"Liburutegiak" app: The library in the palm of your hand

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Abstract:

*This article introduces "**Liburutegiak**", a native application created for the Basque Country's Network of Public Libraries (BNPL) to disseminate the network's library services on mobile devices, encouraging people to consult and access services from both tablets and smartphones.*

*In the article the main processes considered when creating and developing the "**Liburutegiak**" app are explained and special mention is made of three basic points which we consider may be the cornerstones of the application's success.*

Firstly, the decision to create a native application rather than adapting our web-site to mobile device use. We show a table comparing the pros and cons of the two options and explain why we finally decided to create a native application. Secondly, the services we chose to offer via mobile devices. These are selected around the uses and possibilities of mobile devices in preference to a web-page consultation. And thirdly, a marketing plan to broadcast this new way of connecting libraries and users. That is why it is so important to take special care with things such as the name of the app, its look/logo, provision of a clear, concise description of how useful the app is to encourage people to download and use it and at the same time collect data so as to assess the impact of this new service and help guarantee its continuity and success.

The App is available for iOS devices (iPhone/iPad) and Android (www.euskadi.net/appliburutegiak)

Keywords: Mobile website, iOS, Android, mobile 'phones, handheld devices, libraries, app.

1. Introduction

There are over 230 local libraries in the Basque Country's Network of Public Libraries (BNPL). The Basque Country's Libraries Act, 11/2007 describes the network's functions and the Basque Governments Library Service is in charge of managing it. Article 16 of the Act places special emphasis on the need to harness the potential of information networks, especially the Internet, to facilitate the public's access to public services and information.

For this very reason, by making the most of information and communication technologies, the library network has become established as innovative and continually improving the services it offers to the public. Initially, in 2010 and 2011, staff at public libraries were up-skilled digitally and afterwards a corporate platform of blogs was set up to increase library internet presence and visibility at the same time as using the libraries' websites to encourage use of and participation in the social web and library 2.0[1].

Once libraries had fully adopted the idea of blogging and the quantity, quality and interest in the content generated by blogs had been detected, it was decided that rather than disseminating this content via the internet and social networks, the time had come to take a further step forward and look into the possibility of putting all this information into a mobile environment.

Although even today frequent references can be found to companies being frightened of or not making the most of mobile applications, this was certainly not the case of our libraries where staff enthusiastically accepted this mobility project[2].

Since 2010, numerous statistical and computer graphics reports have been confirming that the increase in both mobile Internet access and a tendency to consume more information from handheld devices is unstoppable. Additionally, the Library Department, with the backing of an internal report on the suitability and opportunity of creating a web app, initiated the project to create the "Liburutegiak" app and in this way launch a new information channel for communication between the public and the Internet. This application was to make it possible for users of handheld devices (both tablets and smartphones) to consult a series of attractive, interesting services prepared and organized by the BNPL.

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[1] Note 1: http://liburutegiak.blog.euskadi.net

[2] Note 2: http://blog.netizen-online.es/guia-mobile-marketing/

Mobile Internet usage

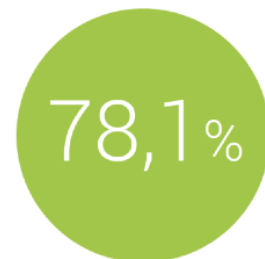| Mobile devices with Internet access in Spain	Mobile Internet use in Spain	Frequency of daily Internet mobile use
26 Millones	**84%**	**93%**

Main smartphone use
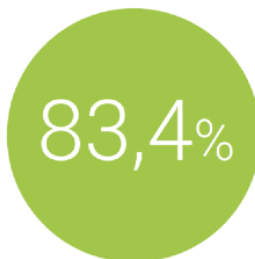
Photos & videos	Internet browsing	eMail
83,4%	**79,8%**	**78,1%**

Social Networks	Geolocation
70%	**64%**

Illustration 1: Mobile Internet use and main uses of smartphones (compiled from different sources)

At the same time as embarking on this mobility project, Library Services began to work on a prospective study entitled "Library services for the 21st century". The idea was to listen to the opinion of the public, library users and experts on public library services in the Basque Country and draw up some guidelines to help practitioners and politicians define public library services. In short, we wanted to guarantee that libraries are able to adapt and respond

to the public's new information requirements, needs and uses. The study[3], published in March 2014 is very useful when planning library services and, in the case of this article, it is interesting to see that expert opinion supports the idea that offering services via mobile applications was the right one.

