White Paper

D2see
video to mobile

UK mobile video
Winning genres and successful delivery

November 2006

Table of contents

Abstract

After years of hype, failed promises and market disappointment 3G is finally upon us – user numbers are reaching ‘mass market’ levels and fashionable, compact handsets with decent battery lives are lining shops’ shelves this Christmas; significant opportunities exist for content publishers to make money from video content *today*.

So how is 3G going to affect the consumption habits of consumers? 3G enables rich media – bandwidth hungry music and video – and content owners are learning that selling ‘off-portal’ or ‘direct-to-consumer’ is not only a larger market than ‘on-portal’, but also provides more favourable payouts from the network operators.

3G networks are optimised for the delivery of mobile video on demand rather than broadcast TV – which plays into the changing habits of consumers to consume what they want, where they want it. Winning formats will take into account the unique attributes of 3G mobile phones – always there, always on and always with a video camera on board to capture content.

As with all mobile entertainment, catering for the “I want it now” culture and easy service discovery remains as important as the content itself. Content that is optimised for mobile with services that are easy to discover and use will win in the market.

3G – the key enabler for rich media services

The UK market for mobile content and entertainment has grown from an insignificant base in 2001 to a £650m market in 2005. A diverse range of services have flourished: the ubiquitous ring tone; chat; dating; wallpapers; jokes; the burgeoning TV voting. These services have typically been SMS-based, either as a format and/or for billing.

With the full roll-out of 3G by the 5 UK Mobile Network Operators (MNOs) a whole new class of rich media services is possible - including music and video - which needs the bandwidth now offered by 3G. These new rich media services are well established in the home – and can now be extended to mobile, satisfying the demand for entertainment on the move.

Most MNOs have >85% population coverage with 3G and are already significantly increasing bandwidth with the roll-out of HSDPA; the infrastructure – if not the commercials – is now in place for mobile video services. Whilst video services do exist on 2.5G (typically requiring a player to be downloaded – not always easy!), the bandwidth limitation means a 2 minute clip typically takes around 5 minutes to download before playing – hardly aligned to the "I want it now" mobile entertainment culture. Early 2.5G streaming services have always been an unsatisfactory compromise between low quality pictures and low rates of frame refresh, existing only in specialist services where CCTV quality is acceptable. For short clips MMS has been moderately successful – no player to download, and easy user discovery and usage experience – but the economics of MMS makes it unattractive to most service providers.

3G is the enabler for video services, and after years of development, the networks and devices are ready to go mass market. Already more than 10% of the user base has a 3G handset, and this is forecast to grow to 15% of the base by early 2007, with monthly growth rates of 10% thereafter. Back in the summer of 2006, 30% of Phones4U sales were 3G - now 30 out of Vodafone's 37 Christmas devices in the stores are 3G capable. Once in the hands of consumers, m:metrics research has shown that 3G devices have a 9 times greater propensity to be used for video services than 2.5G devices. The same research showed that 3G users interacted with video services as frequently as ring tone services – and this is not just limited to early adopters.

Which video genres will succeed on mobile?

Successful services need to take full regard of the unique attributes of mobile:

- Small screen
- Always in the pocket
- Users with time to kill
- Discreet, personal
- Integrated video cameras

It is not enough to take existing content developed for another media, e.g. internet or TV, and transmit it unaltered to a mobile device. The mobile medium is different, and requires its own treatment and specific editorial skills and attention:

- The mobile screen is small, and there are constraints in bandwidth, so small fast-moving images are less successful than closely-cropped video.

- Users are looking for an easy way to access a few minutes of fun – complex navigation to a 30 minute service is unlikely to work.

- Mobile has unique capabilities, the most important of which is the inbuilt 3G video camera; it is clear that many successful video services will take advantage of this to enable users to create their own content.

3G has been said to stand for 'Goals', 'Girls' and 'Gambling' – which are genres that will undoubtedly succeed (as they do across all technologies) – but users also want to generate their own content. Successful mobile video services will be structured to cater for this new approach to content engagement – in a similar manner to the phenomenal success of web sites such as Bebo, Flickr, MySpace and YouTube.

