

U.S. ARMY CORPS OF ENGINEERS (USACE) DEPLOYS LIVELINK WORKFLOW SOLUTIONS FOR MULTIPLE PROJECTS

Assistant Chief of Staff for Installation Management (ACSIM) In-Leasing Request System

Description of Challenge

The U.S. Army Assistant Chief of Staff for Installation Management (ACSIM) provides policy guidance and program management on all matters related to Army installations worldwide. Their mission is to ensure availability of base services and facilities, as efficiently and effectively as possible. When the Army needs to lease a facility, piece of land, warehouse, or office building it must turn to the U.S. Army Corps of Engineers (USACE) to negotiate and execute the lease requirements. As the program management office for the Army installations, ACSIM is responsible for reviewing, approving and ensuring adequate funding of the Installations' lease requests and submitting them to USACE for execution.

The challenge ACSIM faced was to manage and coordinate the review and approval process across a wide geographic area, with many independent organizations such as the Installation Commanders, IMA regions and HQ's offices, the ACSIM organization staff, the Department of Army Staff, and the USACE HQ's, Division, and District offices.

In 2002, USACE implemented a web-based application enabling its customers (including ACSIM) to submit leasing requests and to allow USACE to capture consistent information to effectively process, track, and manage requests in a timely manner. Similarly, ACSIM wanted a way to manage their request and approval process for all the Army lease requests prior to submitting them to USACE. In addition, ACSIM wanted to be able to link to USACE legacy systems and utilize the existing USACE institutionalized in-leasing business process.

The Solution

Momentum followed its Life Cycle methodology to design and build a system modeled after the highly successful Livelink-based applications built for other USACE in-leasing customers. The ACSIM In-leasing Request and Approval application fully automates all phases of the lease request and approval business processes such as, new leases, renewals, terminations, and modifications.

The objectives of this application are:

- Provide a web-based interface for U.S. Army Installation personnel to enter In-Grant Requests;
- Provide the capability to track the lease requests, review the documentation, and to identify approvals from initiation through completion;
- Implement a solution as part of the USACE In-Leasing module.

To support the Army lease request process, the Action Request module consists of Data Entry and View Screens, Workflows and Reports. The Action Request business process will enable ACSIM to electronically submit and track requests, while providing USACE with a standard way of receiving and processing these actions.

Once a request has been submitted, the system will automatically send an email notification to the appropriate organizations informing them that an In-Grant Action Request has been submitted and is ready for review. Once the ACSIM has approved the action request, the system will automatically notify the appropriate personnel at USACE. While the Action Request is being reviewed, both ACSIM and USACE can review and update critical information and view the attached documentation on-line. While the workflow progresses through the review process, all users will have access to web-based Status Reports.

Solution highlights include:

- The standardized data entry wizard captures the critical information necessary to assist managers with their decisions on the specific action;
- Document templates use the data entered as part of the original request, helping to reduce redundant data entry. An example is the document template, which is required for processing a Title 10 report. This template displays structured data, such as estimated cost, while allowing the user to enter justification text. Once this document template is completed it can be attached with the request and routed appropriately;
- Request documentation can be archived within the system for easy accessibility;
- The business process ensures that requests cannot be executed until the proper approvals and funding are in place, which eliminates work-stoppage and bottleneck dilemmas;
- Work assignments, called Coordination tasks, can be created and sent to various organizations in an effort to gather the information required to make a concurrence decision. In addition, a history of the Coordination tasks is displayed to support the review and approval of the action request;
- During the review and approval process, users are able to enter their concurrence decision along with supporting documentation and/or comments. Also, a user may request additional information prior to making a concurrence decision;
- The business process provides the flexibility to determine the appropriate approval levels for each action request. For example, a low cost action request may not need the Garrison Commander's approval but it may require an approval from the Department of Public Works;
- ACSIM management can generate reports from the system to determine and monitor request volume and workflow status, and subsequently make management decisions regarding such issues as resourcing;
- All users can access the request to determine the status of the leasing actions.

