

THE DEVELOPMENT OF A SOCIAL NETWORK TO SUIT USC STUDENTS' PROFILE

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Abstract

With the advent of information and communication technologies (ICT), the education panorama has been changing every day. It is observed that, due to the increasing need of the use of technological tools, teaching and learning change. This research resulted in the development of a social network prototype -- a mobile application for the Android platform -- aiming to help the integration of students, giving them the opportunity to meet according to the degree of relevance. The application enables the interaction with professors by sharing information, projects, courses and other services offered by the university.

Introduction

Moran (2012) affirms "The school is attractive" (p. 7). According to this author, the school does not offer attractions, and it is demotivating and for this reason, many students, especially those in higher education, are giving up studying because of lack of interest and stimuli. They do not like to research, and believe that school is too far away from their realities.

Also, according to Moran (2012), "It is not enough to put students in school. We must offer them an instigating, challenging, provocative and dynamic education, active from the start and in all educational levels" (p. 8). Many schools and universities are still attached to traditional teaching models, in which students are submitted to traditional, inflexible, repetitive and monotonous methods. It is true that many of these students are fully connected and immersed in a virtual world that is already part of their daily lives; their relations and interactions with the world are no longer the same as they communicate and update themselves constantly through information and communication technologies (ICT) that are available and growing all the time.

Schools that are not connected are incomplete. Students without a continuous access to digital networks are excluded from an important part of current learning: the access to varied and available online information, the quick search in databases, digital libraries, educational portals; the participation in communities of interest, in discussions and online publications, in short, the varied range of digital services (Moran, 2012).

For this reason, universities must be connected and ready for a new student profile, so that they can keep up with the advance of technologies and become more complete. It is necessary to offer students an innovative learning that motivates them, which is not necessarily conditioned to a classroom, as for Moran (2012) "[...] we can learn by being physically together and also connected, we can learn at the same time and rhythm or at different times, rhythms and forms" (p. 10).

With the advancement of ICT, social networks emerged and quickly became part of the teenagers' daily routine. Social networking is one of the representation forms of affective or professional relations from one human being to another, in the form of network or community. It can be responsible for sharing ideas, information and interests (Lorenzo, 2013).

According to Rosa and Kamimura (2012), social networks allow their users a diversified exchange of information and subjects of common interest, such as photos, videos and ideas. Thus, social networks are groups on the Internet that allow the sharing of data and information of various characters and shapes. For example, through them, you can post different files, texts, images and others.

The spread of social networks among the new generations, who are familiarized with the use of computers and mobile phones since childhood, has established a radically different scenario for social interaction. Even from a distance, you can stay connected to someone, and, in different circumstances, the distance tends to increase the level of connection.

At first, the use of social networks was mainly focused on the relation between friends or people with common interests; however, with their remarkable expansion, these networks now have a different role in society, in politics, in the media and in education. Academically, we can say that social networks symbolically toppled walls. We no longer need to be together in the classroom or occupying the same space for interaction. According to Lorenzo (2013), some institutions have found useful applications of social networking in education, and, currently, these applications have become important tools in the teaching and learning process in higher education.

According to Lorenzo (2013), networks allow us to share information about topics studied or proposed in the classroom as well as to strengthen the involvement of students and teachers through a new communication channel, making it an effective option for the construction of the relationship between students and teachers.

Social networks should be seen as virtual environments that offer various forms of interaction, which stimulate the contact with socio-cultural diversity, create conditions to create a network of friends and, at the same time, stay informed about the user's interest issues.

According to Monteiro (2011), Facebook, Twitter, WhatsApp, which are often cited as study dispersers, are increasingly inserted in the student's life. It shows that the problem and also the solution are not the social networks, but how these tools are used. With the use of a collaborative space, such as social networks, the teacher has the opportunity to verify aspects often difficult to identify in the classroom, such as the ability to write texts, the writing improvement, the research about a subject, the presentation of an opinion and the debate among students (Lorenzo, 2013).

The teacher is a professional who needs to recognize the possibilities and the added value to the teaching and learning process that social networks, virtual communities, blogs and micro blogs provide. It is not enough to be "new"; the teacher has to understand what this "new" brings for their pedagogical practice.

It is possible to share with students many materials involving subjects to be worked on in the classroom, such as multimedia, news, videos, music, film clips, etc. However, besides using the networks for the provision of content, teachers can use them in different ways in the teaching and learning process.

According to Pechi (2013), “To use the time students spend on the Internet to promote interesting discussions about everyday topics helps students to develop critical thinking and encourages the most timid ones to express their opinions” (p. 1). It is possible to take advantage of such proposals for individual and collective evaluation.