2. "Liburutegiak" app, a native application for handheld devices.

As mentioned above, once the decision had been taken to create a mobile application for the library network, we started worrying about how to go about it and all the strategic, technological and user-experience implications. All of these implications conditioned the start of the project and the main doubt was whether it was better to create a native application for handheld devices to make the libraries, their services, products and content mobile, or to modify current web sites to obtain mobile versions of all of them.

In our case, the distinguishing fact that we had an app containing all the contents and services of a library network, forced us into thinking of a useful and practical solution for all end-users, that avoided duplicating processes and tasks and additionally offered the added value of usefulness and a positive user experience. With that in mind, our mobility concept was a practical one in which we thought we ought to concentrate on users with handheld devices and the experience we could offer these kinds of users so that the content and services offered, since they were useful, would meet user expectations.

In order to specify an optimum expectation level we pinpointed which services we were currently offering and which were the ones which our users (target audience) currently used both in person and virtually, via the libraries' websites. Focus group sessions were organised to analyse which contents and services this new mobile app should preferably have so that this new information channel could bring libraries into the palms of the hands of our users. During these sessions we analysed current user behaviour and asked participants about: their habits when consuming our services and content, the kind of opportunities we would be offering them if these services were (partially or completely) put onto a mobile environment and whether it would be meaningful to put them on a mobile device. We even went as far as to ask what they would ideally like to find in this kind of app, based upon the usage they make of both libraries and handheld devices.

At the same time, another analysis, just as important and decisive for the mobility project, was being carried out into the purely technological side of things. This was the one which was going to help us decide whether our app would actually end up being a native application or an application that was the result of converting our current web sites into a mobile version. In order to have a clear picture of the differences between the two and relevant criteria for a correct choice, we made an in depth analysis of both models from different points of view to help us in our final decision. These appear in the comparative table below.

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[3] You can access the complete study at http://www.liburuklik.euskadi.net/handle/10771/26106

	Mobile Application	Mobile Website
Performance	Locally run meaning quicker loading.	Internet based meaning slower loading and lengthier response time.
Access	An application has to be developed for each platform type, uploaded to each platform's app shop and then downloaded onto a smartphone before users can access it.	Device independent, meaning that only one website has to be built. Access is via a web browser and content can be viewed on many different devices, even less technologically advanced phones.
Compatibility	Updates are obtained from an app store. Slow approval processes mean this can take several weeks. Users have to download new versions.	"Relatively" simple since users find that there are fewer elements that might be difficult to view on their device, although getting things done properly may be complex. No need to engage with an app store, updates come directly from the server and the whole process is transparent for users.
Evolution	Mobile platforms and operating systems such as Android, Apple iOS or Windows Phone evolve rapidly.	HTML standards evolve far more slowly and different browsers act differently when displaying complex contents.

Quality of experience for the user.	Locally run means less wait time. Since it is specifically designed for mobile devices, interaction is fluid and the interface is intuitive. Access to features exclusive to mobile devices such as GPS, speedometer compass, etc. Users perceive touch screens and **gesture control** as an advantage. Content such as augmented reality layers, that otherwise would not be possible, can be included.	Potentially less satisfactory depending on internet coverage and speed. If we systematically apply a **mobile style page** to a website, users may have usability problems when accessing websites which cannot easily be converted to a mobile model. The characteristics of handheld devices and the fact that the user is mobile mean that in general users prefer to access mobile sites via native applications.
Technical risks	More risky because they may be more complicated to develop than a web site and development tests have greater **conceptualization issues.**	Less risky because the website already exists. A mobile version can be created by applying **a mobile style sheet** or by building a simplified website.
Testing	Native application tests are more complex, especially if they have to be compatible with multiple platforms. Checks on **gestures,** rotations, and triangulation, etc. have to be included and this slows down the development process.	Tests only have to carried out on a pre-existing website. Quality guarantees and **usability tests** are simpler because there is less involved in the tests.

