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THE VIRTUAL PERSON BECOMES REALITY

Executive Summary

Sky, British Telecom, Legal & General, Phillips US, Roxio, Sharp, the BBC, Unilever, Nationwide, HBOS, Lloyds TSB Insurance, RBS Insurance, Alliance & Leicester, Renault, Motability, DTE Energy and One Railway.

All the above companies have something in common: they are using a Virtual Person@ (v-person) from Creative Virtual to interact with, entertain and sell to their customers.

A v-person is a realistic, digital character capable of maintaining a complex and detailed conversation with users across multiple channels. As many of those mentioned above will attest, this technology has delivered an improved customer experience at a drastically reduced cost in comparison to both traditional and emerging channels.

Every month more than two million virtual conversations now take place between v-people and users. More than 90 per cent of all questions asked are answered successfully (either directly or by directing the user seamlessly to what they need).

The result is that a major customer service organisation like British Telecom has been able to reduce calls to its contact centre by some 400,000 in less than a year (May 2006 to March 2007) with an estimated cost saving of nearly £800,000 year thanks to Emma, its Virtual Person.

This white paper discusses what exactly constitutes a v-person; how and why they are being used today to benefit both companies and customers; the technological, social and anthropological factors that have shaped their emergence; as well as what the future holds…

Contents

1. The failure of traditional channels
2. The move towards Virtual People
3. The characteristics of a successful virtual person
4. The business case for virtual people
5. The traditional commercial barriers
6. The early adopters (financial services)
7. The customers
8. The potential applications
9. The competitive landscape & global outreach
10. The future

1. The failure of traditional channels

One of the greatest challenges facing any customer-facing organisation in the 21st century is engaging customers in a way that satisfies the needs of both parties.

Choosing and perfecting the right channels hasn't proven easy, and not just because of the relative costs. The reality is that large companies still have difficulties in empathising with, and understanding customers who are increasingly channel – and indeed brand – agnostic.

"Whereas it was previously sufficient to treat each interaction as a distinct transaction with associated rules and procedures, leading organisations are now treating the breadth of channels as parts of a larger continuum," says analyst Chip Gliedman[1] of the Forrester Group.

Of course, this is the very essence of Web 2.0: The gathering together of best-of-breed solutions that create a cohesive user experience and internalised environment that satisfies customers consistently across whatever channels they are using while at the same time delivering profitability for the organisation in question.

However, this is easier said than done…

Web sites are failing
The very benefits that digital channels were meant to offer above and beyond all others were speed and convenience. Yet, despite the evolution of digital design and information architecture, many major commercial sites are still failing their users through an inability to anticipate what they actually want, or provide an intuitive route for them to find it.

In fact, recent industry research[2] found that a worrying 66 per cent of leading UK consumer web sites surveyed could answer fewer than two out of ten 'most asked' consumer questions.

Email is labour intensive and slow
All research points to ostensibly the same conclusion: Many of the email requests that customers send to companies fall into a black hole or are answered so late that the enquiry has already been dealt with using another channel.

When Jupiter Research sent test emails to 224 major web sites earlier this year, some 36% either failed to reply or took longer than three days to respond – no doubt because of the enormous amount of human hours needed to respond.

Callback and Live Chat can be effective, but expensive
These relatively new self-service solutions have shown themselves to be extremely valuable…in the right circumstances, and primarily as escalation tools. However, the

costs associated (particularly with live chat) are even more prohibitive than for answering customer email.

Contact centres are cost centres
Contact centres are the major communication channel between organisations and their customers. In fact, the number of call centre workers in the UK alone has now officially reached one million.

The problem is that contact centers are *expensive*. In fact, according to ContactBabel(3), a UK-based analysis firm focusing on the global contact centre and CRM industries, salaries increased at twice the rate of inflation in 2007; and while less expensive options are available in the developing world, they come with a huge compromise in quality.

This, coupled with ever-tighter legislation restricting outbound calling, is increasingly making the average contact centre more and more of a cost centre, while delivering a distinctly average customer experience.

The influential Aspect Contact Center Satisfaction Index(4) studies consumer perceptions and expectations of contact centres based on three key criteria: Empathy and advocacy, efficiency and automation. In its most recent study, it found that 46 per cent of users give only a passing grade to their experience, while a full 23 per cent saying that their interactions fall short of expectations.