There are other applications provided by network communication that contribute in the educational process, such as notes and work results consultation, answering questions, calendar, instructions on activities, etc. According to Lorenzo (2013), “The challenge for educators is the incorporation of internet resources in social networking with the purpose of benefiting the teaching and learning process” (p. 35).

Pechi (2013) presents some social networks resources that allow this merging, such as: Virtual Groups, Discussion Forums, Blogs, Chat, Instant Messaging, Meetings and Video Conferences, E-mail Bases, Video Bases, etc. These resources leverage the educational processes and open up new possibilities for class complement in higher education; they do not limit the student to the physical space of the classroom because, according to Moran (2012), “[...] the physical and the virtual world are not opposite, they complement and integrate each other in an increasing, continuous, inseparable interaction” (p. 9).

It is believed that the use of ICT and social networks have become indispensable to an innovative class proposal. However, the traditional educational process must be respected. Therefore, the use of technological proposals through information and virtual communication tools are complementary to the classroom.

Considering that the Universidade do Sagrado Coração (USC) provides students from different courses the opportunity to meet each other in common subjects, the development of the social network proposed here -- exclusively created to suit USC students' profile -- aims to help integrating students by a Similarity Algorithm between profiles, giving users the opportunity to meet according to the level of relevance. For example, those who attend the same disciplines, providing a greater connectivity and even a first contact with a classmate.

The social network proposed in this study also aims to facilitate the interaction between teachers and employees sharing information, extra-curricular activities, projects, courses, events, publications, discussion forums, and many other services offered by the university, giving visibility to the whole community involved and allowing its effective evaluation.

Methodology

An exploratory research helps the researcher to know which of the many options apply to the research problem, and it might help to establish the priorities for the research. Priorities may be established because a particular explanatory hypothesis raised during an exploratory research will seem to be more promising than others are. Furthermore,

the exploratory research will be able to generate information about the practical possibilities of conducting specific research (Mattar, 2012).

Therefore, this project was initially an exploratory research that studied the key terms that guide the purpose of this research.

Subsequently, theoretical materials of different subjects were studied. They are all associated with the purpose of this paper and include these fields of study: Software Engineering, Data modeling, Human-Computer Interaction, JavaScript, among others.

Data Collection Instrument and Target Public

We elaborated a questionnaire that served as a data collection instrument to verify which mobile operating systems the students use the most and their degree of satisfaction. Before the questionnaire was released for application, its questions were analyzed to check the actual need of verifying which mobile operating system students use the most. The focus of this proposal is the development of a prototype for the Android platform, which was confirmed to be the favorite among the subjects interviewed.

The target public of this research consisted of all USC students, regardless of the field or course. According to the survey, the most used operating system is the Android platform, as observed in Figure 1.

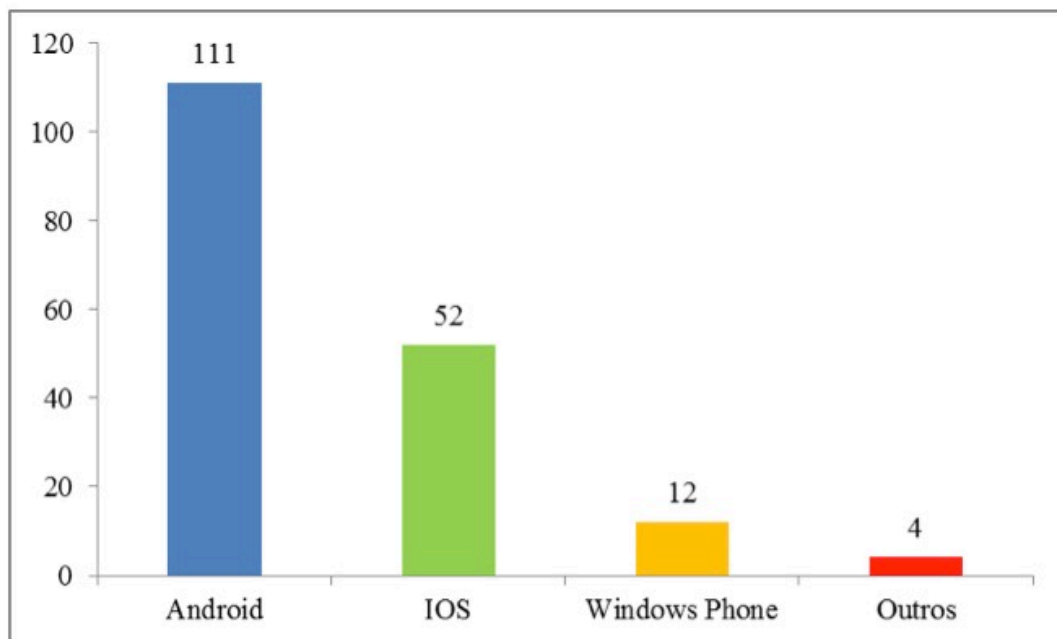


Figure 1. Survey of the operating systems used by students.

