Obtaining Revenues from User Generated Mobile Services for Sport, Fitness and Health

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Abstract: This article presents the potential for new business models in the context of user generated content and services in the mobile environment. The approach is based on the concept of a new platform that incorporates multiple (mobile) network providers as well as private and commercial third party content and service providers. The potential for gaining and sharing revenues among the different participants in this ecosystem is described based on an application example in the domain of sport, fitness and health.

1 Introduction

The demand for user generated content and service is steadily increasing. Platforms like Facebook, YouTube, and MySpace show that users more and more also assume the role of producers, which increases the traffic in the Web dramatically. At the end of 2009, more than 80 million images were uploaded to Facebook each day, and this number is continuously rising\textsuperscript{1}. The same growth can be noticed for videos on YouTube. Another trend is social networking. There are already several portals that are focusing on people with particular interests and their number is steadily growing. Many of these portals are related to sport, fitness and health, e.g., there are several platforms addressing runner communities\textsuperscript{2}. The main drawback of many of the existing platforms is that one has to use them at home with a PC and cannot access them anywhere, e.g. during a run. However, it can be foreseen that these platforms are also moving to the mobile environment, which is much more suited to the way we carry out social interactions, i.e., anywhere, anytime. Hardly any of the existing platforms really makes use of features especially enabled by mobile devices, like implicitly having information about the user’s context, such as the current location of the user. However, using such information allows to bring the community members not only virtually but also physically together. This is quite essential for some sport activities.

But who will really benefit from this trend when talking about revenues? Currently it looks as if revenues are generated less through providing the network and the

\textsuperscript{1} Actual numbers can be found here: http://www.facebook.com/press/info.php?statistics
infrastructure but more with software, services and content. What does this mean for the position of mobile network operators (MNOs) in the value chain? Will they be able to profit from software, services and content and get a higher return on invested capital? There will be steady growth in total revenues in the value chain, but the MNOs’ share will shrink caused by the fact that the new sources of revenue will flow to other entities of the value chain. We see the mobile ecosystem power structure shifting from mobile operators to other ecosystem players like device manufacturers (Apple, Nokia, Samsung) and big Internet brands (Google, Microsoft, Yahoo). In the worst case this development could eventually turn mobile network operators into dumb bit-pipe providers providing access with flat rates but not getting revenues from intensive usage.

On the other hand, over the years, MNOs have developed very strong relationships with their customers and built an element of trust in subscribers’ minds. These trusted relationships encompass billing accuracy and security and transient information such as location and online presence as well as permanent information such as age, sex and usage profile. But MNOs currently are not exploiting the full value of their most valuable asset – the information they hold about their subscribers. The authors believe that user-generated content and services should create value for their owners and everybody else involved in the ecosystem. Some potential business models with this respect are explored in the research project uService3 (Ubiquitous Service Infrastructure for the Mobile Super Prosumer) [TFG10]. The main objective is how to specify, configure, and implement fair accounting as well as monetary and potentially also non-monetary compensation among the involved actors. This article aims at presenting the ideas behind the business models explored in the uService project.

2 The uService project

uService tries to combine aspects from social networking and user generated services and content and in a mobile environment. In the project a platform for provision and consumption of different kinds of applications is created. This platform provides accounting and revenue sharing functionality that enables a synergistic ecosystem that benefits all involved parties. One aspect is to ensure that the platform itself creates value for its owner, i.e., the platform operator. Another is to guarantee that mobile service creators and providers are rewarded for their efforts. Last but not least also the parties providing the network access, i.e., the MNOs, can benefit. In addition to direct monetary revenues for service usage and the placement of advertisements, topic-bound analysis of dependencies between services, users, situations, etc., can be leveraged to discover new opportunities for making business: Exploring usage structures and activities which are bound to a certain kind of context can, e.g., be an added value for the operator and service providers.

As one example, the project aims at applying the uService architecture for services from the health care and prevention realm. Studies have shown that 30 minutes of physical activity each day is one of the most important enablers for physical well-being at the age

3 http://www.uservice-itea2.eu/
of 40 and above. Thus, many frequent business travelers like to stick to their fitness programs, e.g., running, in order to stay in shape. The example implements a platform for a running community where the community members are travelling a lot and often lack information about appropriate locations and fitness partners in foreign cities and countries. With the platform they are able to find appropriate locations and fitness partners, to build a personal running diary and to share the information with other community members or even third parties. Applications collect data about the routes and health parameter like speed, pulse, and how much time a member has spent running. Each time a member is running, his profile is kept up-to-date through automated sensor systems. The information is stored on a mobile device and could be uploaded to the platform or accessed by others directly on the mobile phone.

The example allows building virtual social communities with inherent support for real physical meetings. One can publish own routes for others who might be new to the area and would be able to find commercial offers of, e.g., running coaches, nearby. The data collected through the automated sensor systems could be made available to third parties, e.g., a doctor for medical purposes or a health insurance for participating in a bonus program.

3 Ways of obtaining revenues in uService

An important issue with user-generated content and services is how to make business and gain revenue. Current business models in the fixed-line Internet domain offer content and services free of charge to the users, but require them to register themselves to a content and/or service platform. With this registration they provide some information about themselves and while using content and services they continuously update and extend their profile. This profile information is used by the operators and providers to place advertisements on the Web pages, allowing them to earn money from the advertisers by placing their ads on the platform.

