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D1-4

Service Assessment Campaign Report

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Abstract:

This report presents the results from the MAESTRO focus groups conducted by UCL in London, Alcatel Space in Toulouse and Space Hellas in Athens.

The results of the study and the implications for the proposed MAESTRO services are presented and analysed. The document wraps up by summarising the conclusions that obtained from this study.

Keyword list: S-DMB services study, focus groups

EXECUTIVE SUMMARY

This document contains deliverable **D1-4** of the IST Integrated Project MAESTRO – Mobile Applications & sErvices based on Satellite and Terrestrial inteRwOrking (IST Integrated Project n° 507023).

MAESTRO project aims at studying technical implementations of innovative mobile satellite systems concepts targeting close integration & interworking with 3G and Beyond 3G mobile terrestrial networks.

MAESTRO aims at specifying & validating the most critical services, features, and functions of satellite system architectures, achieving the highest possible degree of integration with terrestrial infrastructures. It aims not only at assessing the satellite systems' technical and economical feasibility, but also at highlighting their competitive assets on the way they complement terrestrial solutions.

This is the second first of 3 tasks in Work Package WP01 – "Task 1.1". The WP defines ...

The task is lead by UCL and is supported actively by Space Hellas, and ASP, BYTL, GFI-C, E-TF1, SPH as MAESTRO partners.

This report presents the results from the MAESTRO focus groups conducted by UCL in London, Alcatel Space in Toulouse and Space Hellas in Athens.

The results of the study and the implications for the proposed MAESTRO services are presented and analysed. The document wraps up by summarising the conclusions that obtained from this study.

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1   INTRODUCTION

This report presents the results from the MAESTRO focus groups conducted by UCL in London, Alcatel Space in Toulouse and Space Hellas in Athens.

The content of this report is structured according to the focus group blue print [MAES1], which also describes the methodology of the focus groups in more detail. This will cover the methodology briefly first and devote most of the attention on the results of the study.

The characteristics of the sample in relation to their familiarity with mobile telephony and the associated services are then presented. The results of the study for the proposed MAESTRO services and their ranking are presented and subsequently analysed. The document wraps up by summarising the conclusions that obtained from this study.

2   STUDY METHODOLOGY

The goal of this study was to obtain more insight into current mobile phone usage and also mobile phone users' needs and expectations of future mobile multimedia services for the service assessment of the SDMB service. The methodology that was followed is described in detail in [MAE1].

The focus groups consisted of small groups of four to eight participants and were set up in London, UK; Toulouse, France; Athens, Greece. In Greece the focus groups were also supplemented by questionnaires.

Each focus group comprised between three to eight participants and lasted from 60 to 90 minutes. The focus groups focussed on participants' current mobile phone usage and their opinions about suggested MAESTRO services. Each focus groups was structured according to the following stages:

- Welcome and scope of the meeting

- Round-robin introduction of participants

- Questioning on current usage and satisfaction

- Questioning and discussion of proposed MAESTRO services.

- Summary and conclusion with a final individual survey on the proposed services.

2.1   Current usage

The discussion on the participants' current usage was generally stimulated with the following questions:

1. How do you currently use your mobile?

2. What do you like about it? What do you hate about it?

3. Has the mobile changed your life? If so, how?

4. Have you ever switched your provider and, if so, why?

5. What are the imperfections or disadvantages of the mobile lifestyle?

6. How do you spend your commuting time? If you use your phone while commuting, how do you use it?

7. What would you like to be able to do with your phone that you currently cannot?

The questions used in the questionnaires were constructed according to [MAE1]. For some questions, it was possible for the participant to fill in the answer in a multiple-choice area and there was enough space to write down his/her own comments or his/her own opinion.

2.2   Proposed Services

Following the current usage discussion we directed the participants' attention to an imaginary service that would be available in Western Europe in 2010 and would allow them to watch television-like content on their mobile phones. The situating scenario for using such a service was *dead time*, e.g. while waiting for transport or being in transit.

The first two focus groups were reserved and sceptical about the feasibility of watching TV on small mobile phone screens. For that reason subsequent groups watched a sample video clip on an IPAQ (with a resolution of 240x320 pixels). Participants of these groups were more open to the idea of mobile multimedia consumption. The moderator also suggested alternative viewing options like head-mounted displays, projection techniques, and plugging into external displays.

