



Smokejumper Master Action Database

The National Center for Landscape Fire Analysis

Project details

Interagency smokejumpers deliver initial attack by parachute to fires in the western United States and Alaska. More than 400 firefighters on seven U.S. Forest Service and two Bureau of Land Management bases operate in a decentralized fashion — virtually any airport near current fire activity may serve as their temporary base of operation. Traditionally, each smokejumper base in the Forest Service or BLM tracked the activities of smokejumpers separately. Individual smokejumpers are often shared and traded between bases, depending on fire needs. This mixing of resources poses challenges for tracking and accounting of those resources.

In 2003, the National Center for Landscape Fire Analysis helped develop a web-enabled, centralized database to track smokejumper activity. Two smokejumpers/employees at NCLFA understood the need for a resource tracking application and worked with other smokejumpers to create a new version of the Smokejumper Master Action Database. The database application tracks fire assignments, fire and practice jumps, days off, incident intelligence, training assignments, parachute records, and personnel records, and generates reports and statistics such as shifts worked, acres assisted, and number of dispatches for end-of-year and geographic summaries. The Master Action Database:

- Allows each base to generate reports for personnel
- Produces efficient and accurate summary statistics for year-end reports
- Eliminates entry of redundant information
- Stores records from each year, creating a historical archive of national smokejumper data

Project development

The U.S. Forest Service's Master Action 1.1 program required each smokejumper base to maintain a separate copy of the database and did not track BLM data. It was particularly challenging to reconcile records and reports at the end of the season because each jumper's actions were recorded by several different bases in a given year (with different methods). The NCLFA used its expertise in database design, gained by developing the Montana/Idaho Airshed Management System to develop and design the new Master Action database.

The new Master Action database prevents replication of data and is easily accessible to jumpers and managers from any web-enabled location (not just their home base). The database and web site originally were hosted on a server at the NCLFA offices; however, in 2007, the smokejumpers took over the database and began hosting it on a private server. The smokejumpers now manage the Master Action.

In 2008, the smokejumper community worked to add map-based functionality for the Master Action, primarily for in-house analysis and display. The spatial component allows users to query the database and view report results of the query in a Google Earth map

format. The NCLFA has provided some advisement on this development and provided overhead support for a smokejumper working on development of this new component. The smokejumpers also contracted with a former NCLFA employee to do the programming work.



Project application

The Master Action database demonstrates a successful model for technology transfer. In the development phase, the end users helped plan the technology and designed the database to meet their needs. The application was then successfully handed off to those users, who now have complete control over the application, its maintenance and further development.

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