Generically, mobile video services can be segmented into:

- **Pure mobile** services exist only on mobile - they are created for the medium – such as premium video-on-demand services where the user video calls a shortcode and accesses a video portal to choose from a number of video services

- **Mobile + internet** will emerge to extend an internet service to mobile, from MySpace community concepts to chat services - including those enabling users to create content on their mobile and upload to the internet (and vice versa).

- **Mobile + broadcast** will extend participation TV to new levels - rather than simply dialling or texting into a show, the TV channels will enable users to participate directly in the show, including passing mobile users live-to-air. These are likely to first emerge on premium-funded digital channels - before moving to mainstream terrestrial channels.

The one format that is unlikely to survive in the short-term is the rebroadcast of terrestrial TV to mobile. Where not subsidised by the MNO, the content is insufficiently valuable to absorb the data charges and the networks do not have sufficient capacity for mass broadcast; mobile TV currently exists on MNO portals as a marketing/capability showcase, rather than generating profitable revenue from the content.

Figure 1 summarises the video content genres that work technically and commercially on 3G mobile (the circles indicate the effective genres).

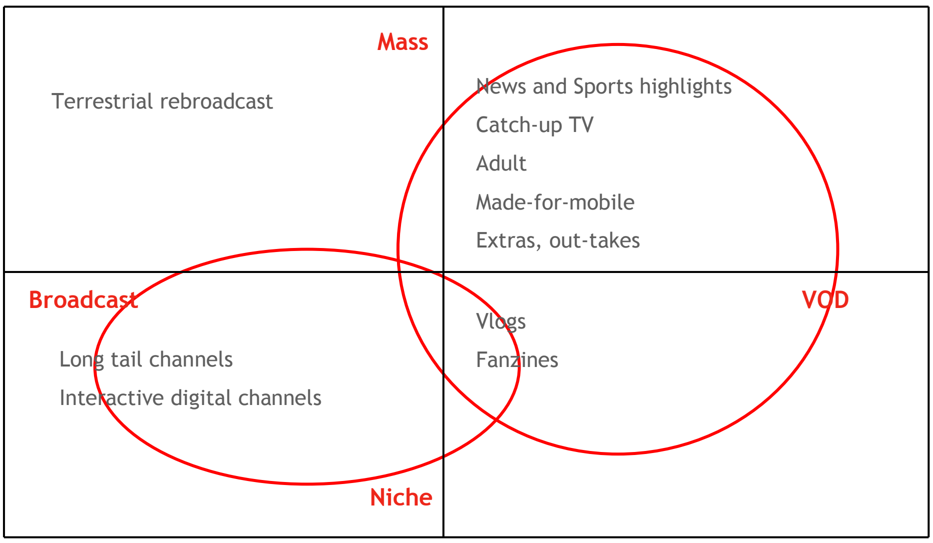

Figure 1: Video content 'sweet spots'

Technical options for delivering 3G video content

The objective for the media owner is to deliver the highest quality video content to the greatest number of users with the most intuitive user experience. The preparation, delivery and monetisation of mobile video across all operators is hard and complex – from both a technical and a commercial perspective - and is the domain of technical service providers such as D2see.

2.5G (GPRS) video downloads

The first mobile video services emerged as downloads. The content is downloaded to the phone before the user plays it - the only feasible way of delivering an acceptable user experience due to the bandwidth constraints of 2.5G GPRS networks (insufficient for streaming video).

The user experience can be challenging - often requiring a player to first be downloaded into which the content can then be downloaded.

3G video downloads

The arrival of 3G has significantly decreased download times, but issues remain with fragmentation amongst media players, DRM, screen sizes, devices, network operators, bandwidth and codecs – and many customers are experiencing 'bill shock' due to high operator data charges.