The Seek mobile application was designed to work on smartphones that use an Android platform superior than the 4.0 version. We used as external database – the MySQL and a web service developed in Java using the Axis2 library. Figure 2 illustrates this context.

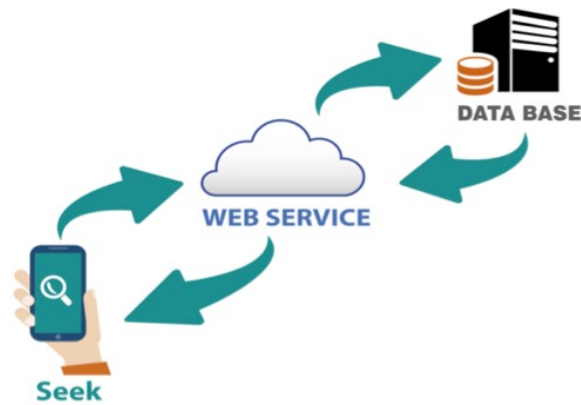


Figure 2. Seek architecture.

The main objective of this social network is to search and list the relevant students for each user. The social network also searches all registered users, and it has a virtual bulletin board in which any Seek user can publish.

Results

Seek Development

To develop the Android application it was necessary to configure an environment containing the latest versions of the Java Development Kit (JDK) and Android SDK. The IDE used was the Eclipse Development Toolkit, version 22, and the library used to communicate with the Web service was the Ksoap.

Operation

Opening the Seek application, the user finds a login screen, as observed in Figure 3.

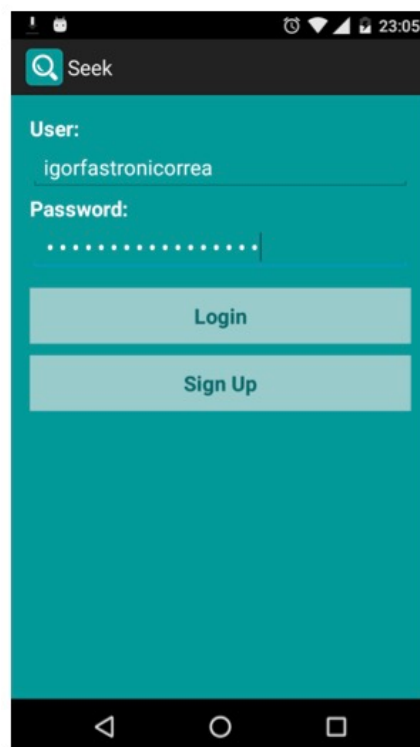


Figure 3. Seek login screen.

If the user is opening Seek for the first time, there is the option of registering, in which a login and a password are necessary, along with name, course, five attended disciplines and their respective weekdays. It is also necessary to send a photo, which will be used in the profile account. Figure 4 shows the registration screen.

The screenshot displays the registration interface of the 'Seek' application. At the top, the status bar shows the time as 22:42. The app's header features the 'Seek' logo. The registration form includes the following elements:

- Name:** A text input field containing 'Igor Fastroni Corrêa'.
- User:** A text input field containing 'igorfastronicorrea'.
- Password:** A text input field with masked characters represented by dots.
- Select the course:** A dropdown menu currently showing 'Computer Science'.
- Type 5 disciplines and select the days:** A section containing a dropdown for 'MONDAY' and a 'Discipline' input field with 'Image Processing and Signals' selected.

The bottom of the screen shows the standard Android navigation bar with back, home, and recent apps buttons.

Figure 4. Seek register screen.

As soon as the user connects into the Seek system, an interaction screen (Figure 5) is presented with three options:

- **Search All** - searches all registered Seek users.
- **Relevant Search** – searches only users who attend one or more subjects in common.
- **Bulletin Board** - a virtual bulletin board where any user can publish information such as jobs vacancies, among others. The purpose of this last option (virtual bulletin board) is to provide greater interaction between Seek users.

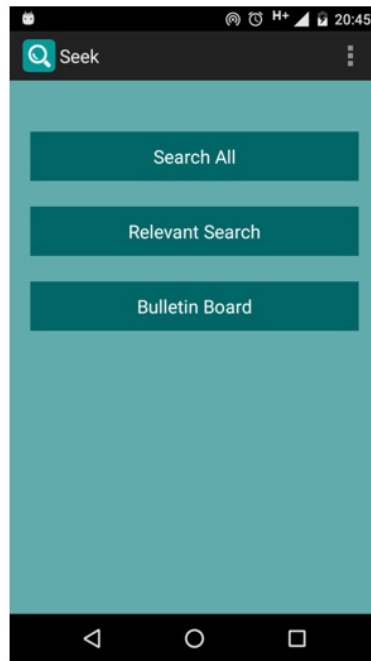


Figure 5. Search users and access to the virtual bulletin board screen.

