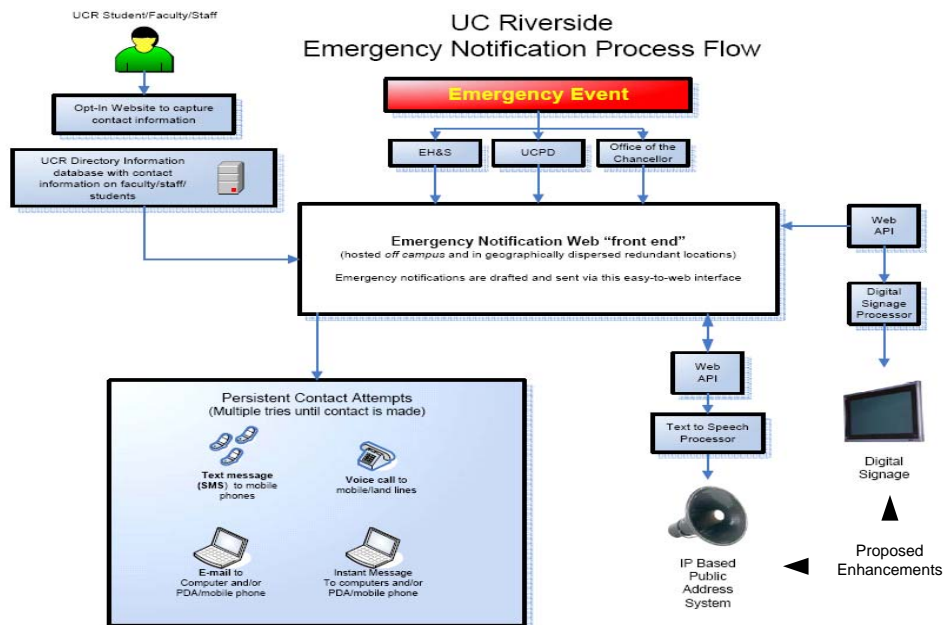**University of California, Riverside**

**Application for 2008 Larry L. Sautter Award for
Innovation in Information Technology**

Project Title:

Emergency Notification System (ENS) Deployment and Maximization of Student, Faculty and Staff Participation.

"…[The UCR] team should be commended for [its implementation of] the 3n Emergency Notification Service (ENS). The extraordinary efforts they employed to recruit students to participate in the school's notification system resulted in an exceptionally high participation rate. 3n's higher education customers have, on average seen student opt-in rates of 30-40%. The 60% opt-in rate that [the Team] achieved at UC-Riverside is far above average and has resulted in 3,500 additional students who can be notified rapidly in a crisis."
Marc Ladin, 3n's VP of Marketing – May 2008

Project Highlights

- **UCR has deployed a comprehensive emergency notification system to alert students, faculty & staff in times of crisis.**

- **Was a highly collaborative effort including Computing & Communications, UCPD, Environmental Health & Safety, Office of the Registrar, Office of the Chancellor.**

- *Acting Chancellor Grey made a bold decision to require students, faculty and staff to make opt-in/opt-out decision by withholding access to campus online systems.*

- **UCR has achieved an overall emergency notification system opt-in rate of 60%**

Project Summary

UCR deployed an emergency notification system in November, 2007. The system can be used to rapidly notify students, faculty and staff in the event of an emergency affecting the campus. Messages can be sent via SMS text messages, voice calls to cell phones or landlines, instant messaging and a variety of other methods.

Simply deploying an emergency notification system is, however, only half the battle. Persuading students, faculty and staff to participate and agree to receive messages in times of crisis has proven to be much more difficult than the challenges of system deployment. Based on an informal poll, the average university emergency notification system will reach only about 30-40 % of students, faculty and staff. The rest of the population simply never makes a choice about whether they want to receive emergency messages or they decide to opt-out entirely. At UCR, our ENS acceptance rate is greater than 60%. Through an effort that involved individuals and groups ranging from Programmer Analysts to the Chancellor, UCR deployed a highly effective emergency notification system and achieved an opt-in rate far higher than most other institutions of higher learning.

Project Description

The tragic events at Virginia Polytechnic Institute and State University on April 16, 2007 sent a shockwave throughout the higher education community. The safety and well-being of students, faculty and staff of the University of California, Riverside is of the utmost importance and effectively communicating to these constituencies in the event of an emergency is a critical factor in providing a safe and secure environment. UC Riverside has deployed an emergency communications system that provides University administration and safety personnel with a means to alert large numbers of individuals in a very short period of time. Many universities across the United States and worldwide have implemented similar emergency notification systems since the sad events of April 16, 2007, but there is a distinguishing element in UCR's deployment. That element has garnered attention from institutions of all types and sizes.

