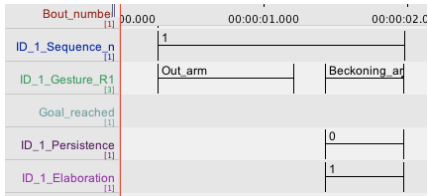
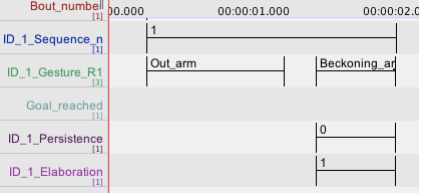


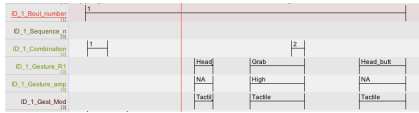
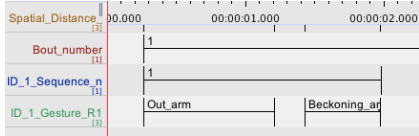
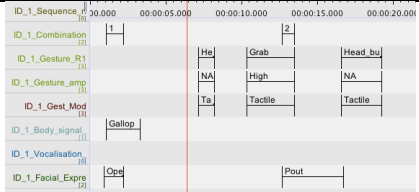
Table 1. Description of GApS coding template tiers

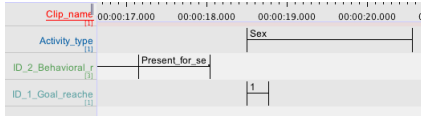
Tier level	Tier name	Annotation type	Annotation values	Definition of annotations (if applicable)	Segment length	Segment duration	Parent tier	Tier_Type	Controlled_vocabulary	Comments
Interaction										
	Clip_Name	Name of media file	Date-Activity type- ID_1-ID_2-Rater ID; e.g., 16.01.17_Play_KU_CLB_R1		3sec	Fixed 3sec segment (from time 00:00:00)	None	None	None	In Excel output, the clip name will be only in the first few rows of the column and will have to be copied down across the other rows related to the corresponding interaction.
	Study_Site	Name of study site	LYB, SD, BSL, SIG, LVS		3sec	Fixed 3sec segment (from time 00:00:00)	None	Study_site	Study_site	In Excel output, the study site will be only in the first few rows of the column and will have to be copied down across the other rows related to the corresponding interaction.
	Species	Name of study species	Bonobos, Chimpanzees		3sec	Fixed 3sec segment (from time 00:00:00)	None	Species	Species	In Excel output, the species name will be only in the first few rows of the column and will have to be copied down across the other rows related to the corresponding interaction.
	Activity_Type	Type of social activity	e.g., Grooming; Play, Sex; Travel,...		Activity duration	From onset of first movement typical of activity, to cessation of movements typical of activity	None	Activity_type	Activity_type	In Excel output, type of social activity will be only in the first few rows of the column and will have to be copied down across the other rows related to the corresponding interaction.
	Dyad_name	Identities of the interacting partners	<u>ID_a@ID_b</u> ; e.g., <u>CLB@KU</u>	ID_a is the first name in alphabetic order	3sec	Fixed 3sec segment (from time 00:00:00)	None	Dyad_name	Dyad_name	The dyad name should always be the same throughout the dataset regardless of who is ID_1 in the interaction (for instance, the dyad <u>CLB@KU will always be named CLB@KU regardless of whether CLB is ID_1 or ID_2 in a given interaction</u>). ID_a should be the first in the alphabetic order. In Excel output, the dyad name will be only in the first few rows of the column and will have to be copied down across the other rows related to the corresponding interaction.
	Dyad_DSI	DSI is an index of dyad bond strength (see Neumann and Kulik, 2014, and Heesen et al. 2021, for description of methods to obtain DSI indices)			3sec	Fixed 3sec segment (from time 00:00:00)	None	None	None	In Excel output, the DSI index value will be only in the first few rows of the column and will have to be copied down across the other rows related to the corresponding interaction.
	ID_1_ID_2_Rank_Diff	Elorating index of rank difference between ID_1 and ID_2 (see Silk et al., 2013 and Heesen et al. 2021, for description of methods to obtain Elorating indices)			3sec	Fixed 3sec segment (from time 00:00:00)	None	None	None	In Excel output, the Elorating index value will be only in the first few rows of the column and will have to be copied down across the other rows related to the corresponding interaction.
ID_1										
	ID_1	Identity of individual who produces the first	e.g., KZ		3sec	Fixed 3sec segment (from time 00:00:00)	None	ID	ID	ID_1 corresponds to the identity of the individual who produces the first signal in the interaction. In Excel output, ID_1 name will be only in the first few rows of the column