Next, the participants were asked whether they would be interested in using the following services, which were visually represented in PowerPoint slides:

1. Live events

2. News and weather

3. Disaster management

4. MTV and radio

5. PVR

6. Dating

7. Language courses

We will introduce the services shortly and provide the visual example along with the typical introduction of the service given by the moderator provided in italics.

2.2.1 Live service

The participants were shown a picture of a football fan waiting at a bus station as shown in Figure 1.
The service was introduced as a means of following live events when the participants are not able to watch the event at home or at a pub. Watching live football matches in pubs in England is popular because games are only available on pay-TV.
Once the participants had voiced their opinion about the service, they were asked for their preferred live content.

Figure 1: Live service example visual

"First of all live events - imagine you're somewhere on the move and for some reason you cannot watch the soccer match or some other live event on television at home or at a pub. How would it be if you could watch these events on your mobile phone?"

"What kind of live events would you like to be able to follow"

News and weather

The news and weather service was introduced with two screenshots of mobile phones, one of which showed a news anchorman and the other a weather map as shown in Figure 2.

The moderator described the service as non-live but said that at any given time users of the service could turn to their mobile to get a very recent news and/or weather update. It would also be possible to pause, rewind, fast forward, or skip through parts of it.

The moderator explained that the weather service would be aware of the users' location and therefore would provide regionalized information.

Participants were also asked if they would expect a choice of different news sources and if they would like to be able to access this content while visiting Western European countries.

Figure 2 News and weather visual example

"This service wouldn't be exactly live but you can imagine that you could just turn on your phone and get a recent edition of the news and/or weather. You could most likely pause, rewind, and fast forward through it."

"Would you assume to have a choice of different news programs?"

"When travelling abroad, do you think you should be able to receive the same news?"

2.2.2 Disaster management

The disaster management service was introduced with two graphics depicted in Figure 3 - one showing a temperature map of an urban area and the other a traffic diversion map.

The disaster management service would offer a push service that would alert people of disaster along with instructions what to do, places to avoid, or where, e.g., medical assistance would be available. The announcements would be initiated by some organization, agency, or the government and would only be sent to people that are in the vicinity of the disaster site.

The alert could comprise the typical notification modes of phones or possibly even turn on the phone.

Subsequently, the participants were asked what kind of events they thought would qualify as disasters.
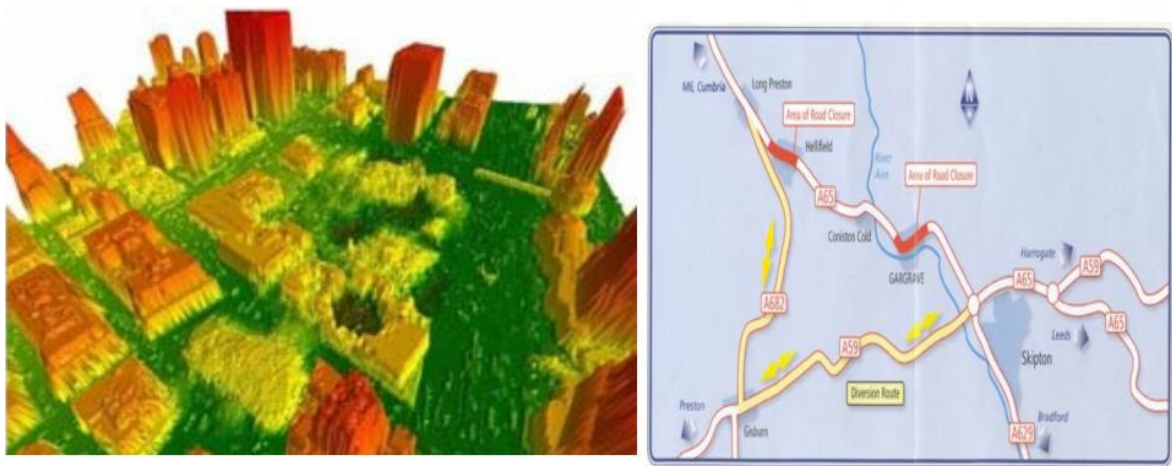
Figure 3 Disaster management service visual example

"There are more serious cases of news. Especially with recent terrorist activities people have become more concerned about safety. How would it be if some organization, or agency – possibly the government – were able to send security alerts to people over these phones – Like 'Don't go to place X (station is closed because of a bomb threat), move away from Y. Medical treatment can be obtained at these places. This would of course target only people in certain areas where they are close to that particular threat."

"What kinds of disaster do you think would qualify and what wouldn't?"

