Title: BigTop Bazaar: Model for Conference Attendee Movements

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Abstract:

BigTop Bazaar: Modeling & Simulating Conference Attendee Dynamics Ronald J. Nowling Red Hat, Inc. Where do you get data for building and testing a system for real-time tracking and analysis of attendee movements at a live event like a conference? Simulate it! We present a physical model for simulating attendees' movements using the Langevin stochastic differential equation (SDE) with booths modeled as attractive sources and the conference space modeled using spherical, harmonic boundary conditions. The strengths of the interactions between booths and attendees are parameterized from a randomly-generated latent factor model. We analyze the properties of the model, showing the effects of the parameters on the models' dynamics. The resulting time-series data is analyzed to show how the model captures the attendees' preferences through the distributions of the attendees' "residence times" at the booths. Lastly, we discuss how the model can be used to build simulations to support development and testing of analytics software.