

Fastcomcorp Research

White Paper



The Future of Optical Storage

Introduction

In the future, optical storage will be the defacto storage medium when optical computers become a product in the market. Now in 2010 the global demand for recordable Blu-ray's is rising seven fold according to Japan Recording-Media Industries Association (JRIA). While CD-R's are projected according to JRIA to plunge 40 percent. We are foreseeing the optical media market is estimated to grow at four times the rate of magnetic or solid state media. The major force that is enabling the growth of the optical storage market is the entertainment industry who is the largest single user of optical media using DVD's and Blue-Ray format to deliver its products. The worldwide production of CD's and DVDs exceeds 1 billion units annually. According to Futuresource by 2015 they believe all large-size HDTV's will be 3D ready and that by 2013 the \$2,500 - \$4,500 entry level price for a 3D HDTV will have dropped by \$1,000 thus marking HDTV's affordable to many.

At Fastcomcorp we are working on an optical storage product aimed at the entertainment industry more specifically the video game industry. We are hoping to work together with Mempile (developed a 1TB optical media storage) as well as TDK, Sony, Toshiba, and Phillips in order to create a product that allows the entertainment industry to store their content on our medium securely. We are calling it the Franco Disk project. The Office of Technology Transfers at the University of South Alabama is helping us launch this platform.

Our team after much market research, patent reading, and reverse engineering we have come up with a product that would significantly lower piracy in movies and video games. Right now piracy is costing billions to many companies and is hurting them financially. According to CESA, the piracy of Nintendo DS and PSP games around the world has a price tag of \$41.5 billion dollars that accumulated between 2004 and 2009. Piracy losses in the video game market are more than double the current value of the video game market, \$55 billion (DFC Intelligence). The recession this past year (2009) has caused a \$2 billion loss (DFC Intelligence) in the video game market. Due to the lack of income of the consumers, the situation has gotten worse and more people will be more likely inclined to utilize pirated versions to feed their needs of entertainment.

Why Optical Storage?

Optical storage compared to magnetic hard drives, solid state drives, and other media it has had the most major data storage tech breakthroughs. Mempile and TDK have been able to develop a optical media that can store up to 1TB. Mempile made a presentation in 2007 in their roadmap up to 5 TB on a single disc. The company Millenniata has come up with a product called, M-Disk. On their medium we can store information and will last up to 1,000 years.

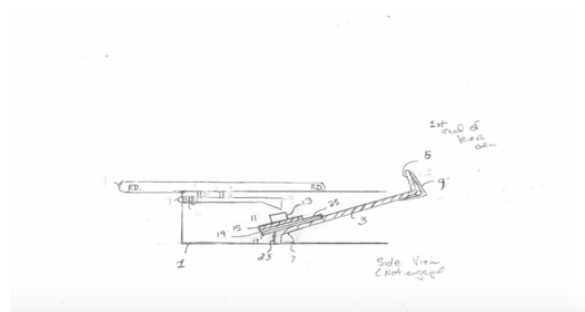
Scientists at the Tokyo Institute of Technology created a stable, rewritable memory device that exploits a liquid crystal property called the, "anchoring transition." Their work is published in the latest issue of the Journal of Applied Physics. By utilizing either a laser beam or an electric field, they can align rod-like liquid crystal molecules in a polymer. Thus the team was able to store data, erase, and used it again.

Opportunity of a New Optical Holographic Format in the Market

By presenting a new storage medium there is a unique opportunity to work with industry leaders to make sure that certain hardware and software components do not make it to the market thus preventing pirates from being able to pirate the content at the level they are currently. As well as the development of an intelligent authentication system embedded in the optical technology itself making pirating very difficult. Fastcomcorp's strategic entry into the optical disc market will be to penetrate the entertainment industry's use of the product and, in particular, the gaming sub-sector of the entertainment industry. Fastcomcorp will seek to gain product acceptance in that niche and raise that acceptance into use throughout the optical digital storage market.

Optical Hard Drives – The Future

We foresee that optical hard drives are right around the corner if breakthroughs continue in optical storage. After much research our team has uncovered a possible way thru light magnetization that it is possible to develop an optical hard drive. We hope in the near future to work with the industry leaders and experts including from other Universities to make this a reality. In hope of these things to come. Our team developed a new spinning mechanism that will latch into an optical disc that will enable a disc to spin at very high speeds. Our electrical and mechanical engineer team members made CAD and computer simulation of the device. The newly developed ball bearing mechanisms will allow for stability in the read/write operation equivalent to that of a hard drive. Additionally, with this a disc can now be utilized in advanced drives operating at high rotational speeds, enabling a magnitude of improvements in data transfer rates.



Provisional patents have been filed on our mechanical optical device including the storage mechanisms on which the holographic disc will be stored. We also embedded security circuitry into our platform that will enable only authentic discs to function within the drive mechanism. This customization overall of the medium provides one level of physical security and differentiation.

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