California Department of Corrections and Rehabilitation

Enterprise Information Services

Virtual Integrated Mobile Office Project

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Executive Summary

Virtual Integrated Mobile Office (VIMO) is a smartphone-based application used by Parole Agents to access real-time critical parolee information. VIMO enhances digital information security by using state of the art technologies that include mobile device management (MDM), application sandbox or container enforced, 2 factor authentication, and 256-bit AES encryption. It is also compliant with the Federal Information Processing Standard (FIPS) Publication 140-2. VIMO is particularly innovative as it was implemented through a partnership between the California Department of Corrections and Rehabilitation (CDCR) and San Diego County Probation and is an outstanding example of information sharing and collaboration between state and county government. The open-source platform permits any interested government agency to participate via Memo of Understanding, reducing project risk, allowing for rapid application deployment, and cost-effective implementation of future technology enhancements to improve officer and public safety.

VIMO dramatically improves Parole Agents' access to critical parolee information. Using a smartphone, Parole Agents utilize VIMO to have real-time access to details (including all Strategic Offender Management System (SOMS) parolee information, mug shots, scars, marks, tattoos, supervision notes, conditions of parole, drug tests, cautions, warrants, and alerts) about each parolee they supervise; thereby, improving the agents' ability to confirm parolees are complying with conditions of their release from prison. VIMO actively synchronizes data with SOMS, enabling agents to access as well as update parolee information even when the agent is out of range of a cellular network. VIMO eliminates the dependency on paper-based files thereby decreasing manual supervision notes, administrative tasks required for parolee category of supervision, and maintaining a paper-based Field Book. The new electronic process increases agent efficiency and allows more time spent supervising parolees.

VIMO exemplifies innovation in government from the technological perspective and the collaborative approach used to implement the solution. The collaborative approach allows for shared development costs by multiple agencies, mature product with business process improvements, lessons learned, and larger pool of expertise to resolve issues and provide future enhancements. The mobile application makes innovative use of cutting-edge smartphone technologies by encrypting the data on the phone, using a secure communication protocol over the Internet, encrypting critical data while in transit, and encrypting data at the data center. Moreover, CDCR's innovative approach of implementing VIMO by partnering with San Diego County Probation resulted in rapid and cost-effective implementation due to the significant reuse of the user interface code allowing CDCR to go from conception to proof of concept (POC) in less than 6 months.

Deployment of smartphone and mobile infrastructure allows for future officer and public safety enhancements as well as additional cost efficiencies and enhancements. For example, the GPS tracking application interface is on schedule for a December 10, 2017 implementation and will reduce the need for dual entry for more than 60,000 GPS events monthly with a projected annual reduction of 95,940 hours.
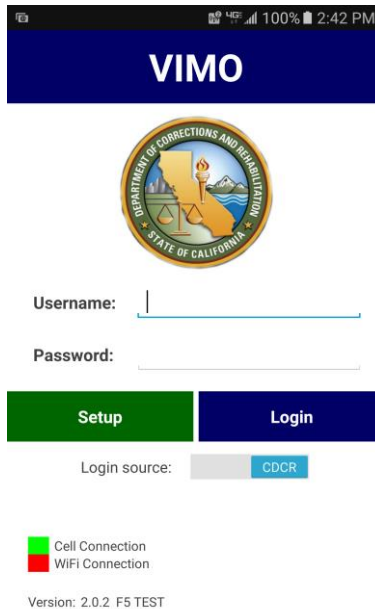
Concept

Problem: Probation officers and Parole Agents spend significant time every morning performing administrative tasks, paper-based processes, and clerical processes. This distracts them from their core mission of supervising offenders, assessing offenders' needs, and working with the offenders social support network. Officers and supervisors also lack immediate access to critical information while in the field. Paper-based systems have to be constantly updated and required manual audits to ensure compliance with policy. Reports and statistics are handwritten and manually counted. Additionally, inefficient administrative processes tend to reduce the quality and comprehensiveness of information concerning agent-to-offender interactions. The Field Books are often lost or misplaced which is an information security risk. VIMO is encrypted and password protected so even if an Agent were to lose or have a smart phone stolen, the information would still be protected. Additionally, Field Books are difficult to keep the information current due to multiple contacts with different Parole Agents filing paper notes to the parole agent in charge of the case. Paper notes and Field Book for sex offender population are stored indefinitely and requires a large infrastructure to support and maintain. VIMO and SOMS reduce the cost of storage via modern low cost electronic storage.