MTV and radio

The option of an enhanced music television or radio service was presented by a picture featuring a popular rock artist and on-screen skip-forward and backward buttons depicted in Figure 4.

The content could be the TOP 50 or a selection tailored to the taste of the individual customer.

The enhancements would be the option to skip and navigate the available tracks and to store them on the handset for permanent access. With the radio service users would be able to follow popular radio shows at opportune times other than at the original on-air time. Another probed feature was the possibility of forwarding tracks to friends.

Figure 4 MTV/radio example visual

"Now for something more entertaining. You could have MTV or some other music channel provide you with a number of videos/songs daily (maybe the TOP 50, or more catered to your personal taste). You could skip songs which you don't like. Or maybe this could be your favourite radio program that's always on Friday night at 10pm that you don't want to miss. What do you think of that?"

2.2.3 PVR

The idea of a personal video recorder (PVR) service on the phone was suggested and explained in some detail. The service would allow for recording of favourite programmes on the handset by means of an electronic program guide. The service would also record similar shows based on previous choices. This service was represented by a screenshot of the American PVR product TiVo as depicted in Figure 1. The moderator suggested that user might like to use this service while being on long transits or staying in hotels abroad that have no TV content in their native language.

Figure 5: PVR example visual

"I don't know whether you have heard about this but in the USA personal video recorders like TiVo have become very popular. Basically, they record a certain program that you've selected once (for example "friends") until you tell it to stop recording it. Also it'll record other things that you might like depending on your previous choices. So you could have something similar on the phone. You could select certain programs and then when you have some time (like in a hotel where you don't understand the language of the television or while you are in transport or waiting) you could catch up with your favourite program"

2.2.4 Dating

A dating service was illustrated by two screen grabs of web-based dating services that displayed the photos and personal details of a man and a woman (see Figure 6).

The moderator explained that users would receive profiles of other potentially compatible users. The service might also include video clips of people introducing themselves. Anticipating that participants would find this service difficult to discuss openly due to its sensitive and personal nature, the moderator asked participants also whether they thought other people might be interested in it as well as whether they themselves might use it.

Figure 6 Dating Service example visuals

"On the internet online dating is actually one of the things that is really popular. How about if you could basically browse through profiles of people that match your profile or criteria on your mobile phone. This wouldn't be like an online chat. Maybe you could watch a short movie of the person."

"Do you think that other people might like or use this service?"

2.2.5 Language Courses

A picture of a multimedia language course product exemplified this service as shown in Figure 7.

The moderator described the service as a supplement to regular language courses that would help participants maintain and improve their language skills. More specifically, the service would offer lessons in audio-visual format that cover parts of weekly lectures unattended or simply provide extra practice in the language of study.

Figure 7: Language Courses example visual

"Another thing that we thought might be useful are language courses. We talked to language teachers and found out that most people drop out a course after having missed a couple of classes and as they can't keep up with the group they get frustrated and drop out. What would you think if you could have the weekly lecture of your language course on your mobile phone? So in case you cannot attend the class you could still catch up on the lecture at some time that better suits your schedule. And also you could go back to your lecture and would get more exposure to the foreign language – the listening and seeing somebody speak usually facilitates learning a language."

2.2.6 Closing questions and ranking

After explaining the proposed services, we asked the participants whether they would choose, e.g., to ride certain buses based on whether the bus company offered these services as a customer perk.

 "Would you choose a transport company (bus, train, plane) or shops, hairdressers etc. instead of a competitor who wouldn't offer these services?"

Prior to bringing the sessions to a close, the moderator asked participants to rank the services from one to seven according to their personal preferences. Rank 1 corresponded to the service that most interested them. The participants could also add other services they deemed interesting to them to the list.

3   CHARACTERISATION OF THE SAMPLE

A total of 160 people (75 women and 85 men) participated in the study. The Greek study included both focus groups and an equivalent survey. The key characteristics of the sample are summarised in Table 1.

UK participants numbered 65 and 91% were single students from the University College London. The average age of the UK participants was 25 years and 40% were British, while the majority of non-British came from Western and Eastern Europe. All were remunerated for their time.

The 34 participants of the French focus groups were recruited from the MAESTRO partner Alcatel Space. Much older on average than the London participants (38 years), most of the French volunteers were married with children and had an engineering background.

In Greece, all participants were Greek and the majority young professionals with an average age of 33. Many were also affiliated with the MAESTRO partner Space Hellas.

