

PAROLE  
LEADS  
3.0

Anytime, anywhere, any device:

# Parole LEADS 3.0 puts officers in the driver's seat

Project launched and fully implemented  
January 2022 with ongoing updates

Data Management, Analytics and Visualization

California Department of Corrections and Rehabilitation  
Enterprise Information Services Division

Nomination Submitted By:  
Kristin Montgomery, Director  
Enterprise Information Services  
Department of Corrections & Rehabilitation



# Executive Summary

## Our Idea

The California Department of Corrections and Rehabilitation (CDCR) Parole Law Enforcement Automated Data System (LEADS) provides offender data to over 330 Law Enforcement Agencies (LEAs) and over 4,000 LEA users in the state of California. Since 1997 this data was made available through the same legacy web application. Parole LEADS 3.0 allows LEA users to search for over 95,000 offenders on parole using a variety of search techniques, on a variety of devices, and puts end users in the driver's seat on password creation and reset.

## Our Implementation

In January 2021, CDCR initiated a project to improve and optimize how LEAs work with the Parole LEADS data by refactoring the legacy Parole LEADS web application into Parole LEADS 3.0 Progressive Web Application (PWA).

Over the last three years, the CDCR received feedback that LEA users were not very engaged with the site and were not using it often. Only 30% of active users logged into the application once per month. In order to improve LEA user engagement with the database, the project team solicited feedback from LEA users during a series of small focus groups. The focus groups allowed the project team to fully understand how the Parole LEADS application was used by a variety of agencies and organizations. Using the feedback from the LEA users, the team developed the new Parole LEADS 3.0 app using Agile Development methodologies over a series of two week sprints. Parole LEADS 3.0 leverages cutting edge and innovative web application technology that meets our end user's needs.

By developing the new application as a progressive web application, the project team was able to incorporate the functionality and capability that the LEA users requested. Since the new application contained far more capability and features than the original, the project team decided to beta test the new PWA with the small group of LEA users who participated in the focus groups. In October 2021, the CDCR deployed a beta version of the new site and after a six week period, the beta testing group was surveyed to determine if the new application was engaging, easy to use, and provided additional search capability.

## Our Impact

User feedback was very positive, and most beta testers wanted to immediately deploy LEADS 3.0 to their entire agency. By December 2021, the new Parole LEADS 3.0 PWA was fully deployed to internal CDCR users and external LEA users. The new web application employed responsive design, allowing LEA users to access CDCR offender data using mobile devices in addition to desktop computers. This allowed end users the flexibility to access the app in the field or at their desks. Additional improvements included login with Microsoft Azure credentials which enabled self-serve password creation and reset. LEA user testimonials revealed that the new PWA improved how users request new accounts and how they are able to search for data. The CDCR has already received requests for six new agencies to be enrolled into the program since the new PWA was deployed.

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**233%**

This project greatly improved the Parole LEADS experience for LEA users. So far, agency engagement has been improved by 233%, users have reported fewer issues with the application to the LEADS Support Staff, and the CDCR has already received a number of LEA user requests to further enhance the application. The CDCR will continue to support and incorporate more features and functionality into the Parole LEADS 3.0 PWA in the future, providing external LEAs with critical data enabling them to keep the public safe.

# Our Idea

## Improve and modernize how Law Enforcement Agencies search for parolee data

CDCR partners with more than 330 state and federal law enforcement agencies (LEAs) to provide them data about offenders that are supervised by the Division of Adult Parole Operations. Since 1997, CDCR has provided data to its LEAs using the same web-based application. End users search for a wide variety of detailed information about parolees including:

- Parole Status
- Supervision Level
- Agent of Record
- Parole Unit Contact Information
- First, Middle, and Last Names
- Birth Date and State
- Alias and Monikers
- Physical Descriptors (height, weight, hair, etc.)
- Photos (including mugshots, scars, marks, and tattoos)
- Employment Information
- Vehicle Information
- Address Information
- Telephone Information
- Commitment Offenses
- Registration & Notice Information
- Parole Status & Special Conditions of Parole

Although cutting edge technology twenty years ago, the Parole LEADS 2.0 web application was outdated, insecure by today's standards, not compatible with smart phones or tablets, and didn't provide LEAs with easy-to-use controls and filters to adequately analyze offender data. As a result, only 30% of active LEA users logged into the application monthly. Furthermore, many users became disengaged with the application because they would forget their password or need CDCR Support Staff to reset their password for their user credentials. This process took time, was inefficient, and required a large number of CDCR Support Staff to manage the application.

**In January 2021, CDCR's Enterprise Information Services (EIS) Division, embarked on a project to modernize the Parole LEADS web application into a Progressive Web Application (PWA) data management tool called Parole LEADS 3.0.**

## Middle Tier Framework to improve user interface and-self service

The new Parole LEADS 3.0 web application was built on a framework that CDCR EIS developed called the Middle Tier which provided CDCR the ability to securely deploy web applications via Docker Images in a matter of minutes. The web application's user interface is responsive, so users enjoy the best interface and experience from a desktop, laptop, smart phone or tablet. Significantly, the new framework integrated with Microsoft's Azure Active Directory so LEA users could sign in to the new application using their organization's user credentials and passwords which provided more secure Multi-Factor Authentication (MFA) and the ability to utilize Single Sign-On (SSO) capabilities.

