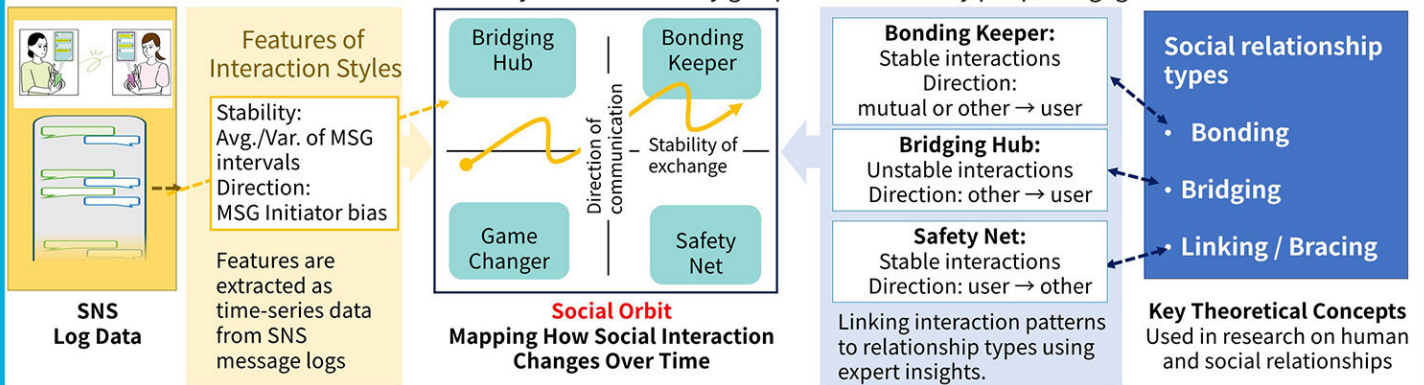


Abstract

Understanding human relationships can be difficult, especially for non-experts. This exhibition introduces “**Social Orbit**,” a method that visualizes how personal and social ties evolve over time by analyzing short message logs, such as those on social media. Drawing on insights from sociology and social psychology, the system transforms interaction patterns—like message frequency and timing—into two-dimensional trajectories that reflect shifts in the nature and type of interpersonal relationships. These visualizations help people identify opportunities to maintain or enhance their social connections. By making the dynamics in human relationships visible, this framework opens up new possibilities for individuals to better understand and adapt their social behavior in today’s increasingly complex society.

Visualizing Changes in Human Relationships Over Time

- This framework visualizes how human relationships evolve over time, based on social media (SNS) message (MSG) logs.
- By projecting interaction data onto a two-dimensional space defined by **interaction direction** and **relationship stability**, even those unfamiliar with technical analysis can intuitively grasp shifts in the way people engage with one another.



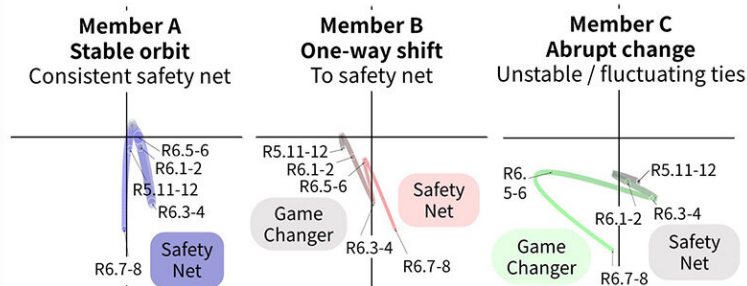
Intuitively Understanding Relationship Changes

- A “Social Orbit” shows how relationships change over time from the user’s perspective.
- A year-long analysis revealed diverse change patterns and individual differences, reflected in the distinct shapes of each member’s orbit.

SNS Log Analysis Method:

Segment message logs into threads using a 4-hour reply gap. Then, compute X/Y values and plot to form the Social Orbit.

X: Stability (Var. of MSG intervals) / Y: Direction (MSG initiator bias)

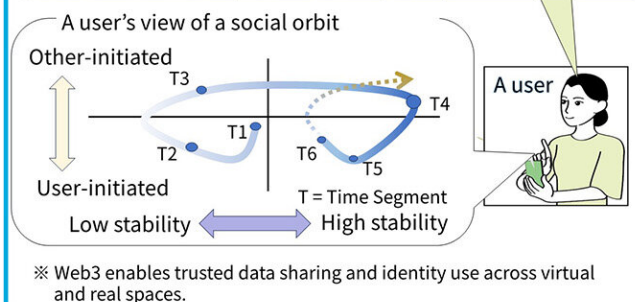


Orbit-Inspired Awareness and Action

- This method reveals hidden patterns in communication — such as who tends to initiate — helping users reflect, improve interactions, and sustain better relationships.

Example: Reviewing One’s Orbit

“I’ve become more stable and friendly with this person (movement from T3 to T4 shows increased stability). However, recently, I’ve been the one initiating more (T5 to T6 shows a downward shift), so I feel I should reflect on balancing our communication (dotted arrow upward).”



References

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Contact

Kazushi Maruya, Sensory Representation Research Group, Human Information Science Laboratory