The view from the inside looking out isn't much better. A recent survey(5) of contact centre professionals conducted by independent market analyst Datamonitor reveals, unsurprisingly, that, "Pressure on contact centre managers to do more (services) with less (budget) is increasing the demand for optimisation technologies."

It goes on to say that as vendors look to develop multi-component solutions, the need for effective integration and partnering will become a necessity.

CRM
How much do companies *really* know about their customers? CRM systems have certainly proven effective at automation and integration of back office functions and certain customer-facing activities. However, one of their greatest flaws lies in the simple fact that most customers do not *want* a relationship with the organisation in question. Ultimately, a CRM system can only ever tell you *what* customers are doing. Unfortunately, it can rarely tell you why, or indeed what they are thinking.

2.The move towards Virtual People

Early in 2007 The Digital Future Project(6) (which surveys 2,000 internet users each year) found that 43 percent of people who are members of online communities "felt

as strongly" about their virtual community as they did about their real-world communities.

This jaw-dropping statistic takes on even greater significance when one considers the sheer volume of people now involved in virtual communities (according to *The Business* magazine, Facebook had 6.2 million users in the UK alone in August 2007 and has been running at 150,000 new members per week through 2007).

Factor in the skyrocketing take-up of e-commerce and it's clear that the virtual world is no longer a parallel universe: Digital interaction is in fact now woven into the very fabric of our lives.

Not only that, but nearly all messaging systems, online forums, social networking sites and multi-user role-playing games - such as *Second Life* - now include some form of avatar or virtual character feature.

Research has continually proven that virtual characters somehow, on some level, increase the authenticity of our digital experience(7).

Most of these virtual people to-date have been relatively dumb, two-dimensional digital characters or simple avatars. However, Creative Virtual's v-person has begun to show that given an extra dimension of intelligence and conversational functionality, virtual characters can truly transform the digital experience.

Of all the research and thought devoted to this question, some of the most acclaimed is that by Professor Byron Reeves of Stanford University (8). He says: "The same social competencies that facilitate human-human interaction also determine the success of human-media interactions. The human brain is not specialised for 21st century media; people are not able to discount social presentations as unreal just because they appear on a screen. Rather, 'closeness counts'. Interactive media engage brain systems evolved for other purposes; namely, the evaluation of social experience."

In other words, our brains are hotwired to subconsciously crave the interactions capable of being delivered by a v-person, even when we *know* that 'person' is not real.

3. The characteristics of a successful v-person

A v-person not only looks and feels human, but has the innate ability to speak naturally, understand and remember both the history and context of existing and previous conversations, and maintain a sustained and realistic dialogue with a digital user.

Of course, creating genuine, artificially intelligent virtual people remains the stuff of science fiction. But for today at least, this technology is the closest thing yet to bridging the gap between automation and conversation.

Every successful v-person shares the same three key characteristics.

- A character/interface that expresses emotion and is housed in a dynamic 'chat box' or template that is also able to display contextual information including navigation and cross-sells.
- Natural language dialogue based on conversational intelligence.
- The ability to be integrated with other FAQs and internal/external information sources.

A humanistic interface
The Encyclopaedia Britannica defines anthropomorphism as "the attribution of human form or other human characteristics to any nonhuman object".

Various in-depth studies have concluded that avatars believed to be more anthropomorphic have been rated as more credible, engaging, and likeable than less anthropomorphic images (9 & 10).

A study by the *Journal of Computer-Mediated Communication(11)* concluded that: "Avatars that were more anthropomorphic were perceived to be more attractive and credible, and people were more likely to choose to be represented by them. The strongest predictor of these variables, however, was the degree of masculinity or femininity (lack of androgyny) of an avatar…Participants strongly preferred avatars that were both human and matched their own gender."

It's no coincidence that the majority of successful v-people so far have been highly humanised, with human names, looks and characteristics. Trust is at the heart of all positive social interactions – which has always made it the cornerstone of all successful brands.

While fulfilling the need to provide a superior customer experience and act as brand ambassadors, a v-person is able to take advantage of an intuitive and attractive graphic interface to facilitate increased dialogue and ultimately drive sales.

