Through the Looking Glass

Digital & Interactive Emergence and BBC Interactive Services

by

Gary Hayes
Senior Producer, BBC Interactive Television
Through the Looking Glass

What’s he gonna talk about?

• What does Digital TV really mean?
• A bright future - the new digital world
• Platform diversity, new opportunities
• The BBC audience & interactive services
• But first...
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What does Digital TV really mean?

• Scarcity to plenty - for audience and content provider
• ‘D’ stands for Difficult - ‘D’ stands for Delay
• Digital TV Development is Driven by E-Commerce
• Starting too early is painful BUT starting too late is suicide - strategists take the helm
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A bright future - the new digital World

• 95% of all digital content in USA will be viewed off-line in 5 years (Price Waterhouse)… By 2008, 80% of developed world will be using Personal Digital Recorder’s (Forester)
• 900 million world wide mobile ‘device’ users by 2004 (Forester)
• By 2003, 7 mill in UK view Web & DVD from Games Consoles
• BUT viewers face confusion - bad interfaces & too much choice
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Too much - please stop!

“…out of the chaos would come bliss
That then, is loveliness, we said,
Children in wonder watching the stars,
Is the aim and the end.
Being but men, we walked into the trees”

_Dylan Thomas_

Real interactive TV services UK and USA 1999

_BBC Broadcast_  
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Digital TV development - key issues

• Vertical platform developers become portal owners - who regulates access
• Personal digital recorders - the end of scheduled broadcast?
• Large return paths and domestic networks mean viewers become collaborators and creators - consumers are producers
• Niche begins - ‘Fremantle Wool Stores Cam’ competes with SBS
• Write once use many times - the race to build infrastructures
• Uncertainty - who & what will win?
• Current platform diversity - deterrent or opportunity?
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The UK platform diversity ‘headache’ for providers
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What screen will they view it on?
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At the end of the day...

CONTENT IS WHAT MATTERS
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## UK Digital ‘Interactive’ - diverse environment

<table>
<thead>
<tr>
<th>Platform</th>
<th>Audience ‘99</th>
<th>Audience ‘00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet on PC</td>
<td>2.5 mill</td>
<td>3.8 mill</td>
</tr>
<tr>
<td>Digital Terrestrial TV</td>
<td>550 000</td>
<td>1.2 mill</td>
</tr>
<tr>
<td>Digital Satellite TV</td>
<td>1.8 mill</td>
<td>4.6 mill</td>
</tr>
<tr>
<td>Digital Cable</td>
<td>100 000</td>
<td>2.1 mill</td>
</tr>
<tr>
<td>DSL services (e.g.:ADSL)</td>
<td>100 000</td>
<td>1.1 mill</td>
</tr>
<tr>
<td>Games Consoles</td>
<td>(6 mill)</td>
<td>4 mill (net access)</td>
</tr>
<tr>
<td>Mobile ‘Assistants’</td>
<td>25 mill</td>
<td>10 mill (data access)</td>
</tr>
</tbody>
</table>

Estimates aggregated over several UK research companies

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Projected UK Digital TV take-up

- FTA ATT: 25%
- FTA DTT: 18%
- Pay DTT: 12%
- Dcab: 24%
- Dsat: 21%

Interactive services available

Possible Announcement of timetable for Analogue switch

1997 US multi-channel penetration

% of Households in the UK

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%


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BBC Digital Portfolio (excerpts)

- BBC Brand only second in the world to Coke
- All BBC analogue services available on all new digital platforms - DTT, Dsat, Dcable, ADSL, webstreaming, Digi Radio
- BBC Online - largest web site in Europe (top 5 world-wide)
- New BBC digital channels - Choice, Knowledge, News24 and ‘UK various - Play, Gold, Horizons etc’

BBC Worldwide (commercial arm)

- BBC America & World distributed world-wide digitally
- Beeb.com - successful commercial web site & ISP
- Audio CD, CD ROM & DVD titles all UK best sellers
- Playstation (Teletubbies & Noddy) and other console games
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Three Arrested Over Bio-Weapons Scheme

Three men have been arrested in the US on charges that they were planning to use biological weapons against Federal Bureau of Investigation agents.

Agents surrounded a mobile home used by the men, supported by a fire truck and a hazardous materials team. It was not clear whether the agents had entered the trailer.

