(25) More Breaks Less Presence

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Abstract

Introduction

The concept of 'breaks in presence' (BIPs) was introduced in Slater and Steed (2000). The idea was that rather than only use a post-experience questionnaire to assess 'presence', it could be assessed during the experience itself. The hypothesis was that during immersion in a Virtual Environment (VE) a participant simultaneously perceives two streams of sensory data – from the real world, and also from the virtual world. At any one moment these sense impressions would be the basis of a perceptual Gestalt, corresponding more or less to the world portrayed by the VE or to the real world in which the whole event was taking place. A 'break in presence' is any event whereby, for the participant, at that moment, the real world becomes apparent, and for the duration of that event, the participant acts and responds more to the real world setting than to the virtual world. We concentrate on the relationship between BIPs, reported by the 60 volunteers pressing a wand button, and reported questionnaire based 'presence'. We have simply counted the number of BIPs reported by subjects. Our hypothesis is that the greater the number of BIPs the lower the reported overall presence should be, on the average. The questions of the questionnaire were related to the sense of being in the laboratory or the VE, the awareness of the lab or the VE, which one was more real the lab or VE, the feeling being similar to having seen a movie or visited a real place.

Results

Under the null hypothesis that BIPs occur at random, unrelated to anything else, the number of BIPs can be treated as a Poisson random variable, and log-linear regression should be used. The most important co-variate is the presence count itself. If we consider a regression of the number of BIPs on the presence score then it is highly significant. The reported presence variable is negatively correlated with the number of BIPs. There is, therefore, a highly significant relationship between the number of BIPs collected during the experience and the presence questions administered after the experience, two variables which in terms of the way they are constructed, should, in principle from a purely procedural point of view, be independent.

Slater, M. & Steed, A.J. (200) A virtual presence counter, Presence: Teleoperators and Virtual Environments, 9(5): 413–434.