

## A LITERATURE SURVEY

The following tables provide lists of papers that were included, based on the PRISMA guidelines, in our survey of CHI, IEEE VR, VRST, UIST, and DIS conferences. Note that this survey included papers published before September 2021. For more information on the inclusion criteria, please refer to our paper.

### A.1 Beyond-Real Interactions

In the following section, we provide lists of papers that were included in our survey and coded as beyond-real interactions. The papers are grouped into three categories of space, body, and time, based on the transformation used in the design of the interaction. For more information on transformation subtypes, please refer to table 1 in our paper. For each paper, we also highlight the interaction tasks that the paper focuses on and whether or not the authors explicitly consider sensory integration and conflict in the design or analysis of their approach. Note that some papers utilize multiple transformations (e.g., space and body transformations); therefore, they have been included in multiple tables.

#### Space Transformation:

Count	Year	Venue	Task	Sensory	Reference
1	1993	IEEE VR	Locomotion, selection, manipulation	No	[A102]
2	2002	IEEE VR	Locomotion	No	[A130]
3	2002	IEEE VR	Wayfinding, manipulation	No	[A108]
4	2004	IEEE VR	Wayfinding, locomotion	No	[A81]
5	2005	VRST	Selection	No	[A31]
6	2006	IEEE VR	Locomotion	No	[A54]
7	2006	VRST	Wayfinding	No	[A22]
8	2009	VRST	Selection, manipulation	No	[A71]
9	2009	VRST	Selection	No	[A5]
10	2010	VRST	Selection, manipulation	No	[A123]
11	2012	IEEE VR	Selection	No	[A19]
12	2012	IEEE VR	Locomotion	Yes	[A113]
13	2016	VRST	Wayfinding	Yes	[A7]
14	2016	VRST	Selection, manipulation	No	[A76]
15	2016	VRST	Selection, manipulation	No	[A61]
16	2017	IEEE VR	Locomotion	Yes	[A70]
17	2017	UIST	Locomotion	No	[A73]
18	2017	VRST	Locomotion	No	[A79]
19	2018	CHI	Selection, manipulation	Yes	[A134]
20	2018	IEEE VR	Wayfinding	Yes	[A38]
21	2018	IEEE VR	Locomotion	Yes	[A50]
22	2018	UIST	Locomotion, selection, manipulation	No	[A137]
23	2018	DIS	Locomotion	No	[A104]
24	2019	CHI	Locomotion	Yes	[A1]

Count	Year	Venue	Task	Sensory	Reference
25	2019	CHI	Wayfinding	No	[A4]
26	2019	IEEE VR	Select, visualization	No	[A77]
27	2019	IEEE VR	Locomotion	No	[A69]
28	2019	IEEE VR	Locomotion	No	[A131]
29	2019	UIST	Selection, manipulation	No	[A121]
30	2019	UIST	Locomotion	Yes	[A72]
31	2019	VRST	Locomotion	Yes	[A24]
32	2020	CHI	Locomotion	Yes	[A85]
33	2020	CHI	Locomotion	Yes	[A135]
34	2020	CHI	Locomotion	No	[A124]
35	2020	IEEE VR	Selection	No	[A74]
36	2020	UIST	Locomotion	No	[A125]
37	2020	VRST	Locomotion, wayfinding	Yes	[A144]
38	2020	VRST	Selection, visualization	No	[A94]
39	2020	VRST	Locomotion	Yes	[A57]
40	2021	CHI	Selection, manipulation	No	[A58]
41	2021	CHI	Selection, manipulation	No	[A82]
42	2021	IEEE VR	Selection, manipulation	No	[A141]
43	2021	IEEE VR	Locomotion	Yes	[A32]
44	2021	IEEE VR	Selection, manipulation	No	[A33]

### Body Transformation

Count	Year	Venue	Task	Sensory	Reference
1	1993	IEEE VR	Locomotion, selection, manipulation	No	[A102]
2	1989	UIST	Selection, manipulation	No	[A111]
3	1993	IEEE VR	Locomotion, selection, manipulation	No	[A34]
4	1996	UIST	Selection, manipulation	No	[A83]
5	1998	VRST	Wayfinding	No	[A40]
6	1999	CHI	Selection, manipulation	No	[A10]
7	2000	CHI	Selection	No	[A115]
8	2000	VRST	Selection, manipulation	No	[A101]
9	2001	CHI	Selection, manipulation	No	[A93]
10	2002	IEEE VR	Locomotion, selection, manipulation	No	[A142]
11	2002	IEEE VR	Selection, manipulation	No	[A110]
12	2002	VRST	Selection, manipulation	No	[A28]
13	2005	IEEE VR	Manipulation	No	[A37]