Personal Details	UK	France	Greece
Women	47	6	22
Men	18	28	39
Average age	25	38	33
Mobile phone: none	3%	12%	0%
contract	29%	79%	65.5%
prepaid	68%	8%	34.5%
Occupations	Mainly students	Mainly engineers	Engineers and many others
Marital status	Mostly single	Mostly married with children	mixed
Commute	Commute on public transport	Medium commute in private transport	Both private and public transport

Table 1: Characteristics of the sample

4   CURRENT USAGE

4.1   How do people use their mobile phones

Typical usage comprises voice conversation and short messaging. The most popular 'non-traditional' uses are gaming, listening to radio, multimedia messaging (however still relatively new and seemingly painfully expensive) and Internet access.

Despite their labour intensiveness, which is a deterrent to some, text messages are valued for their comparably low cost, efficiency, ("*I don't want to talk for hours*"), and the ability to conduct several conversations simultaneously. It is also a resort when excessive noise or etiquette inhibits voice communication. Furthermore, as long as storage permits, text messaging is persistent, in contrast to ephemeral conversations. The possibility of backing up e.g. SMS was of interest to a number of UK participants. In spite of this popularity many participants voice their disappointment with current SMS push services. Untimely messages, duplicates, too many non-meaningful messages and the cost are common complaints.

Sixty-eight percent of UK participants have pay-as-you-go (non-contract) phones. Many chose their provider according to their social circle's preferences in order to control and minimise cost.

The majority of Greek (65%) and French (79%) participants, in contrast, had mobile phone contracts. Many of the French participants had mobile phones as part of their job and supplemented these with private mostly contract phones.

The mobile phone is a highly personal device with respective implications for, e.g., fashion, emotional attachment etc. Many aspects of being with and being apart from others evolve around the mobile phone.

4.2   Changes in life style

In general the younger UK participants are not as conscious of a change in their lifestyles due to mobile phones. Owning and using a mobile phone is part of daily life. UK participants consider having a mobile phone obligatory and peers who do not have one annoy many of them. For them usage does not necessarily imply being on the move – many either no longer have or have never had a landline phone after they had left home. Staying in touch with their social network is their prime concern.

For the Greek participants the ease of mobile communication comes at the price of leading a life in which one is more anxious, and lacking time in general and especially for face-to-face communication.

The French especially value the peace of mind of having the option to call anybody at anytime from everywhere. For them the phone represents a useful tool.

In general the participants in all three countries now experience a strong dependence on their mobile phones.

4.3   Advantages and Disadvantages of Mobile Phone Usage

This section compiles replies from the two questions about what people like/hate about their mobiles and what they regard as the imperfections of the mobile lifestyle.

4.3.1 Advantages

According to participants, the main advantages of mobile phones are easy, immediate communication from any location (including abroad), at any time especially during emergencies, and the ability to locate people when attempting to meet.

Amongst the older participants in Greece and France a common advantage and justification for having a mobile was to be prepared for all kinds of emergencies. Older participants (parents), women, and private transport users especially stressed this preparedness as comforting. Not having to look for and to rely on a fixed line phone was part of their reasoning.

Some also mentioned that having a mobile phone bolsters their self-confidence because they have an instant mode of communication at their fingertips at all times.

4.3.2 Disadvantages

In general the main disadvantage voiced about mobile telephony was cost. On the technology side short battery life and unsatisfactory coverage "*Bad reception defeats the point of a mobile*" were major complaints. They pose threats to the status of ubiquitous availability as well as losing the phone. Typical 'horror' anecdotes shared in the focus groups included friends or family members complaining about their 3G phone's inferior battery life and unsatisfactory reception. Many participants attribute bad coverage to the handset. Furthermore, participants were worried about the security, i.e. privacy, of mobile communication which also extended to more advanced services as monetary transactions made through phones.

Apart from battery life, the most common complaint about the handsets was the small screen size. However, women especially dislike bulky phones that might take up too much space in their purses.

In addition especially older participants found the handsets complicated to use.

Moreover, participants in the UK and France were annoyed about the lack of mobile phone usage etiquette in public spaces.

Many French participants complained that price plans are hard to compare and some of these sought regulation from the government.

In Greece the major worry connected with mobile phones is radiation. Recent public debates about mobile phone radiation and legislation about placement of antenna masts near 'sensitive areas' illustrate Greek participants' sensitivity to this negative side-effect of mobile telephony.

4.4   Switch between mobile phone providers

The major reason for switching providers is cost. Better coverage and better services was also mentioned. Not being able to, or the hassle involved in taking your number with you to the new provider, was and still is a major deterrent for a switch voiced by French participants.

