CalCareers/ECOS
(Examination and Certification Online System)

Enterprise IT Management Initiatives

NASCIO 2019 State IT Recognition Awards

Project Initiation: January 2011
Project Completion: June 2018

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Executive Summary

Delivering centralized service to the people of California and its state workforce is a formidable challenge. The combination of complex elements in state regulations, disparate legacy systems, intricate business processes, competing stakeholder priorities, and a need to update and streamline antiquated systems had presented state IT and business leaders with an opportunity for vast improvement.

To address these difficulties as they pertained the state hiring and retention process, the project to build CalCareers/ECOS was initiated by the California Department of Human Resources (CalHR).

CalCareers is the State of California's jobs site and ECOS is its administrative back end. The system provides over 160 agencies, departments, boards, and commissions statewide with the ability to advertise for job openings and examinations, administer online exams, and conduct hiring. Using a combination of contract and civil service staff, this custom development project has successfully alleviated pain points of using legacy systems and manual paper-driven processes, streamlined code and infrastructure, and brought sorely needed new functionality to service the public as well as the state workforce of over 250,000 with a comparatively small budget of $10 million.

CalHR has statutory authority over examination, classification, and hiring practices statewide. Prior to the creation of the CalCareers/ECOS system, the state used 7 separate legacy systems to accomplish all of the work necessary to process examination and certification of job applicants and post job openings. There was no way to apply for a job electronically. The only other existing statewide human resources system was the State Controller's payroll system, which was implemented over 40 years ago.

The public-facing CalCareers portion of the system was upgraded for enhanced user experience and digitally modernized to become mobile-friendly between in August, 2016 and June, 2018. A vendor was brought in to perform information architecture user interface design and state IT staff performed the bulk of the customized software development.

The system has substantially increased the candidate pool by enabling electronic application, which has grown steadily over the months since its implementation. This has enabled departments to select qualified candidates to fill their positions more quickly and efficiently. It has also provided job seekers with a much improved user experience.

CalCareers/ECOS has successfully delivered to State of California and citizens a product which has met all of the goals envisioned at its conception.

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Concept

In 2011, CalHR initiated the ECOS project to replace 7 antiquated legacy systems.

1. Examinations (Mainframe)
2. Certification (Mainframe)
3. Web Exams (ColdFusion)
4. Job Apps (Classic ASP – Modified-Off-The-Shelf product)
5. State Restriction of Appointment & Reemployment (ASP.NET)
6. Vacancy Publications (ColdFusion)
7. Career Executive Assignments Exam & Cert process (Manual)

The primary goals were to consolidate these disparate systems and streamline processes they encompassed to better serve Californians, enhance user experience and improve efficiency.

Prior to the implementation of ECOS, the execution of all processes contained within these legacy systems was slow and cumbersome.

In order to be hired by the state for most job classifications, an applicant must pass an examination to obtain a spot on an eligibility list. A certification of that eligibility must then be produced when an HR analyst takes a snapshot of it in a particular time. ECOS allows state departments to obtain and manage lists of candidates who have passed exams. These certifications are then used by all departments to make hires.

ECOS was designed to allow the time for certifications to be greatly reduced for departments.

In addition to streamlining all of the functionality contained within the legacy systems, ECOS was also designed to include a data warehouse to consolidate information in a more digestible format for end-user reporting.

To provide an idea of the size and scope of the system, CalCareers/ECOS contains over 460 screens and over 600 primary database tables.

Significance

In an age where large government IT development projects are known for a high rate of failure, CalHR is proud of the accomplishments achieved by CalCareers/ECOS. This system was custom-built, in-house managed, directed, and primarily developed by state staff with some augmentation by consultant staff.

The system makes finding and applying for jobs easier for applicants. It has streamlined the complex hiring process for departments. CalCareers/ECOS also makes it easier for departments to comply with policy and government code.

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ECOS provides auditing capability for compliance review by the State Personnel Board which significantly reduces departmental staff involvement and office visits to inspect paper files saving substantial amounts of time and increasing compliance with state regulations around the hiring process.

