CIS 602 Special Topics in Design Patterns

Fall 2024

PROJECT REQUIREMENTS

Version 1.0

Large fine arts museum requires an information system to manage its extensive collections and provide access to the information about these collections to other museums and to customers/visitors.

The system shall support following functions:

1. Keeping track of all objects of art in terms of their description & renderings (text, video, and audio), condition, status (objects can be on display, in warehouse, on loan, in restoration) and location (specific to status). Description of any object shall include period (for example, 10th century, 3rd Kingdom, etc), area of origin, form (painting, sculpture, etc), and material. For all objects keeping track of the required security level, appraisal including value, and currently held insurance. For each object the system keeps an acquisition record indicating the date and price and place of purchase or information of the donor. For objects that are no longer in the inventory the system has a disposal record indicating when and how the object was taken off the inventory (damaged/destroyed, sold, donated). The process of removing the objects from the inventory is as follows: Object is recommended for removal by a staff member (TBD), the recommendation is subject to review and approval by the curator, approved by Board of Directors followed by the specific process for removal. The details of the removal process are TBD with the customer.
2. Providing access to information about objects to:
   1. General Public – description and renderings only
   2. Insurance & Security – all information
   3. Business Partners ( other museums) – like General Public + status
   4. Employees – need to know -TBD
3. Insurance is held by the museum is valid only for objects in museum’s physical custody. Any object moved beyond the “walls” of the museum (loan) must have separate insurance and defined security procedure.
4. Each loan of an object(s) is based on a separate contract. All objects on a specific loan contract share the loan duration, insurance policy and all other loan constraints.
5. For each object there is a log of restoration/conservation history consisting of inspection, conservation, and restoration records. Each object based on its type (textile, painting, sculpture, etc) and material (wood, fabric, porcelain, etc) will be subject to a specific frequency of inspections and routine conservations. Inspections will discover need for additional conservation or restoration.
6. Objects that are under restoration cannot be placed on loan. The loan period of any object cannot overlap any scheduled conservation. All objects are subject to inspection prior to leaving the museum and upon their return from the loan.
7. Physical displays of objects are organized in rooms into display areas (wall, case, etc). Each area has its own recognizable identity (for example each wall has its own identity). Some areas (like a case) may have identifiable sub-areas (example –shelf). Location of any object is specified with highest level of precision possible (smallest identifiable area).
8. Each area has a defined security level. It is possible that a sub-area does not have any additional security (for example a case has its security system/level but no additional security for an individual shelf). In this case the security level of s sub-area (shelf) is equal to the security level of the closest area containing the sub-area in question (case).
9. Security levels are TBD with the customer
10. Objects can be placed in a display area with security level not lower than object’s required security level.
11. System shall keep track of admissions including ticket sales for single admissions as well as for season and special event tickets. The system shall keep track of the patrons (season ticket holders, donors, special event attendees). This information will be used by Customer Relations to notify the patrons about special events, donation drives, and season ticket renewals.
12. System will allow for scheduling of special events. Special events will be associated with specific collections/displays (for example – “Celebrating French Impressionism”) and held in display areas corresponding to the theme of the event.
13. Customized virtual tours should be supported and provided to the customers. Each virtual tour will consist of viewing pictures of objects with text descriptions and commentary. Provisions have to be made to incorporate in the near future other forms of information such as voice and movie clips. The customer can specify the theme of the tour he/she wishes to take based on the collection of key words describing period (Ex. 18th Century, Medieval, etc.), area of origin (Ex. France, Europe, etc.), art type (Ex. Painting, Sculpture, Furniture, Weapons, etc.), etc. In addition to creating new tours from scratch the customers shall be able to modify existing predefined tours or create tours by combining existing tours based on some predefined criteria. The customer will be provided with the access to the tour based on a ticket/subscription - contract. A variety of contracts has to be supported with the possibility of future expansion of contract types. The tours have to be provided in several languages with possibility of future expansion. Multiple renderings (form of representation: image, text description, etc.) of an object in a collection should be supported. Customer may restrict the type of renderings used in a specific tour. For example a customer who is visually impaired (blind person) may require “no image” tour.