4.5   Use of mobile phone while on public transportation

The regular use of mobile phones on public transport includes voice calls and the more private SMS.

Almost all of the participants in London/UK groups were using public transport. In general most participants use their phones on public transport when possible (for example the London underground does not provide coverage). The use consists of regular calls, text messaging, gaming and some listen to an integrated radio. Many of the participants said they try to avoid making voice calls on public and are annoyed about others doing so.

The majority of Greek public transport users make use of their phones during these times (74%). The rest is avoiding mobile phone usage.

In the French groups not many were using public transport stemming from the suburban location of the company. However, many were using their mobile phones for mostly voice calls and SMS in their cars or in taxis.

4.6   What would people like to do with their mobile phone but they cannot

There is a huge range of desires. Some of these are already realized in available handsets and services. However, many of them have not reached the average customer due to high prices and/or service bundling (e.g. location based services).

Better and cheaper Internet service on the phone was among the most sought after, e.g. "*If I could have Google on my phone*". The French participants were looking for better integration with other modes of communication, especially email.

Being able to make payments with appropriate security was a popular request in Greece.

More storage space was a typical request from the UK participants who attribute a very high value to stored content on their handsets, such as private SMS and contact information. They also stated an interest in backing up this information, e.g. centrally with the provider. Another way of achieving this was also desired: interconnection to/from their computer. Music - be it through radio or mp3 playing capability - were also desired by the UK participants.

The Greek participants were interested in making video calls and mobile media consumption, e.g. TV, movies, or radio, too. Another desire was to be able to produce documents via the mobile phone that are needed for identification purposes.

5   FEEDBACK ON MAESTRO SERVICES

We will describe the responses from the complete sample and will specifically point out differences between the countries. Quotes from participants are italicised.

We will first provide an overview comparing the participants' interest in the different services depending on the ranking data obtained at the end of the session. Subsequently, we will go through the feedback on the suggested services in more detail.

5.1   Mobile multimedia consumption

First of all we will elaborate on the participants' general attitude of consuming "television like" content on their phones.

Their main worry again was that consumption of the content would be very expensive. Since they have other choices that are inexpensive (paid for or free newspapers) and often available in dead time situations, they are not willing to pay current multimedia content prices. They also expressed doubts that the screen size would be big enough to enjoy TV content and that they might miss parts (subtle cues) of the content. On the other hand their second biggest worry was that the size and the weight of the handset might be increased beyond their preferential limit. Especially women, do not want to trade off this gain in visual quality with larger and possibly heavier mobile phones.

Few actually voiced the concern about interference but participants agreed in unison that if this form of entertainment would interfere in any way with their communication needs - be it through high cost, hard cost control, reduction in battery life or having to worry about running out of battery if watching the content on the phone, user interface design (incoming calls or text messages are not noticeable enough) they would be hesitant to make any use of it.

The participants also feared that consuming bi-modal information might distract them and e.g. make them miss their stops etc. This was also another driver for short content that would not require much attention or can be consumed only aurally if necessary. Many participants also favoured an obligatory usage of headsets.

However, listening to music or the radio while on the move is highly valued and would require neither visual attention nor a significantly larger phone.

5.2 Service Ranking

The participants were asked to rank the seven scenarios from 1 to 7. Rank 1 corresponds to the highest priority/importance. Whereas rank 7 to the lowest (i.e. less likely to pay for this service). The percentage of services that received no rank from participants – most likely due to a lack of interest - are labelled n/r.

A high rank does not necessarily correspond to a high price that user might be willing to pay for this service, as we will see later.

We estimated the popularity by compiling all participants' top 3 choices depicted in Figure 8 split up by country. The services are ordered in descending order from left to right based on the percentage of participants that had ranked a service in their top 3.

We obtained the ratings from 122 participants (44 women and 78 men), 34 from France, 33 from the UK, and 55 from Greece. Participants did not always rank all services due to a lack of interest in some of them. In Table 2 these scores are marked as n/r.

