"Payment for AR information: from pay-per-use to sponsored"

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Summary

This paper will analyse the different ways to fund the content and infrastructure providers, ranging from full payment from the end user to payment made by a third party: Sponsor. Each choice will open a range of business models, each of which will fit on different types of applications, content and service provision models.

When the payment is based on a midterm contract, the payment will be made off-line, but when the user will be requested to contribute to the cost of sharing the information, or when its activity will influence in the revenue, some direct or indirect payment methods have to be settled. The choices range from pure mobile infrastructure based to pure web interaction.

1 Business models

There are 3 types of costs involved in the interchange of information between the infrastructure where the application is running and the user device. Which type is each depends on its source:

- Investment: The costs the developer has before the first customer comes in.

- Update: The current costs, to keep the platform/application attractive.

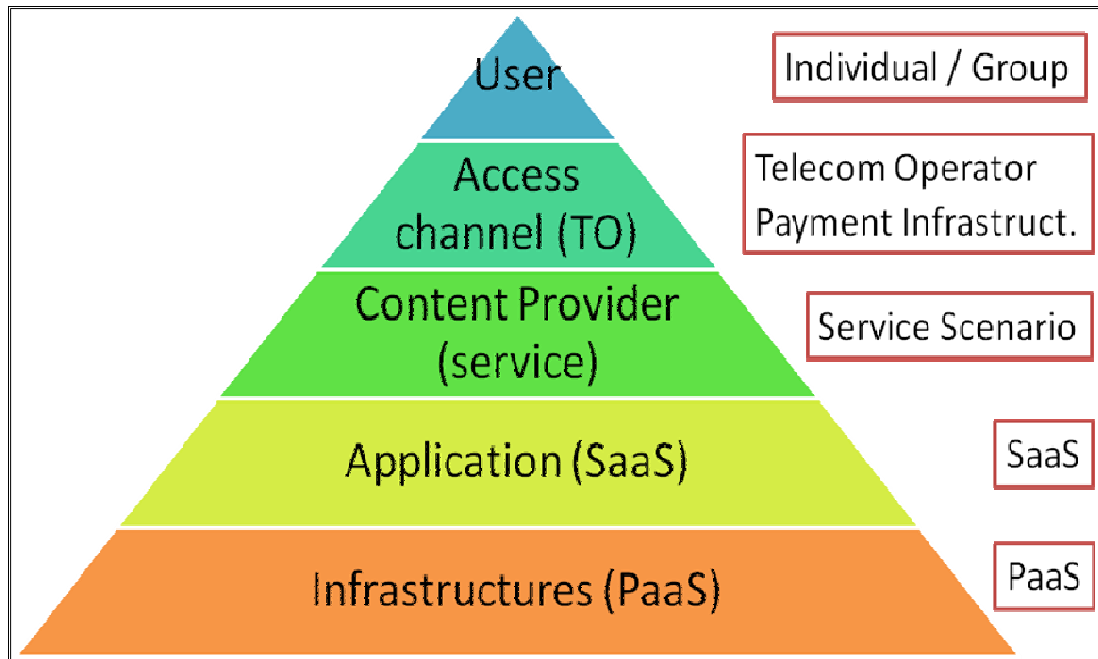- Use: Those directly associated to the access: bandwidth, storage, processing.

Illustration 1: Roles Pyramid

Traditionally the Investment included both Software and Hardware, but with the success of the cloud computing, the Platform as a Service strategy of service provision, makes the cost of he hardware directly related to the actual use of the service. In the case of the software, when developers do it on top of shareware, the investment on software may decrease drastically, but it will still remain some investment cost.

To pay for those costs we can find five sources:

- Sponsor, as a concept, it is a third party, independent of any active agent in the service provision,

    o something like a "Maecenas". This role may be played by a public administration or a company as part as its *Corporate social responsibility* (*CSR*).

    o But in most of the cases the sponsor will get **some return** of its investment through advertisement

    o or through invoices from the use of the infrastructure.

- Infrastructure Provider can be both: the provider of the computing infrastructure or, mostly, the telecommunications operator (TO).

    o Some of them may be interested to support the costs of AR applications, to make more attractive the contract of its services in their fight for the customer against other TO.

    o It would be an extension of the in-portal approach.