Momentum captured all of the requirements and developed a System Requirements Specifications (SRS) document. Momentum captured all of the detailed design elements in the System Design Document (SDD). The web-based solution was built using J2EE to create the data entry wizards, view screens and document templates. Open Text Livelink and the Livelink API were used to automate the standardized request and approval business process as well as for the document management requirements. All of the

data resides in an Oracle database. Momentum also developed a Test Plan and then led a user acceptance test session.

This application is being deployed using a regional pilot test approach. The pilot test users will consist of approximately 50 geographically dispersed people from ACSIM, USACE, and the U.S. Army Installation Management Agency (IMA).

Momentum has prepared an End User Manual and End User training materials for this application. The pilot test users are being trained on how to enter data and use the application to execute their in-leasing business processes. Momentum is also providing help desk support as well as on-site end user support as required during the entire pilot test period.

Leased Government Housing

Description of Challenge

As one of its responsibilities, the U.S. Army Corps of Engineers (USACE) processes, negotiates, manages, and assigns leased government housing for military personnel. In 1998, USACE was given the mission to provide housing for Army, Navy, and Air Force recruiters who could not be placed on a military installation. This new mission doubled the number of housing leases that would be required to be executed within a year. USACE did not have an automated system designed to fully support the Government Leased Housing Program. USACE management was further challenged to accomplish the mission without adding any additional manpower in order to accomplish the objectives. It soon became clear that USACE was not going to be able to handle the extra workload without developing an automated system to support the Leased Government Housing business process and to make its operations more efficient and effective.

The Solution

Momentum Systems provided full life-cycle development support to implement a web-based solution that would fully automate the Leased Government Housing Request and Site Selection business processes, from beginning to end. The Leased Government Housing system not only transformed the paper-based process into an on-line process, but it also dramatically reduced the time required to complete the process. Now, a recruiter located halfway around the world can submit an application, have it received and processed by the appropriate command, see it approved and funded by Headquarters, and have the proper USACE district start to negotiate a lease—all within the same day.

“The new technology has improved our ability to provide better customer service to our Navy Recruiters while managing one of our most important Quality of Life programs even more effectively and efficiently. What took weeks to do three years ago, we seem to be able to do in hours now. I just can't imagine doing business any other way.”

John Curry, CNRC,
Navy Government Leased, Housing
Program Manager

The 100% web-based solution seamlessly integrated Java (screens), Oracle (reports) and Open Text Livelink (workflow and document management). It provided a central knowledge management repository and a consistent web interface, accessible from the over 250 various geographic locations of USACE and its LGH customers, including the Army, Air Force, Navy, and Navy Reserves.

Building the Leased Government Housing system required active participation from USACE and its customers. End users were heavily involved during the entire process through requirements gathering sessions, design sessions, user acceptance testing, and final approval.

Momentum Systems customized the Livelink application to more accurately support the business processes while making the system as user-friendly as possible.

Momentum also:

- Assisted in the formulation of a standard Corps of Engineers Financial Management System (CEFMS) Accounting structure for the USACE Districts' Leased Government Housing program;
- Co-wrote the LGH CEFMS Business Process Guidance document;
- Created detailed end user documentation for the Housing module;
- Developed on-line context sensitive help using Robo-Help.

The system supports the entire LGH business process including:

- New Applications
- USACE and Customer Level Approvals
- Home Surveys
- Leases
- Utility Contracts
- Lease Renewals
- Lease Terminations
- Utility Usage Tracking
- USACE and Customer Status Reports
- Performance Measurement Reports

Over 50 workflow helper applets were developed to perform the following functions:

- Automatically initiate workflows from legacy database screens
- Populate workflow initiation name with a unique value for that instance
- Create folders and populate folder permissions/attributes
- Load documents and populate document permissions/attributes
- Update legacy RFMIS database tables based on data stored in Livelink
- Assign performers to workflow steps based on customer and region of country
- Send e-mails to affected parties upon task initiation, completion or lateness
- Monitor due dates
- Dynamically generate workflow step instructions that provide text unique to that instance of the workflow. Include links to screens/reports that display the data associated with that instance of the workflow.

