

eCity: a Virtual City Environment for Engineering

An engineer requires specific personal, social and professional competencies. Some of these competencies are not being fully developed by the traditional teaching/learning methods. Problem Based Learning (PBL), especially when supported by Virtual Learning Environments (VLE), has been demonstrated to successfully develop those competencies in many cases. The main objective of the eCity project is to develop a city-development simulation engine and a pedagogical methodology, supported by an online and collaborative environment, that stimulates the integration and continuous exploitation of Problem Based Learning (PBL) in Engineering Education. Similarly, it is also focused on fostering the interest in Engineering in secondary school students. ECity's PBL VLE is a general and stimulating context especially due to the nature and complexity of the range of problems that will be available in the virtual city. The platform also promotes a sense of belonging to a community, peer support and an additional rewarding system that includes reputation points for problem-solving allowing the establishment of rankings (promoting a healthy competition). Problems or challenges can be fed into the platform as homework, teamwork, curricular activities, extra-curricular competitions, big or small projects, etc.

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