

Project title

inField – A Mobile Web Application for Field Personnel

Submitter's name, title, and contact information

Lynn Harris
Planning and Systems Senior Manager
UC Irvine - Transportation and Distribution Services
200 Public Services Building
Irvine, CA 92697-4525
leharris@uci.edu, (949) 824-1467

Names of project leader(s) and team members

Project leaders: Ron Fleming, Dina Ochoa, Juan Rodriguez, Clint Maruki
Team Members: Jeff White, David Puig, Ramon Zavala

Describe the problem being solved and the project goals

UCI Transportation manages parking and enforcement in four parking structures and 43 surface parking lots comprising over 18,000 stalls in support of over 40,000 students, faculty and staff on the campus each day. The enforcement division is staffed by six full time staff and 15 student representatives who are responsible for citation issuance, motorist assistance, monitoring and reporting field conditions, searching for scofflaws, inclement weather/occasional-use permit monitoring for sustainable transportation, and a virtual parking management system using license plate recognition in housing areas. With such a broad scope of responsibility and a small staff, the previous method of administering services was through processes that were paper-driven and needing multiple hand-offs, often impacting efficiency and time management for staff and administrators. For example, field condition reporting would require a manually-filled out two-part form handled by four staff members covering seven steps before the issue could be resolved. A motorist assistance service call would require much the same process and searches for scofflaws and active permits required numerous radio calls to determine if a permit was valid. These tasks were done by each representative many times a day and without a method for tracking productivity or reporting for follow up purposes.

To improve customer service and staff efficiency, UCI Transportation staff who participated in an intensive departmental leadership academy were tasked with developing a solution to improve field services' operational effectiveness. The goals were to develop a user-friendly web application that tied into existing programs, eliminated paper processing, and gave representatives tools to address and resolve department and customer needs.

Emphasize the solution and innovation, rather than technical detail

The result of the leadership team's collaboration was the in-house development of inField, an intuitive web application that provides UCI Transportation parking enforcement representatives with real-time information on their smart devices over a virtual private network. From anywhere on campus a representative can perform a variety of tasks including logging motorist assistance efforts, submitting field condition reports, tracking and logging occasional use permits, as well as having the capability of receiving real-time data for scofflaws, expiring permits, and the administration of residential parking programs. Uniquely, inField also connects to two UCI Transportation-created web applications; Virtual Permit Management System and FixIt UCI.

FixIt UCI (<http://www.parking.uci.edu/fixit>) allows representatives to perform field condition checks and report when there is a hazard or safety issue that needs attention. Through inField, representatives access the Fixit UCI form, fill it in then submit to a central database in real time. Once received, Fixit UCI automatically sends the report to the appropriate UCI Transportation department for repair or maintenance. Through inField, FixIt allows the representative to add comments about the issue and upload photos with one-click reporting, which saves time and eliminates the use of paper reports.

Space	Registered	Color	Make
40	1/19/16 07:39	BLACK	MERCED
41	1/28/16 11:45	GRAY	DODGE
42	1/14/16 13:34	BLUE	HONDA
43	1/25/16 08:30	WHITE	TOYOTA
44	1/25/16 08:30	WHITE	TOYOTA
45	1/20/16 08:08	GRAY	FORD
46	12/21/15 11:24	RED	CHEVRO
47	1/28/16 06:49	SILVER	TOYOTA
48	1/29/16 06:58	SILVER	TOYOTA

[Select a different patient parking area](#)

Time	Type
11/13/15 16:56	JUMPSTART

Motorist Assistance - Response Time (Minutes)	
8.08	10.82
My Average	Team Average