		signal in the interaction								and will have to be copied down across the other rows related to the corresponding interaction.
	ID_1_Bout_number	Bout number in interaction		A bout is a string of gesture and/or gesture sequences	Length of bout	From beginning of segment of ID_1 first produced gesture, to end of segment of ID_1 last produced gesture	None	None	None	
	ID_1_Sequence_number	Sequence number in interaction		A sequence is a string of 2 or more gestures produced by one signaller without pause, and that follow each other by less than 1 sec.	Length of sequence	From beginning of segment of ID_1 first produced gesture in sequence, to end of segment of ID_1 last produced gesture in sequence	None	None	None	
	ID_1_Combination_number	Signal combination number in interaction		A signal combination is a string of signals from different sensory modalities (e.g., gesture + call; gesture + facial expression,) produced simultaneously and overlap, or that follow each other by less than 1 sec.	Length of overlap between the signals segments	From beginning to end of overlap between segments of ID_1 first and second produced signals in combination	None	None	None	
	ID_1_Goal_reached	Yes/No (0/1)	0;1		3sec	Fixed 3sec segment (from moment goal is reached, e.g., when first movement typical of activity (e.g., sex, play, grooming) starts	None	Presence	Presence	
	ID_1_Gesture_R1	Gesture Type	See Table 2 for gesture type definitions		ID_1 gesture segment length	From onset of movement to produce gesture from a neutral position, to onset of retraction from	None	Gesture	Gesture	Tier names must contain the indicators R1 for the first rater and R2 for the second rater for calculating interrater agreement with EasyDIAG (see section 6 of GApS manual)

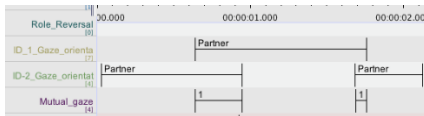
						gesture held position to go back to neutral position (or to start a new gesture, or end of gesture action)				
	ID_1_Gest_Mod	Sensory modality of gesture type	Silent-visible; Tactile; Audible		ID_1 gesture segment length	ID_1 gesture segment duration	ID_1_gesture	Modality	Modality	
	ID_1_Gesture_amplitude_R1	Amplitude of gesture in space	Low, Medium, High; NA (See list of amplitudes definition for each gesture of repertoire; in preparation for manuscript)	Low= minimum amplitude; medium= intermediate amplitude; High: maximum amplitude	ID_1 gesture segment length	ID_1 gesture segment duration	ID_1_gesture	Amplitude	Amplitude	Tier names must contain the indicators R1 for the first rater and R2 for the second rater for calculating interrater agreement with EasyDIAG (see section 6 of GApS manual)
	ID_1_Persistence	Yes/No (0/1)	0;1	If ID_1 gesture is repetition of first ID_1_gesture produced in sequence= 1; if ID_1 gesture is different from first ID_1_gesture produced in sequence=0; if ID_1 gesture is repetition of another gesture than first gesture produced in sequence= no annotation	ID_1 gesture segment length	ID_1 gesture segment duration	ID_1_gesture	Presence	Presence	
	ID_1_Elaboration	Yes/No (0/1)	0;1	If ID_1 gesture is repetition of first ID_1_gesture produced in sequence= 0 if ID_1 gesture is different from first ID_1_gesture produced in sequence= 1	ID_1 gesture segment length	ID_1 gesture segment duration	ID_1_gesture	Presence	Presence	
	ID_1_overlapping Gesture 1 R1	Gesture Type	See Table 2 for gesture types definitions		Gesture segment length	From onset of movement to produce gesture from a neutral position, to onset of retraction from gesture held position to go back to neutral	None	Gesture	Gesture	Tier names must contain the indicators R1 for the first rater and R2 for the second rater for calculating interrater agreement with EasyDIAG (see section 6 of GApS manual)

