

Use of mobile applications in citizen security

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ABSTRACT

An abstract is often presented separately from the article, so it must be able to in the following article the use of the mobile application is recommended as a tool that serves public safety because currently crimes of extortion and fraud are committed by making false calls to people's mobile devices. Therefore, the objective of this research is to help families with their welfare and safety and motivate the use of mobile applications. In the present work the situation, task, action, dan result (STAR) methodology was applied to elaborate the present work, this technique will allow improving the difficulties of the people. This methodology is very important because it is used to evaluate the circumstances in which people find themselves, a sequence must be followed to achieve the proposed objectives. The result obtained is an average of 84.5% on the design of the mobile prototype; being approved by the experts. The beneficiaries of the research are citizens through the mobile application.

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1. INTRODUCTION

Considering that governments are constantly seeking to encourage the use of digital platforms and applications, it mentions that the population should be given easy access to services such as digital procedures. However, the government encourages the use of technology [1]. In Taiwan the use of technology today has brought many changes such as learning and knowledge at this juncture of the pandemic, the use of the mobile application has been a fundamental key through the internet, of course at the beginning the adaptability has been difficult but with favorable results thanks to technological tools [2].

These applications have also contributed to health and citizenship. Also, the use of status channels or social networks and relevant news for the population to be aware and take precautions, this way of communicating quite effective [3]. Digital changes worldwide have brought challenges that each country has to go through in the control of information security, in other words, to implement adequate communication between cities and citizens since it has to use communication channels. In order to get the information faster [4].

The national government has to participate in the decision-making of the communities is a key strategy for the proper development of each community, but at the same time has to encourage the use of technological tools that help them to change their lives [5]. Nowadays, societies have adapted their circumstances to digitalization public and private institutions have taken the option of virtualizing option of

virtualizing learning with the aim of seeking new ways of using technology to enable the growth and development of the country [6]. The implementation of technology in Peru was very important because it helped in the health sector and public safety, this implementation was quite efficient, and telemedicine was used because it was a contribution to the private and public sectors [7]. Computer crimes are quite frequent in Peru, it is easy to use technologies to commit attacks through the internet and the people involved are civilians and police officers.

The police do not have the skills and capabilities to handle the technology, but these types of crime technology, but it is possible to combat these types of crime by implementing mobile applications [8]. The applications help users to digitally process any work or payment that can be done with a smartphone or laptop, of course, always guaranteeing the care and security of the user's data [9]. According to C-Arevalo [10], it is to encourage students to use technology but guarantee the safety of the youngsters when using young people use more technology to learn more, unlike adults.

The objective of this research is to achieve the well-being of families with the use of the mobile application that has been implemented in this project because, in today's society, it is quite certain that quite sure that commit crimes of scams, and extortion using false calls. Using false calls with this implementation will help people to communicate and report any people to communicate and report emergency or danger or danger they may have in real-time. The article is divided into sections. In section 2 the literature review, in section 3 the method was applied, in section 4 a case study, in section 5 results and discussions, and finally in section 6 the conclusions.

2. LITERATURE REVIEW

At this point, a literature review of all the works related to citizen security was carried out. Implemented in the mobile application for citizen security. Since it helps to have more innovative ideas, didactic and intuitive, for a good development and correct operation of the application. Because each author has different objectives and methodologies implemented for its development.

The use of technology helps the education of young people [11]. It has been validated that students use more mobile applications. On the other hand, Sorce and Issa [12], states that companies use technology efficiently to save costs and increase productivity. increase productivity.

In the healthcare sector, technology plays a very important role, but as long as it is used efficiently [13]. As this will ensure the protection of the privacy of each person being treated in the hospital. The use of mobile applications will help to achieve the goals and well-being of each person [14]. In recent years technology has changed quite a lot as in the economy globally and the increase in e-commerce it is seen that information technology plays a very important role in the economy as it determines the growth of a country [15]. In Africa has an emerging economy and is becoming a country with a fast growing industry [16]. Thanks to the technology that drives the growth of different businesses using the media thanks to the internet. The use of technology and mobile applications helps more in finding information in educational part [17]. Teachers should motivate the proper use of applications because it will help students in their personal and professional development.

The use of technology for the management and cost of building construction, leads to achieve the proposed objectives in the short, medium term [18]. Technology and communication are more critical factors for success so studies detail the importance of technology and the life cycle of each building. Information technology plays a very important role in the development of the country [19].

In conclusion, the work obtained in relation to citizen security. They have been of great support to be able to develop the points that are not included in the application. Since the security of a person is very important, it is necessary to encourage people to use the application for their own security, and thus have a good quality of life.