Field Condition Reports	
0	72
# of my submissions	# of team submissions

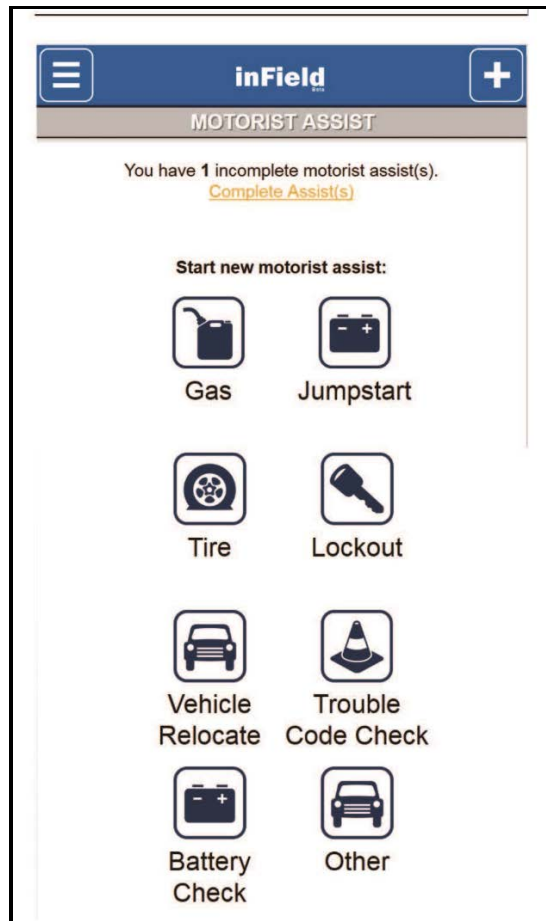
Lot	Time Last Cited
91	10/26/15 10:26
13R	11/05/15 10:16
80	11/30/15 11:59
SANTIAGO	12/14/15 10:00
1C	12/14/15 15:53

License Plate	Color / Make	Date Last Cited	Location Last Cited
PF 3	RED/HOND	01/28/16	CDS
FS 2	BLU/FORD	01/28/16	PDS
7D 5	WHI/LEXS	01/27/16	AV3
5H 0	SIL/HOND	01/26/16	SSPS
5V 4	ONG/CHEV	01/25/16	AV2
7G 8	WHT/CHEV	01/25/16	ECPS 1
6W 33	RED/NISS	01/20/16	SSPS
7H 5	WHT/NISS	01/19/16	ECPS
6R 26	BLK/FORD	01/13/16	CDS
6YF 3	WHT/BMW	01/13/16	12B

Area	Count
R	1
ZONE1	1

One of the most important ways the enforcement division interacts with campus customers is through UCI Transportation’s Motorist Assistance program. When a motorist calls UCI Transportation dispatch for assistance with a lock-out or dead battery, the enforcement representative responds in person to the guest’s location. Upon arrival they log the time they received the call in inField and click the motorist assist icon to begin the process for customer assistance. The icon logs the time the service began and leads the representative to a customer form which either they or the customer can fill out describing the nature of the service call. The representative then assists the customer with vehicle service. Once the needed service has been provided, the customer signs off on inField to confirm the service was completed. To aid in service evaluation, a short survey is sent to the customer’s email to determine whether the representatives provided them excellent customer service. This community

engagement allows for enforcement team members to offer much-needed assistance and for the customer to respond to the positive interaction.



Another unique feature is that inField uses Geomapping in order to better track a representative's location. With over 150 locations patrolled by the enforcement representatives, inField automatically maps the GPS coordinates from each device and rearranges the location list to reflect the current location and areas closest to the coordinates. This reduces the amount of time a representative takes to scroll through all the possible locations when filling in a motorist assistance form, condition report, or a citation; they simply confirm the GPS coordinates and the location field auto-populates.

