Mobile Internet User experience in Latin America

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ABSTRACT
In this paper we analyse the aspects of user experience and acceptance for mobile Internet in Latin America and propose some solutions to the highlighted problems.

Keywords
Latin America, developing countries, Internet, mobile internet, user experience elements, acceptance.

1. INTRODUCTION

The Latin American society is divided by stratification and, opposed to the system of welfare in developed countries; there are very big differences between the poorest and the richest. The upper stratums of the society have a standard of living as the one in Europe or North America and the lower stratums have a very different perspective of life: they work hard on unstable jobs, they live with just the money for the current day and they struggle for being able to afford education or any other commodity after paying for the monthly basic expenses. [8]

Only a small amount of the population has internet access from their homes (i.e. Brazil, although being the country in the region with most internet users, has only 6% of the population accessing it from home [17]) and this is usually associated to intellectual work or a certain educative level and economic capacity to support the expense that this represents. With respect to mobile phones, the situation is quite different: due to a rapid increase in the cell phone offer and many promotional plans where phones where given for free when purchasing some other item; it has increased to the 70 percent of the Latin American population using cellular phones [7]. In this scenario even beggars have a mobile phone and robberies have significantly decrease. Unfortunately the costs for using those mobile phones and specially internet prices are still extremely expensive as almost half the population of Latin America must live with less than one US-$ per day and 240 million individuals are living under the poverty line [18].
Mobile phones in Latin American countries are mainly used for calling, making up to 93% of the revenue while only 7% is made by other services as instant messaging [5].

It is also important to consider that approximately 51% of the Latin American economy is driven by "informal economy"[19] which is the name of great number of activities in the informal section of the economy that normally do not meet with certain economical and administrative characteristics proper of a formal economy (i.e. no complex technology nor advanced ways of production are used; there is no established division of work). Some activities from the informal economy are: the home aid with no salary, domestic maids, unpaid family workers, casual labourers, street vendors and artisans or craft producers. This may be a reason why the mobile phone has had such a success. Many businesses work in this environment and the mobile phone might be the way they will connect to the web. [11]

2. ASPECTS OF UX AND ACCEPTANCE IN LATIN AMERICA

We have analysed how some of the elements of user experience, taken from Hiltunen et al [1] and Roto [2], are perceived in these countries:

Need:
As described by Roto [2] when analysing the " user needs for internet on a mobile device", there is not proven need for the full Internet in the phone. This could be changed by analysing the cases where the internet can provide real value in situations where the only access is the mobile phone. As well, this will definitively increase in the case users have the mobile phone as the primary place where to access the internet. More about this issue will be discussed under the "Solutions" section.

Value:
The value of Internet is directly proportional to the value of the services it provides. In developed countries people uses many internet services while in developing countries this services may be inexistent or unknown.

Context:

- **Security:** Latin American countries are clearly less secure than developed ones. Economic insecurity in Latin America is multifaceted and has many sources that feed on each other. Some of the insecurity arises from the decline in employment protection and increased volatility of household outcomes. Some of it is the result of erratic capital flows and the systemic instability generated by a divorce between the instruments of stabilization and the real economy. [9] So, it can be unsafe to use a mobile phone in certain places as it can increase the possibility of being assaulted.
- **Mobility:** Using public transportation in Latin America is a completely different experience than in developed countries. It is usually less comfortable and crowded, many times it does not have defined schedules or stops, it can be quite noisy, insecure and usually doesn't have a systematic way of payment. In this scenario the challenges brought when focusing on

a small mobile screen or using one's time to find the correct web page might be too big for the benefit provided.

User skills:
Latin America has 11% of illiteracy, which traduces to approximately 39 million adults who cannot read or write [10]. For those, the visual internet is completely useless. As well, there is a quite low knowledge of foreign language and, even when there is a considerable number of services in Spanish, many search engines must be configured in order to get results in the correct language adding unnecessary results and complexity when trying to find information online.

Connection:
- **Availability:** In 1997, over 60% of the people in developing countries lived in rural areas, yet over 80% of the main telephone lines where in urban centres [13]. With growing mobile phones connections and the use of better technology people in rural areas is finally having an opportunity to access these services.
- **Speed:** Greatest part of the connections use second generation technology as GSM and EDGE.
- **Interruptions:** Specially in rural areas mobile connections can be interrupted, specially while on the move as the signal can easily be lost.
- **Cost:** For most of the population it is extremely expensive to use the mobile Internet. As an example we can consider the cost in Colombia: to download an average web page (130K) it costs around US$0,21 while a litre of milk costs US$0,83 (same as 4 web pages) and a bus ride costs less than 0.50 USD (same as 2 web pages). Mobile phones are considered to be expensive even if not using the internet: "the cost of a low volume mobile service basket (that only includes 25 short outgoing calls and 30 SMS per month) represents a very significant percentage (well above 5%) of the income of the poor in six key Latin American markets. In sum, those at the bottom of the income pyramid still find it hard to afford a minimum level of mobile services. This explains the various cost control strategies observed across Latin America, together with the shared use of mobile phones, the widespread use of payphones for outgoing calls and the resale of lower pre-paid credit offered by some operators". [14]

Trust:
The insecurity of society and carefulness Latin American people have, especially with money, might be translated to the mobile internet use so they might be less likely to use credit cards online or online banks.