(screen grab here)

For example, The Birmingham Midshires Building Society's v-person (Red) is able to trigger customised messaging within the chat window based on conversation history and what she already knows about the users' needs and circumstances. The result is increased clicks and sales.

Natural language dialogue

What do we actually *mean* by 'natural language dialogue'?

In essence, natural language is what separates a v-person from search engines and FAQ finders, through its ability to understand not just words, sentences, and their meaning, but also the nuances of conversation - with all the contextual issues that surround them.

The Knowledge Base (Kb) forms the 'brain' of every v-person. Through a sophisticated pattern matching technique, the Kb is organised in much the same way that a real human organises language – with vast vocabularies of words organised and cross-referenced against other words or phrases that mean similar or dissimilar things.

When users input a question, the words they use are automatically matched against a group of recognition patterns that comprise logical combinations of keywords, synonyms, dialogue context and other variables – including text, web pages, video, audio, and can fetch data from external sources.

This enables the v-person to answer a question from the user without the need to recognise the precise wording used. For example, the same essential question can be asked in a variety of ways:

- "Tell me about…"
- "How much is…"
- "What about…"

The v-person provides the same single answer to all three questions in much the same way that a human being would. This is another of the characteristics that makes this technology vastly superior to search-related FAQ systems, which would instead offer a list or menu of possible answers to a given user question – far removed from the experience of talking to a real person.

And there are further layers of intelligence within the v-person that enables them to understand various dependent conversational parameters including the context in which the v-person was launched. Was it opened from a page on a web site or an online form? If so, which one? Was a user driven to it by a campaign, if so, what information does it need to know?

The v-person remembers not just its current conversation, but *all* previous conversations with a particular user. So in the case of a Financial Services provider, for example, questions relating to high net-worth individuals might be offered to someone who gave a 'high earnings' response to a previous question. Furthermore, this information and related questions can even be organised in a secondary system, like a CRM solution.

Much of this rich functionality is the result of many years of development of the core Kb and its natural language rules – the benefit of which is a 90% accuracy level in replies to user questions. No other natural language comes close, as the following sample transcripts demonstrate.

Low-hanging fruit

This is typical example of how a v-person handles a simple customer enquiry:

Emma: Hello, I'm Emma. Please type in a question, click one of the FAQs on the bottom right, or select a new list of FAQs using the drop-down below.
User: what is the number to order broadband please?
Emma: The number for Residential BT Broadband Sales and Billing is 0800 800 150. Opening hours are Monday - Saturday 07:30 - 22:00, Sunday 09:00 - 18:00. This call is free from a BT landline. You can track the progress of your Broadband order online.
User: thanks
Emma: You're welcome.

Complex conversations

A more involved user query…with the same result:

Emma: Hello, I'm Emma. Please type in a question, click one of the FAQs on the bottom right, or select a new list of FAQs using the drop-down below.
User: What speed do I get with BT Total Broadband
Emma: Up to 8Mb BT Total Broadband uses advanced rate-adaptive broadband technology to automatically provide the fastest speed up to 8Mb that your phone line can physically support. The actual speed you will receive depends on a number of factors, principally how close you live to your phone exchange (the nearer you are the faster the speed you can expect). So you could get the maximum of 8Mb if you're close to your exchange, or 6Mb, 4Mb, 2Mb or less the further away you are. Other factors can also affect your connection speed - such as the length and quality of any phone wiring extensions in your home, the age and type of your modem, the speed of your computer, and whether any broadband micro filters you have are correctly installed.
User: How is my phone line enabled for broadband?
Emma: Work is carried out in your local BT Telephone exchange to enable your telephone line for broadband. This change does not affect the phone line, which can still be used for telephone calls as normal.
User: Will an engineer need to come to my home to set up BT Broadband?
Emma: BT Broadband is designed to be easy for you to set up yourself, so an engineer won't need to visit your home. Full set up instructions are supplied in your welcome pack and help is also available online. However, if you would like an engineer to install it for you, the Home IT Install service could be for you. The BT

Home IT Install service has limited availability in some areas of Northern Ireland - please call us on 0800 876 6542 for details.
User: Thanks.

