ENIGMA

Endorsing safeguarding, protection, and provenance management of cultural heritage

Scenario Building Engine Manual

User Guide of LEA Officers and Experts

ENIGMA Project

Project title	Endorsing safeguarding, protection, and provenance management of cultural heritage
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Abbreviations

Term	Explanation
CGs	Cultural Goods
CH	Cultural Heritage
DO	Demonstration, Dissemination & Exploitation Objectives
EC	European Commission
PC	Project Coordinator
TG	Target Group
WP	Work Package

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The **Scenario Building Engine** (SBE) is a series of tasks, activities, or steps that are organized in a logical sequence to accomplish a specific goal or objective within a business or organizational process. Workflows are designed to streamline and standardize the execution of tasks, ensuring that they are carried out in a consistent and efficient manner. The SBE tool is dedicated to higher level **LEA officers**, who in collaboration with **archaeologists** and other experts, can better assess and improve the overall workflow performance.

The SBE allows higher-level LEA officers, archaeologists, and other experts to collaborate effectively and improve overall workflow performance. Key characteristics of workflows include sequential order, role allocation, decision points, automation, feedback mechanisms, and progress monitoring.

The SBE is a comprehensive platform that integrates decision-making, automation, and monitoring, ensuring that every workflow operates at peak efficiency. By providing users with tailored metrics and tools, SBE enables informed decisions, improving operational outcomes across various scenarios.

1.1 KEY CHARACTERISTICS OF A WORKFLOW

The key characteristics of a workflow include:

- **Sequential order:** Tasks arranged in a specific sequence
- **Roles and responsibilities:** specific roles allocation with the responsibility of executing each task
- **Conditions and decision points:** Workflows incorporate decision points where specific conditions are evaluated
- **Automation**: tasks automation within a workflow

- **Feedback and communication:** Mechanisms for communication, notifications, and feedback loops
- **Monitoring and control:** Continuous monitoring progress tracking
- **Status and transitions:** State or condition of a task and movement or change of status from one state to another

Here follows an example scenario to better understand how SBE operates (*Figure 1*): let us take a scenario where a statue is discovered in a passenger's luggage arriving from -for example- Libya and Maltese border control officers took immediate steps to determine its legitimacy and take appropriate actions using ENIGMA tools. The workflow is presented in the following diagram where various steps are defined. The goal is to facilitate decision-making and ensure that all tasks are completed with accountability.
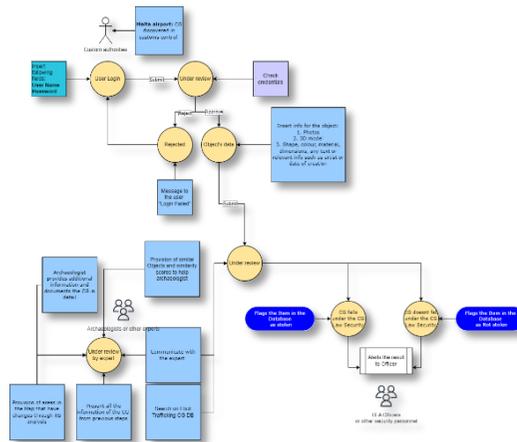

Figure 1: Sample Workflow

Actions like initial discovery, logging the item, consulting experts, and reaching a decision are organized logically. Roles such as border officers, archaeologists, or supervisors are assigned

responsibilities for each step. This workflow can be simulated in SBE allowing continuous tracking of the process, enabling timely interventions or escalations if needed.

1.2 BUILDING A WORKFLOW TEMPLATE

Building a workflow in SBE involves creating a logical sequence of tasks, assigning roles, defining conditions, and incorporating automation where possible. SBE workflows are built on fundamental entities such as tasks, roles, conditions, and metrics. Each entity plays a crucial role in constructing workflows that are both efficient and adaptable to changing needs. Status and transitions are a critical aspect of workflows managed within SBE. Each transition is governed by privileges assigned to roles. For example, only authorized personnel can approve specific transitions and that's how we ensure the integrity of the process.

Creating workflows in the SBE environment is a structured process that ensures every workflow is fully customizable and aligned with organizational goals. Let us go through the steps involved in detail.

1.3 CREATE STATUSES

First of all, create the different statuses within the workflow (*Figure 2*). Statuses represent the stages or steps a task goes through, such as "CG Validated", "Pending Review", "Details", "In Progress", or "Completed". Each status is critical to track progress and organize tasks effectively.
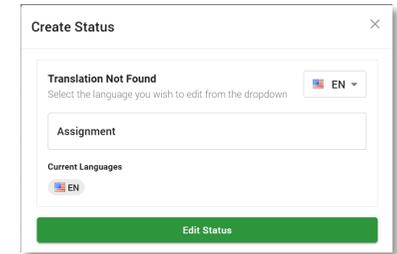

Figure 2: Create Status

The list of already created statuses is presented in the following screenshot (*Figure 3*):

Figure 3: Statuses list

1.4 CREATE A NEW WORKFLOW TYPE

Proceed to create a New Workflow Type in order to define the type of workflow to be created. This involves naming the workflow type and identifying its purpose.

For instance, it could be a workflow for the provenance of a CG, archaeological artifact processing, or another use case.

Workflow Management   **+ Create new workflow type**

Using the already defined statuses, the user can set the initial and the final status of the workflow to be created (*Figure 4*). Also, roles that can create an instance of this workflow should be defined here.

