Abstract

At Jefferson Lab and many other accelerator facilities, there is a permanent record of personnel entering and exiting a secure accelerator beam enclosure during Controlled or other special access conditions. These legal records – records that may be entered as evidence in a court of law - may also contain entries related to radiological controls, tests, and certification of access control interlock systems. Until recently, the stringent requirements for electronic legal records required by the U.S. government made it impractical to create an electronic version of the Personnel Safety System (PSS) paper log book. The staff at TJNAF have now designed and implemented a PSS e-log book application and records management program that meets the requirements for electronic records. In order to successfully implement this system, the development included significant effort in database design, user interface, software quality assurance, and records management.

TUP046

Jefferson Lab Personnel Safety Electronic Log RMA*

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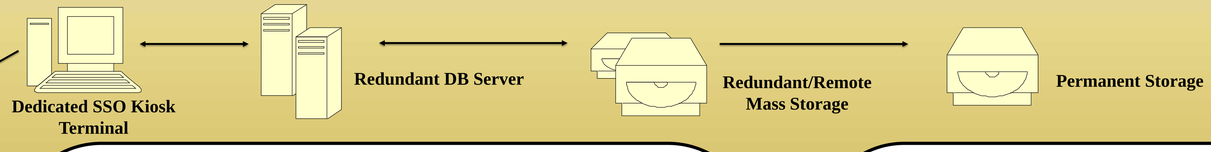
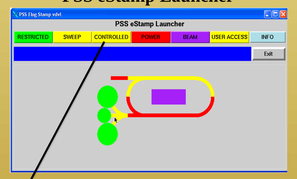


Archiving

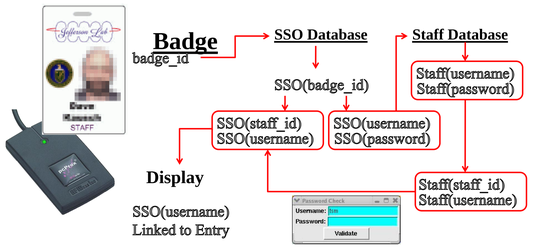
Database is flattened to ASCII text file to meet National Archive requirements for electronic records.

Resultant data is archived both on and off site along with other vital records.
Data can be transmitted to the U.S. National Archives if necessary.

PSS eStamp Launcher



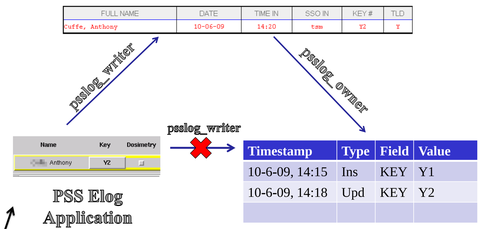
Safety System Operator Authentication



Only authorized Safety System Operators (SSOs) have permission to create entries.
The application must be able to associate each entry with a unique and authorized user. This is done by having the SSO use his/her JLab RFID badge to make an entry. The SSO must authenticate their login only once per 8 hour shift using their ops or JLab username and password.

The application supports multiple authenticated users and the ability for one SSO to start an entry and another to complete it.

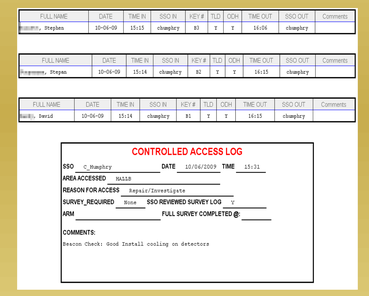
Database



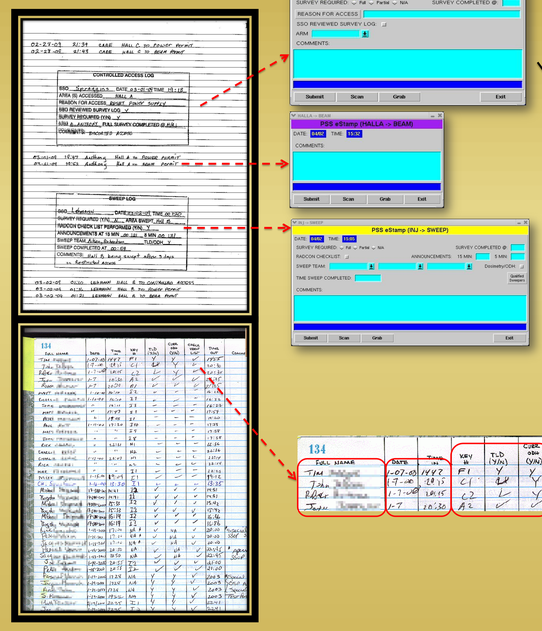
PSS Elog Application

PSS Audit Database

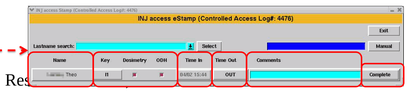
Database structure allows for editing/correcting on-going entries, however, all actions are recorded in the audit database app. Once an entry is complete, a permanent record is created. The permanent record cannot be changed.



Complete Controlled Access Log



Paper logbook included formatted stamps and columns to help the operator complete entries.



Res

The Controlled Access entry log assists the SSO in tracking personnel in and out of the tunnel.

Entries not yet submitted to the database are highlighted in yellow.

PSS eLog Web Display

Applications were developed and are managed under a software systems lifecycle model. Features such as security, error trapping, V&V, simulation capability, and ease of use were designed in from the start. User manuals and test documentation were developed concurrently with the applications.

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