A turnkey solution
There is one other very important features of Creative Virtual's Knowledge Base technology and its supporting tools: Building and maintaining the Kb of a v-person requires absolutely no programming knowledge or specific technical skills; just a brief initial training and orientation session. The result: a genuine turnkey solution.

Integration
As already mentioned, web 2.0 is all about integrating multiple best-in-breed solutions to provide the best possible customer experience.

The v-person facilitates this strategic shift through its ability to be easily integrated with any number of existing IT systems and applications, including:

- Third-party databases.
- Content management systems and personalisation systems.
- Web content (existing FAQs).
- CRM systems.
- Live-chat, Callback, text-to-speech and other voice recognition systems.

From a technical standpoint, the solution supports open system standards such as HTML, XML, ODBC and AJAX, making integration extremely straightforward.

4. The business case for Virtual People

A v-person never can and never will replace a real person. But the reality of recent years is that they most certainly *are* a viable and valuable alternative that not only reduce costs and improve productivity, but also plug the customer experience gap, making service a true differentiator.

This is especially important as both the volume and complexity of customer interactions increases. Research by Gartner Group in 2005[12] found that interactions between b-to-c organisations and their customers are growing at a rate of 15% per year (largely thanks to the increasing volume and complexity of questions that need to be fielded) with the average enterprise receiving some 1.7 millions calls per year to its contact centre.
In other words: Literally billions of customer service calls every year, each with a significant dollar value.

A v-person is extremely cost effective
The bottom line for most decision makers is return on investment: The average v-person is unquestionably, unequivocally proven to be *a lot* less expensive and more productive than real people.

The same Gartner Group research puts the average cost of answering a customer query by phone at $4.50 per call –a number that, as we've seen, is growing all the time. Even an automated call costs around $2.

Over the past seven years, Creative Virtual has shown that a v-person can answer those same questions for just 10 cents per query…almost *one fiftieth* of the price of a contact centre. Typically, ROI is achieved within 6 months.

A customer-facing v-person can cut emails by 30 per cent and reduce call centre traffic by 25 per cent - based on an operating model whereby the more complex the customer engagement model, the greater the organisational benefits.

Virtual People improve 'findability'
The influence of Search coupled with users' growing confidence with the digital experience has made self-service a reality.

A v-person gives users the tools to find the answers to their questions in a single place, not just through their innate ability to answer questions directly, but also through their power to escalate questions through integration with FAQs, decision trees, Callback, and ultimately real people - all in the quest to get the right information to the user.

As Creative Virtual has experienced with Financial Services clients, this crucial 'findability' extends beyond simply answering queries, to the management of entire processes. For example, many users struggle with online forms, and often abandon the task half-way through out of sheer frustration – leading to lost revenue, A v-person can be key to providing the mediation and support necessary to help them complete that task.

Virtual People are brand ambassadors that improve customer service by putting someone 'behind the counter'
Social intelligence is the cornerstone of all human interaction. When we communicate as human beings we instinctively look for a mediator or facilitator capable of not only helping us fulfil our given task, but also providing the emotional and social interaction that forms part of the experience.

Professor Byron Leeves of Stanford University (13), made the following observations about intelligent virtual characters:

"Social intelligence in automated interactions is good business.

- Social interfaces are persuasive (and increase up-sell, cross-sell and conversion rates).
- They are arousing (and motivate users to stick with interactions longer). They are engaging (and minimise "churn" by encouraging users to return over time).
- They increase trust (and make people feel more secure and comfortable about disclosing personal information online).
- They promote continuity across interactions (by welcoming people back to interactions using information from prior conversations).
- They create feelings of friendliness and liking (and support generalized positive feelings toward organisations that sponsor the interactions).
- They increase a sense of personalised experience (and make people feel special and not like they're one user among a million)."

Ultimately, if you automate any social experience *too much*, users will simply disconnect. When Jupiter Research(14) turned its attention to the subject, the results were equally clear:

Consumers expressed the greatest interest in the human aspect of customer interactions, characterised here as "Empathy and Advocacy," followed next by "Efficiency." They were least interested in technology-related features, or "Automation," unless technology was used to enhance interpersonal communications.