Cost	More investment because more resources, time and skills are required. Cost increases because the app has to be developed for multiple platforms, although this can partly be reduced because some **functions** can be cloned onto other systems.	Less investment because it is faster and easier to build because it can be used on any device with a web browser.
Marketing	Each platform's app store has thousands of applications. This means the target public is more segmented (by device) and more focused.	Users can locate the mobile website via search engines, links from other websites and links to the mobile version included, for example, in emails.
Operational aspects	The smartphone needs to have sufficient memory space to download the application. Subscription to data or a wireless signal within reach is necessary when on line. Can be fully functional offline.	Nothing is downloaded onto the device, although a data connection or wireless network is necessary. Offline mode is not possible.
Skill requirements	Developing an application is a highly skilled job. It is not always easy to find developers with these skills.	HTML and CSS knowledge is necessary to create a mobile **theme.** It is useful to have excellent HTML5, PHP and Scripting skills to create more attractive and dynamic websites but we should remember that not all smartphone browsers fully support HTML5.

Table 1- Comparison between native app and web mobile.

Finally, after obtaining expert advice on the specific context of the library network, we decided to create a native app, firstly because not all the services and contents currently offered need to be included in a mobile environment (and we did not want to miss a good opportunity to provide users with especially useful, easy to consult content in a mobile environment) and secondly if we didn't create a native app we wouldn't be able to make the most of all the options that the hardware and software of handheld devices have, such as: compass, GPS, maps, diary and integrated communication systems.

When taking this decision a challenge we had to face was to present both services and content in consonance with the two basic premises of simplicity and option reductions so as to avoid excess sophistication which would lessen the user's experience and also to provide the most useful options for each context. To do so, we followed these processes which have to be analysed iteratively to adapt them to any subsequent versions of the app.

- Include only products, services and contents of high added value for the user, not just for the libraries.

- Restrict the amount of content we offer as much as possible. This does not mean that we do not have much to offer, but rather we showcase what can be accessed directly and is most useful.

- Divide up the content field so that right from the outset users can easily access the services and content nearest to them.

- Forget about trying to show everything we have on the app, because that increases the risk of distraction. When a user sees an excessive number of options they have to think about each one of them. When that happens one of mobility's greatest assets that of immediacy, is completely lost. For this reason we should only offer a minimum number of links to external sources and these should only be included if they really are pertinent or necessary to achieve an objective or carry out a task.

Having done all of this, all that was left to do was to decide which from all the contents and services existing in web versions would be included in this native app which we had decided would be designed for the two main operating systems of our potential users, namely iOS and Android, which have an overwhelming majority of the market.

3. "Liburutegiak" app: library services for mobile environments

As has already been explained above, we were clear right from the start of this project that we didn't want to offer a vast array of functionalities in an attempt to surprise the user with the power of the application, because this could have completely the opposite effect, namely that the user would end up completely overwhelmed by a large number of actions and access that he/she would not be able to remember. What was important was to offer a set of services that gave added value and context to users' previous web experience.

The app's main aim is to keep users up to date on library news and activities by using both the content put by library staff on their blogs and the GPS technology that mobile devices have.

In our mind's eye the idea that we have of libraries is a physical place where we go, a counter where somebody attends us, computers to consult, catalogues etc., in other words some kind of infrastructure which stores, manages and offers all the variety of services and activities generated by our libraries. And yet it is odd that all of this information fits and can be accessed and visualised on the small 3.5 inch screen of a smartphone, meaning that we really can have the library in the palm of our hand.

In fact the app offers a number of basic library services such as document consultation and access, loan renewal, reading recommendations, social participation, etc.

The headlines of blogs and articles on Internet consumption and behaviour make it clear that mobile applications are not the future, but rather they are the here and now and already form a part of our day to day lives. We could say that we are simply following a route that is already marked. The speed which we travel down it and how we adapt to it is dependant only upon our interest/and or experience. Precisely for this reason libraries as a public service need to be well positioned and what is more need to help even the novice or less skilled IT user not to get lost amongst the world of technology and information access.

That is why, the Basque Government's Library Service created the "Liburutegiak" app for its library network, aimed at both libraries and the public. It may well take a while before the app is widely used, but what is important is that we are now well positioned and there is none of the significant delay you sometimes get between demand and supply. To a large extent our market position is thanks to the functions and services that the app offers and which we list below:

- **Geolocation.** A system which quickly shows on an interactive map all the network's libraries and provides instructions on how to get to them from the user's current location. This system also provides three different levels of information about library activies: *your library* (once this option has been selected on the user profile); the *nearest libraries*, to the user's current position and activities throughout *the whole of the library network*

- **Access to the library catalogue:** screen size and the fact that users are on the move, led us to create a specific search interface with a reduced number of options. This means users can search via title, author and keywords. Searches are further limited to local library catalogues.