						position (or to start a new gesture, or end of gesture action)				
	ID_1_Overlapping_Gesture_2_R1	Gesture Type	See Table 2 for gesture types definitions		Gesture segment length	From onset of movement to produce gesture from a neutral position, to onset of retraction from gesture held position to go back to neutral position (or to start a new gesture, or end of gesture action)	None	Gesture	Gesture	Tier names must contain the indicators R1 for the first rater and R2 for the second rater for calculating interrater agreement with EasyDIAG (see section 6 of GAPs manual)
	ID_1_Body signal_R1	Body signal type	See Table 3 for Body signal types definitions		Body signal segment length	From onset of movement to produce body signal to onset of movement to end body signal	None	Body_signal	Body_Signal	Tier names must contain the indicators R1 for the first rater and R2 for the second rater for calculating interrater agreement with EasyDIAG (see section 6 of GAPs manual)
	ID_1_Vocalisation_R1	Vocalisation Type	See Table 4 for vocalisation types definitions		Vocalisation segment length	From onset of vocalisation production to end of vocalisation production	None	Vocalisation	Vocalisation	Tier names must contain the indicators R1 for the first rater and R2 for the second rater for calculating interrater agreement with EasyDIAG (see section 6 of GAPs manual)
	ID_1_Facial expression_R1	Facial expression	See Table 5 for Facial expression types definitions		Facial expression segment length	From onset of facial movements to produce facial expression, to end of facial expression	None	Facial_expression	Facial_expression	Tier names must contain the indicators R1 for the first rater and R2 for the second rater for calculating interrater agreement with EasyDIAG (see section 6 of GAPs manual)
	ID_1_Gaze orientation_R1	Gaze directed at partner, when facing or looking back at partner	Partner, Gaze_back,	Partner = Signaller is gazing directly at recipient's face, Gaze back= Signaller is gazing back at partner's face over his shoulder while walking away	Gaze segment length	From moment gaze is locked on partner to moment gaze is detached from partner	None	Gaze	Gaze	Tier names must contain the indicators R1 for the first rater and R2 for the second rater for calculating interrater agreement with EasyDIAG (see section 6 of GAPs manual)
	ID_1_Body_part_R1	Recipient's body part touched by ID_2 tactile gesture	Arm; Back; Breast; Face; Fit; Genitals; Hand; Head; Hind; Hip; Leg; Shoulder; Stomach; Wrist; Out_of_Sight		ID_1 gesture segment length	ID_1 gesture segment duration	None	Recipient_body_parts	Recipient_body_parts	Tier names must contain the indicators R1 for the first rater and R2 for the second rater for calculating interrater agreement with EasyDIAG (see section 6 of GAPs manual)

