

# **E-learning supporting system for medical education based on digital game**

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## **Abstract**

The main purpose of this study was to develop a game-based e-learning supporting system for medical education on a special topic of Japanese encephalitis virus (JEV). The learning contents including epidemiology, the virus pathogenic, symptoms and sequelae, circulation way, virus construction and the course of duplicating in host's cell were presented by means of integrating the characteristics of e-learning and on-line games. Medical knowledge from textbooks and Internet was collected and categorized in accordance with the learning objects of traditional biology curricula. Finally the organized knowledge was transformed to create the scenario scripts for designing game missions. The game editing software was "Well of Souls", a shareware with low level hardware requirement from Synthetic Reality Corporation. This software engine can compose the game world not only suitable for solo but also for online multiplayer. In this study, a pre-arranged virtual environment was created for users to role-play and explore all the learning contents while playing the game.