- **Library map:** geopositioning of the BNPL's libraries on the map via which users can access complete information for each library and obtain all the necessary basic details such as: address, telephone number, website, opening times, etc.

- **Blog map:** direct access to the different active blogs of the BNPL, either geolocated on the map or accessible via a list ordered by proximity to our physical location.

- **News:** a list of the 10 most recent news items published on the network extracted automatically, in real time from the blogs.

- **Latest collection:** selection of outstanding new additions with a review and a list of the library's top book, video and music loans for children and adults.

- **Activities:** search the activities the libraries organize and see which are closest to the user. Sign up and export the activity to the device's calendar.

- **Video channel:** direct access to the BNPL's YouTube channel, broadcasting library created content offering snippets of information and advice which in addition to informing of services may also be useful to reply to FAQs.

- **Social participation:** this concept is clearly present in the app in the following elements:

- Communication: there are different forms of contacting the library: via its website, blog, email, or on the phone.

- Social interaction: once registered, the user can rate the app, share content on social networks and interact with other users by writing on their wall.

- Reputation system: a user's activity and participation creates a reputation associated to his/her digital identity on the app and obtains points for comments, ratings and check-in to the library etc.

- **User profile:** this is on a private panel where each user can consult their reputation level and view statistics on their interaction with the application. They can also choose their benchmark or favourite library or log off from the session if they want to, since the app is by default continually logged in to avoid continual authentication.

"Liburutegiak" app is public and free and its aim is to foster access to the BPLN's information, activities and special content. Designed around three core ideas; information, geolocation and social participation, the app is a new communication channel for library users which aims to boost interactions within the application such as leaving comments and rating others, check-in to the libraries or voting on contents and sharing them via email or on social networks such as Facebook and Twitter.

**4. "Liburutegiak" app: the hallmark of a public, networked service.**

According to a recent report[4], smartphone users have on average 24 apps installed and tablet users 31, although everything indicates that as more people switch to tablets the difference in the number of apps installed will be even greater.

With 83.9% of overall activities, communication apps are the most widely consumed on handheld devices with social network apps representing a significant 70.3% of the total. As can be seen in the following illustration, this trend is similar to the figures for the world as a whole which just goes to confirm that leisure and entertainment dominate our current smartphone use.

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[4] The App Date Madrid | September 2013. http://madrid.theappdate.com/informe-apps-2013/
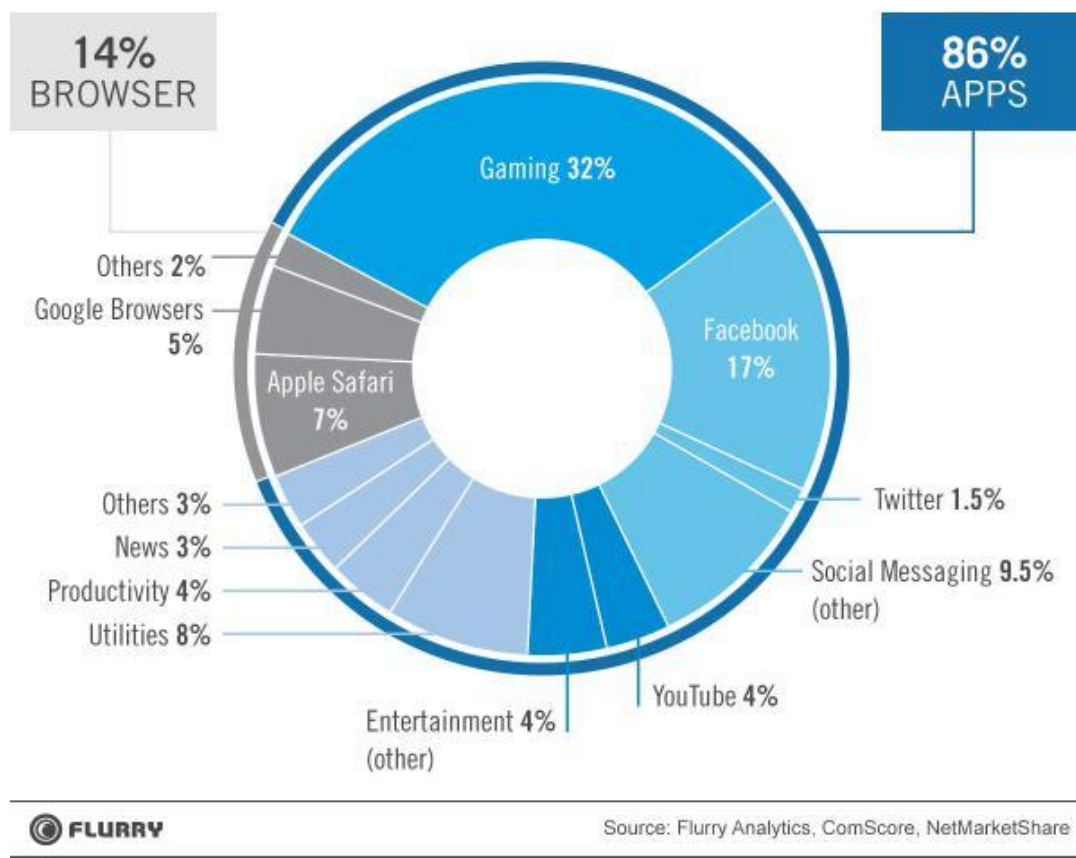
Illustration 2: Smartphone use (Flurry, Q1 2014)