- Advertiser, it can approach through 3 scenarios:

    o The more traditional way of funding "neutral" applications, like contacts or downloads. The click-through approach.

o But the advertiser may "pay in advance" the full cost of the service, acting as sponsor,

o or provide the whole content, mixing the corporate information with other of general interest.

- Content Provider, is "the yellow of the egg", it is in the middle of everywhere, without it we have nothing.

    o Its contribution requires some initial investment, to provide information attractive for a critical mass of users, and then it will grow to incorporate more groups of users or to keep updated the information.

    o This investment may have a return through the infrastructure (yellow pages model)

    o or through advertisement (Google approach).

- End User, when nobody wants to pay, then the end user has to do it. In this case is when the payment platforms appear with a range of solutions. But the big deal pending to be standardised is the way the user will be able to choose between the different types of information:

    o free,

    o fully sponsored,

    o partly sponsored,

    o subscribed,

    o pay-per-use.
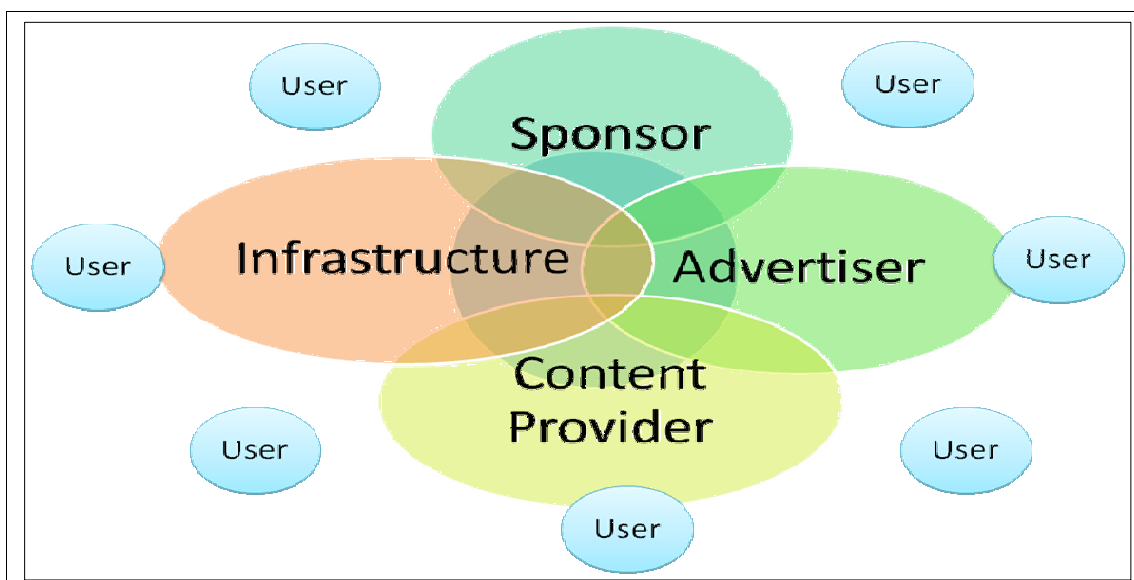
Illustration 2: Payment sources

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2   Payment methods

Mobile billing solutions, including Premium SMS (PSMS) and WAP Billing, enable the world's leading content providers, marketers, corporate enterprises, mobile specialists, mobile solution providers, and public sector organizations to use the mobile phone as a billing mechanism and content delivery channel, generating revenue from the mobile channel efficiently and reliably.

2.1   Mobile payment: Perfect for Consumers

From a consumer perspective, mobile payment offers convenience and perceived anonymity for purchasing and the combat of fraud. It also offers good value, making it an attractive payment method. Mobile payments are perfect for consumers who are making lower-value, one-off purchases or subscribing to longer-term services, such as news alerts or ringtone bundles.

2.1.1 Wap billing

Offer your customers a way of paying directly and quickly on your mobile webpage. No confidential financial details, such as account or credit card number, are needed. After passage through various security features, the amount is then conveniently billed directly via user's mobile phone bill or deducted from user's pay-as-you-go credit.

