

PhD Offer at Inria, Rennes, France

Title: *“Social Haptics : Study of Haptic Feedback for Promoting Positive Social Interactions in Virtual Reality”*

Project :

The objective of the PhD is to design and assess novel interactive techniques based on haptic feedback to promote positive social interactions in shared virtual environments.

The starting point is a recent result obtained by Hybrid team within GuestXR called “persuasive vibrations” [12], corresponding to a novel effect of haptics that we discovered during social interactions in VR. In brief, haptic feedback consisting in vibrations synchronized with speech can strongly influence aspects related to VR social interactions such as persuasion, co-presence and leadership. Our first results on persuasive vibrations suggest how haptics could support social interactions in the future, and pave the way to novel usages of vibrations in a wide range of XR applications in which verbal communication plays a prominent role.

In this PhD program, our intention is thus to investigate more in-depth both the perceptual and technological sides of “social haptics” and of this novel research perspective within various social VR contexts. Several questions arise regarding persuasive vibrations, such as: Which vibratory rendering algorithms are the most effective? which haptic technologies could be used in addition or replacement of vibrations? Which parts of the body are the most adapted to receiving persuasive haptic effects (hands, torso, head, etc)? Which use-case or applicative contexts should be favoured involving haptically “augmented” social interactions in XR ?

Keywords : social interactions, haptic feedback, virtual reality, avatars, social touch, affective haptics

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