Figure 6, is an example of a result that is displayed when the option "Search All" is chosen. The application connects to the Web service that makes a search in the database to bring all registered users, which returns the information to the application, displaying all registered users in alphabetical order.

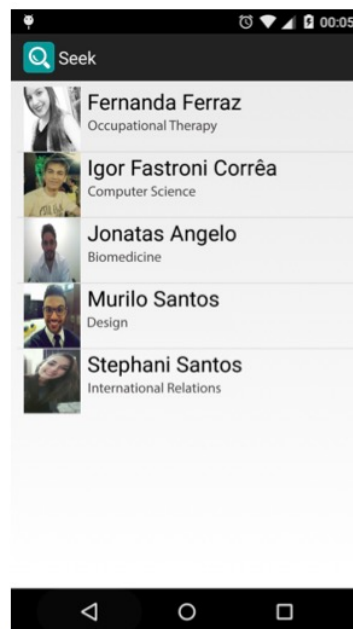


Figure 6. Search for all registered users screen.

The application allows the user to click on any name in the list and automatically visualize on the screen the selected user profile containing all the information, such as: name, course, photo and all the attended disciplines. Figure 7 illustrates this context.

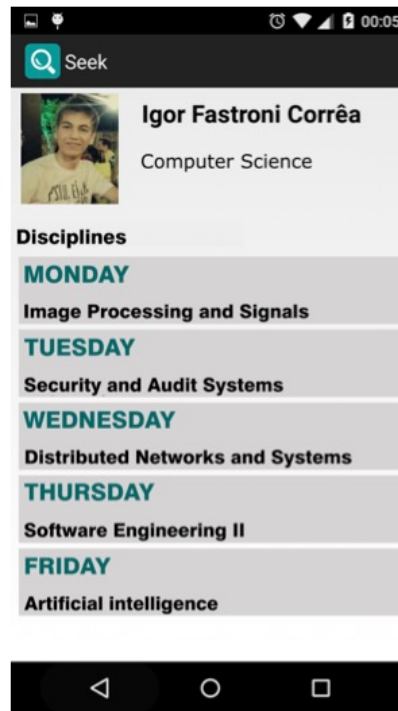


Figure 7. User profile registered on Seek screen.

Figure 8 illustrates the virtual bulletin board screen, in which any user can view what is published. On the bulletin board, the user can register relevant information requiring disclosure in the academic world, such as lectures, workshops, book sales, blood donation campaign, private lessons, etc.

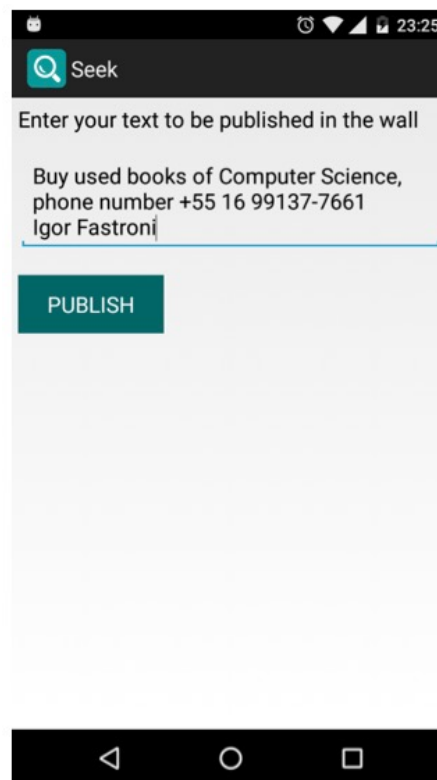


Figure 8. Bulletin board screen.

Final Considerations

Although increasingly present in the everyday life of students and professors, social networks are still part of a world that can be much more exploited by education. There are still professors and students who do not use this resource to strengthen the teaching-learning process. This may be explained by the fact that the use of social networks demands from the professor and the student a new attitude towards the educational process. This becomes a major challenge. Therefore, we must seek an understanding between students, professors and educational institutions on how the social networks can work as assistant teaching methods. It is important to highlight that, the same way this type of media can be used for leisure, entertainment and for facilitating social relations, it can and should potentiate the teaching-learning process by collective creation and communication. Professors should mentor and facilitate learning through these new media.

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