The most popular content is news with disaster management as a close second. Interest in live and music services range in the middle and language courses, PVR and dating are the least popular. However, many participants thought that other people might have a high interest in the dating service.
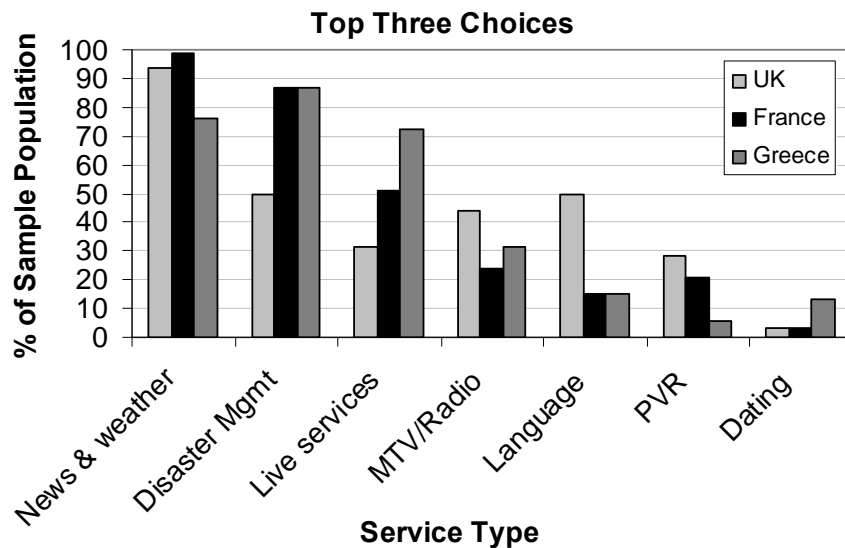

Figure 8: Top 3 choices of service ranking by country

Table 2 shows what percentage of the sample assigned a scenario with a particular rank. The data includes 34 participants from France, 35 from the UK, and 55 from Greece. The data is graphically represented in Figure 9.

Rank	News & weather	Disaster Mgmt	Live	MTV/Radio	Language courses	PVR	Dating
1	31%	41%	14%	7%	1%	4%	2%
2	39%	18%	16%	7%	9%	6%	2%
3	16%	16%	25%	17%	14%	6%	3%
4	5%	9%	19%	22%	17%	12%	5%
5	2%	4%	10%	16%	17%	19%	11%
6	1%	2%	2%	12%	15%	22%	21%
7	3%	2%	2%	3%	15%	13%	36%
n/r	3%	7%	12%	14%	12%	18%	20%

Table 2: Scenario ranking vs. percentage of sample
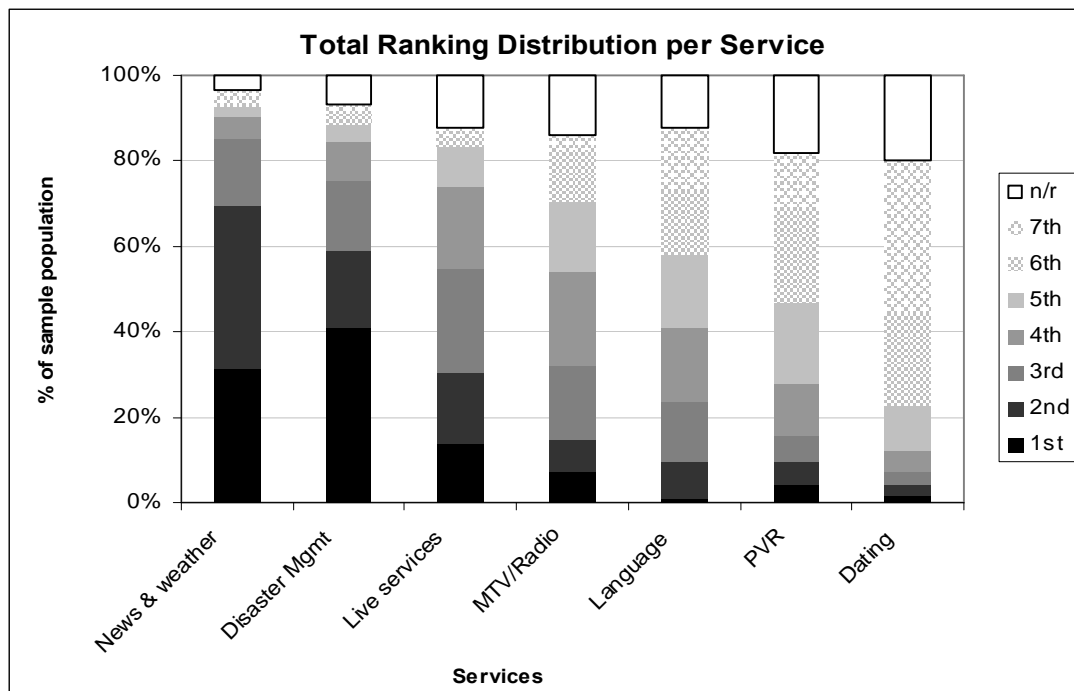
Figure 9: Ranking distribution per service

5.3   News and weather service

Participants are most interested in news content overall. Its timeliness, brevity and piecemeal-like character matches well with envisioned dead time usage, e.g. while commuting or waiting, and the desire to be up-to-date ("…*when you hear about the bombings you want to know right away what's going on*").