Solution: Working closely with officers, supervisors, and clerical support teams, San Diego County identified mobile technologies, business process changes, and workflows to help officers focus on case management as opposed to clerical or administrative activities. These efforts resulted in development of the Probation Utility Mobile Application (PUMA). Released in 2015, PUMA is a native android smartphone application with direct access to probationer case data, enabling probation officers to manage their caseloads, lookup information, and take notes in the field both on and offline. Over 320 officers in San Diego County use PUMA for day-to-day management of approximately 12,000 adult and 2,500 juvenile offenders.

In March 2016, CDCR partnered with San Diego County to evaluate the Probation Utility Mobile Application (PUMA) for parole agent use. CDCR, with support from Hewlett Packard Enterprise, adjusted PUMA to integrate with the CDCR SOMS application and, in the process, rebranded the product as VIMO. CDCR conducted an initial POC in September 2016 with 45 agents successfully using the application to record nearly 4,000 field contacts. The POC was a

resounding success with demonstrable cost reductions achieved through business process improvements, improved access to parolee information, and improved quality and quantity of information logged into the SOMS' Record of Supervision (ROS) through the VIMO application. As a result of the successful POC, VIMO was deployed to over 400 GPS/sex offender agents in February of 2017 with a second phase to rollout to more than 1000 Parole Agents in April 2017.

Both San Diego County and CDCR's implementation of mobile applications reveals the following:

- Mobile solutions provide tremendous business value for supervising offenders in the community. For example, CDCR has documented 25,000 contacts each week totaling 20% time savings equaling more than 433,333 staff hours recording supervision contacts.
- Collaboration between county and state agencies provides substantial cost savings and can dramatically reduce the time to implement a new technology. The MOU with San Diego County for the base code of PUMA greatly reduced time, costs and risks in the development of VIMO. Allowing the state with no previous mobile application experience or infrastructure to go from concept to production in 10 months.
- Creates a starting point from which to collaborate and build a full ecosystem of mobile capabilities across both state and county correctional agencies. Collaboration with multiple county probation departments increases public safety and reduces future development costs and time frames for key functionality.

Both the PUMA and VIMO mobile office application have revolutionized the way San Diego County and CDCR manage probationers and parolees, respectively. Probation officers and Parole Agents directly benefit from having accurate, up-to-date information about their offenders at their fingertips, affording officers and agents a higher degree of interaction with their offenders. Enabling field staff to record supervision notes and contacts through PUMA/VIMO increases the accuracy and timeliness of information, accountability, and management of offenders. San Diego County and CDCR have achieved operational and strategic benefits from availability of improved information. For example, both agencies now analyze information recorded through the mobile application to discern patterns and gaps in supervision. This allows management to reallocate caseloads and take other proactive measures as necessary.

By reducing the time Parole Agents spend on administrative tasks, additional time can be spent finding parolee vocational opportunities, meeting clinical or criminogenic needs, and directly supervising or meeting with significant or collateral contacts which have hopeful positive impact on offenders' re-integration into the community. As a result, PUMA and VIMO directly benefit public safety in San Diego County and across California. CDCR is actively engaging other agencies to encourage their use of VIMO to widen the benefits reaped from this innovative initiative.

VIMO is based on proven technology in which San Diego County previously resolved most of the technical issues. More than 80% of the reported issues with VIMO are user/training-related issues. Technical issues that have reported are well below industry standard and involve less than 1% (0.0038) of SOMS reported technical issues.

