A collaborative framework for role-based credentialing systems

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Learning is in the midst of a fundamental transformation that allow students and professionals to integrate tools, develop skills and adapt to ever-changing work environments. In technology-driven industries such as design, engineering, manufacturing and construction, traditional education based on centralized knowledge and curricula is shifting towards flexible frameworks that allow learners to quickly acquire new skills across multiple roles and industries. This transformation involves three key components: first is the access of new digital CAD tools that make the learning, use and application of new skillsets more fluid and intuitive. Second is the development of industry-led credentialing systems that validate roles and task competencies. Third is the accessibility that online education, remote learning models and cloud-based digital tools provide to attract students without geographical limitations.

This paper discusses the development of an online-based credentialing system based on established and emerging roles that are required in industry. The system looks at learning as an agile and flexible life-long process, where people develop new skills as their jobs and careers continuously change. Credentialing systems provide new paths for learning key skills on demand, going beyond traditional degrees that condense content into curricular sequences. The flexibility that credentialing systems provide does not necessarily compete with traditional education but rather complements it. In some
cases, learners will benefit from credentialing systems that provide quick and effective adoption of skills. In other scenarios, a strong collaboration between industry and academia can occur, where CAD-tool makers provide state-of-the-art training and development of key technical skills while academic institutions provide well-rounded concepts on professional disciplines and mindsets. This collaborative model provides insight into the future of education, which is not tied to rigid degree structures but rather promotes a life-long learning process build upon frameworks that continuously evolve, scale and adapt, based on individual needs.

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Alex Lobos focuses in design, technology, sustainability and emotional attachment as means to elevate quality of life. He is Professor and Graduate Director of Industrial Design at Rochester Institute of Technology and Research Fellow Emeritus at Autodesk. His research and design courses have been sponsored by Autodesk, AT&T, Colgate-Palmolive, General Electric, Kraft, Makerbot, Stryker, Staples and Unilever, covering generative design, digital fabrication, sustainability, packaging, home appliances, housewares and medical devices. Alex has been juror for International Design Excellence Awards (IDEA), International Housewares competition and Bienal Iberoamericana de Diseño. Originally from Guatemala, Alex is a Fulbright scholar and holds a MFA from the University of Notre Dame and a BID from Universidad Rafael Landivar.

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