# Our Implementation

## Agile collaborative approach with Law Enforcement Agencies

Using the innovative CDCR EIS framework to deploy the new Parole LEADS 3.0 application, the project was implemented and deployed using the Agile Development methodology in order to deliver to users a Minimal Viable Product (MVP) in a short time period. The project was organized into three major phases. Phase I was to elicit user feedback and gather initial business requirements. Phase II was to develop the web application in development sprints working on a backlog of user requirements and features. Phase III was to transition LEAs and their users to the new web application.

The project team wanted to ensure LEA engagement with the new web application so it would be impactful and meaningful for LEA users. The project team, during Phase I, elicited user feedback from a group of twenty LEA users from different organizations throughout California. Multiple focus groups were held with three to five users in each group and project team members, such as web developers, business analysts, CDCR parole operations Subject Matter Experts (SMEs), EIS Management, and the Project Manager.

The focus groups provided valuable user feedback on limitations of the Parole LEADS 2.0 application revealing the following:

- The rendering of the data on the screen was sometimes hard to view depending on the size of screen being used.
- Field agents/officers could not view Parole LEADS 2.0 data well on a mobile device.
- Searches using dates and ranges (i.e. height, weight, age, etc.) were difficult to perform.
- There were limitations when selecting dropdown data because only one selection could be made at a time.
- Photos (mugshots or Scars, Marks, and Tattoo images) were difficult to view.
- When performing a “keyword” search, data was returned, but users did not know where the “keyword” was found within the data.
- Login and password resets took too long to perform causing users to abandon attempts to gain access to Parole LEADS 2.0.

Besides eliciting user feedback during the focus group sessions with LEA users, the project team analyzed technical documents, existing user interface fields and the main search screen layout in the Parole LEADS 2.0 application. Also in Phase I, the project team developed a mockup of the new Parole LEADS 3.0 application so parole operations SMEs and LEA users from the focus groups could see how the new Parole LEADS 3.0 would look and feel. Initial feedback was positive, and the project moved into Phase II where all of the new ideas and requirements were documented in a product backlog, which consisted of over a hundred requirements and features to be included into the new application.

In Phase II, the project team utilized Agile Development methodologies with CDCR’s new Middle Tier framework to iteratively develop and deliver the Parole LEADS 3.0 application over a series of two week sprints. Each sprint started with a planning session where the project team would pull a small group of requirements and features from the backlog and would develop parts of the new Parole LEADS 3.0 web application. At the end of each two-week sprint, the team would meet

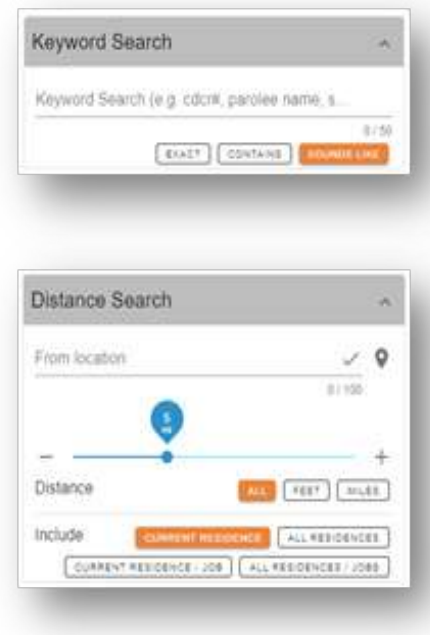
with CDCR parole operations SMEs, a small group of LEA users from the focus groups, and EIS management to solicit feedback on the look, feel, and functionality of the new application. Features and requirements that were agreed to by the stakeholders to be complete, would move on to the testing environment, any features or requirements that needed to be revised based on user feedback, were added back into the backlog for prioritization for future sprints. Over a series of development sprints, the new Parole LEADS 3.0 PWA was developed to a point where the project team was ready for a small group of LEAs to beta test the application.

### Leveraging feedback to get the new application right

The new improved Parole LEADS 3.0 PWA Minimal Viable Product (MVP) was a multi-faceted powerful search engine with multiple methods of searching for parolee data.

<b>Keyword Search</b>	Allows users to search for keywords that could be in any a parolee’s detail record. Keywords display highlighted in yellow to help users see where the keyword is located.
<b>Distance Search</b>	Allows users to search for parolees by residential address or employment address within a user specified radius from either an address or a specific location on a map.
<b>Filter Search</b>	Allows users to search for parolee’s whose demographic, parole, vehicle, or scars, marks, or tattoo data meet certain requirements. Data is filtered using a series of new dropdown, date, and range controls allowing the user to fine-tune searches.