In March 2007, UCR began the process of identifying an ENS solution that would best serve the needs of the campus. After extensive research, a plan was developed and work started on creating the technology "backend" that would make it all work. In collaboration with UCPD, Environmental Health and Safety, the Office of the Registrar and the Office of the Chancellor, Computing & Communications created a mechanism to collect emergency contact information from students, staff and faculty. The project team felt it was very important to involve a wide variety of campus organizations in the process in order to solicit opinions and to foster extensive buy-in. As part of this process, campus constituents were also asked to specify whether or not they wanted to receive emergency notifications in times of crisis.

In November of 2007, the new ENS system was announced to campus and students, faculty and staff began providing emergency contact information utilizing the new web-based data collection infrastructure.

Early on in the process of investigating the use of an emergency notification system at UC Riverside, the planners realized that in order for any system to be effective, the campus would need to achieve a high rate of participation from students, faculty and staff. The Emergency Communications Workgroup (ECW), the group formed in 2006 to study emergency communications and make recommendations was very aware that most universities deploying emergency notification systems are achieving average participation rates of approximately 25% of all students, staff and faculty. UCR administration realized that achieving a much higher rate of participation was critical, and to that end UCR's acting Chancellor, Robert

Grey, formulated a plan to require students, faculty and staff to opt-in to receive emergency notifications. The plan was simple; students, faculty and staff would need to make an opt-in/opt-out decision in order to continue to have access to many campus online resources. After March 22, 2008, students who wanted, for example, to see their final grades online were prompted for an ENS opt-in/opt-out decision before being allowed to continue to their online grades. Beginning May 30th, 2008, faculty and staff will need to make that same ENS opt-in/opt-out decision or access to many campus online systems will be blocked. Taking these bold steps has lead to a dramatic increase in student ENS participation. It is anticipated that staff and faculty participation will also increase dramatically once the "mandatory" opt-in/opt-out code is put into place.

Computing & Communications also created a website to deliver emergency notification system information to the campus community. Please follow this link for more information:

http://ens.ucr.edu

UCR's emergency notification system is a well planned and conceived collaboration between the campus Police Department, Environmental Health and Safety, Computing & Communications, the Office of the Registrar and Chancellor's Office. UCR stands ready to effectively and quickly communicate with students, faculty and staff in time crisis. The Emergency Communications Workgroup continues to develop plans for further enhancing the capabilities of the emergency notification system. In the investigation and planning stages are: centrally controlled digital signage, campus-wide siren capabilities, and a campus-wide public address system.

Technology Utilized

A new database schema was created in Oracle (expanding upon the UCR Enterprise Directory) to store emergency contact information for various campus constituents. Emergency contact data for students, faculty and staff are located in the same Oracle database.

There are separate and different methods of ENS registration and contact information gathering for faculty/staff and students. A standalone web-based system was created to capture staff/faculty emergency contact information and ENS opt-in/opt-out preferences.
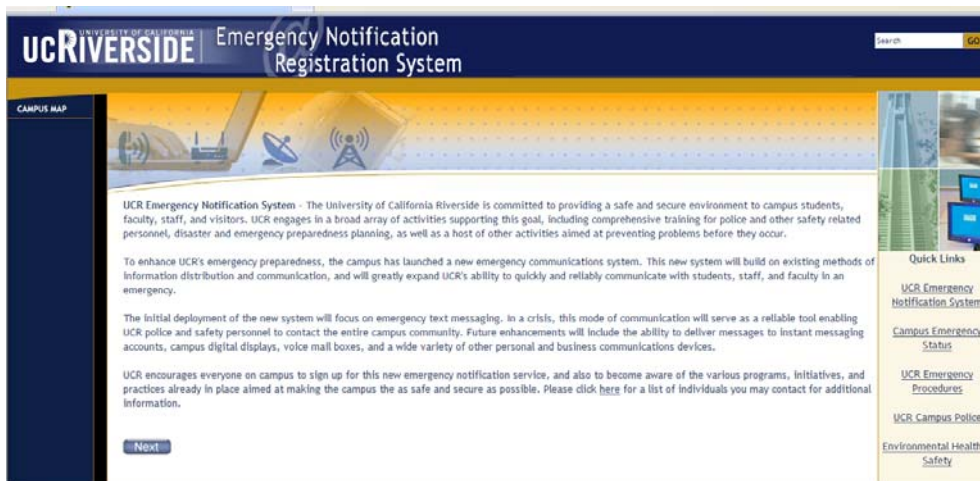
ENS Registration System login page for faculty and staff.