3. METHOD

The situation, task, action, dan result (STAR) methodology was applied to develop this work, this technique is used to evaluate people and their difficulties, circumstances that may be happening. Likewise, mobile devices will be used to try to help people in citizen security. According to Akbar *et al.* [20], the use of methodologies can contribute to make the development of work activities lighter and more effective. On the other hand the method can also help in scope of design and electricity characteristics and simulations [21]. The technology can help people to make purchases or inform the emergency center of any danger that the person may have [22]. The STAR methodology is a very important tool that is used in circumstances that this a person, also serves to assess the skills you have at the time of an interview, it is mentioned that past attitudes reflect in the present, for the development of the questions are used 4 circumstances based on competencies situation, task, action, and results as shown in Figure 1.

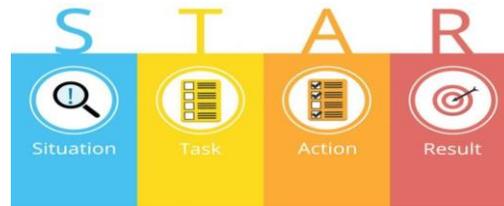


Figure 1. STAR flow

- a. Situation: this section details the use of mobile applications in citizen security. For this purpose, an interview or survey will be conducted to gather information from users. At the time of the interview or survey, the interviewer will need to provide more detailed context for the development of the application.
- b. Task: this part describes all the activities that are in the problem situation, to perform the tasks that arise from the proposed activities that will be placed in a table. Explain all the tasks that you have to complete, emphasizing any challenges, proposals or constraints that arise. Assuming all the role that belongs to you in deadlines and costs.
- c. Action: this action phase describes the specific steps it will take to complete the task. It should highlight the desirable characteristics you are looking for to accomplish the tasks in the previous step. This action will transform the current situation to a desired situation. The prototype designs of the mobile application will be the main basis for implementation [23].
- d. Result: the result is the result of the whole process, which includes numbers to quantify the results of all the results. In this point the results will be in surveys but using free software that allows to justify the present work. With the correct operation of the application.

3.1. STAR methodology recommendations

This methodology looks at the STAR past experiences relevant to the job. The questions are based on the skills you choose to assess, whether they are digital or soft. It helps to concretize the evidence of achievement in the research and at the same time, helps to alleviate the difficulties that people may have when using mobile applications.

3.2. Interview questions

In this aspect, we monitor and evaluate the impact that the software can have on society related to citizen security. Behaviors and the scenario of the advantages that can be obtained with the use of the application. Table 1 shows the customer stories that they need, which role to fulfill according to their needs.

Table 1. Customer survey

Nro.	Customer stories
E1	As a customer, I want an application that allows me to allows me to start my section.
E2	As a customer, I want an application that allows me to that allows me to customize my profile and that saves my information.
E3	I, as a customer, want an application for reporting help.

3.3. STAR methodology structure

The STAR methodology asks a question or a series of questions based on the sequence of situations, tasks, activities and results. In order to be able to analyze the person's specific work capacity [24]. It is important to follow this sequence and then break down and analyze the answers step by step. As shown in Table 2, the competencies of the STAR methodology are:

- a. Description of the user's data: in this stage the functionality of the mobile application is analyzed and to do this the requirement is validated with the participation of the client since they will be using the mobile application. This allows us to clarify the study carried out. The description must be made in depth to be more objective.
- b. Prioritize the security of the client's data: at this stage, the security of the client's data is prioritized. Thus, collaborating for the development of the mobile application, prioritizing that it is very important for the development of the project. In this way, the highest priority will be taken into account.
- c. Estimation of the analogy: we obtain data of the user and the insecurities that the client has. These tools will serve us to elaborate the work, applying the STAR methodology. The estimation by analogy allows to be more objective in the study.

- d. Elaboration of mobile application with the STAR methodology: an analysis is elaborated to elaborate a mobile application. That has the facility to inform and communicate to the authorities in charge of the surveillance, security and health of the people. Elaboration allows a broader vision.
- e. Time of elaboration of the work: the research work is elaborated to obtain the results in the shortest possible time. The time factor is very important. In addition, it must be done effectively and efficiently.
- f. Presentation of STAR: it is established according to the methodologies required in the investigation. The times that will be tested, on the work elaborated applying the STAR methodology. The presentation allows you to visualize how it should be implemented.
- g. Development tools: a prototype of a mobile application for prototype of the mobile application for use in citizen security will be developed using Balsamiq wireframe. Balsamiq is a low-level design tool. This tool will allow the design according to the requirements.
- h. It will be developed with Android Studio: in this research Android Studio was chosen for the development of the citizen security platform because it is of free license. The development will be based on the design made. The development will be based on the design made. In addition, development tools such as Android Studio will be used.

