

Background

When most people consider the patent system, they often think of a structure in which large corporations make money selling products based on proprietary knowledge, licensing the technology to others, or suing others who infringe on the patent rights behind their most cutting-edge products. In recent years, the importance of patents and intellectual property rights as an important variable in the marketplace has come to the forefront of the public consciousness as world leaders declare their country's lead in the innovation race. The temporary nature of patents is a reflection of the implicit social contract that dictates that these innovations be used for the public good once their time-limited monopoly has expired.

Key elements of the patent system hinge on the rights bestowed upon the general public. In the United States, patent terms are limited to 20 years from the date of application. By statutory intention, once a patent has expired, the patent holder loses the right to exclude others from utilizing the invention described within the patent. Likewise, a large number of patents are "abandoned" when owners discontinue paying patent maintenance fees. Even when maintained and within their statutory term, patents only provide protection in the country for which the patent is filed. Accordingly, an innovation disclosed in a European patent, for example, can be utilized anywhere in the world other than the European market. Whether through expiration, abandonment or non-filing, once these innovations enter the public domain, they are fair game, requiring no license or sale to implement. As demonstrated by the Global Innovation Commons (G.I.C.), using intellectual property legally available in the public domain reduces, if not eliminates, the need to pay licensing fees – particularly to those entities whose sole business interest is to intimidate (through threat of litigation or International Trade Commission action) other businesses into licensing or purchasing IP that is invalid or has lost its value to a public domain option.

Until the recent emergence of the G.I.C., many companies failed to leverage the numerous public domain options that may provide alternatives to the purchase or license of costly cutting-edge technologies. By overlooking these options, companies all too often incur costs and burden which impugn their business at best or, at its worst, keep globe altering solutions out of the world's hands. This scenario, which has defined the landscape for solution abundance against a backdrop of inaction, could be potentially avoided entirely thanks to the vast trove of viable technologies available for the taking, free of cost, in the public domain.

Technology Area: Audio and Video Compression

Audio and video encoding and compression technologies are the underpinnings of the digital transmission and distribution mechanisms that drive our increasingly media-centric world. While standards such as H.264 and other components of MPEG 4 have emerged at the forefront, the market continues to demand further technological iterations and improvements in the pursuit of ubiquitous digital media that combines high quality with efficient bandwidth consumption. Many of these optimizations and efficiencies are emerging from research in advanced data-shaping

algorithms, mathematically-complex psychoacoustic modeling, and novel approaches to manipulating and encapsulating data.

Intellectual Property Analysis

Ayscough Visuals, LLC currently possesses intellectual property concerning audio and video encoding and compression with priority dates ranging from 1997 to 2001. These intellectual properties describe methods to estimate and compensate for motion when encoding video, as well as progressive image compression. Predicting and streamlining the encoding of motion in video can result in both increased quality and significant savings in bandwidth costs for multimedia suppliers. The Ayscough Visuals, LLC patents describe methods utilizing wavelet transforms to provide better video quality at higher compression ratios. While it is not transparent to the market what commercial intent Ayscough Visuals, LLC has for these patents, it is reasonable to assume that they will pursue sales or licensing models. Potential buyers or licensees should be aware of similar innovations that lie in the public domain, some of which are listed below.

Patent Information

Ayscough Visuals, LLC holds five granted U.S. patents and two pending U.S. patent applications.

Ayscough Visuals, LLC U.S. Patent Holdings related to Audio and Video Encoding and Compression:

<u>U.S. Patent Number</u>	<u>Title</u>	<u>Priority</u>	<u>File</u>	<u>Issue</u>
US 7,577,202	Motion estimation and compensation in video compression	26-Aug-99	15-Nov-05	18-Aug-09
US 7,570,817	Signal compression and decompression	3-Aug-00	20-Jul-01	4-Aug-09
US 7,352,298	Data compression	18-Sep-03	13-Aug-04	1-Apr-08
US 6,990,145	Motion estimation and compensation in video compression	8-Aug-00	21-Feb-02	24-Jan-06
US 6,556,719	Progressive block-based coding for image compression	19-Feb-97	17-Aug-99	29-Apr-03
US 20040165737	Audio compression	30-Mar-01	12-Apr-04	N/A
US 20040028135	Adaptive video delivery	6-Sep-00	8-Sep-03	N/A

Analysis of the Ayscough Visuals, LLC patent portfolio has led to the identification of a number of innovations from multiple assignees residing in the public domain due to abandonment or expiration that also concern audio and video encoding and compression, as well as motion compensation. A sampling of these patent holdings is included in the table below. Any process or technology specifically designated in these patents is available for public domain use and is not subject to any restrictions from Ayscough Visuals, LLC.