	ID_1_Behavioral_response_R1	Behaviour type performed in response to signal produced by ID_2			Behaviour segment length	From onset of movement typical of the behaviour to moment behaviour is achieved	None	None	None	Tier names must contain the indicators R1 for the first rater and R2 for the second rater for calculating interrater agreement with EasyDIAG (see section 6 of GAPs manual)
	ID-1_Signal_function	Function of signal based on ASO (see Hobaiter and Byrne, 2014 for description of ASO)	Attention getter; Leave_taking; Follow_invitation; Contact_invitation; Chase_invitation; Play_contact_invitation; Sex_invitation; Grooming_invitation; Stop:request; Move_away_request		Corresponding signal segment length	Corresponding signal segment duration	None	Function	Function	Based on ASO (Apparently Satisfactory Outcome, see Hobaiter and Byrne, 2014), if behavioural outcome appears satisfactory, the signaller should stop signaling. The function of signals can be inferred at the end of the bout.
	ID_1_Activity_Role	Role of ID_1 in interaction	Groomer; groomee; chaser; chasee; leader; follower		3sec	3sec	None	Role	Role	
ID_2										
	ID-2	Identity of the individual that is the receiver of the first signal produced in the interaction	e.g., KL		3sec	Fixed 3sec segment (from time 00:00:00)	None	ID	ID	ID2 corresponds to the ID of individual who was the recipient of the first signal produced in the interaction. In Excel output, ID_2 will be only in the first few rows of the column and will have to be copied down across the other rows related to the corresponding interaction.
	ID_2_Bout number	Bout number in interaction		A bout is a string of gesture and/or gesture sequences	Length of bout	From beginning of segment of ID_2 first produced gesture, to end of segment of ID_2 last produced gesture	None	None	None	
	ID_2_Sequence_number	Sequence number in bout		A sequence is a string of 2 or more gestures produced by one signaller without pause and that follow each other by less than 1 sec.	length of sequence	From beginning of segment of ID_2 first produced gesture, to end of segment of ID_2 last produced gesture in sequence	None	None	None	
	ID_2_Combination_number	Signal combination number in interaction		A signal combination is a string of signals from different sensory modes (e.g., gesture + call; gesture + facial expression,) produced	Length of overlap between the signals segments	From beginning to end of overlap between segments of ID_2 first and second produced	None	None	None	

				simultaneously and overlap, or that follow each other by less than 1 sec.		signals in combination				
	ID_2_Goal reached	Yes/No (0/1)	0;1		3sec	Fixed 3sec segment (from moment goal is reached, e.g., when first movement typical of activity (e.g., sex, play, grooming) starts	None	Presence	Presence	
	ID-2_Gaze orientation_R1	Gaze directed at partner, when facing or looking back at partner	Partner, Gaze_back	Partner = Signaller is gazing directly at recipient's face, Gaze back= Signaller is gazing back at partner's face over his shoulder while walking away	Gaze segment length	From moment gaze is locked on partner to moment gaze is detached from partner	None	Gaze	Gaze	Tier names must contain the indicators R1 for the first rater and R2 for the second rater for calculating interrater agreement with EasyDIAG (see section 6 of GAPs manual)
	ID-2_Gesture_R1	Gesture Type	See Table 2 for gesture types definitions		ID_2 gesture segment length	From onset of movement to produce gesture from a neutral position, to onset of retraction from gesture held position to go back to neutral position (or to start a new gesture, or end of gesture action)	None	Gesture	Gesture	Tier names must contain the indicators R1 for the first rater and R2 for the second rater for calculating interrater agreement with EasyDIAG (see section 6 of GAPs manual)
	ID_2_Gest_Mod	Sensory modality of gesture type	Silent-visible, Tactile or Audible		ID_2 gesture segment length	ID_2 gesture segment duration	ID_2_gesture	Modality	Modality	
	ID-2_Gesture_amplitude_R1	Amplitude of gesture in space	Low, Medium, High; NA See list of amplitudes definition for each gesture of repertoire (in preparation for manuscript)	Low= minimum amplitude; medium= intermediate amplitude; High: maximum amplitude	ID_2 gesture segment length	ID_2 gesture segment duration	ID_2_gesture	Amplitude	Amplitude	Tier names must contain the indicators R1 for the first rater and R2 for the second rater for calculating interrater agreement with EasyDIAG (see section 6 of GAPs manual)

