

and Public Health Researchers to capture emergency care data that has previously been inaccessible. The iRescu CPR App is ~1mb and developed for free access. Its framework is designed to be deployed to multiple mobile platforms globally, functioning as both a data terminal and a data resource with the use of cloud-based cellular two way technology. The application provides for different usage modes which address i. CPR/AED use training mode, ii. CPR/AED support in an emergency setting, and iii. AED geolocation. The design is with simple clear high contrast screens, navigation buttons and clear text information (international local language capability), with user direction to infant, child or adult resuscitation guidance paths and adherence to AHA and/or ERC guidelines with no medical jargon. It integrates the use of the accelerometer with visual, auditory, and haptic feedback to the CPR rescuer to assist their actual CPR performance, and links to an AED database provide relevant real time information on AED location. It uses standard GPRS and GPS technology to both locate the emer-

gency and interact with local emergency services and resources, thus building a unique global data set of CPR/AED training and utilization. iRescu can also operate without connectivity, saving data until connectivity is made.

The Development Team:

We are a global and multidisciplinary team – emergency care physicians, public health researchers, CPR and AED trainers, human factors experts, graphic designers and multimedia technologists, policy makers and App developers: these disciplines engender a rigorous scientific approach. iRescu is developed by the innovative EMS Safety Foundation with a collaboration with 2 non-for-profits, the First Aid Corps and the Sudden Cardiac Arrest Foundation which are focused on improving the outcomes for sudden cardiac arrest.



Key Benefits of iRescu

- 2-way: calls EMS, capture data on location, quality and duration of CPR, time of EMS arrival
- Real time feedback: verbal and visual prompts to rescuer on performance
- Adjunct feature: identifying global emergency call number, automatic locating nearest AED
- Other features: human factors developed interface, visible under low visibility conditions, configured for infant, child and adult, navigation bar, EMS handover prompts, AED location capture mode, flexibility to easily update the App and data capture platform.

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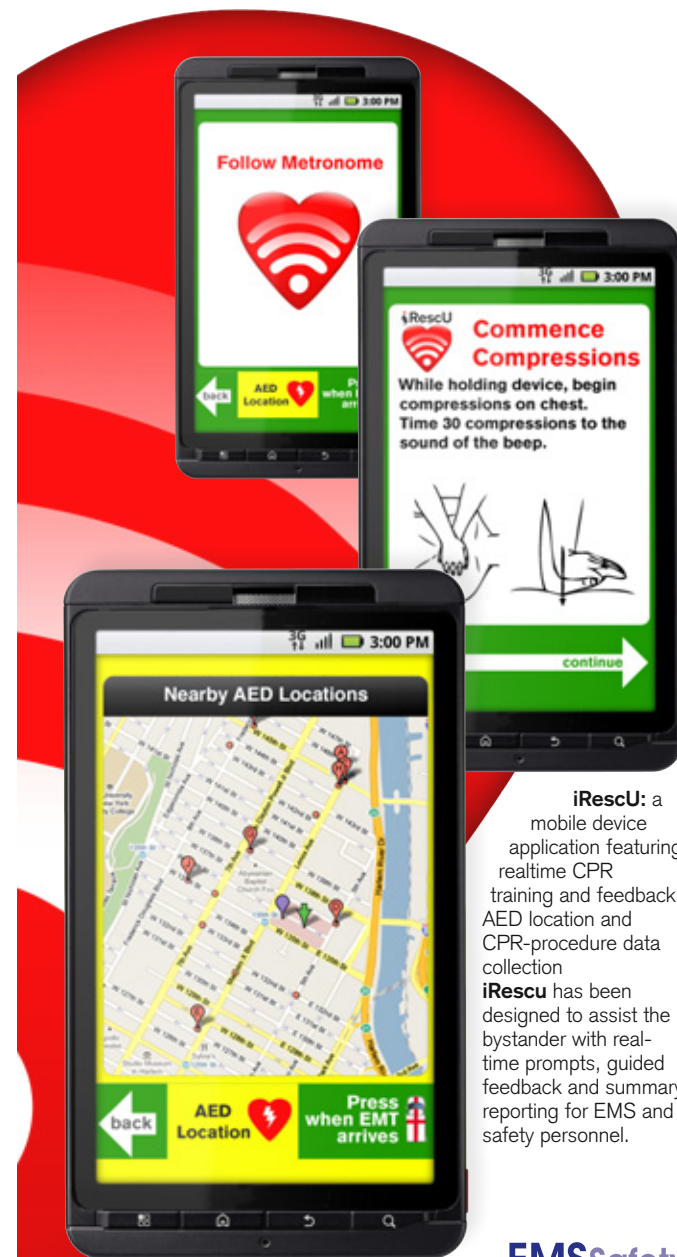
Sudden Cardiac Arrest Foundation
raising awareness, saving lives
sca-aware.org



