

What is the Optimal Design of a Mountain Rescue Patient Assessment Smartphone Application?

Author: Rita Darcy

Course: MSc Health Informatics

Supervisor: Mary Sharp

Year: 2016

Abstract

The purpose of this study is to explore what is the optimal design of a patient assessment Smartphone application that will be used by Mountain Rescue team members. It is proposed that a suitably designed application could assist Mountain Rescue team members in conducting and recording a patient assessment during a callout.

A review was conducted of existing First Aid and Mountain Rescue apps. A Smartphone app was discovered that assists with patient assessments in remote emergency care situations, called the NOLS (National Outdoor Learning School) SOAP (Subjective, Objective, Assessment and Plan) Note Smartphone application. This application could potentially be used in Mountain Rescue.

Three research studies were conducted. The first was a questionnaire that focused on the current functionality of the NOLS SOAP Note app to identify required functionality of a patient assessment app. The second study involved interviewing selected Dublin & Wicklow Mountain Rescue Team members who have both Mountain Rescue and healthcare experience, to ascertain the data that should be recorded during a patient assessment, and the information that should be transferred during a handover. The author used the feedback from the studies to develop a prototype app. The final study was an evaluation of the prototype app.

The feedback received from the first two studies was used in the design of a prototype app. The prototype app was deemed by the research participants to have a high level of usability and scored closely to the NOLS SOAP Note app usability score.

The design of the prototype app was an iterative process. The screen mock-ups used to define the screen layouts, were created using a tool called Ninja Mock. The prototype app was developed using the Xamarin development environment using the C# language. The prototype app was deployed using Dropbox.

It is recommended that the IMIST-AMBO handover protocol is used by Mountain Rescue team members when handing over a patient to paramedics. It is also recommended to involve stakeholders in the design process. The resulting prototype app is functional, but further development is required to optimally design a patient assessment app for Mountain Rescue.