

BACKGROUND

caTissue Suite is a software application developed with requirements gathering and acceptability testing by multiple institutions. The application uses a web browser to store and retrieve data from a relational database. Its open program interface (API) permits customized access to all of the application's features, and data integration with or migration from other data systems. Multiple installations of caTissue Suite can connect to the caGrid to facilitate data and biospecimen sharing across institutions. The application supports role-based access to administrative functions (container and protocol management), biospecimen accessioning, and investigator queries. An interface allows for import and coding of textual pathology reports. Discrete pathology and clinical data entry is also supported through customized data form creation.

caTissue Suite is sufficiently scalable and configurable for broad deployment across biorepositories of varying size and function. Numerous institutions have adopted the application and are using it in their daily operations. A caBIG™ supported, web-based "Knowledge Center" provides on-going application support via discussion forums, technical and user guides, training tools, and webinars.

caTissue Suite is a freely available, fully supported, open-access software application for biospecimen data management. Use of caTissue Suite by several NCI Cancer Centers and other biospecimen resource groups is providing a rapid and facilitated path toward standardizing biospecimen informatics and promoting biospecimen data sharing both nationally and globally.

caTISSUE v1.2- ENHANCED PERFORMANCE AND USABILITY

caTissue Suite v1.2 was officially released on March 18, 2011 and features a number significant enhancements to previous versions, including-

- ✓ **Improved performance** Faster page loading, more efficient use of screen space, and lower memory usage.
- ✓ **Management of collection protocols** Edit protocols and assign pre-defined specimen label formats.
- ✓ **Biospecimen data entry** Improved specimen data entry screens and more label printing options.
- ✓ **Quick text-based search and query management tools** Save, rename, and share queries.
- ✓ **Bulk operations** Upload new or edit existing data in bulk using spreadsheet-style data templates.

MULTIPLE REPOSITORIES



User Roles

Super Administrator	A Super Administrator can perform any operation within the application. All administrative requests (role users, containers, and collection protocols) and distribution protocols are performed through this system.
Administrator	A Super Administrator can assign and register them to collection protocols.
Technician	A Technician adds specimens to the system.
Scientist	A Scientist performs a query and retrieves specimens and updates a report of interest. This role can be customized and certain required protocols can be assigned to the role.
Guest	

Role Privileges

Super Administrator	Full Access
Administrator	Full Access
Technician	Full Access
Scientist	Full Access
Guest	Full Access

Defining Users

Super Administrator	Full Access
Administrator	Full Access
Technician	Full Access
Scientist	Full Access
Guest	Full Access

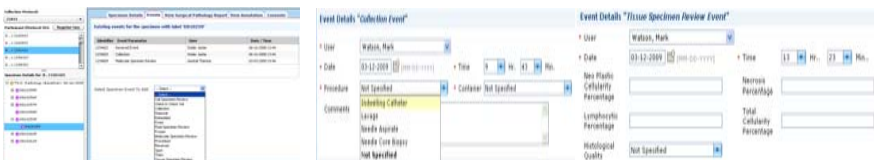
A single installation of caTissue Suite can allow for the operation of multiple, independent repositories which may or may not elect to share responsibilities for biospecimen collection and processing from a single protocol. Role based access allows individual users to be assigned add / edit / read privileges based upon their affiliation with an individual repository or their involvement in a particular collection protocol (study). *Left* shows a "map" of the multi-repository environment represented in caTissue at Washington University.

CONSENT TRACKING



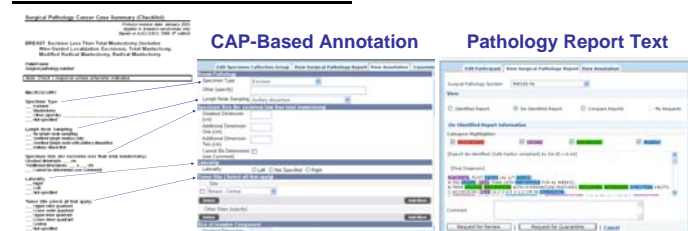
caTissue Suite allows for participant consent tracking at the individual specimen level. Consent "tiers" are defined during protocol set-up. Consent and consent withdraw can then be recorded and validated prior to specimen distribution.

BIOSPECIMEN LIFECYCLE



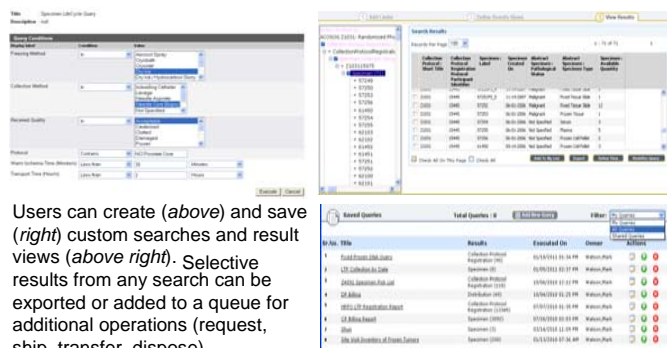
Events that occur in the lifecycle of individual specimens (collection, receipt, transfer, freezing, fixation, centrifugation, etc.) as well as quality review parameters can be recorded.

PATHOLOGY ANNOTATION



Specimens can be annotated with CAP checklist-based pathology data forms or by import, de-identification, and concept coding of pathology report text using caTIES-like functionality. Other data forms exist for standardized clinical data entry and additional controlled-vocabulary data forms can be created using the Dynamic Extensions tool.

SEARCH FUNCTIONALITY



Users can create (*above*) and save (*right*) custom searches and result views (*above right*). Selective results from any search can be exported or added to a queue for additional operations (request, ship, transfer, dispose).

DATA SHARING AND caGRID



caTissue Suite v1.2 is caGrid enabled, allowing cross institutional biospecimen data sharing. Using the caGrid Portal (<http://cagrid-portal.nci.nih.gov>) or other tools in development such as caB2B (<https://cabig.nci.nih.gov/tools/cab2b>), users can search across institutions for available biospecimens. The open interface (API) of caTissue also allows integration with other systems, such as clinical data repositories.

SUPPORT

Technical and end-user documentation, training modules, discussion forums, FAQs, and application updates for caTissue are supported through the Tissue Banks and Technology Tools Knowledge Center.