But with such business models the user, or better prosumer\textsuperscript{4}, will not be able to get revenues for providing his content and services. Traditionally, the accounting and billing systems of the operators and Internet service providers have been geared towards billing the users, not to providing billing services to individual users. What is explored in the uService project are fair user rewarding models, through which users receive a compensation for successful user-created content and services. This will support an innovative, fair and secure approach for mobile accounting and billing, allowing not only the users, but also third party service providers and operators to directly gain revenues with user-generated content and services. In the following it is discussed how the different parties will be able to obtain revenues.

The Mobile Network Operators will still be able to charge their customers for the network access. In addition, the usage of services offered on the uService platform may be subject to extra costs where the revenues can be shared between the uService platform

\textsuperscript{4}The term prosumer is a portmanteau and refers to a provider and consumer of services.
operator and the network operators. In addition, the operators (both MNOs and platform operator) can gain revenue from targeted advertisements.

**Third party providers** with commercial interests gain revenue for services or service templates they offer via the uService platform. One option is that the services or service templates they offer will have to be paid by the mobile prosumers when used. Another option would be that they offer services that may lead to a payment, like e.g. an announcement of an event or a product offer.

A **mobile prosumer** in the role of a private service provider may gain revenue for services or service templates he provides for the uService platform. The uService platform operator may participate in these revenues based on a revenue sharing model.

A second option for mobile prosumers may be to place advertisements issued by the platform operator in the services they provide and share the revenue from the advertiser or advertising agency with the platform operator (i.e. like in Google AdSense\textsuperscript{5}). A third option would be to receive bonuses from the uService platform operator due to an intensive use of the provided services. Last but not least some kind of revenue for a mobile prosumer may be a certain degree of recognition and acknowledgment he receives in the communities.

There are several options for the actors to obtain revenues allowing them to choose the most appropriate alternative. Turnover may be generated by (a) direct payments of mobile prosumers for using services and service templates or (b) payments by advertising agencies for targeted advertisements offered to the mobile consumers.

### 4 Business modelling in the uService project

A business model for the uService platform should allow different options for obtaining revenues. Figure 1 shows the different actors and their business relationships. In the following list, the relationships among the actors are described in more detail based on the ways of obtaining revenue as identified in Chapter 3.

1. A mobile prosumer has usually a business relationship with a (mobile) network operator allowing him to access a wide area network. Since different mobile prosumers may have different network operators, several network operators are involved in the business relationships within the uService platform. The network operators will charge their customers, which are the mobile prosumers, for the generated network traffic.

2. The uService platform operator will have a business relationship with several network operators. With the help of the uService platform, network operators are able to make additional business with their customers in the following way: The uService platform operator may, e.g., sell the information he has collected about the

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\textsuperscript{5} https://www.google.com/adsense/
behavior, context and interests of the subscribers (of course respecting laws and privacy of the subscribers) to the network operators, allowing them to place targeted advertisements, potentially also via other channels than the uService platform (e.g., marketing campaigns). On the other hand, the network operators will benefit from the additional traffic caused by the use of the uServices.

Figure 1: Business actors and relationships in uService

3. The uService platform operator has a business relationship to the mobile prosumers subscribing to the uService platform. This can be free of charge or subject to charges. A subscription can comprise a revenue sharing model that allows the platform operator to participate on revenues gained by the mobile prosumers with their provided services. In addition the uService platform operator may use information he has collected about the behavior, context and interests of the subscribers to place targeted advertisements. In turn the uService platform operator could provide bonuses for mobile prosumers due to an intensive use of the services provided by them, which in turn has increased the revenues of the platform operator.

4. The uService platform operator will have a business relationship with third party service providers. The services offered by third party service providers may either be extra paid services or services that lead to a payment, like e.g. an announcement of an event or a product offer. The third party providers will have a contract with the uService platform operator to regulate the money flow. This could, e.g., be a monthly fee or a revenue sharing model.

5. Third party service providers may have a business relationship with mobile prosumers. A mobile prosumer may pay a third party service provider for using his services or receive a bonus when providing information to a third party provider like e.g. a health insurance company.

6. Mobile prosumers may have a business relationship among each other. A mobile prosumer in the role of a service provider may gain revenue for services or service
templates he provides for other mobile prosumers. He may offer services that have to be paid by the other mobile prosumers when used.

7. Advertising agencies will have a business relationship with the uService platform operator and the network operators. They offer advertisements based on information about the users’ behavior, context and interests. For the advertising agencies, using context information will increase the effectiveness of such targeted advertisements, which are only delivered to the users who are most likely to be interested in them. The advertising agencies will pay the operators for embedding of advertisements in the uServices. The payments may, e.g., be based on the number of clicks generated or the number of times the ad appears during the execution of the uServices.

5 Conclusion and Outlook

Although the presented platform concept is generally applicable in many application areas, the sport, fitness and health realm builds an ideal basis for user generated mobile services. This is due to the fact that most of the related activities are performed while on the move, and thus there is an added value to be able to be connected to the community anywhere, anytime. In this context, the relevant business actors and their relationships have been described and potential revenue streams have been outlined.

Part of our future work is to investigate mechanisms to specify, implement and track the charges and payments among the actors. A standard has to be established for the platform, such that third parties are able to build services that comply with the platform charging and billing rules and can thus be seamlessly integrated into the runtime environment of the uService platform. A basis for this are the Web Services for Payment and Account Management specified by Parlay X [Pa09a] [Pa09b].

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Literature