Table 2. STAR methodology competencies

Competencies	Activities
Critical thinking	– Solving citizen insecurity
	– Identify relevant information about the problem
	– Demonstrate application functionalities
	– Provide solutions to problems and make decisions
Planification and organization	– Planning
	– The application works at all times
	– Strategies to resolve the conflict
Conflict managements	– Making quick decisions
	– Overcoming difficulties
	– Take initiatives to solve insecurity
Customer service	– Meeting people's needs
	– Exchange ideas to solve the problem
Teamwork	– Provide timely assistance
	– Supporting the team
	– Adapt to changes
Communication	– Discuss and explain risk situations
	– Have enough respect for others
Relations interpersonal	– Help solve problems
	– Adapt to change
Willingness to change	– Adapt to change
	– Supporting others

4. CASE STUDY

4.1. Identification of requirements

Table 3 shows the testing of the functional requirements of the system based on the surveys on the mobile application. The main requirements for the development of the application must have tables for the registration of all data and connect with Gmail or Facebook. Also, display all the data and be able to modify them and report the alert to allow tracking and tracing the affected citizen.

Table 3. Requirements for citizen security

No.	List of requirements
R1	The mobile application must have tables for the registration of data and it must data and must allow connection to Gmail or Facebook
R2	The mobile application must show my data and allow me to modify it to modify
R3	The mobile application must validate the location
R4	The mobile application must inform the emergency center for any assistance for any assistance
R5	The mobile application must allow tracking and location of the affected person affected person.

4.2 Prototype presentation

Development of a mobile application for citizen security: nowadays, crimes such as fraud, extortion and extortion are committed using mobile devices or by digital means. These cases should be reported to the corresponding authorities (PNP), so that it can validate the number to whom it corresponds and be sanctioned according to law and be punished according to the law [25]. These acts should be done when the victim is affected or is a victim of a crime.

Main actors: the main use case representants are identified as person suspect, person damaged and security serveillance, as shown in Table 4 and Figure 2. The main roles are identified to determine their functions. In addition, they will be the protagonists in the project. Establishing use case relationship: in Table 4, it establishes the use case relationships. This helps us to give the solution of the citizen insecurity, this model will help us to analyze the use of mobile application. In this figure shows suspicious people, broken person and the person who is in charge of providing protection against this scam and theft that people could suffer in their daily lives.

In Figure 2, it establishes the relations of use case. This helps us to give the solution of the citizen insecurity, this model will help us to analyze the use of mobile application. This figure shows suspicious people. Broken person and the person who is in charge of providing protection against this scam and theft that people could suffer in their daily lives. Diagram of activities: in Figure 3, a solution model for citizen insecurity is established in this diagram, which reflects from the beginning to the solution of the problem. It shows a diagram of activities of suspicious persons and security surveillence of harmed persons. It starts with a call in order to obtain evidence and ends with a follow-up of the suspicious calls.

Register data: in Figure 4, shows the prototype for the registration of user data that has to enter the following information to validate the authenticity of the person's profile. Figure 4(a) shows the login and welcome of the application. Figure 4(b) shows the registration with all the user data in the system. Authentication and secure storage of user information: in Figure 5, the user information is validated for the storage of the information on the server, which will operate with an internet connection to the application. Figure 5(a) shows the validated record of the citizen security control. Figure 5(b) shows the arrivals of incoming calls.

Table 4. Establishing use case relationship

No.	Use cases
C1	Make a call
C2	Answer unknown caller
C3	Deliver the evidence
C4	Register communication
C5	File a complaint
C6	Suspicious call tracking