In the case of v-people these qualities are augmented by the fact that from a brand perspective (and unlike humans) they are utterly consistent in the way they answer questions and talk to users.

Virtual People provide 'always-on', 24-7 support to an unlimited number of users concurrently. There are:

- No queues.
- No messages about 'high call volumes.
- No being passed around the contact centre.
- No searching fruitlessly around a web site, and;
- No waiting for an email that never arrives…

Virtual People provide genuine insight into user behaviour
Conversational reporting is a compelling and unique benefit of a v-person through the solution's ability to automatically record transcripts of every conversation they have. This information is easily transferable and manageable, providing a unique insight into the user as a *person,* not just a click, and is therefore way more insightful.

The ability to track user interests at such a granular and detailed level is unique in our industry and way more illuminating than common internet page counters or other web metrics.

Of course, the next major hurdle then facing any organisation is what exactly they do with all that detailed research and insight? Or as E-Consultancy(15) recently concluded: "The challenge for organisations is making sense of all the information they are getting from a variety of channels and then acting on it in a coherent way. Companies can build up a "User DNA profile" of customers or website users by working out what the different aspects of a profile are and then filling in that information over time."

To tackle this challenge, Creative Virtual has developed the v-statistics® module, a complete real-time online analysis tool which, via a, password protected site, provides clients with a detailed transaction view of users' specific information requirements as well as the "bigger picture" about issues such as transaction peak days and times, as well as most asked questions and categories.

This image shows the percentage of transactions by hour of the day over a given time period.
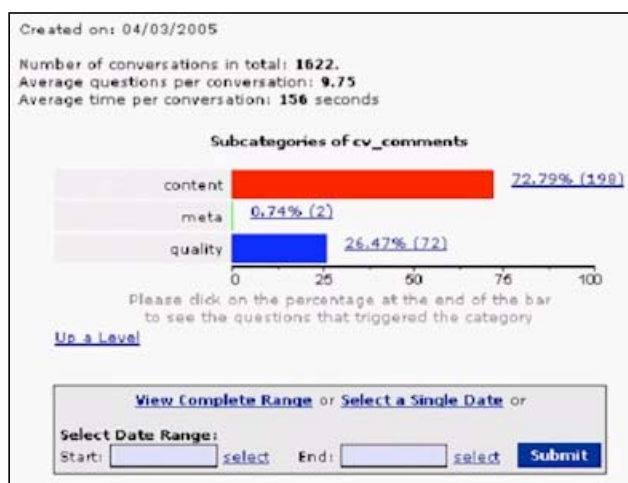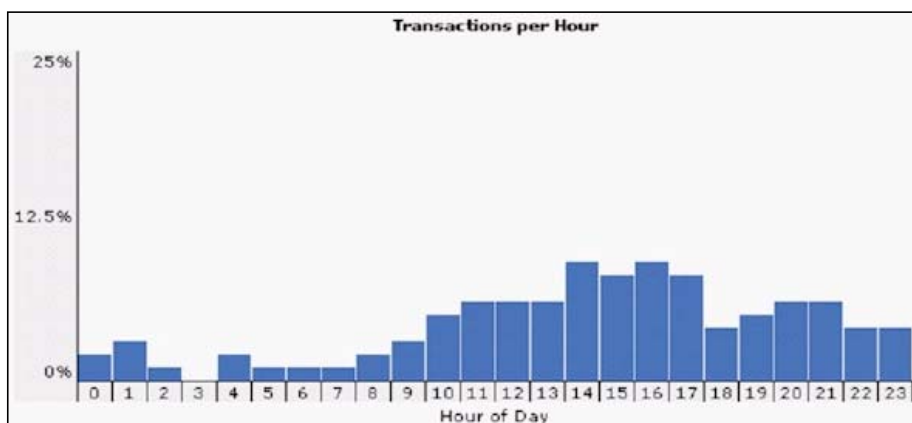
On the left you can see an example of how conversations can be broken down into categories and sub-categories and then displayed in graphic form.

The v-statistics online reporting interface enables clients to drill down/up, select arbitrary date ranges and look at the individual questions that triggered these categories - as well as view overall statistics for this segment.

