Cheat me not: automated proctoring of digital exams on Bring-Your-Own-Device

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Published in:
ITiCSE'18

DOI:
10.1145/3197091.3205813

Citation for published version (APA):

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Detecting fraud in digital assessment is currently done by human proctor, that observes recordings of the exam. This is costly, tedious and time consuming process. In this paper we present preliminary results on automated video proctoring, which has the potential to significantly reduce manual effort and scale-up digital assessment, while retaining good fraud detection.

CSC Concepts:
• Social and professional topics → Student assessment;

KEYWORDS
digital assessment, automated proctoring, higher education

ACM Reference Format:

1 INTRODUCTION
Our society is increasingly becoming digital. Educating students for such a digital world entails that assessing their skills should be firmly embedded inside this digital world [3]. In digital assessment a student is tested on a computer. This closely resembles the natural problem solving environment where students learn and practice.

The University of Amsterdam has recently proposed a digital bring-your-own-device (BYOD) assessment taken either at a university location or at home. To prevent cheating, the student laptop screen is video recorded during the exam and afterwards the video content is inspected by a proctor who signals and flags unauthorized actions. Online remote proctoring enables (1) more authentic exams by allowing open resources, (2) use of BYOD in a regular lecture room, (3) off-campus online exams as a part of an online program, for example, at home anywhere in the world [1]. Currently, the proctoring is done by hand, by observing the computer screen recordings of the students. To save time and resources, and also to make this form of proctoring more accessible to larger group of users, there is a strong need to automate the proctoring process.

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ACM ISBN 978-1-4503-5707-4/18/07... $15.00
https://doi.org/10.1145/3197091.3205813

REFERENCES