

Seek and you shall FIND

Those attending IBC in Amsterdam in 2007 cannot fail to have seen the promotional girls circulating the halls, handing out flyers declaring 'EPG- RIP', suggesting that the Electronic Programme Guide was a thing of the past. Behind the initiative was IPTV middleware and applications specialist Orca interactive, who unveiled Compass, a Content Discovery solution designed to provide television viewers quickly and intuitively with the content of their choice.

Powered by customised recommendation engines, Compass runs on Orca's RiGHTv IPTV middleware platform to enable subscribers and operators to benefit fully from the content-rich television offerings available today. The solution provides subscribers with personalised recommendations, tailored to their individual preferences, while allowing operators to promote premium and niche content and ensure that customer satisfaction is achieved.



"THERE WON'T BE ONE RECOMMENDATION ENGINE THAT PROVIDES ALL THE ANSWERS."

- SEFY ARIELY, ORCA INTERACTIVE

A BILLION DOLLAR CONTENT HORDE CAN BE RENDERED NEXT TO WORTHLESS IF NO ONE CAN FIND WHAT THEY ARE LOOKING FOR, OR LOOK FOR WHAT THEY MIGHT FIND. THAT PUTS A LOT OF RESPONSIBILITY ON THE IPG, MIDDLEWARE AND REMOTE CONTROL PROVIDERS. HELP IS AT HAND, AS COLIN MANN REPORTS.

According to Orca Interactive – now part of Viaccess - Compass is designed to transform the viewing experience into a fun, easy and interactive one, based on a seamless subscriber user interface (SUI) featuring consistent language and visual cues. Compass's customised content offerings are derived from personal tastes, user profiles and content ratings enabled by both built-in and external recommendation engines. This flexibility is provided through an open architecture, complemented by management tools to offer a dynamic blend of recommendations. Compass, which enables operators to separate on-demand and live content, is operable on multiple STBs and is accessible over any device – STB, PC or mobile.

steps in, revolutionising the TV experience by intuitively concocting the perfect content mix for each subscriber," he said. "Operators' pressing need for an effective solution for content discovery is clear. By providing them with a Compass to point subscribers in the right direction, Orca continues to drive the market towards the next generation of IPTV", added Barel.

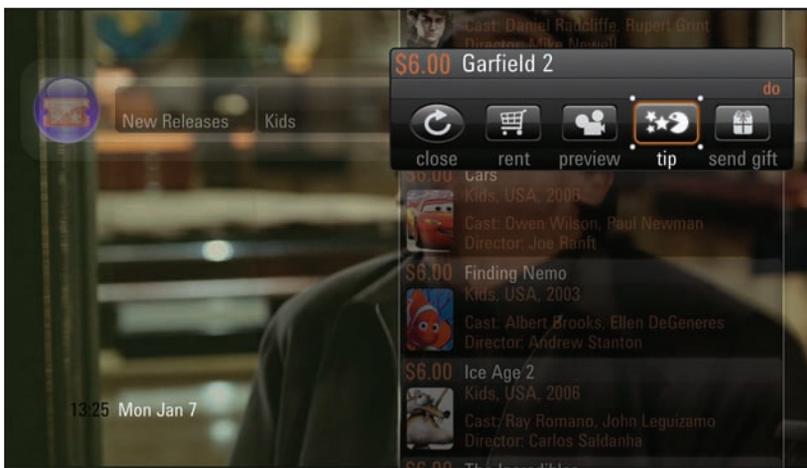
"We've been preaching content discovery since IBC," Sefy Ariely, Orca's VP, marketing, said - some 10 months on from the event. "We're making the right move and it's a good indication that we don't have to preach as much now." He likened the quest for the perfect recommendation engine to the search for the pay-TV 'killer app' in the 1990s. "It emerged that there was no single killer app. Different offerings can be successful. We'll see the same dynamics with recommendation engines," he predicted.

HARD WORK. He described Compass as a blend from different engines, ones that concentrated on criteria such as most popular, critics ratings, promotions, past history, similar profiles. "There won't be one that provides all the answers," he admitted. "We may be smart on algorithms but we don't know if a viewer is going to be tired and has had a hard day at work." He also accepted that there's a limit to how sophisticated they can be. For Ariely, the universal challenge is coaxing the individual to identify himself as a specific member, while mindful of the sensitivity of user data, he said that useful information could be gleaned from certain levels of usage history, such as the packages subscribed to. Beyond that, targeted advertising, if not intrusive, could be useful.

