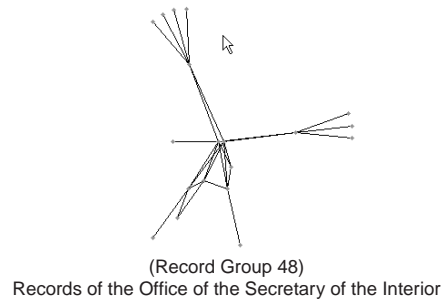


From: Allen, R.B., Using information visualization to support access of archival records. *Journal of Archival Organization*, 3(1), 2005, 37-49.

Robert B. Allen

41

FIGURE 2. Record Groups Related to the Fish and Wildlife Service. The labels describing the Record Groups are presented on mouse rollover.



could also be used. For instance, 22.4.1. has Records of the Division of Alaskan Fisheries; this could be linked to the records of the Alaska District of the Army Corps of Engineers (RG 077.10.1) or the Records of the Alaska Division Bureau of Native American Affairs (RG 075.11). For defining such detailed connections, it may be useful for a human expert to specify additional links.

APPROACH III: VIEWING ORGANIZATIONAL PROCESSES

Visualization can be used to view not only structure but also processes. Governing includes many activities for which decisions need to regularly be made. There are many examples such as steps in the procurement process, steps in a judicial appointment, or stages in the review of documents for external release. In some cases, the process may be the main point. In other cases, it can provide a structure for understanding a collection of interrelated documents.

There is, currently, a great deal of work on developing wrappers for preservation of digital resources. For instance, the Metadata Encoding and Transmission Standard (METS) approximately implements the Open Archival Information System (OAIS) Reference Model.¹⁰ One component of METS is descriptive metadata. Some of my recent work has developed descriptive metadata for project management data from the NASA Goddard Space Flight Center.¹¹ For instance, this could be used to describe the process by which an agency approves a new initia-

tive. Specifically, we employed a modeling technique known as Role Activity Diagrams (RADs).¹² This models organizational roles and interactions between them. The RADs are metadata which can explain the organizational activities that led to the creation of a document. As shown in Figure 3, we developed XML specifications for RADs and generated a graphical Java display from it, as seen in Figure 4. The graphical display can be used to describe where in the organizational workflow records originated. A similar approach could be applied to

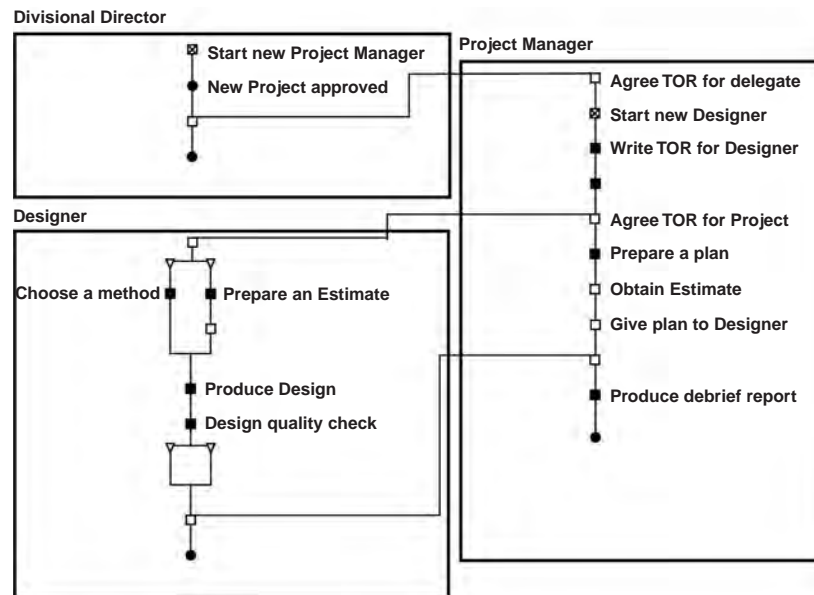
FIGURE 3. Fragment of XML Coding for a Role Activity Diagram (RAD). Note the definition of specific Roles and of Interaction Points between the Roles.

```

<?xml version="1.0" encoding="UTF-8"?>
<RoleActivityDiagram
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:noNamespaceSchemaLocation="RADsch111.xsd">
  <RoleSec>
    <Role ID="R1" type="Project Manager">
      <StartRole ID="R1.SR" description="Start new Project Manager" from="R1.EE1" to="R1.IP1"/>
      <ExternalEvent ID="R1.EE1" description="New project approved" to="R1.SR"/>
      <InteractionPoint ID="1.IP1" from="R1.SR">
        <Actor identification="000-00-0000"/>
      </InteractionPoint>
    </Role>
    <Role ID="R.2" type="Designer">
      <Activity ID="R2.A1" description="Choose a method" from="R2.M1" to="R2.M2">
        <Actor identification="000-00-0001"/>
      </Activity>
      <Activity ID="R2.A2" description="Prepare an Estimate" from="R2.M1" to="R2.A3">
        <Actor identification="000-00-0002"/>
      </Activity>
    ...
  </RoleSec>
</RoleActivityDiagram>

```

FIGURE 4. In our interface (redrawn here for clarity) for viewing the organizational content in which records are created, Role Activity Diagrams (RADs) are reconstructed from an XMLSchema.



keeping track of versions of legislation in the U.S. Congress as it passed through various committees and amendments as well as business documents.¹³

APPROACH IV: SPACE, TIME, CAUSATION, AND NARRATIVE

Events occur in time and space. Time is an integral dimension for events and it can be used to structure visualizations in timelines. Figure 5 shows an interactive timeline of the terms of the U.S. presidents.¹⁴ Much richer detail can be added; the events within a presidency could be organized by extension of such a timeline. An elaboration of such an interface to include important events during an administration might be useful, for instance, for researchers at the Presidential Libraries.