

Given a repository of questions mapped to intended learning outcomes(ILOs) the generation of an exam by choosing a set of questions out of the repository is another crucial task for educators. An exam generation based on Bloom's taxonomy from a repository of questions randomly is mentioned in [Amria et al.(2018)Amria, Ewais, and Hodrob].

An iterative exam generation based on a database of questions prepared using MATLAB and generated using **LaTeX** is given in [Stotsky and Wik(2024)].

A rather more control design approach is provided in [Chow et al.(2024)Chow, Lee, Park, Kuruppumullage Don, Hammel, Hallquist, Nord, Oravecz, Perry, Lesser, and M.N.] where adaptive cruise control algorithm is adopted to adjust the accomplishment of students to the study material goal in terms of ILOs from a repository of questions instead of choosing questions from the repository randomly. A survey is applied to the student beforehand and the instructor is assisted via the so called **iPRACTISE** system.

The use of personalized practice quizzes utilizing the **STACK** framework has been documented for advanced mathematics relevant to control engineering, focusing on topics such as the Solution of the Euler-Lagrange differential equation in [Erskine and Mestel(2018)]. The exercises are staged into questions to provide feedback on early parts of the calculation before students proceed to the final, more complex steps.

A MATLAB Cody Coursework approach is applied in detail in [Hill and Parvini(2018)]. The approach is based on students coding rather than providing a pen and paper solution or choosing from multiple-choice answers. An extensive examination of designing assignments in the control engineering course context is provided.

An e-learning framework using MATLAB apps is applied at the University of Stuttgart in the Introduction to Automatic Control course [Romer et al.(2019)Romer, Lorenzen, and M.N.] where it is observed that the interactivity and gamification via the apps improved the student experience.

References

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