Sample of Patent Holdings in the Public Domain related to Audio and Video Encoding and Compression:

<u>Document #</u>	<u>Title</u>	<u>Assignee Name</u>	<u>Priority</u>	<u>File</u>	<u>Issue</u>
WO9716029	APPARATUS AND METHOD FOR OPTIMIZING THE RATE CONTROL IN A CODING SYSTEM	DAVID SARNOFF RESEARCH CENTER INC	25-Oct-95	24-Oct-96	1-May-97
US 5,473,379	Method and apparatus for improving motion compensation in digital video coding	AT&T Corp.	4-Nov-93	4-Nov-93	5-Dec-95
US 6,917,649	Method of encoding video signals	Koninklijke Philips Electronics	5-Mar-01	5-Mar-01	12-Jul-05
US 6,912,318	Method and system for compressing motion image information	Kabushiki Kaisha Office NOA	29-Dec-00	29-Dec-00	28-Jun-05
US 6,836,512	Spatial scalability for fine granular video encoding	Koninklijke Philips Electronics	11-Oct-01	11-Oct-01	28-Dec-04
US 6,823,008	Video bitrate control method and device for digital video recording	Koninklijke Philips Electronics	10-Oct-00	5-Oct-01	23-Nov-04

US 6,801,664	Method of image coding, image coding apparatus, and recording medium including image coding program	Matsushita Electric Industrial Co., Ltd.	22-Feb-99	22-Feb-00	5-Oct-04
US 6,765,962	Adaptive selection of quantization scales for video encoding	Sarnoff Corporation	2-Dec-99	21-Nov-00	20-Jul-04
US 6,735,342	Video encoding method using a wavelet transform	Koninklijke Philips Electronics	29-Mar-01	29-Mar-01	11-May-04
US 5,434,623	Method and apparatus for image data compression using combined luminance/chrominance coding	Ampex Corporation	20-Dec-91	20-Dec-91	18-Jul-95
US 5,301,018	Method and apparatus for shuffling image data into statistically averaged data groups and for deshuffling the data	Ampex Systems Corporation	13-Feb-91	16-Aug-93	5-Apr-94
US 4,475,161	YIQ Computer graphics system	Ampex Corporation	11-Apr-80	26-Feb-82	2-Oct-84

Conclusion

Digital media has been, and is likely to continue to be, the core of entertainment and information distribution modes, but the technologies that underlie the standards for encoding and transmission of that media are still in the process of being defined. These standards will be decided through the combined efforts of technology innovators and important international standards-setting organizations such as the ISO/IEC Moving Picture Experts Group. As discussed in the introduction, it is imperative that this innovation space, like all others, consider publicly available innovations when designing content delivery platforms and media mechanisms. The use of public domain which translates to significantly cheaper costs, should aid the effort to encourage widespread public adoption, minimize licensing costs, and overcome other existing barriers to entry entrenched in such an active and vibrant technology area.

Without an informed knowledge of the surrounding landscape, efforts to move forward in any discipline are prone to go off-course. By cultivating awareness of the full spectrum of options available from the public domain as they advance their research, technology innovators are empowered to create truly novel solutions to the world's problems. To that end, M•CAM's analysis has shown that the Ayscough Visuals, LLC patents contain innovations that may be approximated in part by innovations that currently lie in the public domain. Accordingly, we believe that it is in the public's best interest to see these innovations integrated into today's solutions to improve the accessibility and effectiveness of a technology that is intended to be utilized as a global standard.

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