Count	Year	Venue	Task	Sensory	Reference
14	2006	IEEE VR	Locomotion	No	[A29]
15	2008	VRST	Selection	No	[A6]
16	2009	VRST	Manipulation	No	[A68]
17	2010	IEEE VR	Locomotion	No	[A132]
18	2010	VRST	Locomotion	No	[A117]
19	2012	CHI	Manipulation	No	[A103]
20	2012	CHI	Selection	No	[A80]
21	2012	VRST	Selection, manipulation	No	[A100]
22	2012	VRST	Selection, manipulation	No	[A136]
23	2012	VRST	Selection, manipulation	No	[A107]
24	2015	IEEE VR	Locomotion, wayfinding, selection, manipulation	Yes	[A126]
25	2016	CHI	Locomotion	No	[A120]
26	2016	VRST	Selection, manipulation	No	[A61]
27	2017	IEEE VR	Locomotion	Yes	[A70]
28	2017	VRST	Manipulation	No	[A18]
29	2018	CHI	Manipulation	Yes	[A105]
30	2018	IEEE VR	Selection	No	[A49]
31	2018	UIST	Locomotion, selection, manipulation	No	[A137]
32	2019	CHI	Locomotion	Yes	[A1]
33	2019	CHI	Selection, manipulation, locomotion	No	[A116]
34	2019	CHI	Selection, manipulation	No	[A138]
35	2019	CHI	Selection	No	[A84]
36	2019	CHI	Selection	No	[A122]
37	2019	CHI	Selection, manipulation	No	[A11]
38	2019	CHI	Locomotion	No	[A41]
39	2019	DIS	Locomotion	Yes	[A145]
40	2019	IEEE VR	Locomotion	No	[A45]
41	2019	IEEE VR	Selection, manipulation	No	[A63]
42	2019	UIST	Selection, manipulation	No	[A47]
43	2019	UIST	Selection	No	[A96]
44	2019	UIST	Manipulation	No	[A8]
45	2019	VRST	Locomotion	Yes	[A44]
46	2020	CHI	Selection	No	[A95]
47	2020	CHI	Locomotion	Yes	[A39]
48	2020	UIST	Selection, manipulation	Yes	[A67]
49	2020	IEEE VR	Selection, manipulation	No	[A62]
50	2021	CHI	Selection, manipulation	No	[A92]
51	2021	CHI	Selection	Yes	[A3]
52	2021	CHI	Selection, manipulation	No	[A140]

Count	Year	Venue	Task	Sensory	Reference
53	2021	CHI	Selection	No	[A97]
54	2021	CHI	Selection, manipulation	No	[A52]
55	2021	IEEE VR	Selection, manipulation	No	[A128]

### Time Transformation

Count	Year	Venue	Task	Sensory	Reference
1	2007	VRST	Wayfinding	Yes	[A99]
2	2017	VRST	Locomotion	Yes	[A86]
3	2018	UIST	Locomotion, selection, manipulation	No	[A137]
4	2020	VRST	Manipulation	No	[A51]

### A.2 Illusory Interactions

Count	Year	Venue	Reference	Count	Year	Venue	Reference
1	1997	UIST	[A27]	21	2018	UIST	[A60]
2	2001	IEEE VR	[A48]	22	2018	VRST	[A26]
3	2008	VRST	[A133]	23	2019	CHI	[A2]
4	2009	VRST	[A114]	24	2019	CHI	[A89]
5	2010	VRST	[A14]	25	2019	IEEE VR	[A46]
6	2011	IEEE VR	[A16]	26	2019	IEEE VR	[A119]
7	2011	IEEE VR	[A112]	27	2019	IEEE VR	[A55]
8	2011	IEEE VR	[A78]	28	2019	IEEE VR	[A66]
9	2012	IEEE VR	[A15]	29	2019	UIST	[A53]
10	2014	VRST	[A12]	30	2019	UIST	[A64]
11	2015	IEEE VR	[A90]	31	2019	VRST	[A43]
12	2016	CHI	[A9]	32	2020	CHI	[A109]
13	2017	CHI	[A21]	33	2020	IEEE VR	[A17]
14	2017	IEEE VR	[A91]	34	2020	IEEE VR	[A65]
15	2017	UIST	[A75]	35	2020	IEEE VR	[A98]
16	2017	VRST	[A13]	36	2020	IEEE VR	[A129]
17	2018	DIS	[A106]	37	2020	IEEE VR	[A56]
18	2018	UIST	[A87]	38	2020	UIST	[A42]
19	2018	UIST	[A36]	39	2020	VRST	[A118]
20	2018	UIST	[A139]	40	2021	CHI	[A35]

Count	Year	Venue	Reference	Count	Year	Venue	Reference
41	2021	CHI	[A88]	45	2021	IEEE VR	[A59]
42	2021	IEEE VR	[A127]	46	2021	IEEE VR	[A143]
43	2021	IEEE VR	[A23]	47	2021	IEEE VR	[A20]
44	2021	IEEE VR	[A30]	48	2021	IEEE VR	[A25]

## APPENDIX A REFERENCES

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