Abstract

In the areas such as aviation and healthcare systems an operating procedure (OP) is commonly used to ensure that critical tasks included in such systems are successfully performed and to help decrease human errors. In these areas operators are trained to follow the OPs strictly, but the evaluation process that how the operators are following the OPs, is usually performed manually by an expert instructor. The problem is that sometimes evaluating the performance of the operators can be difficult as number of operators increases. Automating this evaluation process would lead to an objective and scalable analysis of the operator performance, which is extremely important in areas where the number of operators to evaluate is high. In this paper, OPs are modeled as Petri Net-based workflows, and interact with the data log of the system to allow an automatic evaluation of the progress and time spent following the OP. In order to illustrate the contribution of this paper, a case study has been discussed with designing and modeling an emergency OP for the anaesthesia treatment, and evaluating the proposed approach with a set of tests.