Recruiting Exception Approval Project

Description of Challenge

The Joint Recruiting Facility Committee (JRFC) engages the U.S. Army Corps of Engineers (USACE) to acquire, manage and dispose of leased recruitment properties and facilities world-wide. In addition to processing standard requests, USACE was also challenged by the need to process requests falling outside the normal parameters and process, such as those requiring approval for new offices, relocations, and expansions. These “exceptions” often involve issues such as high costs (for square footage, renewal, or build-out), excess space or changing the status of an action from funded to unfunded. Like all requests, exceptions require a set of approval from all of the participants associated with that particular facility. The participants in this exception approval process include the following organizations:

- Office of the Assistant Secretary Defense
- Army
- Air Force
- Marines
- Navy
- U.S. Army Corps of Engineers

The Solution

USACE looked to Momentum Systems to develop a Livelink-based solution to fully automate, standardize, and expedite its Exception Approval process. For this project, Momentum Systems initiated a life-cycle development effort in order to design and build the solution. During the analysis phase of the project, Momentum Systems evaluated process inefficiencies, identified needs, and pinpointed the specific business rules for each exception approval type. Momentum captured all of the Exception Approval requirements in a General Functional System Requirements (GFSR) document and produced detailed process models for all of the exception approval types. Using the process models, Momentum developed Livelink workflows to support the decision process for each exception approval type. Momentum also designed the module’s user application interfaces, as well as designed and built the Exception Approval data model and physical database (as an extension to the existing database). All of the design elements were captured in a System Design Document (SDD). The Exception Approval module consists of Java (JSP) screens, Oracle database triggers, Livelink workflows, Livelink workflow helper apps, LiveReports, Oracle Reports, and on-line help using Robo-Help.

Ultimately, the Exception Approval module had four main objectives. It was designed to:

- Control policy compliance
- Provide a way to gather exception approval information
- Provide an approval process to expedite decisions for exception actions
- Capture data for summary reports defining cost and excess square footage impact of approvals

In addition, the Exception Approval module facilitates improved communications between all interested parties and also allows USACE and its customer base to collaborate and share information using a central repository of information.

Process and Workflow Examples

The web-based module allows all authorized personnel to request appropriate approvals for any exception action that deals with high cost (square footage, renewal, or build-out), excess space, underspaced facilities, firm term leases, inadequate competition, breaking collocation, changing the status of an action from funded to unfunded, and deleting an existing action and/or declaring an action unaccomplishable.

A variety of different actions and workflows are initiated, depending upon the type of exception approval required. Here are some examples of how the system automates and supports various aspects of the business process.

Generating Requests

Exception approval requests can be generated two different ways, automatically or manually.

- *Automatic requests*—The module can automatically generate the request based on data entered in the site selection tables. Using a database trigger, the system automatically initiates the request for a specific action.
- *Manual requests*—Users can prompt the generation of a request by simply entering a 'Y' in the Exception Approval Request fields of the Action Approval screen. A database trigger on the action approval table is used to initiate this request for a specific action.

When it is determined that an exception approval is needed, the system will automatically send the USACE District employee or Joint Recruiting Facility Committee (JRFC) Service representative associated with the action an e-mail informing them that this action requires an exception approval. The e-mail contains a link to a web page that displays the **Exception Approval Request** form. The link includes parameters (such as an action id and site id) that allow the system to query the legacy database and populate some of the fields on the **Exception Approval Request** form.

Using the **Exception Approval Request** form, the USACE District or JRFC Service representative enters the additional information needed to complete their exception approval request. The user can specify a document type to be associated with each attachment.

When the page is submitted the following operations are executed:

- Attached documents are loaded into Livelink, their attributes are set to appropriate values;
- The Request Exception Approval workflow is initiated;
- Concurrence indicators and text fields are updated in the legacy database;
- Workflow ID and workflow status codes are updated in the legacy database.

Routing for Approvals

The Request Exception Approval workflow is initiated by pressing the **Initiate Request** button on the Exception Approval Request form. That action electronically distributes the approval work assignments to the appropriate decision-making personnel. While the workflow is progressing through the approval process, each approving authority has instant access to the web-based, read-only pages, which provide them with the data needed to make an informed decision. As each decision is made, Livelink automatically updates the approval status in the legacy database.

