Crisis-Related Apps: Assistance for Critical and Emergency Situations

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ABSTRACT

In this paper the authors developed applications for apps in times of crises and critical situations. They analyzed how people act in these situations and how to mitigate their uncertainty and fears through situation-specific communication. Including these aspects as well as the general challenges of crisis communication, pros and cons of apps based on existing examples were discussed. The resulting requirements for an app for crises and dangerous situations should assist in designing a communication solution that strengthens the feeling of security of citizens in critical times, such as life-threatening situations. This solution is intended as an additional means of communication for emergency services to modernize crisis communication with affected people.

Keywords: Apps, Crisis Behavior, Crisis Communication, Critical Situation, Life-Threatening Situation

1. INTRODUCTION

In life-threatening situations, such as unexpected dangerous conditions, many people feel uncertain. In such cases, these people are looking for help and feel confused: What is happening? What is the correct course of action? What should I consider? Who can help? The less information is available, the higher the anxiety, panic reactions and incorrect behavior. If people experience helplessness, a loss of control and uncertainty with the feeling of being in mortal danger, they are petrified with fear (Herzog, 2014). Renner and Gamp (2014) demonstrated that contextual information could help affected people to assess the situation and make informed decisions. Accordingly, the timely communication of current issues can affect the loss of control, thus reducing the feeling of insecurity.

Mobile devices such as smartphones afford a rapid exchange of information. They are handy, practical, can be used anywhere and provide access to various forms of content and functions in

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real time. More and more people own smartphones (Statista, 2015) and use numerous apps that accompany them reliably in their everyday life (Rademacher, 2012). The smartphones serve as a “digital nanny” for users, which reminds them of appointments, predicts the weather or serves as a source of entertainment, thus they never get the feeling of being alone. Rademacher (2012) posited that the immediate availability of such information via apps creates a feeling of control because knowledge and the ability to influence ones living environment are available at any time, e.g. through communication with contacts and monitoring their status updates. This perceived control has a soothing effect on people (Rademacher, 2012).

Our research project deals with the design of communication networks that strength the sense of security of the citizens in crises situations. We aim to improve the communication between crisis actors and the affected so that important information can be exchanged at any time and for various conditions. In this context, the use of apps for crisis communication seems to be of great benefit. The technical possibilities, such as the immediate access to stored data or the mobile web and thus the access to current news, as well as the familiar handling of the technology and the associated confidence, can foster autonomous action and reduce perceived uncertainty among people. Considering these aspects, the following research question can be derived: Which factors are critical to design an efficient communication app for citizens in critical situations?

In order to design a concept for a successful solution, various aspects are considered in this paper. First, in the following chapter communication in critical situations is analyzed. There we consider the behavior of people during the different crisis phases in relation to the crisis communication of authorities and organizations with security tasks and examine the challenges of crisis communication. Then, various communication means are reflected in terms of their suitability for crisis and emergency scenarios. In the third chapter, we present different apps that have been developed for crisis situations in order to help people. We analyze the properties and functions of apps and discuss their advantages and disadvantages for critical scenarios. Based on the previous results, we derive requirements for an app that can be used for different critical situations and supports all user groups. In the conclusion we discuss this design concept and further steps of our research project.

2. COMMUNICATION IN CRISES AND EMERGENCY SITUATIONS

Insecurity and fear arise in situations that occur unexpectedly with unknown consequences. These include life-threatening events. To avoid panic, it is vital to provide citizens, particularly the affected, with relevant information. To reach people in crises there are different communication tools. Emergency services can use many different media, such as newspapers, websites, radio, flyers, local announcements and sirens to inform the citizens. Sometimes people do not know that this information is available. This often depends on the citizens themselves and the awareness of their own situation.

2.1. Crisis Phases and Human Behavior

As already pointed out, in crisis situations it is important to strengthen the sense of security of those affected so that they act properly. According to a theory by John Leach human behavior is not dependent on the type of a disaster, but on the perceived risk (Leach & Campling, 1994). Leach distinguishes three stages of a crisis and assigns each to a certain behavior. The crisis communication should be adjusted according to the appropriate behavior. The objectives of crisis communication can be assigned to the respective phases.
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