Significance of the Project

VIMO radically transforms current business processes and disrupts the status quo of depending on hard copy files, manually filling out forms, creating and tabulating reports, and re-entering data into other systems or applications, i.e., SOMS, PVDTS, and VeriTracks. VIMO permits the

Parole Agents flexibility to work away from a desk, allowing them to maximize time spent directly supervising offenders in the community. VIMO transforms agent responsibilities from administrative desk bound worker to mobile forward deployed worker that can spend more time on the core mission of overseeing offenders.

The application is revolutionary by providing Parole Agents new efficiencies like Search and Route Planning. Before VIMO, Parole Agents manually printed information from SOMS and carried case file folders with them in the field. Parole Agents often required information not contained in their case file which meant they would need to call the office to get the information. With VIMO, Parole Agents are able to access information in real-time, and since they no longer have to carry the case file folders, the number of calls placed to regional offices has greatly reduced.

Implementation of VIMO enables mobile work force, significantly reducing dependency on office space, computer equipment costs, and paper processes. The electronic version of the Field Book and Record of Supervision are accessible by staff statewide, reducing the risk of lost Field Books and the need for manual audits. The electronic Record of Supervision captures critical data allowing for data analytics and data-driven decisions.

CDCR is reaching out to promote this innovative capability to other California agencies and several state and county agencies are actively pursuing use of the solution. The timeframe for CDCR's implementation of the solution is indicative of the degree to which the solution can be repurposed between county and state agencies.

From inception, the mobility solution was designed with the goal of enabling application portability. The technology upon which the solution is built supports Android, Apple iOS and Blackberry devices. Moreover, the application design embodies a generic client and case note entity-relationship model easily repurposed for any case management-oriented use case. While the application provides tremendous operational efficiencies for parole and probation, the contact/case management capabilities are consistent with any scenario where staff is assigned a caseload; each case has details, and field staff is required to capture information and record notes concerning their interaction with offenders.

Impact of the Project

Prior to the implementation of VIMO, CDCR field Parole Agents were required to travel to all parts of the state when monitoring and supervising parolees. Each Parole Agent carries at least one large Field Book that contains a file for each of the 35 to 70 parolees assigned to their caseload. Each Field Book contains paper records of:

- Parolee Face Sheet (summary of all pertinent information about the parolee including photographs)
- Record of Supervision (paper record where all face-to-face and collateral contacts made are recorded with the parolee)
- Record of Anti-Narcotic Tests (ANT) given and the field results of those tests

A key functionality required for the field parole agent is access to caseload on demand and the ability to create a new Record of Supervision when having contact with one of the parolees on the caseload. Additionally, they must be able to create a Record of Supervision for a parolee not assigned to their caseload if they have contact.

CDCR has realized qualitative benefits including:

- All Parole Agents and supervisors have real-time access to offender information while in the field. The search capability returns information is seconds versus looking through the Field Book, driving back to the office to get on SOMS or calling on phone for administrative staff to find the information and then call the agent back can take as much as 45 minutes.
- Agents spend more time supervising offenders and less time on administrative tasks; total field contact time has gone from 15 minutes to 6.8 minutes
- Improves quality of information about supervision contacts and reduces time to enter and update parolee information through use of voice-to-text data capture; notes have gone from two or three handwritten sentences (that may not be legible) to two or three short paragraphs. Most Parole Agents are not proficient typists so they type at less than 40 words per minute. Voice-to-text allows Parole Agents to enter text as fast as they can speak; the average person speaks at 145 -160 words per minute.
- Regional offices are making strategic use of the improved information; data quality of offender demographics is improving in SOMS due to the use of VIMO in the field. This updated information is recorded in SOMS; the data is being used in business intelligence/analytics tools. Tableau to redistrict Parole Agents to reduce distance of parolee assigned to case load.
- Provides real-time updates of SOMS data from the Parole Agents in the field; access to parolee data or face sheets is preloaded each morning in VIMO so access is on demand—parolee search is just a few seconds to load.
- Increases parole agent efficiency with managing their case load (which can result in increased average number of monthly agent-to-parolee interactions). With a manual paper-based system, many of the daily contacts that are not with the Agent of record would go unrecorded in SOMS or the Field Book. With VIMO the process is so simple that these contacts are recorded and the system automatically files the notes.
- Increases information available to agents when in the field; paper-based systems limit access of the information in the Field Book and in the Record of Supervision. A paper-based system takes time to keep information updated and synchronized. In VIMO any Parole Agent or supervisor has access to any parolee Face Sheets or Record of Supervision in less than 5 seconds.
- Increases amount of time spent on primary responsibility of supervising parolees due to less time spent on administrative tasks; VIMO and the electronic Record of Supervision will save agents 433,333 hours annually.
- Facilitates access to parolee field file information without having to rely on printed hard copies;
- Reduces time spent creating printed materials to take to the field as well as cost of creating printed materials; agents spend an hour or two each morning working on their field books. The binder and plastic covers are no longer needed. Each agent had at least one heavy duty 5-inch binder and roughly 500 plastic sheet protectors.
- Reduces time spent in the office to enter information collected in the field into SOMS as transcribed from manual paper forms. In the past agents reported to the office every day and VIMO allows Parole Agents to be independent of the office.
- Reduces/eliminates the need to return to the parole office to gather additional information related to specific parolees when needed in the field. During special operations while looking for parolees at large, the parole agent can search by zip code and find all parolees in the local area. This reduces the need for Parole Agents to do planning sessions and print large number of Face Sheets before going to work on a specific area or group of parolees.

- Reduces average time to respond to alerts. Previously agents were not assigned a phone so contact was via office email or message via personal phone. With the deployment of VIMO, all agents now have texting and email capabilities, and a state cell phone they answer during business hours.
- Reduces risk of overlooked tasks and facilitates timely actions by agents. Agents are responsible for documentation of a number of tasks for each visit. VIMO provides check boxes and reminders to collect all the information required by policy for each visit, including ADA accommodations.
- Facilitates access to information on newly assigned parolees following caseload updates. Updates to the caseload are done each morning as the agent deletes and reloads a caseload. Supervisors and agents no longer need to complete caseload rosters to ensure even workload. Supervisors can see at a glance each agent and the caseloads assigned.

The solution exploits native capabilities of the mobile platform (for example, GPS, voice-to-text, phone dialer). Consequently, agents benefit by quicker navigation to client addresses, easier capture of notes using their smartphones, and the ability to quickly contact offenders and peers by direct-dialing phone numbers through the application.

While CDCR has not yet collected full quantitative metrics, CDCR expects similar findings as those documented by San Diego County. For example, the mobile application has resulted in the following quantitative benefits:

- Enabled 54% efficiency improvement in recording supervision contacts
- Agents used their smartphones in 8 of 15 daily activities associated with routine case management duties
- Acting Officer of the Day (AOD) prefer using the smart phone in the office instead of going back to the PC between appointments to write case notes.

CDCR took the innovative approach of leveraging San Diego County's development experience, application development team, contact partners, programming language, mobile management tools and significant time spent in developing and deploying PUMA. CDCR acquired PUMA from San Diego County Probation at no cost to taxpayers via MOU. CDCR significantly reduced implementation cost due to reuse of code. Contract development time for development, POC, and deployment was approximately 5200 hours compared to the 137,350 hours spent yearly on SOMS. VIMO implementation from start to production was 10 months, considering CDCR had no mobile application infrastructure or prior experience. The approach CDCR took to acquiring and implementing VIMO is a key element to the innovational aspects of the initiative. Recognizing this project will further promote its use and acceptance in other agencies, heightening the overall benefits brought about through the VIMO solution.