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<http://www.emssafetyfoundation.org/>

For more information, please visit <http://irescu.info>
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iRescu
Saving Lives and Data | irescu.info



iRescu: a mobile device application featuring realtime CPR training and feedback, AED location and CPR-procedure data collection
iRescu has been designed to assist the bystander with real-time prompts, guided feedback and summary reporting for EMS and safety personnel.

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Each year 300,000 people suffer sudden cardiac arrest. About 92 percent of sudden cardiac arrest victims die before reaching hospital. Immediate bystander Cardio-Pulmonary Resuscitation/Automatic External Defibrillator (CPR/AED) is key, as ambulance response times are not within the 3 minute post arrest survival time window. Effective bystander CPR, provided immediately after sudden cardiac arrest, can double or triple a victim's chance of survival however less than one-third of out-of-hospital sudden cardiac arrest

victims receive bystander CPR. Even if CPR is performed, early defibrillation with an AED is required to stop the abnormal rhythm and restore a normal heart rhythm.



AEDs are now widely available in public places for use by lay public. Increasing cardiac arrest survival rates to 20%, could save 50,000 lives each year in the U.S. alone. Though capturing data on out of hospital cardiac arrest is difficult and currently limited, there are a number of identified challenges in sudden cardiac arrest survival - the 2 most crucial ones are confidence in cardiopulmonary resuscitation (CPR) skills and locating the nearest automated external defibrillator (AED). **iRescu** is designed to optimally utilize the full features

available in current smart-phones and to be a user friendly tool for the lay person during a life-threatening emergency – in addition to building two very unique and valuable datasets. The goal of iRescu is to put the life saving solution of CPR/AED into the palm of your hands.

The Gap

The current challenges are effective outreach of CPR/AED training and skills to the broader global community, and the reality of the time and costs involved in obtaining CPR/AED training.

It is also known that CPR skills degrade rapidly with time, and that only a small percentage of the population have actually sought any CPR training. The majority of out-of-hospital cardiac arrests occur either in the home, or in a public place where bystander CPR/AED assistance could save lives.

Studies have shown that children as young as 9 years old can learn and retain CPR skills. Even in that setting of being trained – skill retention and confidence to use those skills in



the setting of an emergency remain serious obstacles. Furthermore

there are challenges to locate and access AEDs effectively in a life threatening cardiac emergency.

Consider the fact that smartphones are becoming more common globally, and across wide sociocultural and age groups. While there are a number of mobile device applications (Apps) openly available for CPR guidance training and real time support appearing

in the past year, a scientific interdisciplinary approach to the development of a no cost, easily accessible, user friendly, widely disseminated and effective app design appears to be limited.

The Solution

A ubiquitous tool in the hands of anyone with a smartphone or hand held device. CPR guidance and AED locator App to assist the bystander in both training and in the setting of a cardiac emergency in real time, with prompts and guided feedback and to add to the AED database. This is in addition to providing a unique opportunity via a cloud based technology for Emergency Services