The following roles are available to the user:

LEA Officer
RS Administration Authority
Cultural Administration Authority
Archeologist
User
Admin

This step acts as the foundation of the workflow.

Figure 4: Workflow Type

1.5 WORKFLOW TRANSITIONS

Next, create the Workflow Transitions (*Figure 5*). Once the statuses are in place, define the transitions between them. Transitions specify how tasks move from one status to another. For instance, a task might move from "Pending Review" to "Approved" after an officer verifies its details. Transitions can also include conditions, ensuring they occur only when specific criteria are met.

Workflow Management   **+ Create workflow transition**

Figure 5: Workflow Transitions

1.6 WORKFLOW PRIVILEGES

Finally, create the Workflow Privileges (*Figure 6*). This involves determining who has the authority to execute specific transitions or access certain statuses. For example, only a supervisor might be able to move a task to "Completed".

Workflow Management   **+ Create workflow privilege**

Figure 6: Workflow Privileges

By following the above steps, SBE ensures that workflows are not only structured and efficient but also secure and adaptable to various operational needs.

1.7 CREATING A WORKFLOW INSTANCE

After creating a workflow template, the user can generate an instance of the workflow (*Figure 7*). The list of already created workflow instances is listed in the following screenshot when the user selects the "Workflows" option:

Workflows

Figure 7: Workflows instances

By selecting the option "Create Workflow" the user can create a new workflow instance based on an already created workflow template (*Figure 8*).

Figure 8: Create Workflow

1.8 RUN/EDIT A WORKFLOW INSTANCE

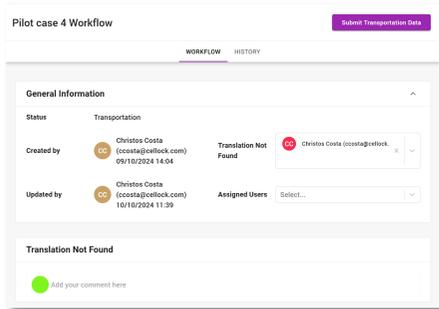By pressing the 👁 icon in the workflow's instances list, the user can edit the workflow instance (*Figure 9*).

Figure 9: Editing a workflow instance

The workflow diagram and status are displayed by pressing the "History" option.
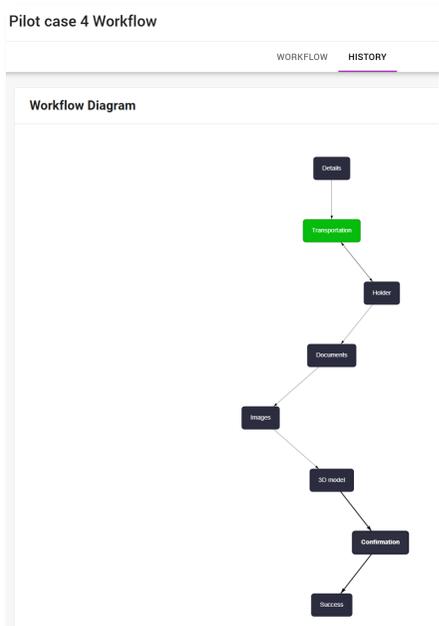

Figure 10: Workflow diagram

Figure 10 shows that the user edits the Transportation status for proceeding to the next status ("Holder") by applying to the "Submit Transportation" data transition button.

1.9 METRICS

At Metrics, the core of informed decision-making, the user/stakeholder will have the ability to view and analyze real-time metrics. This enables stakeholders, such as LEAs, archaeologists, and other experts, to assess the effectiveness and efficiency of workflows. This feature is particularly valuable for monitoring progress, identifying bottlenecks, and making data-driven adjustments.

For example, let us imagine a workflow where officers are inspecting a shipment of artifacts (*Figure 11*). Metrics such as task completion rates, average processing times, and the number of items flagged for further review can provide critical insights. These metrics allow stakeholders to identify stages where delays occur, or where additional resources might be required, ensuring smoother operations. Metrics in SBE are not just static reports, they are interactive and dynamic. Users will be able to filter and customize the data to focus on what matters most for their specific role or responsibility. Additionally, historical data trends can inform long-term strategies and help predict potential challenges.
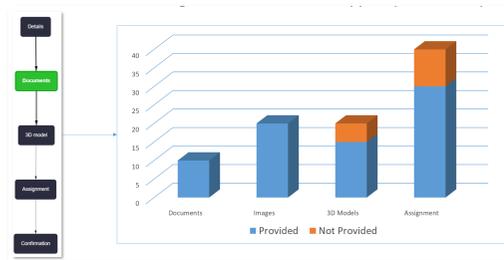

Figure 11: Metrics (LEA officers)

Similarly, archaeologists and subject matter experts benefit from SBE's metrics, which provide detailed insights into specific workflows (*Figure 12*). These metrics support thorough analysis and effective collaboration.
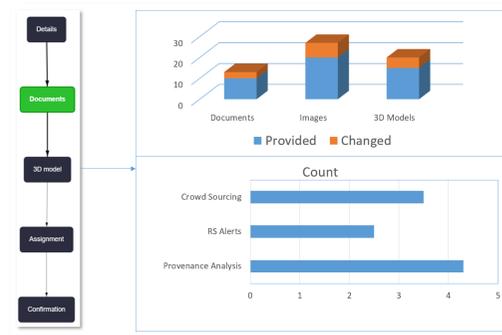

Figure 12: Metrics (Experts)