

DIGITAL RIGHT MANAGEMENT TO FOSTER MOBILE MULTIMEDIA SERVICES

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ABSTRACT:

Digital Rights Management is the current hot topic in the Mobile Telecommunications area, which has taken a new step with the recently fostering Mobile Multimedia Services. Digital Rights Management is as hot as it is because of different reasons, be it economy, security or psychology. Digital Rights Management has been being discussed in the fixed Internet context since the beginning of the twenty first century, due to the shortcomings of the Internet business model. The anticipated revenues through advertising did not pay off. Therefore, it is proven that publishing content online without a guaranteed return is not feasible any more. As well as the raised awareness, reviewed/reconsidered/reformed business models are also expected to impact on the Mobile communications. Nevertheless, another perspective, which puts Digital Rights Management in focus is as important as the previous ones. That is "trust". Confidentiality, Integrity and Authority has lately become of utmost importance in the mobile environment, as well. Digital Rights Management is a new facade to the century old ticketing business. The era of Mobile communication is soon taking its next turn being embellished by the digital content. This is the "bazaar digital" where all the different merchants brought in their goods. They have nicely decorated their stands however; some are hesitant to display their content even though everyone knows what they have to display. One might wonder why. The answer is simple. The security required seems to be either compromised or not present at all besides, security costs money, resources and time and there is no one to pay for it either. The arena of Mobile Digital Rights Management consists of various players. End-user, Mobile Operator and Content Provider (and owner, publisher and retailer) being the legs of the tripod, the groundwork is to be laid by the technology providers of Infrastructure, Handset, Content Delivery Solution, Digital Rights Management Solution, Billing and Clearing.

Keywords: DRM-Digital Right Management, CoIP : Communication over Internet Protocol, 3G-Third Generation.

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INTRODUCTION:

When the concept 'Internet' was initiated about 35 years ago as ARPA, many people weren't able to foresee the fast evolution it would perform in a short while. Today Internet is an indispensable part of daily life. Unfortunately so are the problems that rise along. People of today have a wide range of opportunities to reach any kind of information. They find out, download, and share various types of content, are it movies, pictures, music, photos without paying cost for them. There is a big untamed market at large. However, the real owners of this content have neither earned any money, nor have been able to protect copyright and ownership rights they have on the products. The main reason for it was that the IT industry was far from taking precautions against the illegal use. Now, mobile technology is following the footprints of its predecessor. Mobile phones are not simple devices of communication any more. They are compact enough to carry anywhere, and being personalized by private ring tones, logos and pictures. "With the emergence of wide bandwidth wireless networks, mobile Internet is expected to be a significant channel of multimedia content distribution. The usage of multimedia enabled mobile devices in wide bandwidth third generation (3G) wireless networks will burst Communication over IP Communication over Internet Protocol (CoIP) and will result in an unprecedented distribution of multimedia content."

"It is expected that the market will thrive by delivering rich content such as images, music, videos and games through Multimedia Messaging Service. As it happened with Internet, mobile phone users will be able to download content directly to their devices, instead of buying CDs or DVDs and use the content while moving around."

DIGITAL RIGHT MANAGEMENT:

DRM can be defined as the technologies that collectively support all stages in the lifecycle of digital content creation, manipulation, distribution and consumption, by preventing illegal copying and allowing the imposition of fees, processing of payments, and protection of principal rights and profits. The problem of piracy of digital content is expected to escalate with time, so finding a solution in the near future is essential. However, for a DRM solution to succeed it should satisfy consumer expectations, and it should not prevent users from freely using content

that they have legitimately obtained rights to access. In addition, a DRM system should satisfy requirements imposed by copyright law.

Digital Rights Management is the current hot topic in the Mobile Telecommunications area which has taken a new step with the recently fostering Mobile Multimedia Services. Digital Rights Management is as hot as it is because of different reasons, be it economy, security or psychology. Digital Rights Management has been being discussed in the fixed Internet context since the beginning of the century, due to the shortcomings of the Internet business model. The anticipated revenues through advertising did not pay off. Hence, publishing content online without a guaranteed return is not feasible any more. As well as the reviewed business models, raised awareness is expected to impact on the mobile communications, too. However, another perspective which puts Digital Rights Management in focus is as important as the previous. That is "trust". Confidentiality, Integrity and Authority has become of utmost importance in the mobile environment, especially since the early mobile Internet adapters such as doctors, lawyers and business people identify them as major issues in rendering of their occupations.

We focus on ways of preventing the unauthorized copying of content without jeopardizing the right of license holders to transfer content between their own devices, which collectively make up what we refer to as an authorized domain. In addition, this synopsis addresses a number of other fundamental DRM requirements, such as content backup and recovery, privacy, content mobility, and ease of use.

