5  very hard very easy  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  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 is it to perform that gesture/motion for creating two parallel vertical planks? *  Mark only one oval.  1 2 3 4 5  very unsuitable vertical planks? *  Mark only one oval.  1 2 3 4 5  very unsuitable vertical planks? *  Mark only one oval.	Mark only one oval.
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  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 unsuitable very unsuitable very unsuitable very unsuitable very unsuitable very easy  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  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 hard very easy	1 2 3 4 5
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 1 2 3 4 5  Wark only one oval.  1 2 3 4 5  very hard 1 3 4 5  very hard 1 5 5  very hard 1 5 5  very hard 1 5 5 5  very hard 1 5 5 5 5  very hard 1 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	very unsuitable very suitable
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 1 2 3 4 5  very unsuitable 1 very unsuitable 1 2 3 4 5  very hard 1 3 4 5  very hard 1 5 5  very hard 1 5 5  very hard 1 5 5 5  very hard 1 5 5 5 5  very hard 1 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	
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 1 2 3 4 5  very hard 1 2 3 4 5	
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 unsuita	
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 vertical planks? *  Mark only one oval.  1 2 3 4 5  very hard very easy  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 hard very easy  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 hard very easy	Mark only one oval.
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 unsuitable very unsuitable  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  How suitable is it to perform that gesture/motion for creating two parallel vertical planks?  Mark only one oval.  1 2 3 4 5	1 2 3 4 5
Mark only one oval.  1 2 3 4 5  very unsuitable vertical planks? *  Mark only one oval.  1 2 3 4 5  very hard very easy  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 hard very easy  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 hard very easy
Mark only one oval.  1 2 3 4 5  very unsuitable vertical planks? *  Mark only one oval.  1 2 3 4 5  very hard very easy  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 hard very easy  How suitable is it to perform that gesture/motion for creating two parallel vertical planks?  Mark only one oval.  1 2 3 4 5	
Mark only one oval.  1 2 3 4 5  very unsuitable vertical planks? *  Mark only one oval.  1 2 3 4 5  very hard very easy  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 hard very easy  How suitable is it to perform that gesture/motion for creating two parallel vertical planks?  Mark only one oval.  1 2 3 4 5	
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  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 easy	How suitable is it to perform that gesture/motion for creating the cloth rail? *
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  How suitable is it to perform that gesture/motion for creating two parallel vertical planks?  Mark only one oval.  1 2 3 4 5	Mark only one oval.
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  How suitable is it to perform that gesture/motion for creating two parallel vertical planks?  Mark only one oval.  1 2 3 4 5	1 2 3 4 5
Mark only one oval.  1 2 3 4 5  very hard very easy  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
Mark only one oval.  1 2 3 4 5  very hard very easy  How suitable is it to perform that gesture/motion for creating two parallel vertical planks?  Mark only one oval.  1 2 3 4 5	
Mark only one oval.  1 2 3 4 5  very hard very easy  How suitable is it to perform that gesture/motion for creating two parallel vertical planks?  Mark only one oval.  1 2 3 4 5	
1 2 3 4 5  very hard very easy  How suitable is it to perform that gesture/motion for creating two parallel vertical planks?  Mark only one oval.  1 2 3 4 5	How easy is it to perform that gesture/motion for creating two parallel vertical planks? *
wery hard very easy  How suitable is it to perform that gesture/motion for creating two parallel vertical planks?  Mark only one oval.  1 2 3 4 5	Mark only one oval.
How suitable is it to perform that gesture/motion for creating two parallel vertical planks?  Mark only one oval.  1 2 3 4 5	1 2 3 4 5
Mark only one oval.  1 2 3 4 5	very hard very easy
Mark only one oval.  1 2 3 4 5	
Mark only one oval.  1 2 3 4 5	
1 2 3 4 5	How suitable is it to perform that gesture/motion for creating two parallel vertical planks?
	Mark only one oval.
very unsuitable very suitable	1 2 3 4 5
	very unsuitable very suitable

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 hard very easy
38.	How suitable is it to perform that gesture/motion for creating the legs? *
50.	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.
	man 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? *
10.	Mark only one oval.
	wark only one ovar.
	1 2 3 4 5
	very unsuitable very suitable
Ple	ease rate the easiness and suitability of the gestures/motions that you perform for the
CA	AD operations shown in the videos.
11	How each is it to perform that goat we mation to translate the cube? *
41.	How easy is it to perform that gesture/motion to translate the cube? *
	Mark only one oval.
	1 2 3 4 5

very easy

very hard

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

very unsuitable						very suitable
How easv is it t	o perf	orm th	at gest	ture/mo	otion to	scale the cube? *
Mark only one ova			ar gaar			
1	2	3	4	5		
very hard					very	easy
How suitable is	it to n	erform	that c	nastura	/motio	n to scale the cube
Mark only one ova		CITOIII	rtiate	gestare.	71110010	ir to scale the case
viaik only one ove	ai.					
	1	2	3	4	5	
very unsuitable						very suitable
very unsuitable						very suitable
How easy is it t		orm the	at gest	ture/mc	otion to	very suitable  o delete the object?
How easy is it t		orm th	at gest	ture/mc	otion to	
How easy is it t		orm the	at gest	ture/mc	otion to	
How easy is it t	al.				otion to	o delete the object?
How easy is it t  Mark only one ove	al.					o delete the object?
How easy is it t  Mark only one ove	al.					o delete the object?
How easy is it t  Mark only one ove  1  very hard	2 <u> </u>	3	4	5	very	o delete the object?
How easy is it t  Mark only one ove  1  very hard	2 it to p	3	4	5	very	o delete the object?

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

viaik only c	ne oval	1.							
	1	2	3	4	5				
very hard						very easy			
	la la !a !			41s - 4 - s	<b>t</b>	/ <del>                                 </del>	-1		
			erioriii	that ge	esture	motion to	change	compo	nent cand
Mark only o	ne oval								
		1	2	3	4	5			
very unsui	table					very	suitable		
How easy	is it to	perfo	orm tha	ıt gesti	ure/mo	tion to par	the sce	ene *	
Mark only o	ne oval	1.							
	1	2	3	4	5				
very hard						very easy			
How suita	ble is i	t to pe	erform	that g	esture	motion to	pan the	scene?	*
Mark only o	ne oval	1.							
		1	2	3	4	5			
very unsui	table					verv	suitable		
very unsur	table					Very	Sultable		
How easy	is it to	perfo	orm tha	nt gesti	ure/mo	otion to rota	ate the s	cene?	*
Mark only o	ne oval	1.							
	1	2	3	4	5				

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

	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? *
54.	Mark only one oval.
	1 2 3 4 5
	very unsuitable very suitable
Otl	hers
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? *
50.	Mark only one oval.
	1 2 3 4 5
	no influence strong influence

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