PERCEPOLIS: Pervasive Cyberinfrastructure for Personalized Learning and Instructional Support

Investigators:
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Project Description:
The objective of this project is to develop Pervasive Cyberinfrastructure for Personalized Learning and Instructional Support (PERCEPOLIS), based on a plethora of enabling technologies, including computational intelligence, distributed and heterogeneous databases, and global information sharing processes. The novelty of PERCEPOLIS lies in its ability to leverage pervasive and ubiquitous computing and communication through the use of intelligent software agents that use a student's academic profile and interests, as well as supplemental information such as his or her learning style, to customize course content. Furthermore, PERCEPOLIS facilitates the collection of data on student performance and learning at a resolution that far exceeds what is currently available.

To date, we have carried out a review of related literature on engineering education and learning technology, have identified partners from several STEM-focused institutions, and have developed an algorithm for predictive search on the instructional materials developed. The project is currently in the proof-of-concept stage. We are in the process of converting the following three S&T courses to the modular format required for use in PERCEPOLIS: Introduction to Computer Engineering (CpE 111), Digital System Design (CpE 213), and Introduction to High Performance Computer Architecture (CS 301).
Publications:


