

Looking into the Cyberfuture

Recent Developments
in Information Management

Arkansas Information Technology Symposium

Southern Arkansas University – Magnolia, Arkansas

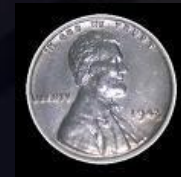
Alan A. Andolsen CMC CRM

President – Naremco Services Inc

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Imagine ...

**The Entire
Encyclopedia Britannica
Stored on a Penny ...**



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Imagine ...

**A Two-Hour HD Movie
on a
Video the Size of a
Credit Card ...**

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Imagine ...

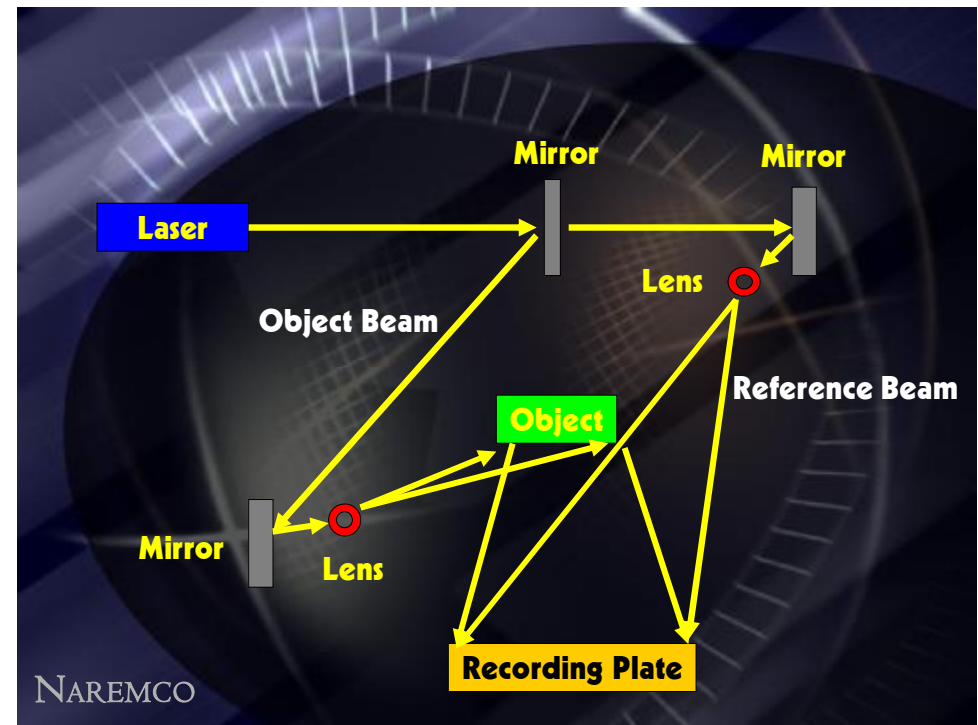
**Information
10 Times More Dense and
Retrieved 100 Times More Quickly
Than
Magnetic Or Optical Disk ...**

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Holography

**Method of Lensless Photography
in Which the Wave Field of Light
Scattered by an Object
is Recorded on a Plate
as an Interference Pattern.**

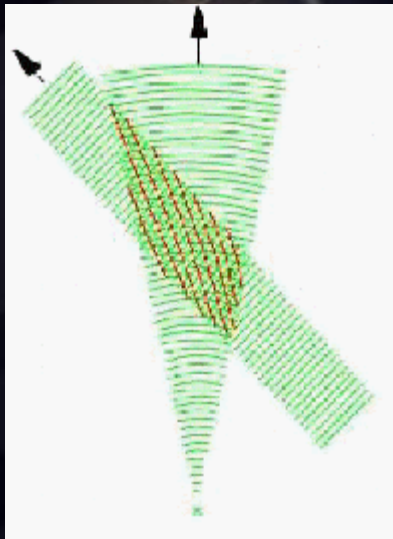
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Holography

- **Two coherent laser beams [point source and plane wave] intersect causing**
- **Stationary interference pattern of bright and dark fringes.**



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Holography

**In Phase
Tapestry
&
Aprilis Media
100GB - 1.3TB**



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Search Engines

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3-D

3DESS

- **Engineering Search Program**
- **Three Dimensional Objects**
- **"Voxel"**
 - **Pixel for 3D**
 - **Volume of Object at Any Point**
- **Query by Example, Sketching**

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Audio

StreamSage

- **US NIST Advanced Technology Program**
- **Speech Recognition**
- **Contextual Analysis**
- **Parse to Table of Contents**
- **Comcast Programming**

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Electronic Ink

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Electronic Ink

Applications

- Advertising
- Electronic Books
- Update-able Newspapers
- Roll Up Computers

Types

- Reflective
- Emissive

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Electronic Ink

Reflective

- Movement Varies with Charge
- Printed on Flexible Surface
- No Refresh Necessary

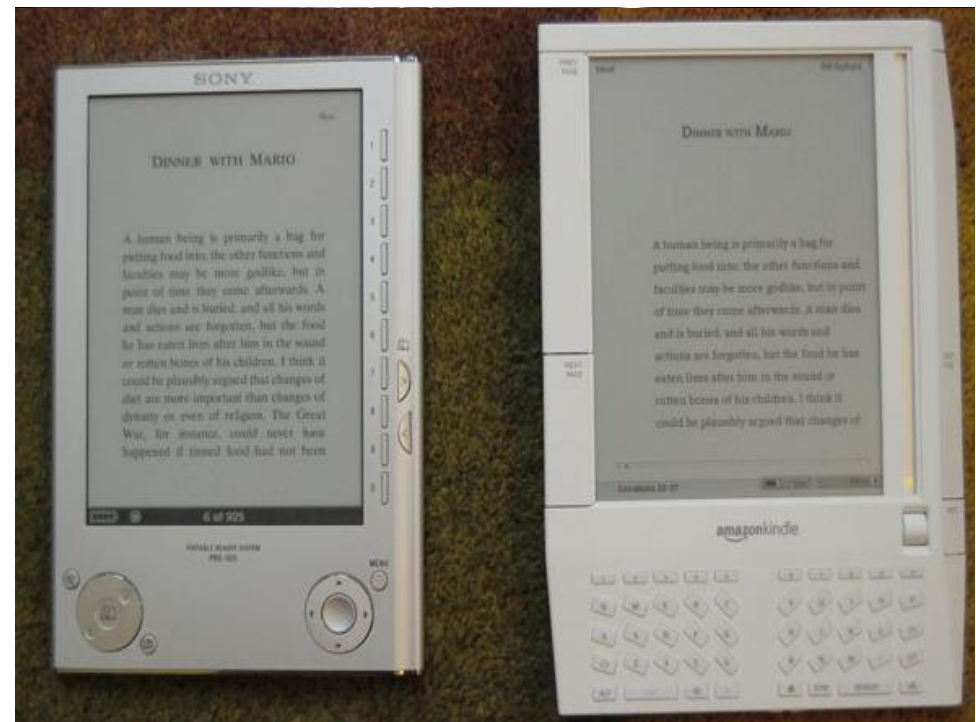
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Electronic Ink

Microcapsules
Thin Film
Flexible



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Electronic Ink

Sports Store
Cambridge



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Electronic Ink

Emissive

- **Current:** organic light emitting diodes (OLED) on plastic or metal foil substrates
- **Emerging:** ordinary paper coated with thin layers of plastic electronics [KETI]
 - Reflective/Backlit
 - 400+ candelas/m² (Standard Monitors = 150-1200 c/m²)