He was confident of the impact that Compass and its counterparts would have. "People are getting used to the fact that they may have a hard time selecting the right content without people to help them."

CONTENT WEALTH.

"With all the live, on-demand and pre-recorded programming available, the main challenge that operators will face in the next couple of years is to provide the right content to the right viewers. Unlike today's programme guides and VOD listings, Compass offers quality - rather than quantity - in content choice", claimed Haggai Barel, CEO of Orca Interactive. "The only way operators and subscribers can benefit from the ever-increasing wealth of viewing content is by creating a proactive user experience that leverages the quality of recommendations and ease of navigation in lieu of the vastness of a catalogue or an EPG. That's where Compass



“WE ARE TRYING TO DEVELOP SOLUTIONS THAT HELP TO REDUCE THE INFORMATION OVERLOAD.”

– FERDINAND MAIER, RUWIDO

But doesn't this raise the prospect of the Amazons or Googles of this world coming to dominate the space. Ariely remains doubtful as to whether the giants of Internet search would come to dominate the pay-TV arena. "I'm not sure if operators will want to involve a search engine. There's a risk of losing control. TV is an operator controlled world. You'd have to introduce Internet aspects carefully".

One potential solution to the quandary of identifying an individual viewer and tailoring content accordingly comes from ruwido, the Austrian remote control specialist. "A well designed navigation system, like our user interaction concept voco media, allows various user groups to be served, explained MD Ferdinand Maier, who said this would transform the individual from destination viewer to browser. "Enabling the user to individualise the various iTV services by simply logging in with a button press, using a fingerprint

reader to also solve security and privacy issues, is our solution to balance the offers to the various consumer groups," he said.

HUMAN BEHAVIOUR. Explaining the kind of research that helps forecast viewer behaviour, Maier said that in developing new forms of interaction techniques for the living room, ruwido relies on research that is directly addressing human behaviour, needs and wants in their living room. "We use ethnographic studies combined with newly developed methodologies like playful probing and creative cultural probing to understand our consumers and to understand the long lasting changes in current living rooms."

What ruwido has learned, according to Maier, is that viewer behaviour is disparate, but can be organised around social events and constellations.

"Live events watched together in a group, either in the same room or over distance, are still attracting various user groups, the multitude of channels has become a matter of course and users start to organise the variety of channels themselves using social recommendation mechanisms," he noted.

Maier said that company research currently cannot verify that (technically) sophisticated recommendation engines serve the real user needs. "Recommendation must become oriented towards concepts like trust, security and privacy," he said. "People perceive recommendations only as useful, if they trust the recommendation system to some degree. That simply means that at least three out of ten recommendations should lay within the users profile - not showing something new - to increase the trust of the user in the system."

TRUST CARDS. As for permission and privacy issues, ruwido uses a fingerprint recognition included in the remote control, so the



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TISCALI TV

individual user can control his profile and his recommendations. "To improve aspects of users' security, privacy and trust, the recommendation system must allow the user to change settings and to decide to what level he wants to provide information," explained Maier. "Browsing will still be a typical means of searching content, as people relate this kind of activity not to the conscious selection of content, where recommendation systems can play a role, but to activities such as 'calming down', 'relaxing' or 'starting the evening!'"

In terms of advertising, Maier suggested that this will have to change to reach users

on various levels. "Today households with IPTV can be easily addressed with personalised advertising, and using solutions like voco media even allows every user of the system to be addressed individually. Typically advertising for broad user groups will still exist, but must be complemented by new forms of advertising," he said.