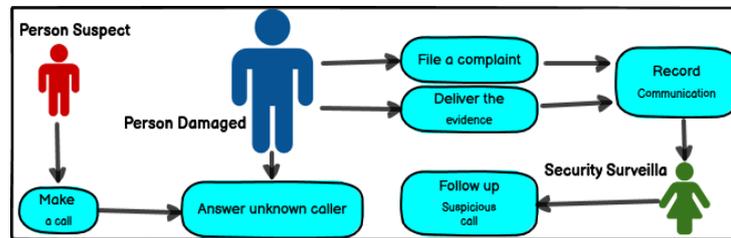


Figure 2. Establishing relationship for prototyping

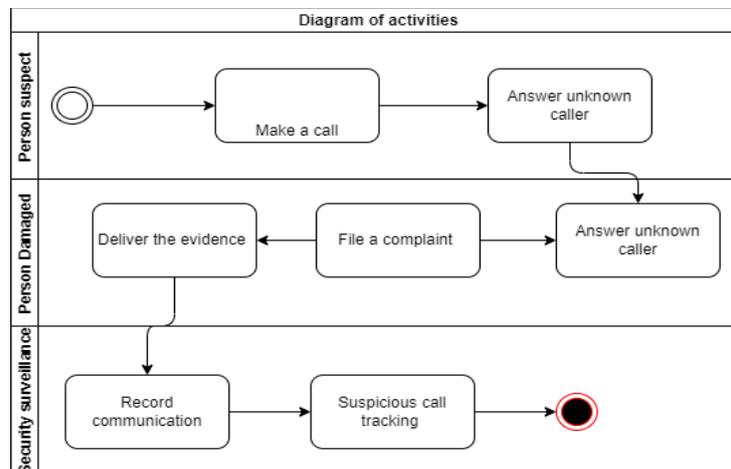


Figure 3. Main activities

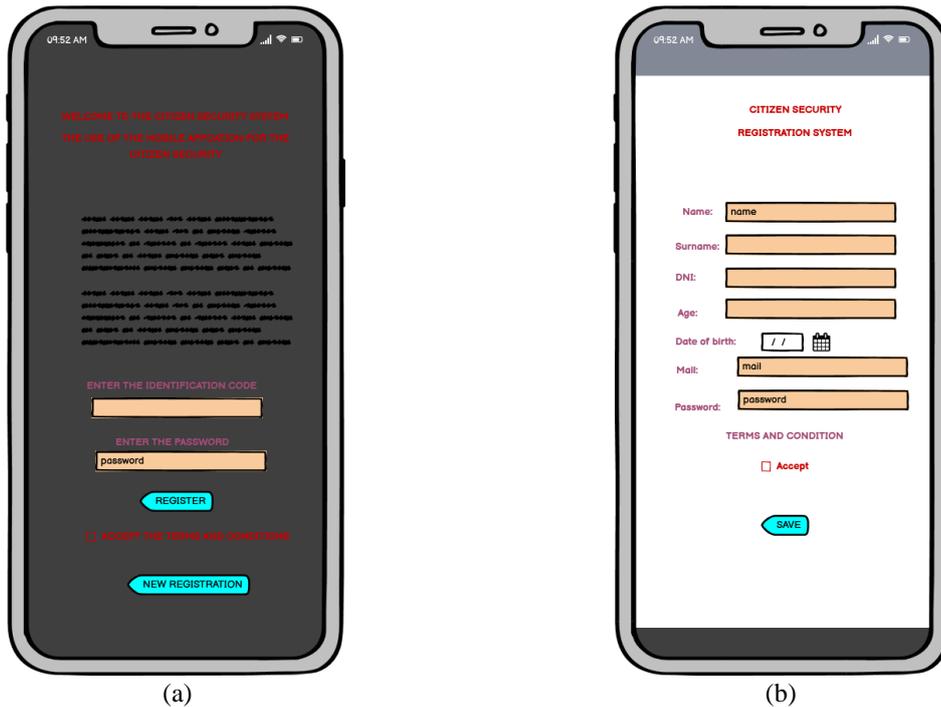


Figure 4. Record data (a) welcome and (b) registration

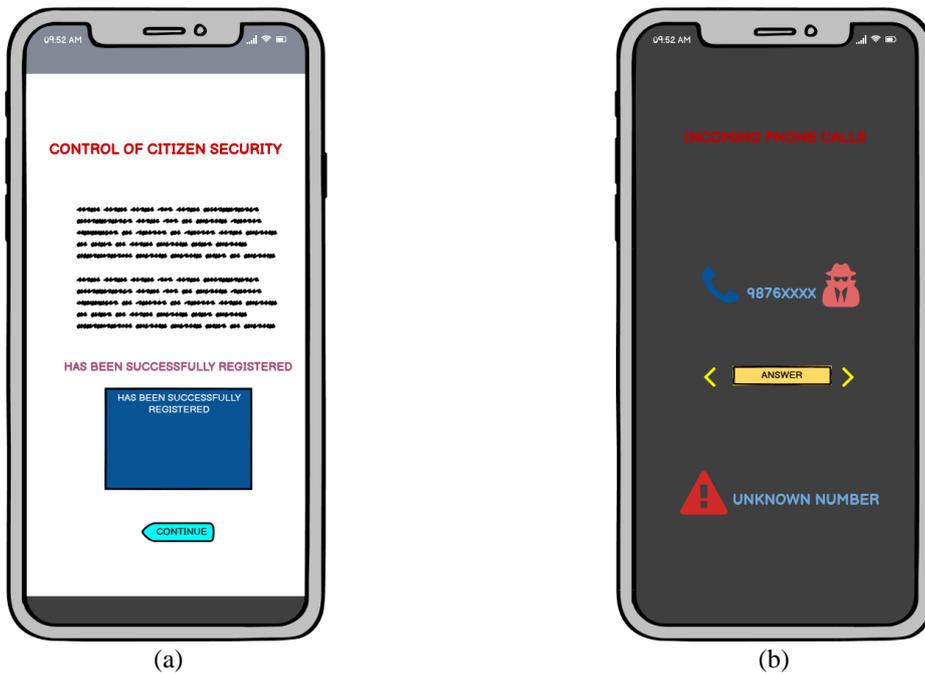


Figure 5. Call verification (a) successful registration and (b) incoming calls

5. RESULTS AND DISCUSSION

5.1. Interview result using ATLAS ti22

In Table 5 shows the description of the qualitative results, analyzing the aspects and indicators of the categorization matrix. Making the appropriate use of mobile applications [11] for citizen insecurity. This matrix is made up of categories, subcategories and indicators that will allow the application to function properly.

Table 5. Description of resulted qualitative

Category code	Name	Categorization matrix		Indicators	
		Sub category	Name	Code	Name
C1	Use of application mobile in the citizen security	C1.1	Usability	C1.1.1	Facility
				C1.1.2	Use
				C1.1.3	Handling
		C1.2	Feasibility	C1.2.1	Available
				C1.2.2	Training
				C1.2.3	Development
		C1.3	Innovation	C1.3.1	New
				C1.3.2	Trend
				C1.3.3	Creativity
		C1.4	Security	C1.4.1	Trust
				C1.4.2	Benefit
				C1.4.3	Prevention
		C1.5	Reliability	C1.5.1	Value
				C1.5.2	Quality
				C1.5.3	Strength

5.1.1. Analysis of the usability subcategory

In Figure 6, indicators such as ease of use, usability and manageability are analyzed. Usability and Manageability the interviewees mention that they know very little about the program. It is easy to use the mobile application improves the performance of the application at the time of use.