Authorise payment

To confirm payment, two basic options are available. If the customer can be identified via MSISDN, they only need authorise the payment by clicking once.

If the customer's network provider does not support this feature, the customer needs to enter their mobile number onto a mobile internet page and will receive an SMS as validation. By replying to the SMS, the payment process will be completed. (**SMS opt-in**)

Both variants mean: **100% coverage, no registration necessary and the entire process is fast, secure and convenient.**

Payment process completed

If the payment is confirmed, the customer is directed back to service/product page (by redirection or a link).

2.1.2 IVR (Call billing)

1. **Call**

Customer's calls the number shown in the internet window and enters the PIN indicated. (OTP)

2. **Payment process**

Either the call directly costs the relevant amount for your product (**Dropbilling**) or your customer will be requested to retain the connection until it is automatically disconnected by the platform.

3. **Payment process complete**

When the call and/or the required length of call is confirmed, the payment has been successful and the customer can receive their product. Billing will take place directly via the telephone bill and/or pay-as-you-go credit.

2.1.3 SMS Billing

SMS Billing, or Premium SMS as it is often known, is the most widely used mobile payment and mobile billing mechanism in use today. Its growth and market acceptance show no signs of slowing down, as more and more consumers purchase content and services via their mobile phones.

Premium SMS Billing service lets you take advantage of the growing trend in mobile billing, quickly generating revenue by selling a range of content and mobile services to consumers. PSMS offers many benefits as a mobile billing mechanism:

- Convenience, anonymity, and perceived risk reduction, making it an attractive option to consumers
- A perfect mechanism for consumers, simplifying one-off purchasing and ordering short-term or bulk subscription-based mobile services
- Fast revenue generation, resulting in the availability of funds to reinvest in your business
- Access to consumers who do not maintain credit cards

2.2 Advertisement

One of the key ways that people find and access information on their mobile devices, just like on the desktop, is through search.

2.2.1 Click-through on Search ads-on

Increasingly, people aren't just typing search queries into their mobile devices. They speak[1] them, they take photos[2] of them and they even translate[3] them from different languages.

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[1] http://googlemobile.blogspot.com/2009/12/mobile-search-for-new-era-voice.html

[2] http://www.google.com/mobile/goggles/#text

[3] http://googlemobile.blogspot.com/2010/05/translate-real-world-with-google.html

2.2.2 Click-to-call

In addition to traditional search ads on mobile devices, there are entirely new search ad formats. "Click-to-call" search ads[4], for example, have been really popular. They enable advertisers to include a local business or national phone number directly in their ad text that you can click to reach the business directly via phone. This is a really great way for you to easily get information from a relevant business (say, a local restaurant), and a highly effective way for advertisers to connect with interested customers.

With many more advances to come, search advertising will remain the central way that many businesses connect with consumers on mobile devices.

2.2.3 Mobile websites and apps

In addition to search, another key way that people access information is through mobile websites (accessed through a browser) and mobile apps (available through Apple's App Store, the Android Marketplace and more).

Mobile display and text ads make it easy for publishers and developers to make money from their mobile websites and apps, and enable advertisers to extend the reach of their campaigns to relevant mobile content. In this area,

2.3 The future

It's clear that mobile advertising is growing incredibly fast with lots of businesses innovating at great speed. Every day, more marketers are looking to take advantage of the mobile-specific capabilities, extended reach, great returns and value that mobile advertising provides. Advertisers are now starting to see mobile as an essential part of their overall campaigns, not just a silo-ed experiment on the side.

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[4] http://adwords.blogspot.com/2010/01/introducing-click-to-call-phone-numbers.html

3 Use Case: GEOBYME project

Recently the project GEOBUYME and the company QPORAMA[5] have initiated a partnership through which unite the worlds of geolocation, and augmented reality-based marketing coupons / discounts.

Through GEOBUYME the customer has the opportunity to add products to a "wish list" by using proprietary markers. Once the customer is at some distance from the place where the product may be obtained, the system generates an alert, warning the user about the proximity and allowing the user to see the place where the product is offered on a map (GoogleMaps) or augmented reality (wikitude).