During system implementation, Momentum made program modifications as necessary to keep the current application running and supported the system hotline. Momentum also conducted an end user

test session, and created end user documentation. As needed, Momentum continues to implement module enhancements and update the application system and end user documentation.

Rental Facilities Management Information System (RFMIS-NT)

Description of Challenge

The U.S. Army Corps of Engineers (USACE) is responsible for managing the U.S. Armed Forces' recruitment facilities worldwide. USACE managed these assets through a legacy mainframe Oracle database system, Facility Management Information Systems (RFMIS). In an effort to streamline business processes, improve data quality, and promote collaboration, USACE updated its information technology infrastructure and implemented the Facility Management Information Systems – New Technology (RFMIS-NT). The goal of the RFMIS-NT project is to provide the US Army Corps of Engineers (USACE) and its in-leasing customers with a fully automated management information system supported by new technologies (i.e., web-based screens and reports, document management, workflow, and GIS).

Solution Highlights

USACE selected SAIC and Momentum to provide full life-cycle development services to design and build the RFMIS-NT solution. Momentum helped develop RFMIS-NT as a 100% web-based application incorporating Open Text Livelink as the enterprise content management infrastructure. RFMIS-NT provides USACE with the ability to Acquire, Maintain and Dispose of leased property. RFMIS-NT provides more reliable data than the existing RFMIS application and it is designed with state of the art development tools, based on standardized business processes agreed upon by USACE and its in-leasing customers. The enhanced data reliability provides for better cost and space accounting. It also facilitates better planning, budgeting, and execution status information to users and managers.

Momentum worked with USACE to help automate business processes for the RFMIS-NT project. Through this effort, Momentum provided full cycle development services for all critical RFMIS-NT component modules including the:

Automated Cost Estimating System (ACES) module – ACES represents a business process that provides systematic procedures for automating all action cost estimates. ACES, integrated into RFMIS-NT, automatically generates cost estimates for all programmed actions; upgrades, relocations, new offices, expansions, reductions and closures, as well as project annual lease renewal costs for upcoming fiscal years. ACES performs its cost analysis by relying primarily on data stored in support tables that may change annually based on costs, inflation rates, and an adjustment factor range from Metropolitan Statistical Areas (SMSA), state, and district specific adjustment factors.

Action Request (AR) module - the AR module provides a vehicle for collecting information such as Requested Completion Date, action type, location, authorized space, and justification for this action request, which enables the USACE District Realty Specialist to acquire, maintain, or dispose of the leased space. This module is primarily used by the recruiting customers and will allow them to view, create and update recruiting action request requirements. The module itself is divided into six (6) specific sections. These are general information, facility, personnel, location, cost, and policy waiver. All modules including facilities management will include comments, documents, and audit. Each of

these sections equate to a tab of information in the Action Request module. When specific information that is needed is not included on one of the tabs links will be available to take the user to different parts of the system to view detailed data.

Program Management (PM) module – the PM module is utilized to manage both the Recruiting Facilities Program and the USACE Real Estate Lease Acquisition Programs. The module supports continual update of funds status for both the USACE and Recruiting Program Management communities during Current FY, Budget (next) FY and Outyears (subsequent FYs). The information within these modules makes it possible to track both budgeted and actual FY progress within RFMIS NT. Additionally the Program Management Module supports Outyear forecasting and budget estimating, special initiatives planning and tracking, and overall program forecast and execution activities.

Facilities Management (FM) module – the FM module is used to manage personnel, cost and space. This module is primarily used by the recruiting customers and will allow them to view, create and update facility information. The module itself is divided into eight specific sections. These are general facility information, personnel, space, location, cost, actions, inspections and problem reports. All modules including facilities management will include comments, documents, and audit tabs. Each of these sections equate to a tab of information in the Facilities Management Module. When specific information that is needed is not included on one of the tabs, links will be available to take the user to different parts of the system to view detailed data.