Undoubtedly these sectors have known how to target potential users with their high engagement power, a strategy that is worth taking note of when offering a service minded cultural app such as "Liburutegiak", so that as far as is possible it also has the same viral effect as the afore mentioned categories.

The first step in this aim has been to upload our app in Apple Store and Google Play access platforms, together with a clear, brief description pointing out its usefulness and encouraging people to download and use it.

One of the app's objectives is precisely to engage library users and to do so, what better than linking them to a brand name, in this case Liburutegiak and a very specific image for the brand, that relates it to recommendations for reading, leisure, cultural activities, etc., in short with the suggestions and services offered by the network's libraries.

Obviously, just uploading the app to platforms is insufficient and we need to think about how to market and broadcast it amongst library users. That is why, in addition to disseminating information about the app in articles, experiences, interviews and conferences, a series of online marketing actions have been designed, coupled with the potential viral marketing that social networks and our own library network can offer.

The second step was to create a website to promote the app (www.euskadi.net/appliburutegiak), using a responsive design that can be visualised via the website but especially via tablets and smartphones. The website provides an attractive, short explanation of the app's functions and also, anybody interested in learning more can directly access the URLs to download it for iOS and Android. To make things even more user friendly, two explanatory videos have been made; one for Android devices and the other for iOS which in a practical and visual way explore the "Liburutegiak" app so users can find out more and make the most of all its functions.

At the beginning of this section we mentioned the viral marketing of social networks as a good way of disseminating the app. But before saying any more of social networks we would like to mention another fantastic opportunity at our fingertips which is the network itself and the role library staff can play. The network is really a large community of over 230 physical locations and almost double that number of staff working at these locations, each one with their own blog or in other words their own channel for broadcasting in addition to their social profiles which can be used to connect with their followers.

So, one of the things we did was to organise training sessions for our library staff so that they had in depth knowledge of both how to use the app and its ideal role as the best way of publishing their blog contents. Obviously, nobody writes in the same way when they are publishing on paper as on the internet and it is important to control this channel so that our publications reach our followers directly and in an appropriate way, especially when all the information that is uploaded onto blogs automatically feeds in to the app's content. That is why it is vital to know exactly how content appearing on handheld devices is consumed and adapt our content to these requirements so that libraries are accessible not only via the internet but from any kind of mobility situation. If our content is too long, with slow to load images or too many external links, it will be more difficult to keep user's interest than if we offer contents that can be visualised in the actual app itself.

Another opportunity offered by online marketing is the use of QR codes. For this we made a poster to put up in all the network's libraries and for broadcasting over social networks. It contains one key question: What is a library app for? Followed by a reply which perfectly sums up the purpose and aim of the app. The picture of a smartphone reminds us of the app's logo, motto and colour, which are what distinguish the app and reinforce our ability to remember it and associate it to the library network. And via the QR codes we can directly download the app for Android or access the website for more information.

What is a library app for?

" To foster and facilitate public access to the latest news, events and content created by the BNPL's libraries "

App "Liburutegiak"   Android

Illustration 3: Poster advertising the Liburutegiak library app.

We will carry on looking into ways of disseminating the app, without forget traditional formula such as local press and specialist magazines. We have also created a Pinterest board to display any kind of news on marketing and disseminating the app so we have a sort of picture archive showing what has been done and the repercussions.

