



# Non-Verbal Communication and UX: How MMO Players Communicate Non-Verbally and How this Affects their Conceptualization of Group Dynamics



Research Based on Adam Engstrom's LSE Master's Dissertation

## BACKGROUND

This research was conducted as part of the author's master's dissertation at the London School of Economics (LSE) and focused on how individuals' Theory of Mind<sup>1,5</sup> (how they cognitively represent the mental states of others) affected interactions while playing the MMO Spiral Knights.<sup>2</sup> Many video games are full of social interactions<sup>4</sup>; however, an effective form of non-verbal communication has not been developed. One participant in the study referred to this as the "communication problem in MMORPGers"<sup>6</sup> and attributed this to factors such as a lack of appropriate communicative equipment such as microphones, language barriers, not wanting to be judged based on aspects of their speech, and the speed of reaction times required by games making text chatting impractical. However, despite this, players still manage to perform complex cooperative interaction through reading behavioral cues, sometimes even in three-dimensional space battles such as in the game Star Trek Online.<sup>3</sup>



## METHODS & ANALYSIS

Six participants played Spiral Knights in groups of two while in separate rooms and were not allowed to talk with each other or use the in-game chat. Participants were instructed to narrate the events that occurred on the screen (i.e. to "think aloud").

Narrations and screens were recorded for analysis, and participants completed a semi-structured follow-up interview and brief demographic survey. Transcripts of the narrations were thematically coded for Theory of Mind (e.g. "we" versus "I" versus "he").



## FINDINGS & FUTURE SUGGESTIONS

1) *Social Psych*: Rather than each individual fully integrating his consciousness with that of the other to form a joint we-intention such as in Tomasello et al. (2005) or a wholly individual-centric meta-perspective as in Laing et al. (1966), individual's social cognitive rationalizing was more intricate, nuanced, and almost fractal in shape and flowed between individual and group intentionality. This is particularly seen in the occasional virtual proto-conversations between participants.<sup>4</sup>

2) *UX*: There is a lack of infrastructure to support subtle forms of interpersonal communication between players. An example of this interpersonal communication is that players would adapt game mechanics (such as flashing their shields or moving in unusual patterns) to attempt to communicate strategies and techniques to other players. A lack of built in game mechanics to enunciate such behavior forced players to try to guess where their partner's attention was and whether or not they were inside the boundaries of their screen. In Spiral Knights (Computer software, 2009) specifically, a simple program could be added to the game that looks out for such actions as shield flashing, going back-and-forth over the same path to suggest a direction of movement, swinging repeatedly at an object while standing still, and prolonged gazes and then turn them into cues for the other player such as a symbol on their mini-map and a sound for shield flashing or arrows on the floor for moving back and forth over a particular path.

## WORKS CITED

- 1) Laing, R. D., Phillipson, H., & Lee, A. R. (1966). *Interpersonal perception: A theory and method of research*. London: Tavistock Publications.
- 2) Spiral Knights [Computer software]. (2009). San Francisco, CA: Three Rings Design.
- 3) Star Trek Online [Computer software]. (2010). Los Gatos, CA: Cryptic Studios.
- 4) Stivers, T., Enfield, N. J., Brown, P., Englert, C., Hayashi, M., Helmenann, T., Hoymann, G., Rossano, F., de Rulter, J. P., Yoon, K., & Levinson, S. C. (2009). Universals and cultural variation in turn-taking in conversation. *Proceedings of the National Academy of Sciences*, 106(26), 10587-10592.
- 5) Tomasello, M., Carpenter, M., Call, J., Behne, T. & Moll, H. (2005). Understanding and sharing intentions: The origins of cultural cognition. *Behavioral & Brain Sciences*, 28 (5), 675-691.
- 6) Triebel, T., Guthier, B., Plotkowiak, T., & Effelsberg, W. (2009). Peer-to-peer voice communication for massively multiplayer online games. *Consumer Communications and Networking Conference 6th IEEE*, 1-5.

## CONTACT DETAILS

Adam Engstrom  
Email: [adengstrom87@gmail.com](mailto:adengstrom87@gmail.com)  
Website: [www.adengstrom.com](http://www.adengstrom.com)