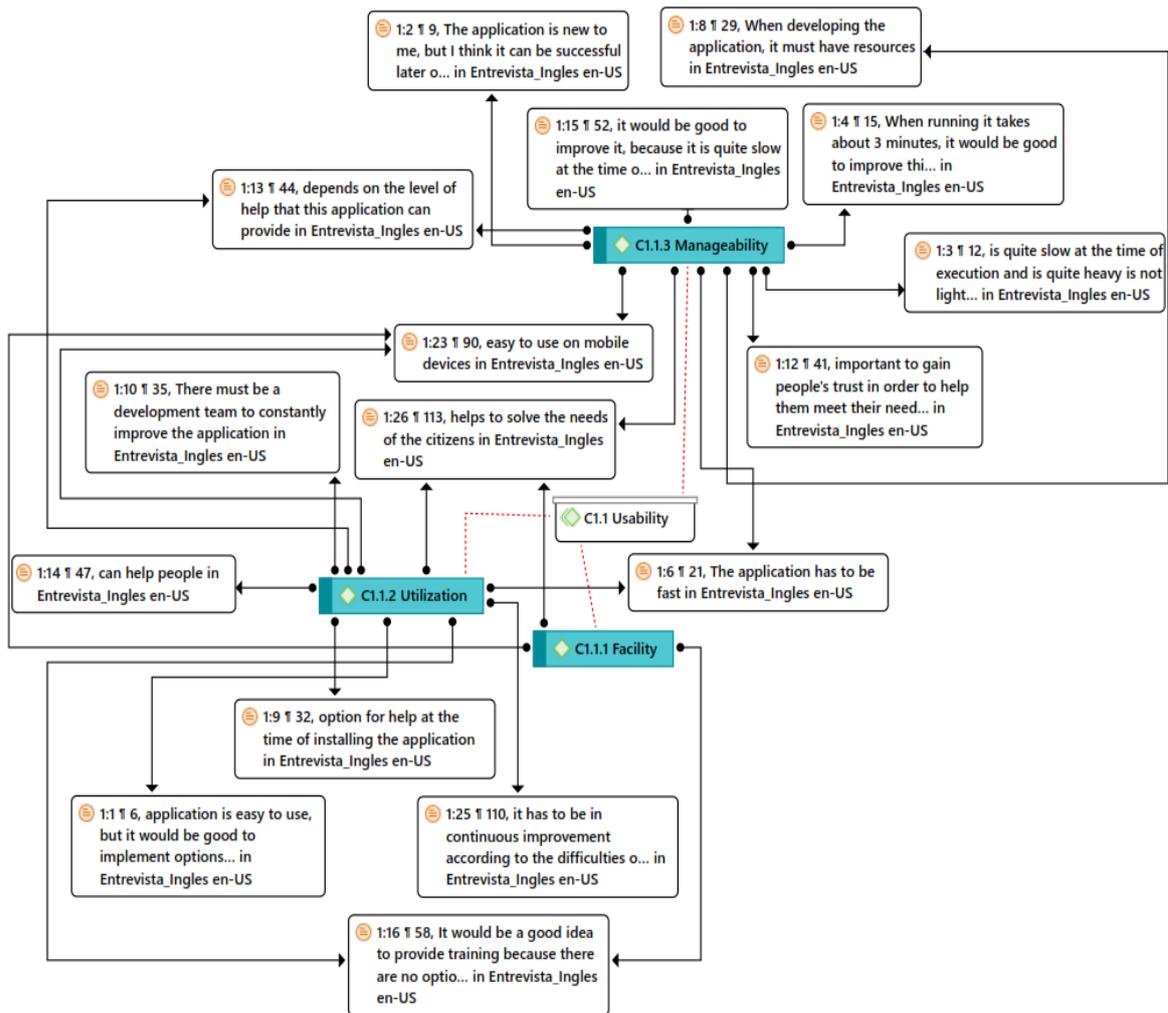


Figure 6. Usability

5.1.2. Analysis of the sub-category feasibility

In Figure 7, the personnel have the resources to achieve the objectives and goals and are trained to manage the security system. They have the knowledge to use the mobile application for citizen security. Currently the perception is to use the application for home security and the importance is to offer the application for distribution in the market [12], [14]. The sub-categories of feasibility were analyzed, which will help us in aspects such as training, development and availability.

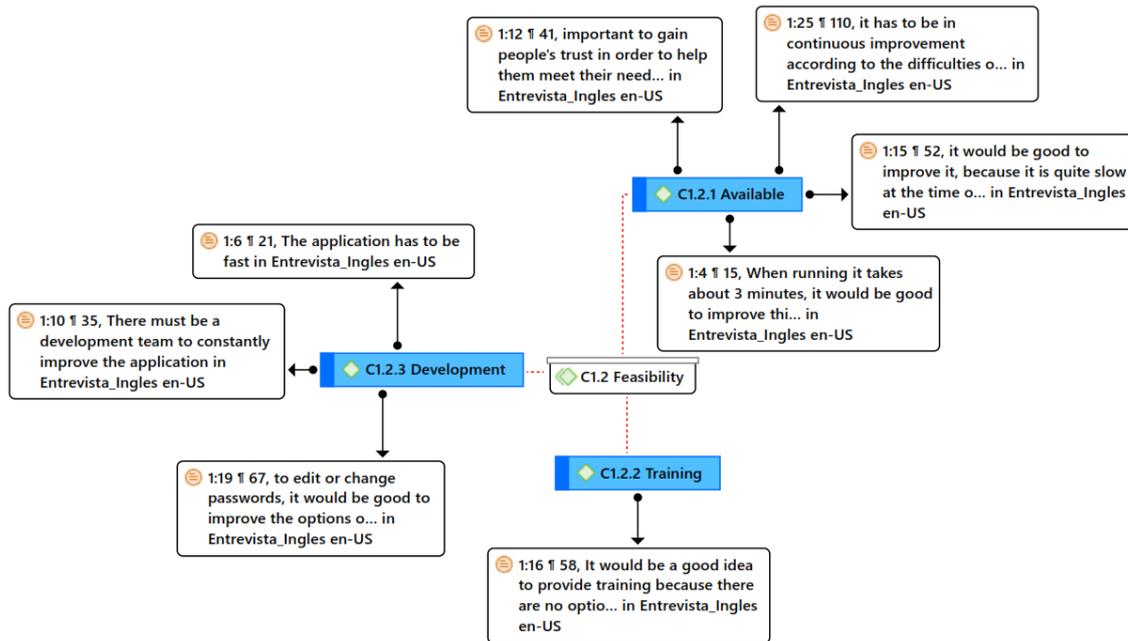


Figure 7. Feasibility

5.1.3. Analysis of the innovation subcategory

In Figure 8, shows innovations and improvements in the use of the mobile application. It provides training to the user for the use of the mobile application in the degree of innovation, improvements that have been used in the application and activities that have been implemented for the development of the person. Performs a comprehensive analysis of the innovation of the above categories that will help in aspects such as creativity, trends and different developments that may arise in the journey of people.