5. Analysing and following usage patterns

Equally as important as broadcasting the app is monitoring usage patterns. Now the first four real months of the app's life have concluded months that coincide with the first quarter of 2014, we can get a true picture of usage (see illustration 4) leaving aside the trial time of the final two months of 2013.

In the first four months of 2014 1,007 individual users visualised a total of 34,363 screens in 7,244 app sessions. Of the total number of users, 13.5% were newcomers and the remaining 86.34% had used the app before. From these figures we can draw two interesting conclusions. Firstly, we have an optimum level of "return users", which is vital if we are to achieve a good level of engagement and secondly, there is a certain buzz around people who want to find out more about the app, although obviously we need to be cautious with this information since we are still in the initial launch stage, a time when there is likely to be greater interest in discovering the app. It will be interesting to see if this trend stays over time, which would indicate maintained user interest.
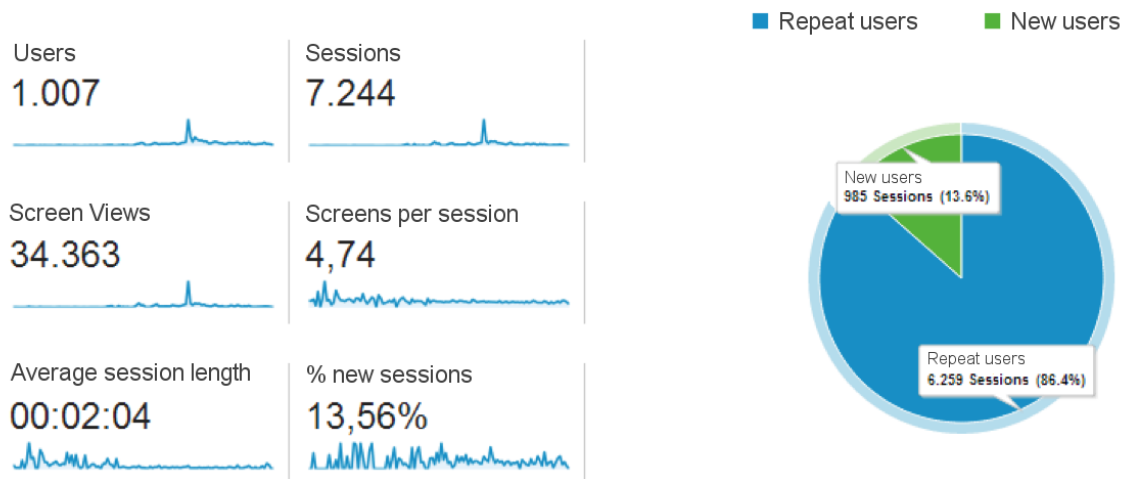
Illustration 4: general app statistics (Q1 2014)

When we break down the data on individual app sessions we can see that in the first four months of 2014, 6,208 users (85.7% of the total) accessed their app session via the Android version, whilst the iOS version only accounted for 1,036 sessions (14.3% of the total.)

It is important to highlight that for optimum app functioning, devices need to have a relatively up to date version of their operating system installed. Hence, Android users need to have version 4.X or higher and iOS users, version 7.X or higher.

The illustration below shows the tendency of devices with iOS operating systems to rapidly adopt the latest upgrades as opposed to Android based devices which depend, not only on the developments that Google makes, but also the efforts which each device manufacturer makes to adapt them. In Android case, many devices, especially the medium to low range ones, swiftly become out of date and it is impossible to install more modern apps that optimize the developments of the latest versions of operating systems.
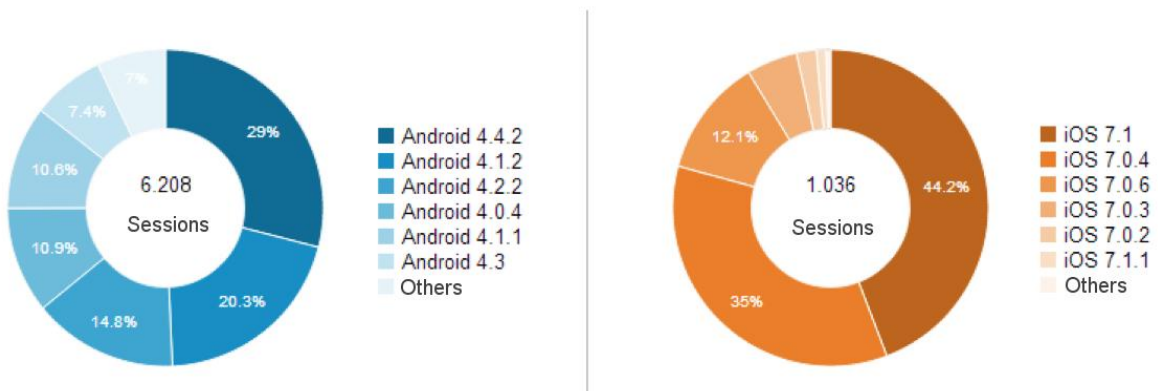
Illustration 5: Operating System versions of our app users

