SALVADOR PINEDA MORENTE
University of Málaga, Spain

NATALIA ALGUACIL CONDE
University of Castilla-La Mancha, Spain

JUAN PEREZ RUIZ
University of Málaga, Spain

SEBASTIÁN MARTÍN RIVAS
University of Malaga, Spain

ANTONIO RUIZ GONZÁLEZ
University of Málaga, Spain

INDIVIDUALIZED EXERCISES FOR CONTINUOUS ASSESSMENT IN ENGINEERING

Abstract:

This project focuses on the development of a web application that automatically grades the solution to engineering exercises. The input data of each exercise is different for each student in order to reduce plagiarism and increase motivation. Students can access the web app from any device with internet access (computer, laptop, phone, …) at any time. The fact that the exercises are enunciated and evaluated in an individualized way eliminates the possibility for students to share the solutions and divert the profitable collaboration between students towards the learning of the resolution procedure itself. From the professor's perspective, this tool allows an efficient and continuous evaluation of students. Besides, the storage of the data (number of attempts, time required, etc.) provides valuable information both for the self-assessment of the professor and for the analysis of the individualized learning process of each student. The web application is coded in Python, which easily allows the incorporation of additional features according to the needs of professors and students. The web application has already been tested during two academic years in two Spanish universities and for several engineering degrees. Ten professor and more than 2000 students have already benefit from this web application.