3G video streaming (IP)

3G's increased bandwidth has enabled video streaming - video is viewed as it arrives to the handset. Current issues with IP streaming include:

- A lack of quality of service in the networks - resulting in variable bandwidth
- Codecs, players and phone settings are not yet standardised
- Out-of-bundle operator data tariffs are as high as £7.50/Mb - 'bill shock' is likely
- Some operators continue to block off-portal IP streaming – either technically or contractually

However, these issues should be resolved towards the end of 2007 - at which point platforms which support IP streaming will provide an efficient way of integrating video within a WAP or mobile internet session.

Video calling

Video calling is currently the best model for 3G video delivery – it uses the same underlying technology as person-to-person video telephony and therefore works on all 3G handsets 'out-of-the-box'. There is no separate data charge – it is embedded in the call charge - so there is little risk of bill shock. Video calling also supports 2-way video, enabling user created uploads – together with navigation via the phones keypad (DTMF – as per voice IVR services), with no 'buffer time' for transitioning between different clips.

Video calling works and it works today – making it very attractive to content owners.

Mobile TV

Mobile TV is currently grabbing the headlines; some companies (particularly MNOs) are taking broadcast TV live and transmitting over 3G networks - an interesting proof of concept but the peer-to-peer 3G networks are not yet designed for broadcasting.

DAB–IP (eg. the BT Movio / Virgin Mobile service) and DVB-H (eg. the O2/ntl Oxford trials) are broadcast technologies suitable for mobile – though they require spectrum, network build-outs and receivers to be built into handsets. These mobile TV services provide no interactivity, no video-on-demand and are complementary to mobile video.

Figure 2 summarises and compares the different methods for delivering video to mobile.

	Video on demand			Broadcast
	Stream		Download	
	Video calling	IP		
Network	3G (circuit-switched) - guaranteed 64 kb/s ensures quality of service	3G (packet switched)	2.5G (download is the only usable option) 3G	DAB IP / DMB / DVB-H - infrastructure required
Device compatibility	Works on all 3G handsets	Fragmented - dependent on device, codecs, settings, media player, bandwidth, screen size, processor, memory available, tariff, network operator, quality of service		Bespoke devices required
Service discovery	Dial number/SMS/WAP initiated dial-back	WAP portal / WAP-push (SMS)		Bespoke
Navigation	Via DTMF / IVR (phone's key pad)	No navigation in stream		Bespoke
DRM	N/A - stream cannot be saved	Various - standards still bedding in		Bespoke
2-way	Yes - video & audio	Not in stream - some handsets can record then upload		No
Billing	Per minute charge - no 'bill shock'	Data carriage: Variable data charges (up to £7.50 / MB) Content: SMS / PayForIt / credit card / other		Bespoke

D2see services – 'mobile video'

'Mobile TV' - complementary to mobile video

Figure 2: Mobile video delivery technologies – a comparison

Cost of data

IP data remains expensive on most MNO tariffs for services delivered 'off-portal' or 'direct-to-consumer' – up to £7.50 / Mb which equates to 1-2 minutes of video. This is just for delivery – with additional charges required for the content owner to receive revenue (via premium SMS, PayForIt or another billing mechanic).

The trend is towards lower capped / fixed rates of data, however currently this is available with some handsets on some price-plans via some operators – in other words not workable as a mass-market proposition (particularly given that the content owner does not know which tariff users are on).

Video calling embeds the cost of data within the tariff (as well as the cost of content) – making it the only workable mass-market off-portal delivery option *today*.

Conclusions

How do you make money out of mobile video *today*?

The off-portal content market is currently larger than on-portal – and offers a better revenue share for content providers who get it right.

However, commercial and technical fragmentation makes it too difficult to deliver *mass-market* streamed video across today's mobile IP networks off-portal. Video calling is the answer to this – offering a consistent user experience across all 3G handsets with billing embedded in the per minute cost of the call.

The opportunities for innovative services - including user-generated and live content – are huge… and the UK market is finally ready now that 3G penetration is heading for 10m subscribers.

D2see
The Barley Mow Centre
10 Barley Mow Passage
Chiswick
London W4 4PH
United Kingdom

www.d2see.com

T +44 20 8819 5710
F +44 20 8819 5711

sales@d2see.com