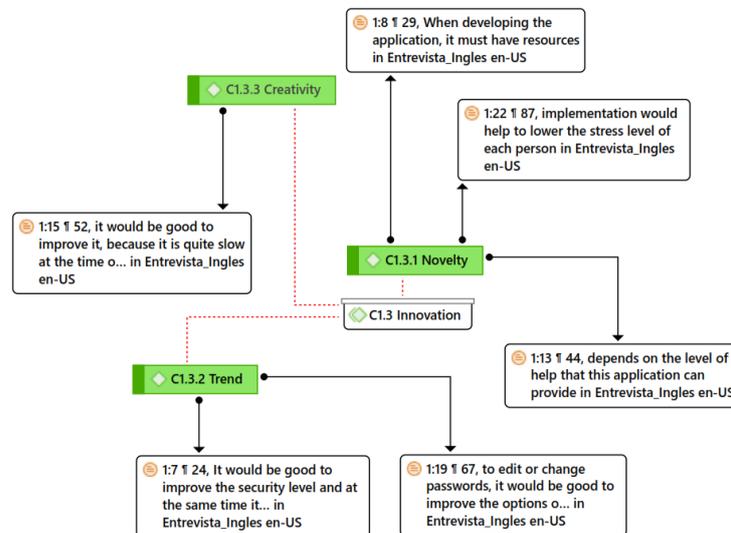


Figure 8. Innovation

5.1.4. Analysis of the sub-category security

In Figure 9, trust is generated when using the mobile application. Which is for the benefit of mobile applications and the possibility of increasing the security of the protection of the application is considered and the fundamental thing is that would help in taking care of the family [13]. The subcategories of insecurity were analyzed, which is for the benefit of people in aspects such as trust, benefits.

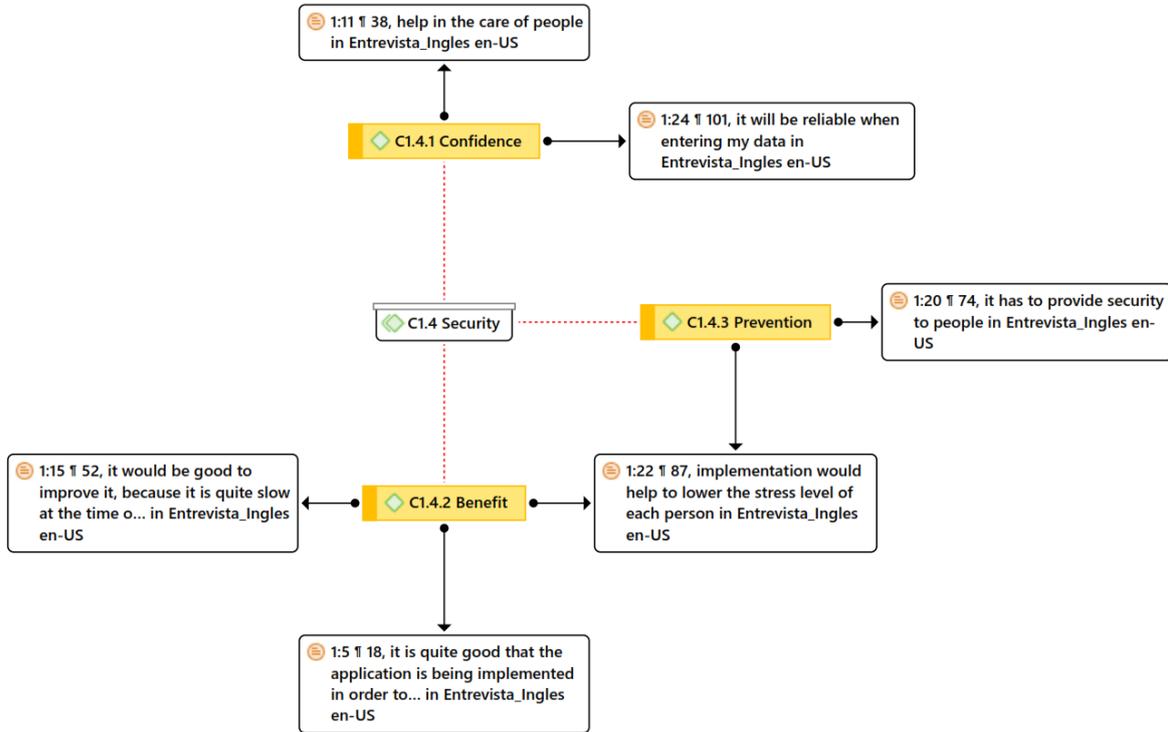


Figure 9. Security

5.1.5. Analysis of the subcategory reliability

In Figure 10, Promotes respect and the practice of values when using the application. Resolves conflicts in an assertive manner analyzes the difficulties and strengths of people for the improvement of the personal aspect and will be constantly controlled and monitored [18]. Reliability was analyzed, which does not offer value, quality, and strength.

