

NearFieldCare

by Team

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What is it?

NearFieldCare is an innovative solution that utilizes NFC and any NFC enabled smartphone in order to solve the problem of identifying the medical conditions of a person that goes through an emergency situation that prevents him from speaking for himself. Near Field Care also gives the flexibility to the user to have a digital and mobile medical record with him at any time.

Near Field Care attempts to give an alternative, better, cheaper and more elegant solution from the conventional metallic MedicAlert tags, utilizing existing smartphone devices, part of our everyday lives, and new emerging technologies such as Near Field Communication (NFC).

The project consists of a NFC enabled wrist accessory (wristband, wristwatch) and 3 applications, utilizing the newest Microsoft's technologies:

- Windows 8 Phone Application
- Windows 8 Metro Application
- Windows ASP .NET MVC Web Application

How does it work?

Windows ASP .NET MVC Web Application

The user visits Near Field Care's website, Sign Ups by creating a new account using a unique Username and a password. Afterwards, the user provides his personal information, emergency contact information (a loved one that he wishes to be contacted first in case of an unfortunate event and his doctor) and then he picks the medical conditions that apply to him. We keep a database of about 50 common medical diseases and conditions that the user can choose from. Users are encouraged to consult with their doctor before completing the form.

The user can choose what information he wishes to be encrypted (and therefore protected from others) and what information he wishes to be publicly available for First Responders to view. The user can have access only to his own data by entering his Username and Password in the application. Certified medical personnel can view all data on a bracelet by using a special version of the application (that we will directly provide to them) that contains a security certificate.

Once the above data is collected, the user can order one of our NFC enabled wrist accessories that he wishes his medical data to be stored in. The team stores the data in the chosen bracelet. The NFC chip inside the bracelet is then melted* in order to make it read-only to avoid any malicious overwrites on it. The product is then delivered to the customer.

Windows 8 Phone Application

The phone application will be available for free in Windows Marketplace. Once a Windows 8 Phone that is equipped with Near Field Care application comes in close proximity (no more than 2-3 centimeters) with a NearFieldCare bracelet, the application is automatically triggered. All unencrypted data contained in the bracelet are shown in groups (medical conditions, medical warnings, medication, blood type, emergency contact and personal data). A first responder with Near Field Care has a number of options:

- Quickly retrieve crucial information and apply first aid if he can,
- Quickly press a button in the app and call the global emergency number (112). He can provide any crucial information that was retrieved to medical personnel that may make them come more prepared.
- He can call the patient's doctor or loved one to ask for advice and inform them.

Windows 8 Metro Application

This application will be available only to certified doctors.

It allows doctors to keep a well-organized database of their users that hold a Near Field Care bracelet. If a new patient arrives, he can have his medical record easily transferred to the doctor. Finally, it gives the chance to the doctor to directly complete the medical form for an NFC bracelet for his patients, directly through the Windows 8 Application.