



## **Process Provenance Portlet for METU PORTAL**

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Business process analysts and process owners define their work with flows and activities. Different people with suitably defined roles complete these business activities. There is a standard notation for defining business processes in information systems, called Business Process Modeling Notation (BPMN). In BPMN diagrams, we can automate business processes with IT systems. Defining processes in models requires some level of abstraction, although actual processes contain manual or physical activities. This simplified definition helps owners improve business processes in time. Business changes in time so processes changes too to meet new requirements, regulations and activities.

A BPMN process creates a new instance every time a process is instantiated. These instances keep process data within and create instance unique data during the process instance lifetime. These data help keep track of the process for support and maintenance. Process improvements also rely on these data. However, there is a need for a background information about the data that created by process. This information needs a new concept of proving the data created by who, when, why and what is next. These “wh-“questions are the essence of provenance. Process Provenance allows one to answer questions about the earlier steps of a process at any stage in the process.

Most process modeling applications and process engines provide just business activity monitoring which only provides data that is created in design phase of the process. This is not enough for most of the users. Users need more information about their process, which is recorded during process instance lifetime.

Process provenance requires interaction, which provided by process engine specific tools. These tools only focus the process variables and flow conditions. Provenance data is not just list of business rules but also data from process instance that created during the process instance lifetime.

There is a need for provenance data of the process models alongside business activity monitoring. Processes provenance is not about just showing collected or documented data; how you show these data is also important for user to understand. We propose the idea of layered provenance that helps to separate process specific data from process instance related data.

**Information Layer (Detailed Documented Diagrams):** Users do not need to be aware of the processes model, details of the process, interacting actors and their roles in the process. BPMN diagrams are used from process engines to run processes and helps users to understand how business processes works, how many steps there are, which conditions need to be satisfied to move to the next step.

*Search through processes:* Users should be able to search defined business processes to get better understanding of how business done in an institute, department or a company.

**Interaction Layer (Interactive Diagrams):** Users can start a process instance through GUI of the information system. System should be able to provide started process instance information in detail. Static BPMN image only shows the steps of the process but process instance specific information is the real data that is needed. Detailed process instance specific data supports the provenance of the specific process instance.

*Self Service:* Users usually want to know which state their business process in. Conventionally users interact with the help-desk personnel over telephone (hot line) or e-mail (support) to get information about current state of the started or ongoing process instance. Interactive BPMN diagram for a specific process instance provide provenance.