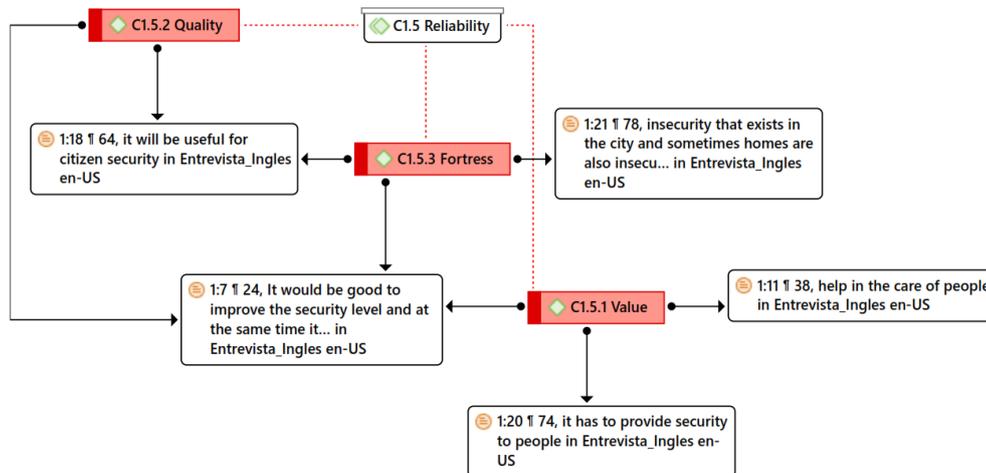


Figure 10. Reliability

5.2. Evaluation of prototype design by experts

In Table 6, a score from 1 to 10 has been made with 1 being poor and 10 being excellent. Making the judgment of technology experts, the security of computer systems in terms of scores 1 equals 10% and 10 equals 100%. To demonstrate that the design has to be above 75% in addition to the overall average of 84.5% which gives this design as approved by the experts.

Table 6. Prototype design evaluation criteria

Criteria	Questions	Expert	Expert	Expert	Expert	Expert	Average total (%)
		1 (%)	2 (%)	3 (%)	4 (%)	5 (%)	
Usability	It is easy to use the Mobile application?	88	85	90	100	80	89
Feasibility	It has the resources to achieve objectives and goals?	90	66	79	100	88	85
Innovation	There are new features and improvements in the Mobile application?	100	86	78	87	79	86
Security	Generate confidence when using the mobile device?	96	100	69	90	78	87
Reliability	What is the level of consistency of the mobile application?	87	94	78	68	100	85

6. CONCLUSION

This research identified the use of mobile applications in citizen security and the lack of implementation of the necessary technology for the incorporation of equipment in the areas of citizen security to ensure the quality of life of citizens. The quality of satisfaction of the people in the city and the increase of quality monitoring with the applications and laptops as a means of support for the safety of people. With this implementation of technology in citizen security will increase confidence and quality of life of people.

After having investigated according to the articles retrieved topic in mention concludes. The use of the mobile application to improve the insecurities, we have used technological tools that allow us to carry a better management to perform the best control in society. The digital tools helped us to better monitor and use strategies to promote good service and improve the quality of life of people. This mobile application is viable because it is easy to access and easy to understand for customers, it also generates more security to people that allows us to know and get closer to citizens, it is a good opportunity for business, advisable to generate income and attracts more benefits for society.

The elaboration of the analysis of the platforms to improve the insecurities that society suffers from allows us to know more about how we should use strategies to improve the lives of people, we believe that the estimation of society is fundamental. The one that does not perform properly can even lead to failure the use of the application. There are multiple benefits that emerge thanks to the new technology that can help us and its insertion in the field of citizen insecurity, mobile applications propose to break barriers, break schemes and improve the relationship between people and applications.

For the professional in systems engineering, it is important to conduct research of this type given the incidence of the use of mobile applications. For the citizen insecurity that society suffers in the different fields of technology and life itself. Therefore, the professional must be in constant training to create and build new tools that continue to make effective the processes of the applications and the benefits that can have when using such application for the welfare of people.

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