	ID_2_Persistence	Yes/No (0/1)	0;1	If ID_2 gesture is repetition of first ID_2_gesture produced in sequence= 1; if ID_2_gesture is different from first ID_2_gesture produced in sequence= 0; if ID_2_gesture is repetition of another gesture than first gesture produced in sequence= no annotation	ID_2_gesture segment length	ID_2_gesture segment duration	ID_2_gesture	Presence	Presence	<p>The diagram shows a timeline from 00:00:00.000 to 00:00:02.000. A red bar at the top indicates 'Bout_number' with a value of 1. Below it, a blue bar indicates 'ID_1_Sequence_n' with a value of 1. A green bar indicates 'ID_1_Gesture_R1' with two sub-bars labeled 'Out_arm' and 'Beckoning_ar'. A light blue bar indicates 'Goal_reached'. A purple bar indicates 'ID_1_Persistence' with a value of 0. A pink bar indicates 'ID_1_Elaboration' with a value of 1.</p>
	ID_2_Elaboration	Yes/No (0/1)	0;1	If ID_2_gesture is repetition of first ID_2_gesture produced in sequence= 0 if ID_2_gesture is different from first ID_2_gesture produced in sequence= 1	ID_2_gesture segment length	ID_2_gesture segment duration	ID_2_gesture	Presence	Presence	<p>The diagram shows a timeline from 00:00:00.000 to 00:00:02.000. A red bar at the top indicates 'Bout_number' with a value of 1. Below it, a blue bar indicates 'ID_1_Sequence_n' with a value of 1. A green bar indicates 'ID_1_Gesture_R1' with two sub-bars labeled 'Out_arm' and 'Beckoning_ar'. A light blue bar indicates 'Goal_reached'. A purple bar indicates 'ID_1_Persistence' with a value of 0. A pink bar indicates 'ID_1_Elaboration' with a value of 1.</p>
	ID_2_overlapping_Gesture_1_R1	Gesture Type	See Table 2 for gesture types definitions		Gesture segment length	From onset of movement to produce gesture from a neutral position, to onset of retraction from gesture held position to go back to neutral position (or to start a new gesture, or end of gesture action)	None	Gesture	Gesture	Tier names must contain the indicators R1 for the first rater and R2 for the second rater for calculating interrater agreement with EasyDIAG (see section 6 of GapS manual)
	ID_2_overlapping_Gesture_2_R1	Gesture Type	See Table 2 for gesture types definitions		Gesture segment length	From onset of movement to produce gesture from a neutral position, to onset of retraction from gesture held position to go back to neutral position (or to start a new gesture, or end	None	Gesture	Gesture	Tier names must contain the indicators R1 for the first rater and R2 for the second rater for calculating interrater agreement with EasyDIAG (see section 6 of GapS manual)

	Mutual_gaze	ID_1 and ID_2 gaze directly at each other simultaneously	1		Length of overlap between ID_1 Gaze orientation and ID_2_Gaze orientation segments	From beginning of overlap between segments of ID_1_Gaze_orientation and ID_2_Gaze_orientation, to end of overlap between segments of ID_1_Gaze_orientation and ID_2_Gaze_orientation	None	None	None	 <p>See section 2.2.4.4. of GapS manual for automatically creating overlapping segments</p>
	Spatial Distance_R1	Spatial distance between ID_1 and ID_2 when a gesture is produced	0;1;2	0=physical contact, 1=at arm length distance; 2= beyond arm-length distance	Corresponding gesture segment length	Corresponding gesture segment duration	None	None	None	Tier names must contain the indicators R1 for the first rater and R2 for the second rater for calculating interrater agreement with EasyDIAG (see section 6 of GapS manual)
	Role_Reversal	Activity roles reversal	1	From groomer to groomee or vice versa, from chaser to chasee and vice versa, from leader to follower and vice versa.	3ms	Fixed 3sec segment (from onset of movement typical of the activity; e.g., when first movement typical of sex, play, or grooming starts, when role changes	None	None	None	
	Turn_taking	Communicative turn-taking between ID_1 and ID_2	1		Length of gap between end of ID-1 (or ID_2, depending on whose signal came first) signal and beginning of ID-2 (or ID_1, depending on whose signal came first) signal	From end of segment ID_1_gesture, to start segment ID_2, and vice versa depending on sequential order of gesture	None	Presence	Presence	