The FBI charged the three Texans, aged 72, 63 and 43, with conspiracy to use weapons of mass destruction.
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BBC interactive digital TV launches 1999/00

• Digital Text (24/7 news & Info) - DTT, DSat, Dcable. WAP
• BBC Parliament (enhanced audio channel) - DTT
• Knowledge (24/7 interactive education channel) - DTT, Dsat

Launches during 2000/01

• Wimbledon (Multi court video streams) - DSat, DTT
• Football (All Saturday enhancement) - Dsat, DTT
• News 24 (Bulletin VOD news loops) - Dsat, ADSL
• CBBC (Range of Children's enhancements) - DTT, Dsat
• Children's Channel (24/7 interactive) - DTT, DSat, Dcable
• Landmark Factual - DTT, DSat, Dcable
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This is the context sensitive text for game 1 on the wimbledon interactive companion service. It describes the game currently in progress. Replace it with something more interesting!

Sampras
Korda
Black
Stewart
Broad & Deswarte
Sapsford & Siddall
W Bridge & W Forde
Black & Grubb

Spice Girls - Viva Forever

BCC Broadcast
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BBC focus on digital ‘Interactive TV’ services

Key genre

- News, Education, Sport & Children's - then entertainment, documentary/factual, lifestyle

Areas of development

- Continuous news/info, channel ‘text/graphic’ enhancements
- Enhanced viewing (active programmes - local interactivity)
- Interactive viewing (return path - two way)
- Navigation (connecting the many parts of the BBC)
- Online (moving to broadband and convergence with TV)
- On going platform research, trials, training and pilots
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The end…

of the beginning:

Are there any questions?

OK later…
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Bright future - local storage

Storage possibilities - Introduction

- In the last 10 years there has been a 100 fold increase in the capacity/cost ratio of hard disks - doubling every 10 months
- In 2000, 10 GB of hard disk storage will cost $100, providing four hours of MPEG2 audio-visual storage
- The capacities below, doubling every 10 months or a pessimistic 18 months, are based on 5.5Mbit/s video stored on a $200 disk

<table>
<thead>
<tr>
<th>Year</th>
<th>Pessimistic</th>
<th>Expected</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>8 hours</td>
<td>8 hours</td>
</tr>
<tr>
<td>2005</td>
<td>80 hours</td>
<td>480 hours</td>
</tr>
<tr>
<td>2010</td>
<td>800 hours</td>
<td>28,800 hours</td>
</tr>
</tbody>
</table>
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Introduction to Digital Storage

Forester research in to Personal Digital Recorders (PDR’s)

- by 2001 900,000 people will be using PDR's
- by 2003 there will be 4 million
- by 2008 80% of the developed world's population will be using Personal Storage systems
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Some of the 28 inaugural member organisations of TV anytime

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Digital Storage - Benefits for Broadcasters

- Usage reporting data - did people request & store programming
- Profiling the audience - aggregating individuals, public service
- Targeted push/pull services - ads, trails, programmes, apps
- Downloading (Web, TV and eTV) in off-peak hours
- Transaction control - for eCommerce providers
- Rights management - conditional access reporting
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New players. Interactive Consoles - aka games

• Play Station 2. UK shops late 2000. 66 million polygons per second. Can play DVD’s, MPEG2 decoder. Backward compatible & access to internet may be able to receive DVB, via plug in cards, transmissions. ‘Emotion synthesis’
• Currently 6 million consoles in UK homes
• DreamCast - uses Windows CE. Launched 9 Sept in US & Europe, built in 56k modem. Sold one million units in 6 weeks in USA!
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Mobile Interactivity

• Now 60% Finland, 50% UK, 30% US (non-Open)
• Now SMS - short messaging services, Email & web
• Predicted (Forester) 700 million mobile users by 2003
• WAP (Wireless Application Protocol) $500 mobile to receive fast web, pics & low quality video
• G3 - small mobile, mobile connected computers
• Bluetooth - local communication with TV, PC, STB
• Anywhere RAM - remote comms with all home devices
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Yr
05
04
03
02
01
00
99

TV Display   PC Screen   PDA   Set Top Box   Converged device

Mobile control of home net - far   Console TV/Games/web

Mobile network - close   VDSL Net fast TV/web

Mobile broad TV   iTV digital 2nd   TV /web digital 2nd gen

Mobile Docking   TV mail digital   ADSL Net TV/web

Mobile Web   TV loops digital   PStation2 Games/web/dvd

Mobile mail   Digi Radio   Dcable TV/web

Linear TV digital   eTV digital 1st

OnMove / Audio - TV Broad - Storage/On Demand - Interactive

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Navigation

- Providing personalised ‘filtering’ of many services to viewers
- Around linear TV, data services, iTV & other applications
- Linking ECG, TV / Interactive & web services
- Personal routes & tailored recommendations
- Web-like navigation (favourites, history etc)
- Virtual channel (pull on demand, push stored, broadcast loops, scheduled TV)