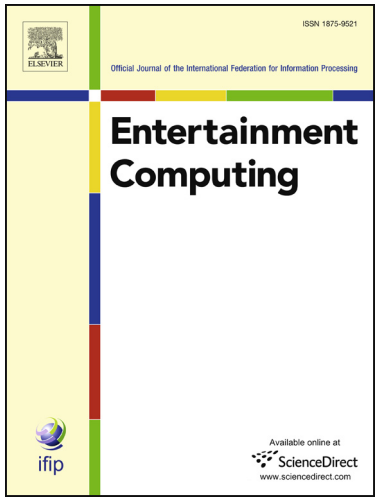

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Mobile Devices at the Cinema Theatre

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Abstract
The pre-show experience is a significant part of the movie industry. Moviegoers, on average arrive 24 minutes before when the previews start. Previews have been a part of the movie experience for more than a hundred years and are a culturally significant aspect of the whole experience. Over the last decade, the pre-movie in-theatre experience has grown to a $600 million industry. This growth continues to accelerate. Since 2012, this industry has increased by 150%. Consequently, there is an industry-wide demand for innovation in the pre-movie area. In this paper, we describe *Paths,* an innovative multiplayer real-time socially engaging game that we designed, developed and evaluated. An iterative refinement application development methodology was used to create the game. The game may be played on any smartphone and group interactions are viewed on the large theatre screen. This paper also reports on the quasi-experimental mixed method study with repeated measures that was conducted to ascertain the effectiveness of this new game. The results show that *Paths* is very engaging with elements of suspense, pleasant unpredictability and effective team building and crowd-pleasing characteristics.

Key words: multiplayer real-time games; Human Computer Interaction; context-aware computing; Mobile Computing; social engaging games.

Research Highlights

- We developed a highly engaging interactive game designed for the cinema theatre.