

A Serious Game to Upgrade the Learning of Organizational Skills in Nursing Schools

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Abstract : Serious games have been widely disseminated in the field of digital learning. They have proved their utility in improving skills through virtual environments that simulate the field where new competencies have to be improved and assessed. This paper describes how we created CLONE, a serious game whose purpose is to help nurses create an efficient work plan in a hospital care unit. In CLONE, the number of patients to take care of is similar to the reality of their job, going far beyond what is currently practiced in nurse school classrooms. This similarity with the operational field increases proportionally the number of activities to be scheduled. Moreover, very often, the team of nurses is composed of regular nurses and nurse assistants that must share the work with respect to the regulatory obligations. Therefore, on the one hand, building a short-term planning is a complex task with a large amount of data to deal with, and on the other, good clinical practices have to be systematically applied. We present how reference planning has been defined by addressing an optimization problem formulation using the expertise of teachers. This formulation ensures the gameplay feasibility for the scenario that has been produced and enhanced throughout the game design process. It was also crucial to steer a player toward a specific gaming strategy. As one of our most important learning outcomes is a clear understanding of the workload concept, its factual calculation for each caregiver along time and its inclusion in the nurse reasoning during planning elaboration are focal points. We will demonstrate how to modify the game scenario to create a digital environment in which these somewhat abstract principles can be understood and applied. Finally, we give input on an experience we had on a pilot of a thousand undergraduate nursing students.

Keywords : care planning, workload, game design, hospital nurse, organizational skills, digital learning, serious game

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