

TOWARDS A SOFTWARE TOOL DEVELOPMENT FOR DECENTRALIZED EXCHANGE OF BUSINESS PROCESS MODELS

Touhrane O., Kopp A.M., Orlovskyi D.L.

National Technical University «Kharkiv Polytechnic Institute», Kharkiv

Blockchain technologies are now utilized as general-purpose distributed databases with high levels of security, integrity, and availability, as well as ledgers of financial transactions. Therefore, utilizing blockchain platforms and knowledge-sharing protocols built on top of them may be advantageous for enterprises. Therefore, the issue of creating a decentralized repository for business process models based on blockchains and leveraging decentralized application technologies is under study [1]. Business process models from hundreds or even thousands of different industries are typically managed by contemporary enterprises using the Business Process Management (BPM) methodology. The core technology of the entire BPM methodology is business process modeling. Using various diagramming notations (Fig. 1), business process models are used to visually represent current organizational operations that need modification, as per the BPM lifecycle. These graphical business process models can then be used to analyze ongoing operations in the organization to find any potential flaws that could hurt the performance of the enterprise.

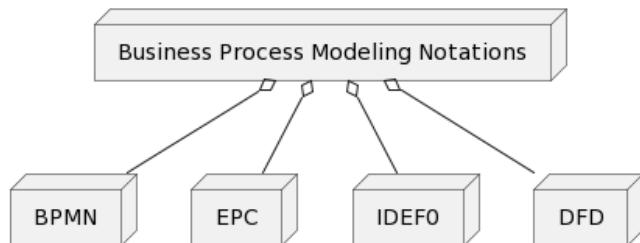


Fig. 1. – Business process modeling notations

Organizations can alter the digital twins of their organizational workflows using business process models, run simulations, and decide whether to optimize business processes. Business process models are the company's most valuable asset since they provide information about existing processes and may include best organizational or industry practices.

The entire organization may benefit from having a central database of business process models since sharing and accumulating knowledge will be considerably more effective. Centralized business process model repositories are not very effective for transferring information between organizations, though. Additionally, the majority of business process models require hundreds of man-hours and cannot be freely shared with competitors. The sharing of business process models ought to be based on established systems for looking after valuable digital assets. Distributed ledger technologies, particularly the Blockchain, are very popular right now. Thus, the software tool for the decentralized exchange of business process models that uses the principles of the blockchain and cryptocurrency industries should be created.

References:

1. Kopp A., Orlovskyi D. Towards the Tokenization of Business Process Models using the Blockchain Technology and Smart Contracts. *CEUR Workshop Proceedings (CEUR-WS.org)*. 2022. Vol. 3137. P. 274–287.