District In-Leasing module – the District In-Leasing module is used to accomplish the actions created in the Action Request module, and to maintain ongoing Leases and Contracts. Workflows guide Realty Specialists through the process to accomplish New Office, Relocation, Upgrade, Expansion, Reduction, Closure, Renewal, Extension and Termination actions, with the District In-Leasing module updating revised and actual Action costs at certain steps in the process. The District In-Leasing module will also update facility data such as cost. USACE customers can access the system to view the status of their actions and to input Site Ratings for New Office and Relocation actions.

External Reporting module - the main objectives of the In-leasing External Reporting module are: provide a comprehensive list of the external reports required to support the in-leasing business process; provide one source to generate performance measurement information and statistics to prepare management briefings; and provide a standard business process, such as document templates, to gather information for external reporting purposes.

Momentum followed a proven development process modeled after the Department of Army; Regulation No. 25-1-2 process, entitled “Life Cycle Management of Automated Information Systems”. Following this software development methodology, Momentum produced for the USACE these critical deliverables:

Requirements:

Momentum generated the detailed system requirements specifications (SRS) documentation for the ACES, Action Request, Program Management, and External Reporting modules.

Design:

Momentum, guided by USACE vision for RFMIS-NT, developed comprehensive software design documents (SDD) for the ACES, Action Request, Program Management, and External Reporting modules.

Build:

Momentum then took the completed design definition and was tasked to build the ACES module using J2EE, Oracle RDBMS, Oracle Reports/Discoverer, Oracle Toplink, Oracle 9iAS, and Livelink. Momentum built the necessary Livelink workflow and document management functionality for the District In-Leasing, Facility Management, and Action Request modules.

Test:

Momentum developed a comprehensive test plan for the ACES, District In-Leasing (Livelink portions only), Facility Management (Livelink portions only), and Action Request (Livelink portions only) modules.

Action Item Tracking Application

Description of Challenge

The U.S. Army Corps of Engineers (USACE) is responsible for acquiring, managing and disposing of real property for the US government throughout the world. In an effort to improve how the agency managed these real estate transactions, USACE developed an initiative to track and manage important real estate actions taking place across the world. Designated as the Real Estate Action Item Tracking (AIT), the solution would manage staff assignments and related work items taking place throughout the real estate division of USACE. AIT provides USACE management valuable insight into real estate real property status reporting including property availability, transaction monitoring, and disposition scheduling.

Solution Highlights

Momentum designed and implemented the Real Estate Action Item Tracking (AIT) application incorporating a 100%, web-based architecture built upon Open Text Livelink. Supplementing Livelink, Momentum also developed critical software components that tied together USACE task information (structured data) with the Livelink document repository. Momentum also created Livelink workflows following USACE business processes and linked this information to a centralized “workspace” for up to date status reporting and monitoring.

AIT provides a standard HTML web interface, driven by a Java based application server. The database services are provided by Oracle, and the document storage services are provided by Open Text Livelink. Momentum enhanced the Livelink application to include the ability for users to create and track actions as well as to accept, reassign, and complete assignments. AIT improves communication and reporting by enabling users to share information regarding project status and associated task assignments. During system implementation, Momentum made program modifications as necessary to keep the current application running and supported the system hotline. Momentum also conducted an end user test

session, and created end user documentation. As needed, Momentum continues to implement module enhancements and update the application system and end user documentation.

Today, the Real Estate Action Item Tracking (AIT) application tracks and manages all critical assignments related to the various business functions of USACE real estate management function. AIT enables users to easily create and track actions, to accept assignments, to reassign assignments, and to complete assignments. AIT also controls ones ability to make assignments across organizational boundaries. Complex relationships are permitted including the ability to jointly share assignments across organization boundaries. In this case, AIT enables users to make the same assignment to multiple people and “broadcast” the assigned task throughout the country.

In summary, AIT provides critical assignment monitoring and tracking for the Real Estate Division of USACE. Its functional highlights include the ability:

- To electronically submit tracked actions with their associated assignments
- To track the status of a task assignment.
- To assign and reassign assignments following department level business rules.
- To delegate a task for completion.
- To broadcast assignments.
- To manage users and organizational relationships.