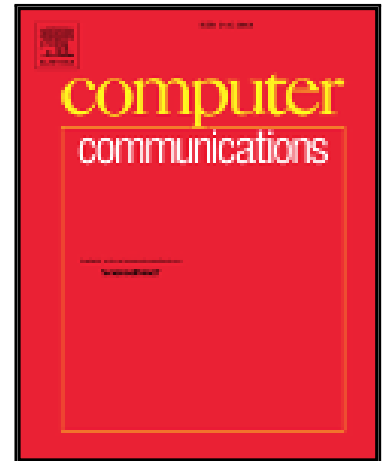


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Fundamental Relationship between Node Dynamic and Content Cooperative Transmission in Mobile Multimedia Communications

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Abstract

The traditional research on mobile multimedia communications are mostly based on transmission mechanism and relationship between the nodes, lacking of the qualitative and quantitative analyses of node dynamic such as dynamic emotion on content cooperative transmission. In this paper, we firstly excavate the influence factors of dynamic emotion, and then establish the cloud-based dynamic emotion game model to process the dynamic emotion in real time from the different time granularity. Secondly, by analyzing the dynamic emotion for a given time granularity, the steady-state emotion quantization value which represents the expected cooperative willingness to other nodes can be derived. In addition, combined with the statistical characteristics of multimedia service, we analyze the transmission characteristics of multimedia service, and then derive the influence of dynamic emotion on content cooperative transmission under the influence of the transmission characteristics of multimedia service. The numerical results show that the theoretical analysis framework can accurately reflect the dynamic emotion of nodes and the performance influence of dynamic emotion on content transmission.

Keywords: Mobile Cloud Computing; Multimedia Service; Emotional Analysis; Self-Similar; Packet Loss Rate

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