Furthermore, user transactions are fully searchable, enabling clients to produce bespoke reports tailored to their specific needs. For example, Teletext is now able to review customer conversations with its v-person, Jodie, and thus "get into their customers' head" and provide the appropriate solutions. "The ability to capture user data makes Jodie more than just a fantastic 24/7 customer assistant - it makes her a

valuable marketing and research tool which allows us to stay in touch with our customers," says Teletext Holidays Commercial Director, Matt Cheevers

5. The traditional commercial barriers

The greatest barrier facing virtual people in the first half of this decade was simply the general reluctance and indeed inability of users to engage with them.

The past two years, however, have seen a sea change in mentality, as evidenced by the sheer volume of conversations now taking place between real and v-people: More than two million per month.

"The more that people use this type of technology, the more they come to trust it, and in turn the more they use it," says Chris Ezekiel, Managing Director of Creative Virtual. "Once the momentum starts building, it's difficult to stop." This is borne out by the fact that less than 10 per cent of all questions directed at a v-person are unsuccessfully answered."

Of course the one question that can never be definitely answered for any IT implementation is simply: Will it work? From a back-end perspective, the Creative Virtual team has now successfully completed more than 100 installations over the last few years and allayed many of the traditional concerns surrounding IT projects by developing a simple implementation process that enables this managed service to be delivered in four key stages:

- Conceptualisation & scoping.
- Knowledge base creation.
- Integration with existing IT environment.
- Signoff and continuous improvement.

On average the implementation process takes six weeks. Once installed, Virtual People is a low maintenance solution that requires some ongoing client input on the creation and approval of content – but not much else.

6. Financial Services: the early adopters

The v-person solution is used today by a huge range of customer service-oriented organisations and industries around the world, from IT and telecoms to FMCG and pharmaceuticals, to public services and broadcasting. However, the one clear early adopter of this technology has been the financial services industry.

According to *Marketing Week*(16), the online customer service ratings for Britain's banks have fallen to an all-time low with a staggering 50 per cent of major banks unable to answer a single one of 10 basic customer questions asked via their websites.

In fact, the general level of online customer service in 2006 was substantially worse than that in 2005 (when only two banks scored zero and the sector successfully answered an average of three questions out of ten).

In short, the Financial Services industry has lived with a slimmer margin for error or 'bad contact' with customers than most, which led to a desperate need for help with its channel mix. Through clients including HBOS, Lloyds TSB Insurance, RBS Insurance, and Alliance and Leicester, Creative Virtual has helped fill that void through the ability of v-people to calibrate and synthesise large amounts of information for users who want fast answers.

As Forrester Research analyst Brad Strothkamp(17) recently stated: "Interactive help will become a cornerstone of any e-business sales strategy. Financial firms are increasingly focused on sales of financial products online. With that shift from service to sales, conversion rates become the key metric by which firms measure success. To maximise conversion rates, financial firms will come to realise the importance of interactive help."

7. The customers

The list of companies using Virtual People from Creative Virtual includes Sky, British Telecom, Legal & General, Phillips US, Roxio, Sharp, the BBC, Unilever, Nationwide, HBOS, Lloyds TSB Insurance, RBS Insurance, Alliance & Leicester, Renault, Motability, DTE Energy and One Railway.

In terms of size and sheer customer service requirement, BT has been one of the most prominent and successful proponents of v-people.

From May 2006 through March 2007 the business made a cost savings of £780,000

This is based on an 'estimated' saving of 408,679 calls which in turn has been produced from an actual figure of nearly 700,000 user sessions with its v-person, Emma.

In addition, there are two other non-financial benefits you can quote as very important, according to BT's Nick Rowland:

"Firstly, this technology allows us to cater for less technical customers who don't necessarily know the right kind of language to use to engage with BT.

"And secondly, our v-person is giving us insight into customer behaviour and language which can then be used to enhance other BT services and information - such as the information on Support & Advice."

8. The potential applications

When it comes to the potential of virtual people, we have barely scratched the surface.

- Users have embraced the purity and simplicity of search but just how long before they want more functionality? Virtual people could very easily be integrated to refine and contextualise searches.

- Chat-based digital advertising: Every online advertiser is looking for a way of seizing back the initiative and engaging consumers with relevant content and ideas that go beyond static banners, viral games and SEO. Virtual people could be key in creating true interactive advertising.

