

# Web-Based Communication in an Animal Lab, Tissue Bank and Genomic Testing Environment

## Research Information Technology Systems

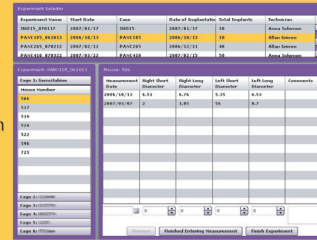
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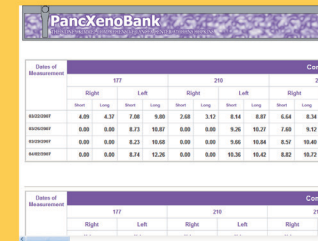
<https://www.rig.onc.jhmi.edu>



Flex computer interface with a caliper for experiment measurement by a technician



Use of SAS querying Oracle to produce reports when the experiment is finished



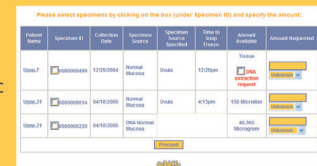
### Additional Requirements:

- decentralized environment
- shared services
- Management of research protocols
- Realtime querying of EHR
- Readily accessible data and reports

Technician interface providing notification that there are new requests for specimens



Specimen request for researchers to select specific samples, amount, and DNA extraction



Report by specimen source and tumor histology

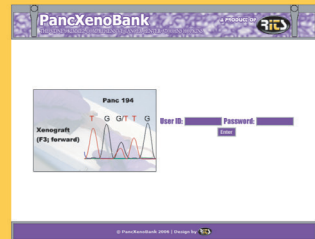


### Conclusion:

By automating the flow of information, the researchers are freed up to be able to concentrate more on the science of their work.

### Introduction:

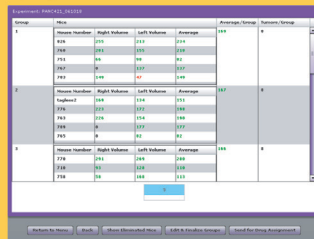
- increasing number of saved specimens and request for samples meeting particular criteria, and shipment of the aliquots
- process management of microarray experiments and analyses: chip selection, test requesting, scheduling and payment, experimental results retrieval, and analysis consultation scheduling
- animal lab systems and studies
- protocol and SOP lifecycle management and publication on the web
- clinical trial data collection, flow control, reports, analyses and publication



### Solutions Provided:

- On-line requisitioning of aliquots of tissue samples followed by electronic status report
- Automated statistical reports emailed to key personnel
- Polling of the EHR to retrieve current lab results and pathology reports
- Email reminders to-do lists within the applications
- Querying Agilent chips to optimize the chip selection for microarray experiments
- Requesting, scheduling and paying for microarray experiments
- Notification, storage and delivery of experiment results
- Scheduling consultations with statisticians and informaticists
- Optimization of study group assignment of animals with introduced tumors
- Coordination of animal labs and pharma for drug testing on tumors

Use of Flex in an Optimization Process via an algorithm which goes through 3000 permutations to define the best grouping



Cold Fusion facilitating regrouping of subjects and drug assignment

