Light Exchange

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The notions of collaborative exchanges, leadership, and entrepreneurialism that cross disciplinary boundaries were promoted in a digital design-build studio taught in spring 2005. With the starting funds of one dollar, the studio took up the challenge of building two full-scale tensile fabric structures that mark the entrances to a downtown San Antonio building. Structures of 1200 square feet total surface area were successfully designed, engineered, and executed within a semester framework at a final cost of $102,490. Collaborations were fostered with 24 industry partners from Asia, Europe, Australia, and USA, including four structural engineers. Innovative pedagogical, collaborative and project management methods were employed. The studio was structured as a self-organized design “firm.” Positions were created and students were “hired” into the firm to play different roles. The studio utilized web-based communication and project management tools. After a four-week warm-up project that established an innovative studio culture, professional schedules were prepared and the engineers were engaged in the collaborative process of designing the anchors, cables, connections and PTFE/PVC membranes. The peculiarities of digitally designing, fabricating and erecting tensile fabric structures were comprehensively explored. The studio completed all the CNC fabrication, concrete footings and membrane fabrication at local workshops through special partnerships.