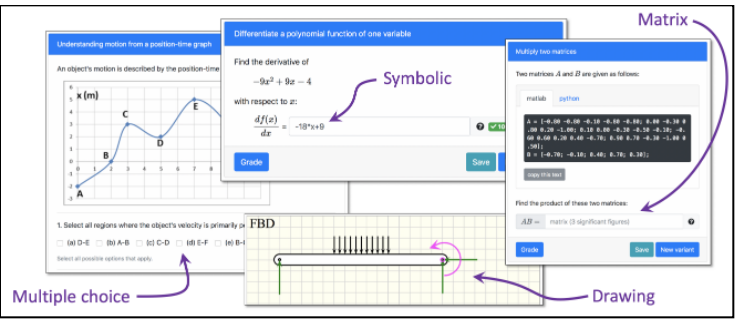
Electronic Seminar on Mathematics Education

PrairieLearn: A flexible platform for writing randomized auto-grading questions



Matt West, UIUC

PrairieLearn is a flexible, open-source platform for writing web-based questions that is in broad use for both homework and exams. We will show how PrairieLearn makes it easy to write questions that can randomize themselves, allowing students to practice repeatedly on different variants of a question, and to auto-grade so that students receive immediate feedback. In comparison to other question-asking platforms, PrairieLearn is highly extensible and permits instructors to develop and share new question components using standard languages such as Python, HTML, and LaTeX. We will demonstrate this flexibility with examples relevant to math education, including symbolic inputs, matrix calculations, graph sketching, and scaffolding activities for proofs. We will also show examples of how PrairieLearn can provide both formative practice for students as well as fully-automated exams when integrated with a computer-based testing facility.

Noon ET, March 2, 2021

Zoom link: https://cornell.zoom.us/j/92078267146, passcode esme

For more information on ESME: http://math.mit.edu/seminars/esme/