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Electronic Ink

Update by
Wireless
Pager



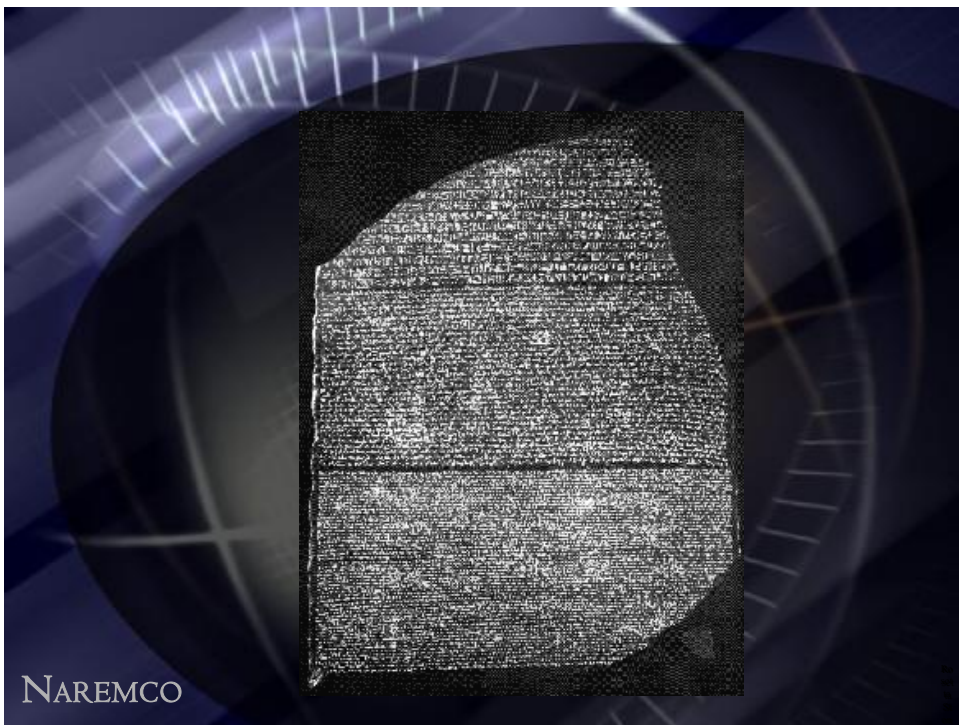
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Electronic Ink

Universal
Display
Pen Computer



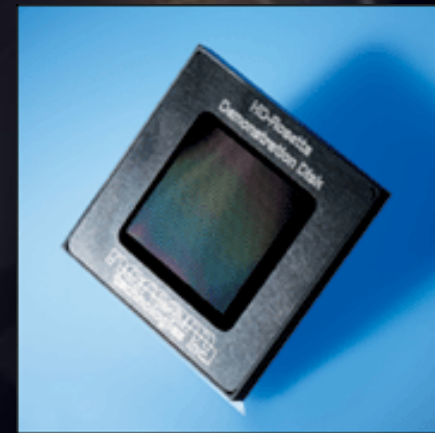
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HD Rosetta

2" Square
200GB Capacity
300+ CDs
196,000 Analog
Pages



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HD Rosetta

- **Ion Beam Technology**
- **Nickel Disks**
- **"Geologic" Longevity**
- **Digital OR Analog**
- **Reader : Bright-Field Microscope**

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HD Rosetta

Applications

- **Large Static Databases**
- **Government, Insurance, Banks**
- **Genealogical Information**
- **Seismic Data**

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Up and Coming ...

DNA vs. Spam

- **Chung-Kwei [feng-shui]**
- **Teiresias algorithm**
 - **Bioinformatics**
 - **Search for Recurring Patterns**
 - **95.65% in 65,000 e-mails**

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Up and Coming ...

Personnel Monitoring

- **US Patent Applied – Published 2007**
- **Wireless monitoring of metabolism via EEG**
 - **heart rate, body temperature, movement**
 - **facial expression, blood pressure**
- **Workload Status [Single or Group]**
 - **“automatically detect frustration/stress”**
 - **“offer and provide assistance accordingly”**

Microsoft

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Up and Coming ...

Body-As-Network

- **US Patent 6,754,472**
- **“Transmitting power and data using human body”**
- **Linking wearable devices**
 - **Watches, Keyboards**
 - **Displays, Speakers**
 - **Medical Devices**

Microsoft

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Recent Developments in Information Management

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