

Chapter 11

Architectural View of an App for Walking Through a City in a Safe Way

Aldo Alexis Pérez Vizcarra

Universidad Nacional de San Agustín de Arequipa, Peru


Guadalupe Paulina Anccasi Figueroa

Universidad Nacional de San Agustín de Arequipa, Peru

Jaison Willian Torres Chana

Universidad Nacional de San Agustín de Arequipa, Peru

Francisco José García-Peñalvo

 <https://orcid.org/0000-0001-9987-5584>

Universidad de Salamanca, Spain

ABSTRACT

This chapter offers a general review of the presence of the risks present in today's society and its impact on citizens' daily lives as well as the challenge it represents for the authorities in their desire to turn their cities into smart cities and proposes the use of Safe Paths, a mobile application focused on risk prevention based on social collaboration to identify dangerous areas and give alerts based on their users' location and the risks around to them. It also describes the architecture used by Safe Paths, the sketches used in its development, and finally shows the interface it provides to the end-user.

INTRODUCTION

At present, technology and its many advantages have been applied to different aspects of our society; from its effectiveness in improving educational processes, where technological tools have proven their effectiveness since it allows students to learn anywhere and at any time (Fonseca, Conde, & García-Peñalvo, 2018; Fonseca & García-Peñalvo, 2019); its ability to promote economic activities such as

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tourism, where the creation of recommendation systems has had a great impact (Colomo-Palacios, García-Peñalvo, Stantchev, & Misra, 2017); until its inclusion in strategies to face such worrying problems as citizen insecurity and crime.

Citizen insecurity and the increase in crimes committed in today's society have become a relevant issue for society and its authorities, who in order to turn their cities into more attractive places for their citizens have chosen for using information and communication technologies, to solve these problems. The use of ICT, focused on combating and reducing citizen insecurity, has resulted in the proposal of many platforms and applications.

One of these is Safe Paths, a project that emerged from a group of university students, which aims to provide an alternative that helps people to move safely in any city using geolocation and crowdsourcing, warning of the risks that a citizen may face (Pérez Vizcarra, Anccasi Figueroa, Torres Chana, & García-Peñalvo, 2019).

For a better understanding of this proposal, some technical aspects about its design and operation are detailed below, in addition, it will show the interface it uses and the mode of interaction it has with the user.

Background

The increase in crimes, the emergence of new forms of crime and the poor participation of the police, have increased the dissatisfaction of society and turned the issue of insecurity into one of the main issues in the social debate. Urban security and its impact on people's quality of life is one of the priorities in our current society, so much, so that many policies are focused on promoting peaceful and inclusive societies, trying to reduce forms of violence, and guaranteeing equal access to justice, among others (Keever & Castillo, 2018).

Citizen insecurity and especially, the perception that citizens have about it, is one of the most important social problems that our society has to face. The victimization suffered by citizens, the perception of insecurity and fear of crime are the main problems that have been addressed in studies from sociology, criminology and psychology in different parts of the world. So, its right study is extremely important, due it affects the coexistence and implications on the quality of life of the inhabitants of vulnerable areas because it constitutes an obstacle to the sustainable development of the city. Fear of crime and feelings of insecurity have been two notions used to deepen the problem of crime (Güitrón & Guerrero, 2017).

The growing popularity of smart cities has led many people to seek technological solutions to the challenges facing urban areas. Technology has historically been essential for social progress. However, by itself it is not a solution to these challenges.

The technological community has imposed the idea that an intelligent city is based on performance indicators around the management of municipal services, but affirming that a city is intelligent based on the use of new technologies to manage these service processes is a reductionist approach. A city is smart when the living conditions of citizens are optimal. More concepts should be involved in the field of smart cities, such as quality of life, resilience and even happiness. Some researchers have developed smart city classifications that consider all this, including educational level and life expectancy, but in most published methods, technological indicators have priority.

The "quality of life" in Latin American cities has steadily increased during this century, but serious problems persist, including security problems and lack of health care services. The personality of a city is the result of the active participation of citizens in making decisions about the future of their collabora-

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