ACCELERATING INTERACTIONS IN PROJECT DESIGN THROUGH EXTREME COLLABORATION AND COMMITMENT MANAGEMENT – A CASE STUDY

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ABSTRACT

Extreme Collaboration (XC) is a methodology originally pioneered by the NASA Jet Propulsion Laboratory to accelerate the conceptual design of space missions from months to a few days. XC has been adapted for application to AEC projects showing its potential for reducing cycle time and improving quality in construction projects. XC teams are cross-functional, co-located groups enabled with high performance computer modeling and simulation tools, large and interactive graphic displays, shared models and special organization, culture and training to support the design process.

This paper reports on the experimentation by the authors to accelerate the design process of a multidisciplinary team that is expected to simultaneously optimize the architecture, structural design, energy efficiency and cost of wood houses. The authors adapted the XC concepts to the context of the project team and combined them with Phase Scheduling, which manages the commitments of the design team members.

This paper describes the adapted methodology and the preliminary evaluation by the project team. The team, 20 designers from 5 disciplines, evaluated different aspects of the methodology, including speed, quality, effectiveness, team work, modeling support, and planning reliability. The results are promising and have encouraged the authors to continue using the adapted methodology in future projects.

KEYWORDS

Extreme collaboration, phase scheduling, commitment management, last planner system, lean project delivery system

INTRODUCTION

"Sufficient thought and time does not seem to be given to ensuring, either as a design team brief or during the designing process, that all who must contribute understand the common objective similarly and fully. There is seldom a full awareness of all the steps

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