The application was deployed in October 2021 to a beta testing environment and about 16 LEA users from multiple external agencies were asked to participate in the beta testing. After a six week period, the project team surveyed the beta testing group to solicit feedback. Feedback from the group was overwhelmingly positive. Every agency that participated asked when their teams could use the new application. In December 2021, CDCR deployed Parole LEADS 3.0 to CDCR Division of Adult Parole Operations and Office of Correctional Safety (OCS) users. CDCR’s parole operations division sent out a communication memo highlighting new features and capabilities with Parole LEADS 3.0 and explained how users could transition to the new application. Also, in December 2021, CDCR sent out an email communication to all LEAs currently using the Parole LEADS 2.0 application. The communication highlighted new features and capabilities of the LEADS 3.0. In January 2022, the LEADS project team started contacting the individual LEAs currently using the Parole LEADS 2.0 application and started to transition the users to the new Parole LEADS 3.0.



CDCR supported LEAs as they transitioned to the new self-service aspects of the system by providing instructions and diagrams of how data from their Microsoft account would be sent to CDCR for user identity purposes. It only took about a week for most LEAs to transition their entire teams onto the new Parole LEADS 3.0.

# Our Impact

## Improving Law Enforcement engagement

**70%** of LEA users  
have logged into Parole  
LEADS 3.0 monthly since  
the initial launch up  
**233%**  
from Parole LEADS 2.0

Before starting this project, more than 330 LEAs had accounts on CDCR's Parole LEADS 2.0 web application. Since the full launch, CDCR has retained all LEAs using the legacy Parole LEADS application and has received 6 requests from new LEAs wanting to participate in the LEADS program. 70% of LEA users have logged into Parole LEADS 3.0 monthly since the initial launch up 233% from Parole LEADS 2.0 demonstrating the new PWA is engaging external LEA users. In addition, the LEADS Support Team has only received two help tickets for users who require additional support with the new PWA. Typically, the LEADS Support Team would receive about 30 to 50 help inquiries per

week with the legacy Parole LEADS 2.0 application. Because the new Parole LEADS 3.0 PWA is deployed using new/emerging technology based on Docker Images, the application has already been updated multiple times causing only a 15 minute downtime for users compared to much longer downtime periods for the legacy application.

In addition to improving LEA engagement for the program, the new Parole LEADS 3.0 PWA accomplished the following for users:

- Reduced the number of searches LEA analysts had to perform to find parolees using parole date, weight, age, and height ranges.
- Reduced the time LEA analysts spent looking for keywords in searches. Keywords in search results now display highlighted in yellow. In the legacy application, keywords were not displayed to users.
- Users now have the ability to data mine for information via an export feature.
- Users now can customize their results screen area to only display data fields they want to display on their screen. These settings are saved for users so they spend less time having to find critical data during searches.
- Field Agents can now search for parolees who either live or work near a general area, such as a crime scene or point of interest.
- Field Agents can view the application in Dark Mode which reduces the amount of screen brightness when operating in the field.
- Users can now print selected photo images for parolees where before they have to print either one photo or all of the photos.
- Improved the activation process for new LEADS accounts for LEA users.

The screenshot displays the search interface of the Parole LEADS 3.0 PWA. It features a 'Search' header and several filter sections: 'Personal Information', 'Parole Information', 'Parole Status', 'Parole Date' (with 'EXACT', 'RANGE', and 'ALL' options), 'Discharge Date', 'Supervision Level', 'Supervision Type', 'Commitment Offense', and 'Commitment County'. The 'Commitment County' filter is currently set to 'san'. Below the filters, a list of 60 items is shown, including counties like San Benito (43), San Bernardino (7476), San Diego (5903), San Francisco (317), San Joaquin (2245), San Luis Obispo (591), and San Mateo (1111).



One LEA Detective provided the project team feedback saying “The new process of getting the account was perfect. No difficulty at all.” Other LEA users provided similar feedback to the team reiterating that new Parole LEADS 3.0 PWA was more intuitive and user friendly than the legacy version.

### Continuing to improve and enhance

The deployment of the new Parole LEADS 3.0 PWA allowed the CDCR to retire the legacy Parole LEADS 2.0 application. It also has provided the option for more features and capability to be added to the application in the future. CDCR has already been approached by numerous LEAs asking if a sequential photo lineup report and additional gang information can be added to the application. Both ideas have already been added to the Maintenance and Operations (M&O) backlog for the application and in the future, more features and capability, such as automatic Parole Agent alerts is planned to be added to the Parole LEADS 3.0 PWA allowing LEA users to message or alert Parole Agents when contact with parolees has occurred.

This project has increased collaboration with local enforcement agencies and has allowed critical data to be shared with CDCR law enforcement partners. Users are more engaged with the LEADS program and can now login securely utilizing Microsoft Azure from any device or computer. The CDCR has a long term roadmap to support and enhance the LEADS 3.0 over the years and it will provide external agencies with critical data to enable them to continue to keep the public safe.