As to the role that the Internet might play in search, Maier suggested that IPTV shows, that the connection of the TV with the Internet (in technical terms) can help to improve the services and customers want to enjoy any kind of media in their homes and on the move. "But when thinking about the large TV screen in the living room and the small screen of a hand-held, it becomes clear that any form

of Internet resource has to be adapted to meet the consumers TV demands. To search on the Internet might be one of the means to select content, following recommendations might be another one. But besides that, TV watching is still a special form of entertainment and people want TV to be as simple as it has been during the last 30 years: turn on and watch," he said. "We are trying to develop solutions that help to reduce the information overload," said Maier. "Remote controls are only one part of this solution. The voco remote control, including six navigation keys and a fingerprint, allows new forms of navigation concepts for interactive TV content. Content is not only personalised, but what we call individ-



"THERE'S OFTEN POOR QUALITY METADATA, EVEN FOR MOVIES."

- FABIO VIOLANTE,
NEPTUNY



ualised, the user can select, organise and influence the content of the system, and at the same time the system supports the user by automatic recommendations or similar automatic selection mechanisms."

BUTTON PRESS.

Jonathan Sykes, managing director, content strategy, Tiscali TV, said that the advantage that Tiscali had over other pay-TV platforms was that the operator was aware of each button press. "When that



activity is measurable, we can see how something succeeds and amend as appropriate. We're one of the best R&D houses for the studios," he claimed.

He detects a threat to the traditional, linear, cable and satellite programmers such as National Geographic and Discovery. "A lot of their thunder is being taken by the Freeview services who can cross-promote their programming, so they will have to innovate to ensure that linear TV remains relevant," he said. "Freeview plus PVR means having to work much harder."

In terms of guiding the viewer towards the cornucopia of content, Sykes suggested that you segment the options in various ways. "Comedy, age group, etcetera." Picking up on Orca Interactive's comments regarding the viewing experience, Sykes

said any programme guide must be simple, fun, helpful, intuitive, quick and relevant. While accepting the technological capabilities, Sykes insisted that the focus should remain on the consumer's needs. A guide may go straight to channels or enable the viewer to test a selection of what has been proposed. "We're in a world where there are thousands of hours of great TV at any one time," he said, recognising the scale of the challenge.

Sykes too remained mindful of the privacy of customer data. "In every way shape or form we should do it correctly. We don't sell on any such details. The platform has to make sure it maintains the confidence of the consumers." Looking to the future, he said that the whole world of TV listings would change again totally in five years, and echoed Orca Interactive's Ariely in suggesting that there wouldn't be a single dominant method of content search. "People's needs differ; some people will want more genre based searches, others will prefer listings by channel or time." He foresaw possible problems such as assessing a viewer's interest in sport. "You don't necessarily want to watch sport all the time, though. Above all, it's a question of getting it right, providing an information and entertainment service quickly." In terms of personalisation, Tiscali TV had made one positive move, producing a special orange remote control for the kids in the house to use.

CONTENT SELECTION. IT specialist company Neptuny has developed ContentWise, a predictive content recommendation system for digital TV operators designed to help viewers select the right content to suit their tastes and requirements. ContentWise generates recommendations for media content



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tailored to individuals' preferences, enabling users to find suitable content quickly. Recommendations are based on user ratings and content metadata.

Fabio Violante, Neptuny's CEO doesn't underestimate the scale of the challenge. "It's a big problem we have seen with customers. If you've got VoD on a platform, plus broadcast channels, there's too much content; people get overloaded," he said. "That's why we moved into this area: to enable operators to get more money out of their IPTV investment." He set out a two-fold approach to content search. One way was based around the social behaviour of people. "It's collaborative, you try to forecast based on similar users. That's the 'Amazon' approach." Another way was based on content similarity i.e., Robert De Niro as an actor, Francis Ford Coppola as a director, or similar movies to those involving them. "You can combine both to give recommendations," he said, recognising that other relevant aspects needed to be taken into account such as mood. "Who is sitting in front of the television?" he suggested, pointing out that an advanced remote control, such as the ruvido solution incorporating fingerprinting, could help in this respect.

Even given a range of parameters to hone a search, Violante said that other factors could mitigate against successful searches. "Powerful mathematical algorithms were not common previously because of the demand for high computational power," he said, intimating that new-generation chip technology had moved the game forward. He also recognised the obstacles to a content-based approach. "There's often poor quality metadata, even for movies."

PERSONAL PREFERENCES. Jonathan Beavon, director of segment marketing at NDS, sees the development of search and recommendation engines as being about applications that may lead to customers subscribing more. How this is to be achieved remains the challenge. "All recommendation engines claim to be the best but there are strengths in each," he said. "In addition people will have preferences for their EPGs/IPGs. Some may be more graphical and functional."