RESEARCH PROBLEM:

Digital Rights Management is a new facade to the century old ticketing business. The age of mobile technology is soon taking its next turn being embellished by the digital content. This is the "bazaar digital" where all the different merchants brought in their goods. They have nicely decorated their stands however, some are hesitant to display their content even though everyone knows what they have to display. One might wonder why. The answer is simple. They do not have enough security and they do not want to pay for it either. In the absence of proper DRM (Digital Rights Management) systems, there is a real risk for content owners and producers to lose important revenues due to their Intellectual Property Rights .Therefore, having seen the

latest examples of illegal content distribution and court decisions on peer-to-peer file distribution cases, content owners are not willing to provide content for the mobile networks. This is an obstacle for the development of this technology due to lack of demand from users. Therefore, besides providing a high Quality of Service (QoS) in media delivery and playback, Mobile network Operators and Mobile terminal manufacturers will have to ensure that the distributed content is well managed. However, there is a development cost of DRM as well as the standardization cost which ensures compatibility, interoperability. Besides, there comes a unit cost with the digital sales item and the playback units which deploy DRM technologies. Considering all the cost around it, one might question the benefit from DRM in terms of economy. Security costs increase directly proportional with the value of the asset to be protected. The higher the value of the asset, the higher the security cost is (in most cases). Finally, the higher the price the proprietor of the asset is prepared to pay for security depending on his/her risk management policies. The end-user doesn't want to pay for the content except for the Scientific, Technical and Medical content which is in fact paid by the universities and companies to a great extent. In the absence of revenues generated by air-time by the end-user, no service is feasible and survivable for the Mobile Multimedia Industry. As a wrap up, the growth in Mobile Multimedia Services is expected to be accomplished by involving "valuable content" and making sure that it is paid for. The question we seek an answer to in this research is "Where should the manufacturer place the fulcrum to foster Multimedia Services?" In other words "Where should the Infrastructure Manufacturer stand on the scale from free content to tight DRM controlled content?"

NEED AND SCOPE OF THE DRM:

"Digital Rights Management (DRM) involves the description, identification, trading, protection, monitoring and tracking of all forms of rights usages over both tangible and intangible assets - both in physical and digital form including management of Rights Holders relationships." . The need of security and safe in electronic distribution of digital contents makes that Digital Rights Management (DRM) grows as an emerging and vital business concept. In its purest form, DRM provides a technology platform to allow trusted packaging, flexible distribution and managed consumption of digital content over electronic networks. DRM technology provides content

owners, service providers, distributors and retailers with a safe, secure method for meeting the consumer's need for interactive, on-demand access to

movies, online games, books, music, software and proprietary data (virtually any type of digital media). It is important to note that DRM is the "digital management of rights" and not the "management of digital rights". That is, DRM manages all rights, not only the rights applicable to permissions over digital content. In order to find solutions to digital piracy, technology companies have spent hundreds of millions of dollars and thousands of engineering hours. There is no single solution that will solve all threats of piracy in all circumstances. Developing these technologies involves complex engineering efforts and it is the best interest for all content industries to work cooperatively.

- This rights includes the following novel scope supporting the implementation of a successful DRM system.
- It defines an ideal list of DRM requirements from the points of view of users, content providers and copyright law.
- Using the list of DRM requirements, it analyses and assesses six of the most widely discussed DRM schemes that incorporate the authorized domain concept. We then isolate the main security issues constituting the content piracy problem.
- It defines a generic framework incorporating measures for addressing the main security elements that give rise to content piracy.
- It develops four approaches for the management of an authorized domain, based on the defined generic DRM framework. Each approach incorporates a method for binding a domain to a single owner, ensuring that a single consumer owns and manages all the devices in a domain. This enables binding of content licenses to a single owner, thereby limiting illicit content proliferation. The general approach developed in the paper could also be useful for various other applications requiring strong user authentication, as it strongly binds consumers to their domains.

ADVANTAGES OF DRM:

Copyrighted digital asset protection is one of the most pressing current challenges in information security, as most elements of society have converted their content from physical to digital form. In the past, content piracy was limited to distribution via physical media. The recent digitization of information, the development of communications technologies such as broadband and mobile networks, and the spread of the Internet have increased digital content piracy as content can be shared and transferred instantly with no loss of quality.

The simultaneous rapid growth of electronic commerce has opened a huge new market for digital goods, such as books, software, and music. However, content providers have concerns about the protection of their valuable content, especially since, as stated above, the Internet makes copying content very simple, resulting in increased digital content piracy. Content providers therefore want to ensure that their content is protected against unauthorized use. Because of the concerns of content providers, DRM technologies have been introduced to help to prevent unauthorized use and distribution of content. DRM can be defined as the technologies that collectively support all stages in the lifecycle of digital content creation, manipulation, distribution and consumption, by preventing illegal copying and allowing the imposition of fees, processing of payments, protection of principal rights and profits. Whilst devising an effective DRM solution is clearly in the interests of the owners of content, the advantages to the consumer are much less clear. Indeed, if solutions prevent consumers using purchased copies of content in ways that they deem fair and reasonable, then the technology is likely to become very unpopular.

CONCLUSION:

This research paper provides a view of the Mobile DRM issue, which has turned into being a showstopper for the Mobile Multimedia Services. As the threshold of highest possible multimedia services traffic approached, the need for quality, valuable content will be eminent. At this stage, it is important to prepare for the next level as well as increasing the traffic. This study will act as a base for helping further studies on Mobile Multimedia Services and Mobile DRM.

FUTURE OF DRM:

Within this research paper, we;

- Provide a holistic document regarding Mobile Multimedia Services starting with Mobile DRM, content and business perspective of content.
- Formulated a hypothesis and the results of the research showed that our hypothesis holds true. We developed a content classification based on business segmentation.
- Suggested a value network model for Mobile Multimedia Industry.
- Suggested a content classification for Mobile Multimedia based on business segments.
- Explored the current landscape of Mobile DRM in this flow. Thereafter we conducted interviews and gathered observations from the Industry.
- Developed a model for resolution for a fundamental problem of Multimedia Industry.
- Provided recommendations to different players in the Mobile Multimedia Industry.

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