TANGIBLE - INTANGIBLE HERITAGE(S): AN INTERPLAY OF DESIGN, SOCIAL AND CULTURAL CRITIQUES OF THE BUILT ENVIRONMENT

- **Paper / Proposal Title:**
  An Implementation of Building Information Modeling (BIM) Process in Managing a UNESCO World Heritage Site in Si Sachanalai, Thailand

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- **Presentation Method.** I would like to:
  i. present in person (with/without a written paper)

- **Abstract (300 words):**
  Widely renowned for its exotic natural landscape and exquisite cultural heritages, Thailand ranks among the most preferred destinations in global tourism. Major attractions encompass UNESCO World Heritage sites, five of which exist in the country. With rapidly rising numbers of visitors per annum, responsible state agencies are struggling to maintain and manage those properties effectively. Owing to such difficulty, this research explores the technological capabilities of an intelligent three-dimensional model-based process known as Building Information Modeling (BIM) in terms of a tool for heritage management. By generating digital representations of physical and functional attributes of a built environment, BIM has been employed to construct a comprehensive virtual
information model for Si Sachanalai Historical Park. Situated in Si Satchanalai sub-district of Sukhothai province, the area contains the Historic Town of Sukhothai and Associated Historic Towns, which became a UNESCO World Heritage Site in 1991. Via the abovementioned methodological approach, the investigations not only examine the tangible and intangible characteristics of the historical park, but also the behaviors and expectations of the visitors through a series of questionnaires and surveys. The collected statistical data subsequently form an operational basis for the BIM process to present multi-dimensional solutions for implementing a strategic master plan to develop creative tourism in Si Satchanalai. In addition to these scholarly undertakings, the upcoming discussions incorporate analytical assessments on the validity and efficacy of the proposed BIM process by conducting focused group interviews with state officials and community leaders involving with the conservations of cultural heritages in the sub-district. In conjunction with the said evaluative studies, the inquiries further reveal that BIM possesses many potentials for other practical uses as well. Notable examples include a cybernetic application for mobile telecommunication devices that enables travellers to interactively explore Si Sachanalai Historical Park and nearby tourist attractions in real time.

• Author(s) Biography (200 words each):

Supornchai Saengratwatchara received a B.S. in Geography from Chiang Mai University before winning a scholarship from the Royal Thai Government to study abroad. He earned another B.S. in Interior Design and M.S. in Human Environments from Utah State University, following by a Ph.D. in Human Environments (Design and Management) from Michigan State University, U.S.A. After his graduation, Supornchai has become a lecturer at KMITL, teaching various subjects in environmental design both in undergraduate and graduate levels. He holds scholarly interests on computer-aided design, construction management, and information technology, particularly on building information modeling (BIM), which have been integrated with his research projects and pedagogical expertise. Apart from the academic career, Supornchai has engaged in professional practices as an interior designer and BIM consultant.

Koompong Noobanjong currently serves as an associate professor of architecture at KMITL. He won a scholarship from the Royal Thai Government to pursue his M.Arch. and Ph.D. in Design and Planning (Architectural History, Theory, and Criticism) at the University of Colorado, U.S.A. In addition to books and book chapters on the politics of representations in architecture and urban space, Koompong has published several research articles on critical studies of the built environment and global cities. He has also lectured on these topics at a number of academic forums overseas. His seminal book, The Aesthetics of Power: Architecture, Modernity, and Identity from Siam to Thailand, was released in 2013.