Due to the complex nature of the job application process as shaped by government code, prospective employees from the private sector often had difficulty finding a specific job they wanted and navigating the state hiring process. Expanding the search functionality and effectiveness has resulted in greater satisfaction from job seekers.

In addition, CalHR conducted focus groups with a wide variety of stakeholders in order to implement a wizard to walk applicants through the process of applying for exams and jobs. Public sector classifications were mapped to federal job categories in order to provide a more plain language job search.

Impact
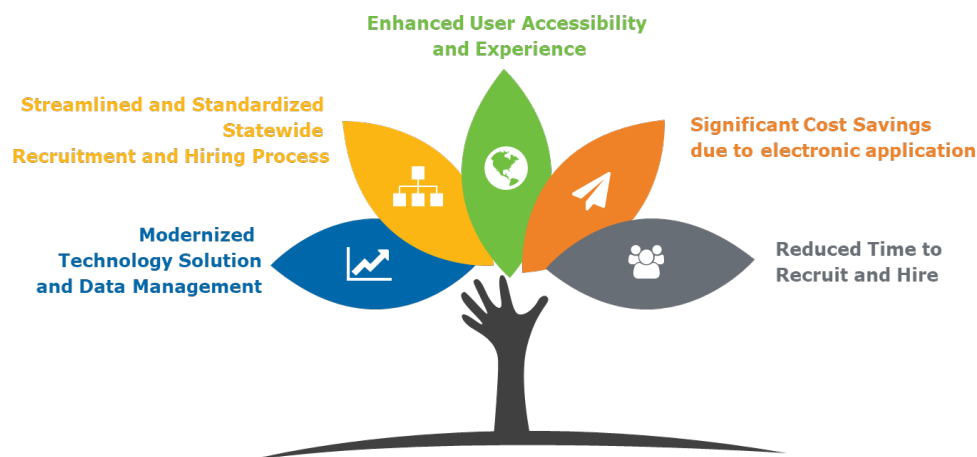
The benefits of CalCareers and ECOS are manifold and below are few of the high-impact business values:

- **Modernized Technology and Data Management:** In the legacy system, a certification had to run in a batch process overnight. It now takes a few seconds in real time with the modernization and helps with effective reporting.
- **Streamlined and Standardized Recruitment and Hiring Process:** As the processes are standardized statewide, there are wizards available to walk applicants through the job and exam application processes.
- **Enhanced User Accessibility and Experience**: With modern and digital technologies, job applicants can use the system on any device from anywhere. Since electronic submission of job applications was implemented in January of 2016, over 3 million applications have been received by the system.

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Improved job search allows robust filtering options by department, job categories, location, salary range, career path and more making it easier to find jobs with specific skills or qualifications. Users may select job or exam postings to share with others from the CalCareers site via Social media like Facebook or Twitter.

- **Significant Cost Savings:** Citizens are no longer required to use postage or paper to apply for jobs or exams. Departments have dramatically reduced usage of postage and paper to reply to applicants. This has resulted in significant savings of thousands of dollars monthly for both citizens applying for jobs and state departments engaged in hiring.
- **Reduced Time to Recruit and Hire:** The electronic accessibility has made it easier for HR staff to recruit the most qualified candidates and hire within the desired timeframes. The feature to save 10 templates per applicant account helps candidates to apply faster and easier. Hiring of disabled people has been increased 400% by eliminating the distinction during the screening process.

CalCareers includes the ability for users to share feedback. Many of the user suggestions have been used to make improvements to the system. Data trends over the 3 years that responses have been collected show that users are reporting an increased satisfaction in using the system to find the information and jobs for which they are searching.

Other benefits of the new system include:

- A military skills translator to assist veterans seeking work which maps their Military Occupation Classification to state jobs that are equivalent
- The ability for applicants to be notified for job openings in the future
- Audience based navigation (ability to search for jobs by whether you are a current state employee or not, a veteran, a disabled person, or a state retiree)
- Career based searches (ability to search for jobs by career path)
- Ability to mark jobs as "Favorite" in your CalCareers account to come back later to apply

CalCareers/ECOS now provides the state with an enterprise hiring solution that meets the needs of all state civil service entities as well as the public.

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