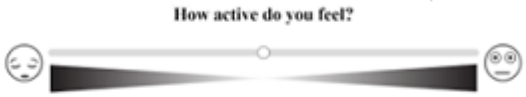
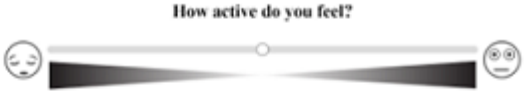
Questionnaires

questionnaire STAIC_state			
Right now, I feel calm	Not at all	Somewhat	A lot
Right now, I feel upset	Not at all	Somewhat	A lot
Right now, I feel pleasent	Not at all	Somewhat	A lot
Right now, I feel nervous	Not at all	Somewhat	A lot
Right now, I feel jittery	Not at all	Somewhat	A lot
Right now, I feel rested	Not at all	Somewhat	A lot
Right now, I feel scared	Not at all	Somewhat	A lot
Right now, I feel relaxed	Not at all	Somewhat	A lot
Right now, I feel worried	Not at all	Somewhat	A lot
Right now, I feel satisfied	Not at all	Somewhat	A lot
Right now, I feel frightened	Not at all	Somewhat	A lot
Right now, I feel happy	Not at all	Somewhat	A lot
Right now, I feel sure	Not at all	Somewhat	A lot
Right now, I feel good	Not at all	Somewhat	A lot
Right now, I feel troubled	Not at all	Somewhat	A lot
Right now, I feel bothered	Not at all	Somewhat	A lot
Right now, I feel nice	Not at all	Somewhat	A lot
Right now, I feel terrified	Not at all	Somewhat	A lot
Right now, I feel mixed-up	Not at all	Somewhat	A lot
Right now, I feel cheerful	Not at all	Somewhat	A lot

Affective Slider scales	
How active do you feel?	
What is your mood?	
How well do you know your partner?	
Would you like to get to know them more?	

The cross tables that the Kappa scores calculated from

coder1 * coder2 Crosstabulation

Count

		coder2				
		no-interaction	initiation	response	externalization	Total
coder1	no-interaction	0	0	1	0	1
	initiation	0	3	0	0	3
	response	2	0	1	0	3
	externalization	0	0	0	7	7
Total		2	3	2	7	14

coder1 * coder3 Crosstabulation

Count

		coder3				
		no-interaction	initiation	response	externalization	Total
coder1	no-interaction	0	0	1	0	1
	initiation	0	3	0	0	3
	response	0	0	3	0	3
	externalization	2	0	0	5	7
Total		2	3	4	5	14

coder2 * coder3 Crosstabulation

Count

		coder3				
		no-interaction	initiation	response	externalization	Total
coder2	no-interaction	0	0	2	0	2
	initiation	0	3	0	0	3
	response	0	0	2	0	2
	externalization	2	0	0	5	7
Total		2	3	4	5	14

A detailed explanation of the variable names being used

hunted_fireflies	When users bring their nets close to the flocks of fireflies, two insects are caught. This is represented by changing the fireflies' color to match the user's butterfly net color while the rest of the flock moves away from the user.
time_of_first_char	This feature is related to the number of hunted fireflies in the first minutes of the game. After hunting a certain amount of fireflies, it was decided that fireflies would transform into a creature that would become a virtual partner for the user.
char_texture_change	In order to maintain user engagement with the system, as users continue hunting insects their creature changes appearance. This mechanic was implemented to foster the children's sense of exploration as they discover different versions of the creatures.
point_at_action	Having the character pointing at something was designed to help the users discover the nearby elements which were interactive, hence it is activated when the character of a user approaches the virtual elements. At that moment, the user's creature points towards the element and makes an exclamatory remark.
char_being_idle	After staying in the playing field without any action, it was decided that the character of the participant would look up towards the participant to catch attention and create engagement.
manipulate_prop	The virtual elements can only be activated when both users bring their characters close to the element at the same time. When both creatures converge by the object, they will manipulate the virtual element, which will respond with a unique playful animation and then disappear, while the creatures celebrate their discovery.
merge_char	When users brought their creatures together, these would combine and create two new creatures, which replaced the old ones. The merge were represented by both creatures jumping towards one another and transforming into a novel creature. Therefore if the children wanted to discover all the creatures that inhabit the virtual world, they had to plan and work together to merge their creatures.
char_greeting	When users' creatures come close to each other, they perform a greeting action towards the other. Therefore, creatures are models of social behaviors for the players, and also try to help

	children understand that there might be potential interactions between virtual elements.
area_covered	The distance covered by each participant which was calculated based on the trajectory of their nets in the playing plane.
distance_btw_participants	As the distance between participants could give us an insight on their level of comfort when it comes to deciding to play collaboratively instead of playing alone, we calculated the distance between their nets in the playing plane.
arousal_level	Likert scales value with icon images on either ends to measure the levels of arousal.
valence_level	Likert scales value with icon images on either ends to measure the levels of valence.
social_status	The reported level of knowledge of the play peer.
desire_to_know_more	The desire to know more about the peer after playing.
pNN50(%)	A measure calculated from successive intervals between successive heartbeats (RR interval) differences which is the corresponding relative amount of successive intervals differing more than 50ms.
HF(msˆ2)	HF(msˆ2) is the absolute power of high-frequency (HF) band.
HF(n.u.)	Power of HF band in normalized unit.
HF(%)	Relative powers of HF band.
VLF(Hz)	Peak frequency for very low-frequency (VLF) band.
LF(msˆ2)	Absolute power of low-frequency (LF) band.
Meanlinelength(beats)	Mean line length of diagonal lines in recurrence plot.
DET	Determinism (percentage of recurrence points which form diagonal lines in recurrence plot).
LF/HF	Ratio between LF and HF band powers. The LF/HF ratio indicates sympathetic activity.
TTPnSCR	Number of significant skin conductance responses (SCRs) within the response window (wrw). It represents the phasic activity.
CDASCR	Average phasic driver within the response window (wrw). This score represents phasic activity wrw most accurately.