QPORAMA provides a coupons download service, based on locations or products. GEOBUYME has a web site where customers can register, in order to manage their list of wished and/or recommend products, and manage their account (coupons' credits).
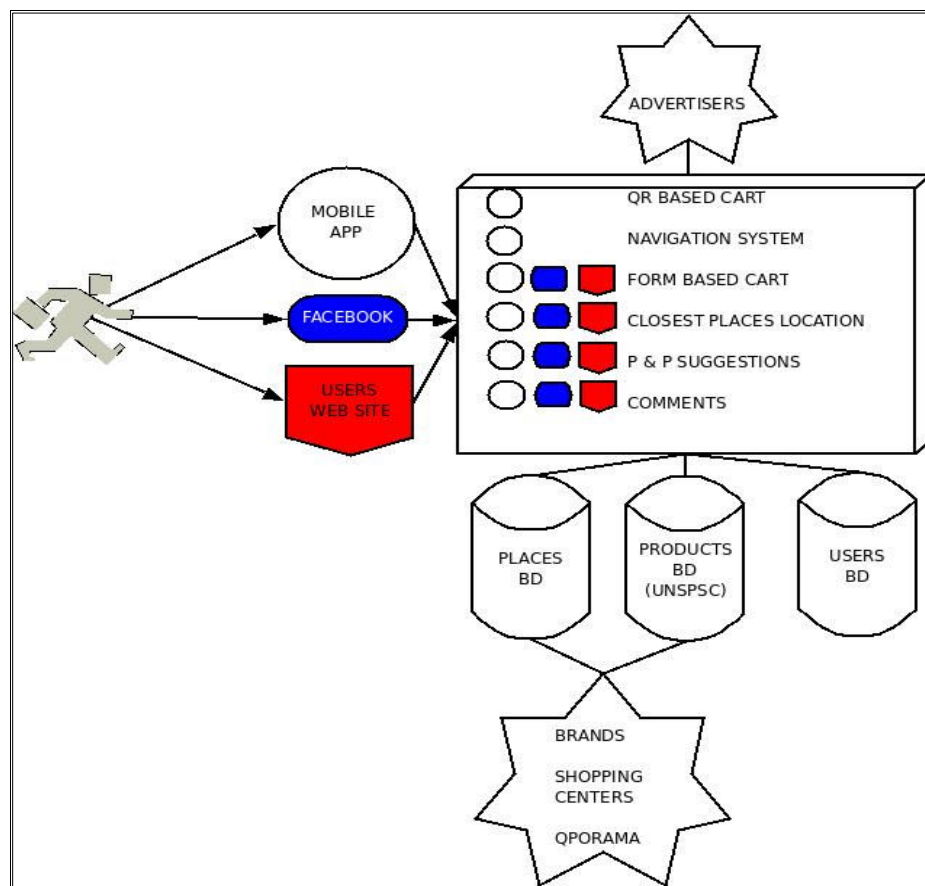

Illustration 3: Geobuyme Bussines Model

The new version of GEOBUYME incorporates the ability to receive a discount when buying the "wish". This discount is reflected in the customer's screen at the time of visualization or a QR marker placed on

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[5] http://qporama.es/

the wish, or used in the shop wher it is expected to purchase the product or service.

The amount to be discounted on the final price will be based on the following aspects:

a) The number of times the customer has recommended GEOBUYME service to others.

b) The number of purchases the customer has made through the service.

Who takes care of the costs of the discounts?

- **Advertisers**. GEOBUYME portal has a banner area, where companies can advertise their products. The coupon winning strategy, based on downloads will increase visits to the portal and therefore the interest to advertise on the site.

- The product **brand**. Any brand included in available product list will take part in the augmented reality world. The use of Quick Response Barcodes can help users to easily add new products to the cart increasing the chances for brands to attract new costumers.

- The **shops.** GEOBUYME's location based shopping has become a high productivity-enhancing technology letting local stores to capture costumers interested in specific products minimizing the expenses incurred in the selling process.

In this way, we encourage customers to use the service geobuyme and extend the use of QPORAMA channel.