Beyond the purely commercial realm, virtual people have already proven themselves to be extremely effective as part of an entertainment solution. The BBC's groundbreaking Jamie Kane project was part murder mystery, part adventure game and part treasure hunt, with a v-person at its heart. It not only won awards and critical acclaim, but more importantly provided an estimated 15 hours of high quality digital entertainment to each of its thousands of players. "Creative Virtual's expertise and creativity helped us deliver a product we're all very proud of," said Rob Cooper of the BBC.

Of course another huge, yet unexplored area of potential for the v-person lies in education. With more study aids and information sources being provided and consumed through digital channels, it isn't hard to see the value that a 'virtual teacher' could bring to students of all ages.

9. The competitive landscape & global outreach

In terms of both functionality, business benefits and proven track record, there are no solutions on the world marketplace that compete with the v-person.

The majority of 'intelligent' FAQ/search solutions are unable to provide a conversation, more a list of search results; and while several leading CRM providers now provide virtual or live chat integrated within their (very expensive) enterprise solutions, but they do *not* offer virtual people as a standalone solution. This is despite

the fact that one of the most complex and expensive undertakings for any global customer service organisation will increasingly be the ability to provide fast, consistent, multi-lingual support.

10. The future

The convergence of telephony, entertainment and computing, combined with the advancements in voice recognition, text-to-speech and 3D technology, makes the future for v-people exciting indeed.

Working closely with customers on combined research projects, Creative Virtual has already seen that personalisation and platform integration will be absolutely key for organisations that want to maintain a dialogue with their customers in an increasingly wireless world.

As the walls between traditional digital channels crumble (and entirely new channels emerge), v-people and the social and information intelligence they provide could be the glue that holds much of the web 2.0 proposition together.
After all, what could be more a perfect mobile application than virtual chat?

In a few years, we will talk to machines as a matter of course, every day, without blinking an eye. According to Forrester Research[18], within three to five years it's highly likely that web site design and architecture as we know it will be gone. Instead, users will be given the choice of a conversational interface when they arrive at a web site.

Even the smallest mobile devices will be fitted with everything from LCD screens to text-to-speech chips - enabling users to talk to their email inbox; order a book using Amazon's virtual sales assistant; or chat to a colleague in Japan using a web-based simultaneous translation service.

Who better to provide and mediate these interactions than a Virtual Person?

(ends)

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Sources

1. Chip Gliedman/Forrester research 2007

2. [Transversal (via TheWiseMarketer), August 2006] [UK consumers turn their back on unhelpful websites, 4/10/05 Transversal]

3. Contact babel: The UK Contact Centre Operational Review: 4th edition - 2006

4. Aspect Contact Satisfaction Index, 2005 conducted by independent research firm Leo J. Shapiro & Associates as the result of a survey of more than 1,000 consumers and 150 contact center professionals across North America.

5. Datamonitor *Extending customer contact across the enterprise, published 9 May 2007

6. The Digital Future Project 2007

7. Persson, P. (2003). Exms: An animated and avatar-based messaging system for expressive peer communication. Proceedings of GROUP '03. ACM Press.

8. The Benefits of Interactive Online Characters, Byron Reeves

9. Wexelblat, A. (1997). Don't make that face: A report on anthropomorphizing an interface. Retrieved October 24, 2005 from http://wex.www.media.mit.edu/people/wex/anthro-expt-paper/Anthro-r.htm

10. Koda, T. (1996). Agents with faces: The effects of personification. Proceedings of HCI 1996. London.

11. The influence of the avatar on online perceptions of anthropomorphism, androgyny, credibility, homophily, and attraction. Journal of Computer-Mediated Communication, 11(1), article 8.

12. Gartner source: Gartner research 2005/WSJ 1 Feb 2005

13. Byron Reeves, of the Center for the Study of Language and Information Stanford University.

14. Jupiter Research, December 2004

15. January 2007 round table briefing for online customer service, E-Consultancy concluded that

16. 'Banks being held to account' (marketing week 10/5/07)

17. Forrester Research 'Trends' report published 30-7-07 by Brad Strothkamp:

18. Forrester Research, 2007