Workflow Reflection

Core Concepts

The Workflow Lab demonstrates the Object model design pattern. It supports the workflow to define the key entities and their relationships with the objects. It allows the overall system to manage different organizations under a business. Similarly, coordinating different elements of the workflow effectively such as the Doctor assigning the lab request to the Lab assistant, and the admin maintaining the different user account information.

This allows the creation of different directories under the organization directory, assigns the roles to each user and creates the work area for the particular category user for doctor, a dedicated work area is assigned which links to the lab assistant, where the doctor requests the data from the lab assistant.

Roles and Workflow

Admin role allows the creation of doctor and lab assistant organizations. This role is created when the business object is initialized to handle, create, and maintain different organizations within the business. In the Admin work area, we can manage organizations, Employees, and users. In Organization workflow, it allows the creation of organizations. Similarly, In employee management, allows the creation of employees under a particular organization. In handling the users, for each employee from different departments, we can assign username and password credentials that direct them to their particular workflows when users login.

For Example, In a university, when a faculty is joined, they are assigned under an employee and the admin creates the credentials to provide the work area access to the faculty by creating a user access as mentioned above.

Real-World Application

This workflow model in the context of the University model, helps to create different departments at ease and build communication. For example, All the departments come under the department directory which is created under the University. Here, the admin creates the departments and creates different faculty, student, and course directories. This model makes data storage and handling simple since students, faculties, and courses are categorized under a particular department.

A modification is to create a department of non-teaching staff where they handle the student administrative data and create a particular workflow between the students and staff to coordinate the fees, degree audit, and student management-related stuff. Moreover, enabling students to take courses from other departments such as elective courses, where the relationships should be made that any student can request to take any subject in another department which is only confirmed through the staff workflow.

Ecosystem Model Reflection

Project Scope and Complexity

The Ecosystem model comprises the enterprise and the organization leading to the creation of a work Queue and request. This WorkRequest is connected to the sub-organizations of the different types of enterprises. The main difference from the previous domain models is to create a pile of organizations under an enterprise which summarizes a mix of varying domain models in a single ecosystem with workflow connected. Moreover, saving the data was always static to the running file but in this ecosystem, it stores on the exit and can be retrieved when it is asked to run again through the db4o util.

Here, the complexity of the user interaction is fragmented into different users and their work areas. For example, the System Admin Role directs to the landing page where they can handle the networks, enterprises, and respective admins. The main impact it may cause is to handle different types of users, handling the roles and their work area requests.

Interdependencies

Considering key components such as **WorkQueue** and **WorkRequest** from the ecosystem model. It acts as the main and central mechanism for managing and assigning tasks to certain users in a workflow. It serves as the communication layer to connect different work-specific roles in an enterprise. Here, WorkQueue includes the WorkRequest objects, which present the particular tasks for a user.

In an **Organization** (Lab Organization or Doctor Organization or LabAssistant Organization), WorkQueue helps to connect users from different organizations to get the work done systematically. Once a workRequest is completed by a user in an organization it moves to the other organization where it can be assigned or picked by a particular user. In a **Network**, workQueue defines the boundaries to ensure the tasks are assigned to the particular local resources.

For example in an approval system, where it must go through the different hierarchy of users to get the request accepted. It acts as the overarching controller, coordinating the creation and helps to track the request securely and in an easy way.

Scaling and User Experience

When the ecosystem model is deployed on a large scale, the users may face the clogging of the long-living work requests in the WorkQueue. Introducing a Lifecycle mechanism of data handling improves the real-time processing efficiency and better user experience handling irrespective of the state (Pending, Approved, or Declined) of the work request. This mechanism can be implemented in a life cycle period that archives the completed requests to a separate data storage for analytics purposes. We can also implement a request expiration mechanism for pending work requests which notifies the concerned users who are handling the particular requests. Also, introduce a feature to prioritize urgent or emergency requests, for example, A doctor requests a lab report on an emergency basis. Since many requests may clog the work area of the concerned authority which may take a while to respond. This can be implemented by marking requests as “urgent” or “high priority” with validation to prevent misuse of the feature.