

The Next Wave

Preparing for the Next Wave

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The Next Wave

Waves

- Human Capital
- Hardware and Telecom in Stasis
- Software Ascendant
- Internet Everywhere
- Wi-Fi Rolls Out
- Artificial Intelligence
- Ripples



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Hardware Deflation

- ♦ E Machines 900MHz Celeron PC
 - 20GB/128MB/48x/56K/XP
 - \$399.99 plus monitor
- ♦ HP Jornada Pocket PC
 - 64MB Color
 - \$649.99
- ♦ IA-54, Infiniband, HyperTransport, SANs: Storage Area Networks Grid, Autonomous Computing

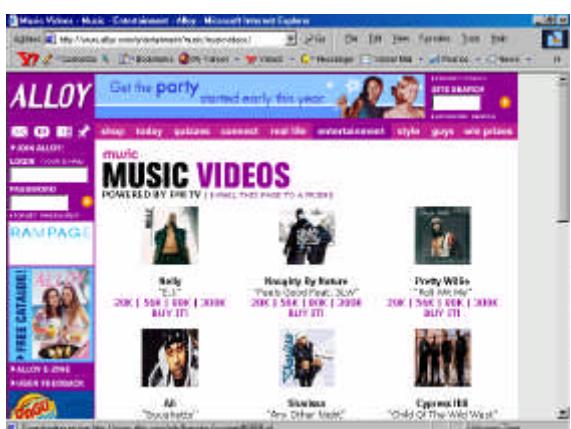
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Telecom Glut

- ♦ NextWave, Telligent, 360Networks, Covad, Excite@Home ...
- ♦ \$55B JDS Uniphase, \$20B Nortel
- ♦ Jack's House
 - Cable Modem 3.2/1 \$40/mo
 - Consumer DSL 1.5/2.25 \$40/mo
 - Commcl DSL 1.1/1.1 \$200/mo
 - 5.8/2.35 \$280/mo
- ♦ ~4 T-1 lines, <\$300/mo

Broadband Stall

- ♦ 76% of consumers aware of high speed
- ♦ 14% have high speed access at home
- ♦ Prices increasing
- ♦ Providers decreasing
- ♦ Peer-to-peer file sharing



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January 2002

- 1.19 billion broadband hours
- 1.14 billion narrowband hours
- 2.3 billion total hours

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Software Ascendant

- ♦ Hardware budgets slashed
 - CTO as IT decision maker
- ♦ Hardware margins shrinking
- ♦ IT Dissatisfaction

Web Application Services

- ♦ IBM Websphere
- ♦ Sun ONE
- ♦ Microsoft .NET
- ♦ Lots of vendor push
- ♦ Not much user pull

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Web Application Services

- ♦ Network Software Platform
- ♦ SOAP: Simple Object Access Protocol
- ♦ UDDI: Universal Description, Discovery, and Integration
- ♦ WSDL: Web Services Description Language
- ♦ WSFL: Web Service Flow Language

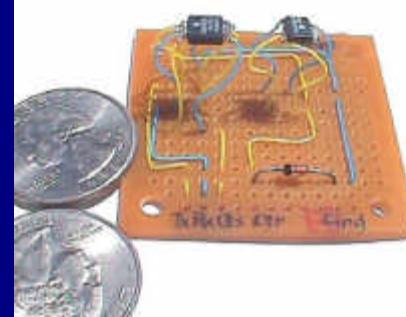


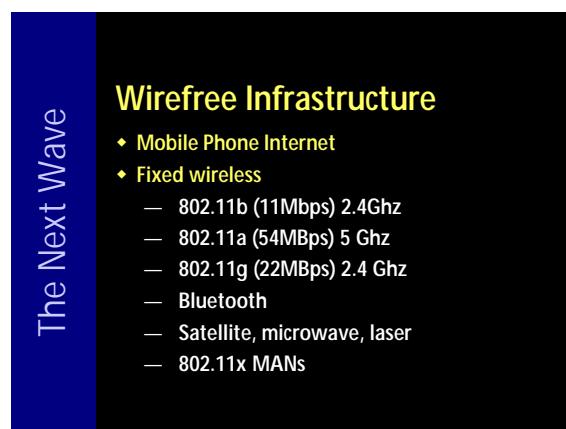
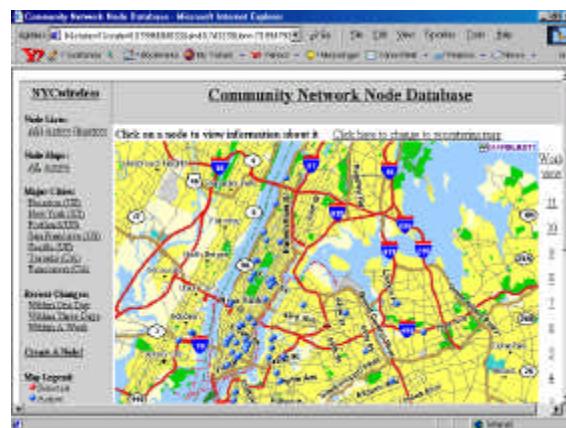
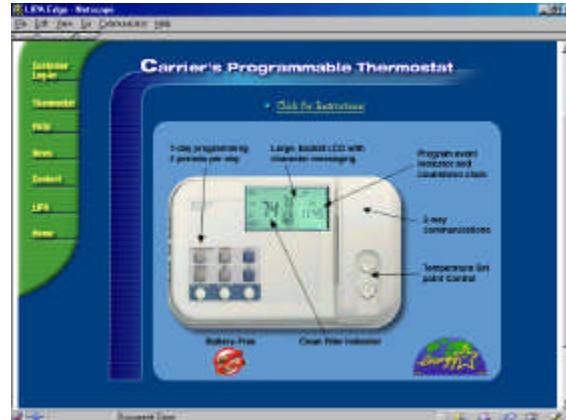
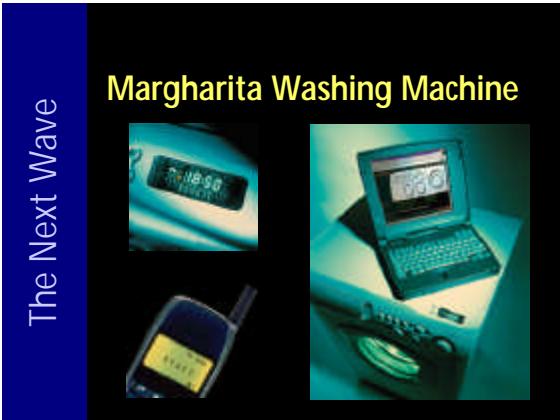
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Internet Everywhere

- ♦ Immersive IP
- ♦ The Internet Home
 - Broadband, residential gateways
 - Powerline, phoneline, wireless
 - Entertainment, collaboration
- ♦ Embedded IP

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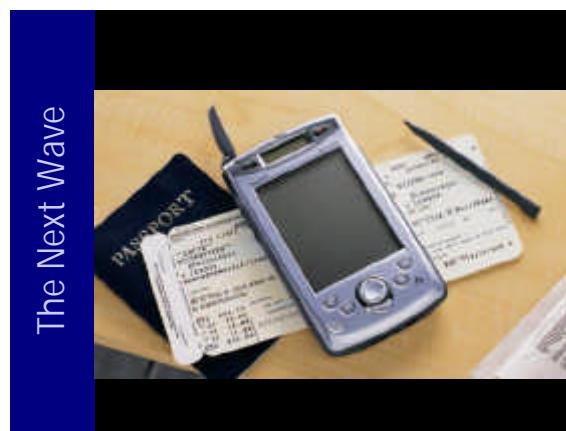




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3G Mobile Phones

- Enhanced telephony
- 2Mbps data transfer
- Multimedia Messaging Service
- Streaming media

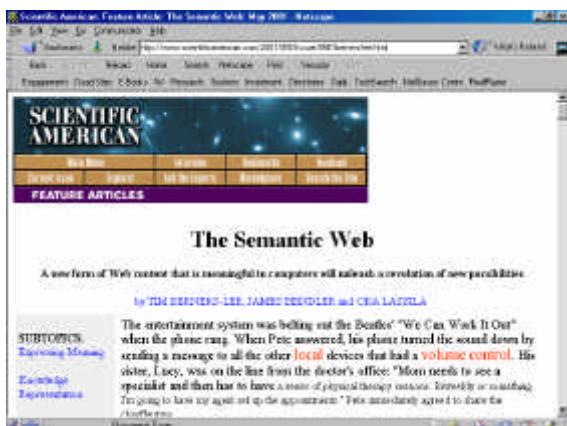
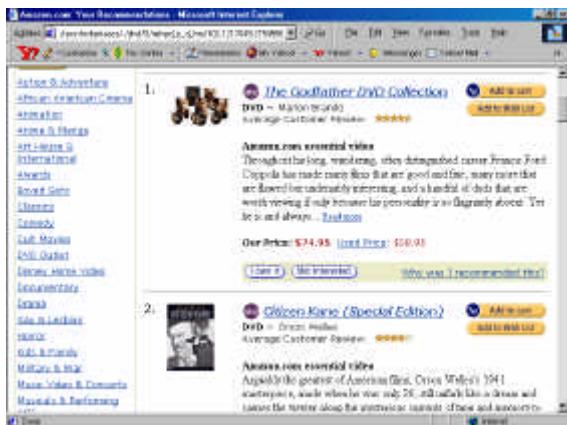