Data from this system are stored in the Oracle database mentioned above. To capture student emergency contact information and ENS opt-in/opt-out choices, GROWL (Growl provides a

self-service environment for students to conduct campus business) has been modified. GROWL runs on the IBM mainframe and web services have been employed to submit/store the student contact information into Oracle.
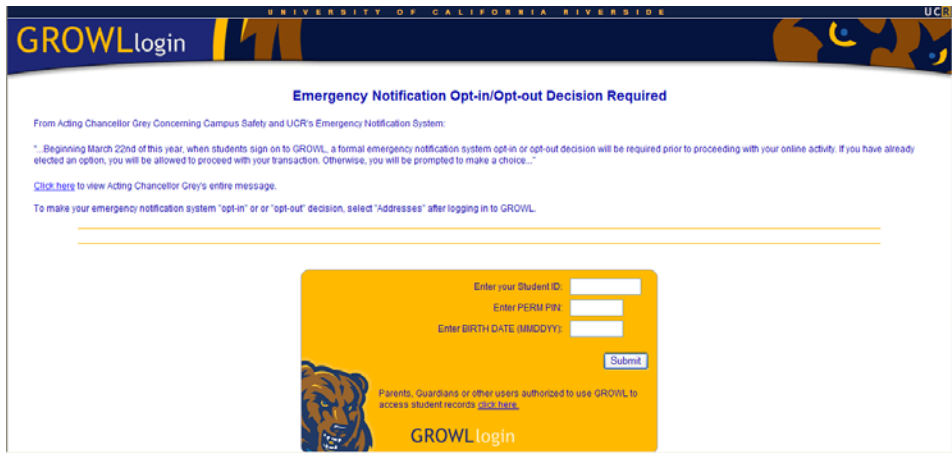
GROWL login page indicating that an opt-in/opt-out decision is required before being allowed to proceed with login.

A scheduled job runs hourly to collect the staff/faculty/student/community contact information and transmit the data to National Notification Network (3N).

Code has been developed in iViews (the staff portal) and numerous UCR Enterprise Applications to restrict access if the person attempting to login has not yet opted in or out of the ENS. Release of this software is scheduled for May 30th, 2008. Similarly GROWL has been modified so that students cannot enroll in classes unless/until the student has opted in or out of the ENS.

The core of UC Riverside's emergency notification system is provided by the National Notification Network (3N). 3N is the emergency notification system chosen by many other universities, including Virginia Tech.

3N receives hourly feeds of emergency contact information from UCR and stores these data on redundant servers located in geographically disparate areas in the United States. UCR's emergency contact information is also housed locally on campus-based servers for additional redundancy.

In the event of an emergency, notifications are initiated by UCR emergency personnel through 3N using one the three available methods; web interface, an automated voice call or a live-operator voice call.

The UCR Emergency Communication System will be deployed under the following conditions:

- When a dangerous situation exists on campus that could impact safety (for example, a dangerous person, bomb threats, fires, chemical release or other event requiring immediate action), or
- When UCR administration has determined that the system would assist in locating an offender or
- When urgent conditions affect the status of the campus (e.g. earthquake, weather, wildfire, etc.)

Timeframe of Implementation

June 2006 – Emergency Communications Workgroup established and meetings scheduled.

March 2007 – Investigation of Emergency Notification System solutions begin.

July 2007 - Work begins on web-based method of capturing emergency contact info from students, faculty and staff.

August 2007 – Emergency Notification System vendor selected and purchase order generated. Work begins on ENS support website and communication pieces.

September 2007 – Custom programming begins to develop method to send captured emergency contact info to ENS vendor 3N.

Mid October 2007 – Testing of web-based emergency contact info gathering site completed. Small-scale pilot of ENS begins within Computing & Communications.

Late October 2007 – Formal training from ENS vendor (3N) for all emergency personnel (Police, Fire, Strategic Communications, EH&S, C&C, etc.)

November 2007 – Full deployment of Emergency Notification System begins.

March 2008 – Student ENS opt-in/opt-out decision made "mandatory" for continued access to student administrative systems, such as viewing grades and registering for classes.

April 2008 – Nearly 100% students have made opt-in/out decision.

May 2008 – Faculty/Staff opt-in/opt-out decision made "mandatory" for continued access to staff and faculty administrative systems such as the Travel System and the campus financial reporting system.

Customer Satisfaction Data

 "With the current technology available to students, the school has taken what is by far the safest approach to ensure that the most students as possible can and will be notified, and that's worthy of praise…It's gratifying that the school has chosen to take such a forceful step toward protecting students…With this, it can only be hoped that the school continues to put students first when making decisions on how best to serve the campus community at large. However, with the promise of other safety measures, in addition to further assessment and development of communication technology, it doesn't seem like that will be much of an issue."

Highlander Editorial – April 2008

Full text of editorial: http://cnc.ucr.edu/ens/announce.html

"I think the EM System is a great idea for keeping students safe. Since my phone is constantly on me anyway, being able to receive a text message to let me know if there's something dangerous on campus is great because it'll keep me informed pretty easily.   In short: Great idea!"

Bryan Nicol – UCR Student

"I think its a pretty nifty tool, though there hasn't been any emergency yet so it hasn't really been used. Regardless, having text messages about an emergency situation on campus would help inform students what's going on and if they should come to campus or not (in case of a shooting or natural disaster or anything). It would prevent further danger for students and in some cases allow students to come and help on their campus if it is needed."

Vinh Chiem – UCR Student

"Due to safety reasons, I think that ENS is a good idea. I'd rather be safe than sorry when an emergency occurs. It is a great service to ensure awareness of dangers on campus."

Joanne Lee – UCR Student

Additional Screen Images

Submitted by

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