The availability of broadband means that it is now possible to combine broadcast with other sources to enhance descriptions. "We'll see a change from grids to more graphic presentation," he said.



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- STEPHEN REEDER,
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“BY BREAKING IT DOWN, YOU CAN ENCOURAGE THE CUSTOMER TO GO MUCH DEEPER.”

– ANTHONY CARBONARI, BT VISION



within a targeted community,” he said, adding that the browsing aspect of the search process could be revenue generating. A targeted ad could be incorporated into browsing at the most receptive point, such as when someone has half an hour to kill. “Rather than dawdle aimlessly I’ll go and complete the enquiry,” he said.

Anthony Carbonari, interactive and commercial media director at BT Vision, admitted that the different tiers to the hybrid platform - DTT, PVR, VoD and Interactivity, created a challenge. “The customer doesn’t care how it is delivered. With a big VoD archive, the challenge is to help customers find what they want. This can involve 550 movies at any time. It’s a question of educating consumers as well as calling on our own skill sets,” he said.

Likening BT Vision’s on-demand

content offerings to a retail video store, Carbonari said it was necessary to present the wares most favourably, which required adapting and learning new skills. Presentation could be via genre, divided into other specialist/niche categories. Other indicators could involve ‘last chance’ and ‘must see’. “By breaking it down, you can encourage the customer to go much deeper,” he explained. As with NDS’s Beavon, Carbonari suggested that a browser-based STB would allow the creation of TV web pages, making it feasible to experiment with ways to present the content. “We’re looking at taking the framework to build portals,” he admitted, also revealing that BT was in discussion with relevant parties to address search and recommendation. “We’re looking to see how we can have these tools.”

Steven Reeder, VP, business development, EMEA, for ActiveVideo Networks, said that what he’s seeing with the companies the company is talking to are that systems are designed around buying movies. “We’re seeing a need for disparate search solutions to match the context, drawing in recommendation and community aspects ideally you want recommendations from people like yourself,” he said. He says that some proposed solutions, such as facial recognition for actors are “a bit science fiction at the moment”.



“INTEL’S PROCESSOR, THAT’S WHAT WE’VE BEEN WAITING FOR.”

– RICHARD BAKER, ANT

“We’re just about to start going into that era.” NDS was already examining the advertising potential to be gained from sophisticated content search engines. “We’re already getting detailed information from seven of our customers,” he said. He also suggested that remotes needed to be designed with the User Interface in mind.

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COMMUNITY CHEST. He felt that broadcasters were themselves a form of community and search selection process. “They’ll drive their own community rather than lose ground. I see no reason the RTLs and TF1s of the world can’t get involved in this way.” He also recognised the potential for advertising. “It’s possible to include weighted advertising

within a targeted community,” he said, adding that the browsing aspect of the search process could be revenue generating. A targeted ad could be incorporated into browsing at the most receptive point, such as when someone has half an hour to kill. “Rather than dawdle aimlessly I’ll go and complete the enquiry,” he said.

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EXCITING TIMES. Richard Baker, EVP of sales and marketing at UK-based interactive TV software provider, ANT, described search and recommendation as central to the work the company is doing, initially in respect of STBs, now more directly relating to TVs. “There’s a challenge with a standard grid-based EPG,” he said, suggesting that the aim was to have elegant convergence of the grid with broadcast channel. For ANT, there was a real demand on flexibility serving so many different markets.

As with NDS’s Beavon, the imperative for the broadcaster or platform operator was how to monetise their assets. The next three to five years would see the emergence of graphic EPGs. This too had been dependent on the availability of computing power. “Intel’s processor, that’s what we’ve been waiting for - these are exciting times for those involved in the sector.”

Exciting times indeed and, in the UK at least, less than a generation away from the time when newspapers were only allowed to publish TV programme details of that day’s schedule. Nowadays, the expectation is of a multi-day, multi-channel EPG/IPG, and that’s just for the linear programming. Add on-demand content to the equation and it’s gone way beyond Bruce Springsteen’s *57 channels and nothing on*.