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Artificial Intelligence

- Systems that Learn, Judge and Act
- Expert Systems
- Machine Learning
- XML Standardization
- Intelligent Agents
 - "Know" Bots
 - Shopping Bots
 - Personalization Bots



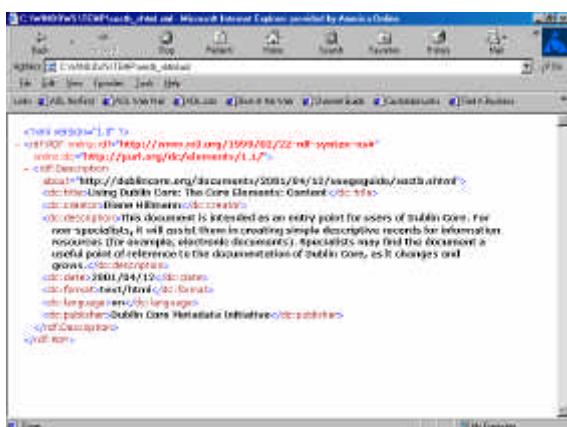
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SHOE: Simple HTML Ontology Extensions

- HTML-based knowledge representation

```
<DEF-CATEGORY NAME="ResearchGroup" ISA="Organization">
<DEF-CATEGORY NAME="Faculty" ISA="Worker">

<DEF-RELATION NAME="publicationAuthor">
<DEF-ARG POS="1" TYPE="Publication">
<DEF-ARG POS="2" TYPE="Person">
```



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Cyc® Ontology, Cycorp.com

```
A-(piece-of) skin serves as outer protective and tactile sensory covering for (part-of) an animal's body. Thus the collection of all pieces of skin. Some examples include #070e30d30c6c representing an entire skin of an animal and #0f8d957f, #1f1d545a (#21c149) representing a small portion of fat skin.
isa #AnimalBodyPartType
genls #AnatomicalLivingObject
#Animal-Of-Part #Skel0fOneHd
#VibrationThroughAnimalskinTension
#TactileSensor
```

The diagram illustrates the relationship between 'The Next Wave' and its components. On the left, a vertical blue bar labeled 'The Next Wave' contains two sections: 'Waves' and 'Ripples'. The 'Waves' section lists seven items, and the 'Ripples' section lists five items. To the right of these sections is a large black area.

Waves	Ripples
• Human Capital	• Internet Voice
• Hardware and Telecom in Stasis	• Telematics
• Software Ascendant	• Browser wars
• Internet Everywhere	• Copyright and licensing
• Wi-Fi Rolls Out	• Privacy and trust issues
• Artificial Intelligence	
• Ripples	

The diagram illustrates 'Internet Voice' as a component of 'The Next Wave'. A vertical blue bar labeled 'The Next Wave' contains a single section titled 'Internet Voice', which lists four items. To the right of this section is a large black area.

Internet Voice
• Voice Response
— VoiceXML
• Voice Control
— Conversay
• Voice Access
— TellMe, Etrieve, BeVocal

A screenshot of a Microsoft Internet Explorer window displaying several service pages simultaneously. The visible tabs include 'What is BeVocal?', 'Tellme.com', and 'Merchant Services'. Each tab shows a different service provider's website, such as BeVocal's page on what it is, Tellme's page on how to use their service, and Merchant Services' page on merchant services.

A screenshot of a Microsoft Internet Explorer window displaying the OnStar website. The page features a sidebar with various service icons and descriptions, including 'OnStar Vehicle Diagnostics', 'OnStar Emergency Assistance', and 'OnStar Navigation'. The main content area displays information about OnStar and its services.

The diagram illustrates 'Browser Wars' as a component of 'The Next Wave'. A vertical blue bar labeled 'The Next Wave' contains a single section titled 'Browser Wars', which lists six items. To the right of this section is a large black area.

Browser Wars
• Internet Explorer vs Netscape vs Opera
• WAP: Wireless Access Protocol
• Palm VII Web clipping
• Avantgo
• Limited appliances
• Voice

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Internet Society



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