Cultural context:
People in Europe use the mobile phone to "look busy" and people in Japan read online magazines while going in the train. In Latin America people interacts easily with those around, try to avoid being alone and are more social which might have an impact in the use of mobile phones.

We have also considered how Latin American society can perceive some elements from the Technology Acceptance Model for Mobile Services from Davis [3]:

Perceived value:
When the mobile Internet cost is so big (money and effort) and there is no clear unique gain from using it (having the possibility of waiting to reach a desktop computer without loosing much) it does not bring real value to use Internet from the mobile phone.

Perceived ease of adoption:
There is no general awareness about the possibility of using the internet from a mobile phone and, for most of the people, this would sound too complicated to use.

3. POSIBLE SOLUTIONS

Based on the special needs of Latin American society we have considered some solutions that might help increasing the use of mobile internet:

Simplify:
Take away complexity from the mobile internet and improve radically its ease of use by providing already installed small applications that give solutions to concrete problems instead of expecting the user to use the complete internet all the time. We could even consider to provide some services supported by sound to take advantage of the natural affordance of the mobile phone (interaction by voice) and not require too much attention from the user.

Provide:
Before users get hold of phones, provide already installed, configured and functional tools that work to solve local needs (based on the city / region) out of the box. As well, complementing desktop online activity with the mobile sounds like a more sensible step in order to introduce mobile internet than expecting internet activity to be independently done on desktop and on mobile.

Cost:
Different business models could provide affordable fixed prices to mobile Internet while helping people to access it and creating a market for these solutions.

Support:
The perception of trustfulness would increase if the solutions are already provided in the phone and supported from renowned brands as phone manufacturers.

Connection:
Technical server side solutions have proven to compress web content and making the download faster and smaller [19]. As well, problems with availability of the connection can be worked around by creating systems that support

working online as offline.

Need:
This is the most important factor as the main drive cannot be to push the internet as itself but the services or the benefit users will get of it.

- **Digital libraries:** Digital libraries are presented by Witten [4] as the killer application for information technology in developing countries by distributing vital information as health, agriculture, nutrition, hygiene, sanitation, and safe drinking water or helping in many other areas: "ranging from disaster relief to medical education, from the preservation and propagation of indigenous culture to educational material that addresses specific community problems". Mobile Internet can easily provide the infrastructure and low cost devices to support Digital Libraries.

- **Transportation:** There would be big challenges for real time transportation information as, even inner-city buses with the same route are owned by different companies. As well, to have GPS sensors on each bus is not a realistic expectation due to cost and organizational issues (unless it is driven by the government). In the other hand, due to the cultural conception of time, there would not be a great benefit from understanding how long time it takes for the metro to arrive if it does often and on regular stops. The biggest benefit could be for the unreliable lines that might arrive every 30 minutes helping users avoid waiting for something that might not arrive.

- **Maps and location:** Still there are not good interactive maps that might support location in Latin America. Making good maps solutions is a basic step to provide location information.

- **Official functions**: When paying accounts or presenting papers on banks or governmental offices, it would not be abnormal to have to queue for 30 mins. or even a couple of hours. Facilitating the use of the mobile internet for these services or even just for being able to do something else while being in the queue (and knowing how much time is left for being attended) would improve the experience of those inevitable bureaucratic processes. Still, we have to come around the policies that prohibit cell phones in banks due to its use for communication between robbers that use it to call and notify when someone going out had got cash.

- **Voice over IP**: An increasing number of Latin American immigrants send such an amount of money to their families back home to affect significantly in the IBP of the countries. International low cost calls are a huge market in Latin America, specially when provided from the convenience of a normal mobile subscription. [12]

- **Security:** There are many ways how internet solutions may increase users security: By having real time transportation information people might decrease the time waiting on dark and lonely streets. There could be a system to easily call for help by automatically sending location information or tracking a person or a pet that has been lost or kidnapped.

- **Entertainment / Football:** For Latin-Americans, a very important source of entertainment is football (soccer) championships. People might have a high interest in following football results on their mobile phones.

Providing ways of solving these needs is not just possible with mobile internet but could be developed with other tools. However, we should focus on how the mobile internet can provide something unique from its competitor services and overcome its limitations through understanding its strengths and using them.

4. CONCLUSIONS

First, people should be able to have access to mobile Internet and price is the most prohibiting of all issues, this should not be a problem by providing new business models that take advantage of the enormous potential market in Latin America. Awareness is other big factor and solutions should be considered to inform, promote and teach potential users about the new possibilities.

After those issues are addressed we can consider including desktop interaction / synchronization or using voice control to overcome the limitations of the mobile phone and make it easier to use.

But, the most important of the steps to improve the user experience in Latin America has to be to give people good reasons to use the mobile Internet. As said by Bengt Forssberg, president of Ericsson Latin America: "the growth of the mobile Internet market depends on the availability of services that people want to use, such as up-to-the-minute news in local languages." [15]. This will include focusing on already installed and working solutions that aim to solve needs for information, location (my location in respect to things, places or people), security, official functions, communication, transportation, entertainment or other issues that make sense on the cultural context.

Further work should also consider the issue of recycling and the usefulness of programs already implemented in some countries [6]

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The opinions presented in this paper are not necessarily those of our employers.

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