Data Structure Learning Platform to Aid in Higher Education IT Courses (DSLEP)

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Abstract : The advances in technology in the last five years allowed an improvement in the educational area, as the increasing in the development of educational software. One of the techniques that emerged in this lapse is called Gamification, which is the utilization of video game mechanics outside its bounds. Recent studies involving this technique provided positive results in the application of these concepts in many areas as marketing, health and education. In the last area there are studies that cover from elementary to higher education, with many variations to adequate to the educators methodologies. Among higher education, focusing on IT courses, data structures are an important subject taught in many of these courses, as they are base for many systems. Based on the exposed this paper exposes the development of an interactive web learning environment, called DSLEP (Data Structure Learning Platform), to aid students in higher education IT courses. The system includes basic concepts seen on this subject such as stacks, queues, lists, arrays, trees and was implemented to ease the insertion of new structures. It was also implemented with gamification concepts, such as points, levels, and leader boards, to engage students in the search for knowledge and stimulate self-learning.