We were especially interested in finding out what kind of device was being used most with the app for all these sessions and to do so we used the analysis of traffic generated. In this

way we were able to see that with 73.76% of screens (amounting to a total of 25,345) visited in the first quarter of 2014, smartphones were the main handheld device used for access. However it is also interesting that a far from negligible 26.24% (9,018 screens visited) came from tablets, especially since this market is much smaller than smartphones.

This information is undoubtedly telling us that we need to keep a watchful eye on this trend, especially during the first year of the project's life when a sustained increase in the sale of tablets (a device which currently has a much smaller market share than smartphones) is predicted.

Of all the traffic generated, 80.53% of the screens visited (amounting to a total of 27,672 in the timeframe analysed) were done so from Android devices and the remaining 19.47% (6,691 screen visits) from iOS devices. The traffic data are especially useful when analysing context, or in other words the contents and services users prefer a vital piece of information for us when analysing where our users' library interests lie when in a mobility context and where they do not.

Below you can see data on searches on each app section, with the number of screens visited in each one.

Section	iOS	Android
News	1342	8927
Events/agenda	1478	2251
Catalogue	1300	1545
Library card	515	614
Latest collection	1039	988
Most popular loans	370	919
Online blogs [5]	--	--
Video channel	362	284
User profile	285	517

Table 1: Content of the Liburutegiak app consulted in the Q1 of 2014 (screens visited)

With this information, coupled with the opinions we get from our app users, we will be able to mark out a route map for improvement, because we want this app project to continue being valid over time, but it will only be so if we adapt it to the real needs of the target public it is aimed at.

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[5] Data is not available on blogs since Google Maps API does not currently monitor map data.

And we conclude saying that we trust this new channel of communication between libraries and Basque citizens will have a long trajectory and will help libraries to define their digital strategy and their positioning in the social communication and interrelationship through the net.

Bibliography

Abarca, M.; Lloret, A.; Pons, DM.; Rubio, FJ.; Vallés, R. (2012). *Tecnologías móviles en bibliotecas: aplicaciones en la biblioteca de la Universitat Politècnica de València*. University of the Basque Country (UBC). Library and scientific documents. Online: <http://hdl.handle.net/10251/14793>

Clark, William (2011). *Key Issues for Mobile Applications*. Gartner Report, 15 April.

Fundación Telefónica (2013). *La Sociedad de la Información en España 2013*. Ariel. Online: <http://www.fundacion.telefonica.com/es/arte_cultura/publicaciones/sie/sie2013.htm>

Havelka, Stefanie and Verbovetskaya, Alevtina (2012). *Mobile information literacy. Let's use an app for that!* In: College & Research Libraries News, vol. 73 no. 1

IAB Spain (2013). *V Estudio Anual de Mobile Marketing de 2013*. Online: <http://www.iabspain.net/mobile-marketing>

Maniega-Legarda, David and Pulgar-Vernalte, Francisca (2013). *Bibliotecas y movilidad: explorando nuevos modelos de interrelación con los usuarios*. In: XIII Jornadas Españolas de Documentación - FESABID 2013, Toledo (Spain), 24tth-25th May 2013. Online: <http://eprints.rclis.org/19348/>

Netizen (2013). *La Guía Definitiva del Mobile Marketing*. Online: <http://blog.netizen-online.es/guia-mobile-marketing/>

Sanagustín, Eva (2010). *Marketing 2.0 en un semana*. Ediciones Gestión 2000, 2010

Servicios bibliotecarios para el siglo XXI: ciudadanos, usuarios y expertos opinan sobre los servicios de biblioteca pública de la CAPV (2014). [Directed and coordinated by, Hilario Hernández, Fundación Germán Sánchez Ruipérez]. Vitoria-Gasteiz, Basque Government Central Publications Service Online: <http://www.liburuklik.euskadi.net/handle/10771/26106>