Tell how the solution has impacted customers/users

inField has led to major improvements in response times and enforcement staff efficiency which in turn allows staff to better respond to customer service requests and other issues in the field. inField logs response times, customer vehicle issues and resolutions, and collects customer feedback through the customer survey. The inField data help administrators streamline how field work is done and gives personnel the tools to respond to customer needs and emergent issues in real-time.

inField also provides important communications and engagement benefits in conjunction with FixIt UCI. Because FixIt connects to the inField application, staff can communicate problems quickly, upload photos and make comments directly to a centralized database for corrective action. Externally, the issue reporting system encourages the campus community to report problems or issues they notice directly to the same database. This tool is important as it allows UCI Transportation to be responsive to a customer's needs in a tangible way as the campus community sees repairs or other resolutions in response to their concerns. Having a single database entry point using inField and FixIt, field condition reporting now takes one-step rather than the seven steps required for a paper form.

inField has improved staff productivity by dramatically reducing the time it takes to administer enforcement programs through the reduction in number of steps field representatives and their supervisors need to take to complete tasks, from as many as seven down to one, leaving field staff and their supervisors to concentrate on other job duties. inField also captures metrics for the individual and the group which help determine how a supervisor can best determine staff levels. Additionally, inField lists the time of the last citation issuance for each lot so that staff can determine when the various areas of campus need enforcement.

Explain how project success was measured

Improving staff productivity and service efficiencies have been the biggest benefits of inField. Motorist assistance call-outs are now completed in record time and collected data has allowed for targeted staffing levels and enhanced productivity and scheduling. The built-in metrics have shown that enforcement representatives have reduced their response time from 13 to 9 minutes, and through customer surveys, it has been indicated that 97% of respondents are satisfied with UCI Transportation, its staff, and services, thus meeting the goal of customer engagement.

Through inField, customer information is gathered and uploaded on-site and representatives can quickly provide assistance to address the customers' vehicle problem. After a service call, inField sends a follow-up customer satisfaction survey, which indicates a current satisfaction rate of over 98%. One typical recent comment stated that the representative "was great! ... incredibly friendly and got my car unlocked in no time!" And, with the goal of a 12-minutes-or-less response time, inField's automated tracking validates the current response rate at 7.2 minutes. The actual assistance time is 3.25 minutes, thus from the time a patron telephones for help, enforcement representatives have them back on the road in 10.45 minutes. 88% of people are very satisfied with the service they received and 97% are satisfied or very satisfied about their wait time.

Highlight collaborations with other locations, departments, or teams

inField was developed through a UCI Transportation leadership academy team comprising staff members from various divisions who were assigned to design a tool to enable department field personnel to be more efficient by reducing paper hand-offs, provide better customer service, and provide real-time metrics. The team evaluated the specific needs particular to the UCI Transportation enforcement team, although inField could apply to any division or agency that dispatches personnel into the field. Because inField was developed in-house, rapid development could take place and enabled enforcement staff to live-test each stage. When launched, field staff were familiar with its capabilities and seamlessly adapted to the technology. Departmental IT created inField to be highly customizable as they knew the existing conditions and easily set up the necessary internal communications. inField was

developed as a web application, rather than a phone application which is typically expensive to develop and maintain. inField works on all smart devices and does not require expensive updates.

A strength of inField is its simplicity of use and expandability as attributes can be modified or added to support field services. Because of its success during testing and field implementation, streamlining many of the enforcement representative's tasks, the next steps will be to expand inField so it can be used by other UCI Transportation divisions such as event services and traffic direction. inField could be securely used by other agencies as it has been rigorously tested within a security-minded campus IT environment.

UCI Transportation staff presented information about inField at the California Public Parking Association conference in November 2015, and have hosted site visits from other universities interested in using inField on their campuses.

Provide the timeframe of deployment

The first requirements document was completed in December 2012. Between 2013 and September 2015, in-house development and field testing determined the attributes on the final product. inField was formally deployed within the enforcement division in October, 2015.

Briefly describe the technology utilized

Citation data is pulled through Velosum and searched by inField. The Web server uses Microsoft Internet Information Services (IIS 8) using the Microsoft Windows Server 2012 operating system. Motorola cell phones are used to connect to the web applications. The reasons for developing the application in-house and not outsourcing the technology were that there were many different features needed that were exclusive to existing UCI Transportation systems that no single vendor could supply. And, it being a web application allows for support for most HTML 5 browsers and does not force a user into a specific device, allowing for flexibility within the field.