The majority assumed that they would have a choice of several news providers. The benefit of having access to home news while abroad was also very attractive.

The participants also expressed great interest in traffic news.

Weather is not as popular as news. A separate study conducted within the MAESTRO project in the UK had probed 20 participants with similar content types but news and weather were separate choices. In that study news was again leading the field with 85% of the participants being interested. But the weather content had appealed only to 20% of the participants [MAE4].

Despite the huge popularity of this content type many participants mentioned that if the price was too high they had plenty of other news sources to choose from or could wait until they could have a free update on some other medium.

5.4   Disaster management service

The localised warning system used as a means to coordinate people around or away from disaster areas is also highly valued. It goes along with the mobile already being on for most users most of the time in contrast to e.g. radio.

For the Greek participants, this was the most appealing service (56% had this as their first choice).

The higher sensitivity of the Greek and French participants to security, which can be derived from Figure 8, can be traced back to multiple reasons. First of all, both Athens and Toulouse have had recent experiences of disasters. Greece in general is a country of high seismic activities with frequent occurrences of floods and fires. Toulouse had a recent explosion of a chemical plant with many casualties and thousands injured. Second, the participants in France and Greece were on average much older and the majority of them had children. They also experienced the mobile networks breaking down due to heavy call volume and which would not be a problem for this service due to its broadcast nature.

The participants also showed a very high interest in being notified about traffic problems (*"I won't get messages about disasters all the time, so in the mean time traffic info would be helpful"*).

The participants became aware and expressed unease about the fact that such a service would require mobile networks with knowledge about their location and movements (*"they know where you are"*).

However, the participants are not only worried about being under surveillance but also about who would be authorized to send warnings and whether the system could be hijacked or jammed. Another concern is the frequency of alerts with its negative side effects: desensitisation and anxiety.

Usually a debate evolved around the question as to what would qualify as a disaster. There is a big grey zone and people were concerned about receiving too many messages about incidents, which do not constitute a disaster or potential threat to them, e.g., *"light fog on the roads* [in England]*".* This could possibly create a more anxious atmosphere in general and definitely desensitise the audience to the disaster messages.

Many participants said that from a moral and democratic standpoint charging for the disaster management service was inappropriate (*"it can't be that certain peo-

ple can't afford it"). This was further stressed by additional data on people's willingness to pay gathered in the French focus groups. The participants allocated on average only 16% of their monthly budget for the suggested services to disaster management, a similar amount was allocated to the Live and the Language Course services (13% each). News drew 29% of the allocated total monthly budget.

In a similar vein, the participants hoped for continued parallel coverage through a broad range of other media including TV, radio, public announcements etc. Some participants pointed out that in some cases governments have already used text messaging to inform their people in case of extraordinary circumstances, for example in Italy during a major black out period.

In addition participants were sceptical about the feasibility to create meaningful messages for the receivers, e.g., if the disaster site is small and there are many people present.

5.5   Live events service

More than 50% of the participants ranked live content as one of their top three choices.

Remarkably, the most popular content that participants would like to follow live is news. We assume that this is more an expression of an immediate desire for news than the participants' willingness to wait for live TV news updates at scheduled times.

Sports content followed suit in popularity with football leading the field. The following sports types depended much on the country (e.g. basketball is very popular in Greece). Far less sought than the former two, were weather, stock quotes, concerts, elections, cultural events, and regular television channels with movies, soaps, and shows.

For many participants watching television constitutes a background or a social activity. The latter is especially true for live content and participants expressed they would rather experience live content in a group. Taken together with the fact that people generally do not have a tendency of sharing their phone, this service is considered as a back up for unfortunate circumstances. Some participants imagined that in unfortunate cases, where they cannot watch in a group, this service could represent a surrogate if it were coupled with a chat facility. Some participants would have been happy if the phone would just allow them to remotely control their video recorder at home to record the event.

Participants were especially wary of the cost of this service ("*I think that would be good – but if it's too expensive then I wouldn't use it*") and many favoured a pay-per-view as the method of payment.

The inappropriate screen size for a live experience of a sports event in general as well as the problems in following the content for example tennis was a common reservation against this service.

Some people commented on the need for replays at their choosing in case they miss content while their focus is elsewhere.

5.6   MTV/Radio service

Many participants expressed more interest in being able to follow regular radio live on their phone then full fledged music television *("I would be quite happy with radio – I can switch between my favourite channels – I like listening more than watching")* but nevertheless more than 30% ranked music services on their mobile phones in their top 3 ranks. This also matched with peoples' enthusiasm about using their mobile phone as a regular radio.

The screen size was again an issue with participants being unconvinced that the aesthetic quality of the music videos would be lost on a lower resolution on a small screen. The audio quality, the size of the selection, and the match with their taste was key to participants.

The desire of UK participants was that content obtained through a service like this could be transferred to and from computers and that forwarding a song to a friend would not be prohibited. Converging mp3 players, with plenty of storage space, with the mobile phone, if battery life would not be compromised also intrigued them.

5.7   Language courses service

Many of the focus group participants, especially non-native English speakers, found this service appealing, despite scepticism that they would want to expose themselves to demanding content while on the move. Discussions on this topic sparked ideas about having access to mobile dictionaries and audible translation services for words.

Rather than using the service only to make up for missed language classes, participants expressed the desire to use the service as a general supplement to any lecture, or for cooking programmes or how-to material suitable for repeated viewings.

This service drew the biggest interest in the UK where our sample consisted mostly of students, many of whom were foreign. In a diverse population like London's, the appeal of a service promoting or assisting the study of foreign languages is not surprising.

5.8   PVR service

The personal video recorder service is most appealing to participants who have extensive commutes. People with shorter commutes were not as interested in following content with long storylines (*"anything longer than 10 minutes - I don't think people would to do it outside of home"*).

Using secondary monitors to watch this content was more pronounced than with other services probably because of the longer time frame in which the content would be consumed, which might justify the set up procedure.

Many participants like the idea of having a mobile remote control for their home television set and a portable TV guide.

In this context people are worried about a complex user interface, especially on a small screen.

Some of the French participants were worried about marketing data being derived from their viewing habits and dreaded the consequences of third parties being given access to it.

5.9   Dating Service

The service that allows users to browse through multimedia files of prospective partners drew the weakest response, despite participants' claims that they knew many who would be interested in it. *"I wouldn't do it but I know a lot of people who would – a lot of people would do anything to meet other people"*. One of the anticipated problems of using such a service was a loss of face. *"What kind of person are you if you're dating on the tube* [London underground]*? Everyone would see that you're looking for someone"*.

Some of the participants who liked the idea of browsing through personal profile information were also interested in an additional chat facility.

Some of the UK participants asserted that their parents would consider this service easier to control and therefore safer than equivalent services on computers where access is almost impossible to control. Some of the parents in the French groups do not share this optimistic vision though.

5.10   Competitive advantage

Overall, the participants would choose competitors only if the price for the service would not be different. This emphasizes again people's high sensitivity with respect to cost but it could also mean

6   SUMMARY AND CONCLUSIONS

This study highlights a number of user requirements and expectations envisaged by mobile users based on their current experience. The results that were acquired provide input to MAESTRO towards the definition of the commercial SDMB services.

Three distinct user groups provided a broad range of backgrounds, requirements, and experiences.

Although participants were generally intrigued by the idea of consuming multimedia content on their phone, it seems that, for many, watching television on the phone is like learning to walk before you crawl – they are more critical of the fact that coverage for standard calls falls short of expectations. More than anything mobile consumption of multimedia content has to be inexpensive as people are already wary of the cost of their mobile communication. It is crucial that it must not interfere with people's communication needs and patterns in order to be a success. Battery life is a key concern to people on the move.

Overall, the participants were very interested in following multimedia content on their mobile phones especially content that would be comparably short. This matches findings of a study conducted in Finland [Soe2003] where participants were usually using mobile television services for less than 10 minutes.

In terms of services news is wanted more than anything else. News fits with the concept of mobility because of its brevity, appeal to peoples' desire of being up-to-date, and its relevance to being mobile in the form of traffic news.

Live sports are not as appealing to people as one might expect because of the different social form in which people prefer to experience it. Music and radio services are popular options especially among the younger participants.

In conclusion, it is important to point out the observed impact of cultural and regional similarities, differences, and experiences on the outcome of the studies that were conducted in Greece, France and the UK.

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