SMART SERVICES CRC

A Peek at the Future of Services

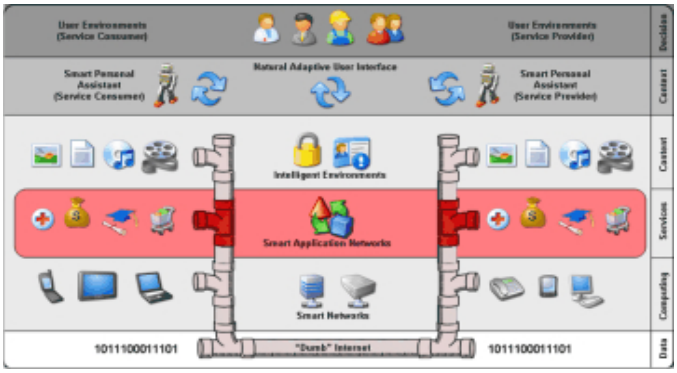
Collaborative Service Networks (CSNs)

The right information, to the right people, at the right time, to make the right decision.

The CSN technology provides a revolutionary approach to enabling data to be shared with multiple users whilst enabling contributors to maintain control of their data and what is shared at any particular time. CSNs support "Always On" relationships and "Collaborative Decision-making" between organisations and their customers and are optimised to deliver the Right amount of the Right information to the Right people at the Right time to make the Right decision (an R5 Network). These key features mirror the challenges of a complex and busy world where all customers demand personal attention.

CSNs provide the solution that modern collaborative organisations require to satisfy all these issues. The CSN components can be used to interconnect organisations with their customers, partners, suppliers, and extended workforce to offer simple, easy to use, collaborative decision support as easily as today's network supports information flows.

The technology has been developed and delivered to date for the health field. A virtual Test Centre and inter-operability testing capability has been developed for the Department of Health and Ageing to facilitate its strategy of expanding its Home Assisted Care policy. Similar reference projects are in the process of being developed for a number of private health care groups. It will have significant applications in a range of service sectors, including insurance, finance and government, which will be further advanced within the Smart Services Innovation Foundry.



The CSN concept was invented by Tim Hibberd, R&D Manager, Smart Services CRC. The CSN architecture and technology reflects the combined intellectual efforts of the CSN team including Brett Avery, Graeme Booker, and Hardev Sian. Provisional Patents have been filed and an exclusive license to two Telstra patents provides national network capability

Immersive Multimedia Services

Representing a major advance on available conferencing tools and technologies, participants are represented as floating live videos that can move and rotate under individual control.

Their voices also emanate from the centre of these images and propagate through the environment. Consequently, they can use natural human protocols to mingle with the crowd, which significantly enhances the effectiveness of group interaction and collaboration.

Voice and video communication within a 3D virtual environment.

In collaboration with its partners, Smart Services CRC is exploring the potential benefits of this technology for the delivery of services, initially looking at the application of immersive multimedia for the provision of education and training services, as well as creating a workable virtual office for dispersed workforce groups

The immersive voice communication technology was invented by Farzad Safaei and Paul Boustead from the University of Wollongong and successfully commercialised by the Smart Internet Technology CRC. The immersive video communication was invented by Farzad Safaei and implemented by his research team at the University of Wollongong.

Services Delivery

The **Service Broker** shows how an existing set of government services for starting new businesses can be bundled together and presented in such a way as to enable new business starters to focus on establishing their business while complying with regulations. We follow a would-be café owner in Brisbane who goes through the process of registering a new business and applying for the various licences required. In addition, self assembling services offers from commercial partners are proposed to turn what would otherwise be a purely regulatory chore into an opportunity for growth.

The Services Broker Portal, Yowie, BirdsEye and RoofTop enable companies and end-users to get access to targeted services whenever and wherever they need them.

Yowie is delivering services to end-users in a fully flexible and easily extensible way. The framework leverages daily routines of information workers by extending functionality of their information processing applications. The new features include automatic recognition of concepts in documents and instant provision of related information harnessed from multiple sources, along with shortcuts to actions that may be performed in relevant systems.

The **BirdsEye** Platform delivers services for collaboration, communication and coordination on top of location based information. Combining GPS, in-built cameras and strong computing power with today's rapid data transfer rates, Web 2.0 applications become feasible on standard mobile phones. The BirdsEye Platform is a first demonstrator for a meaningful

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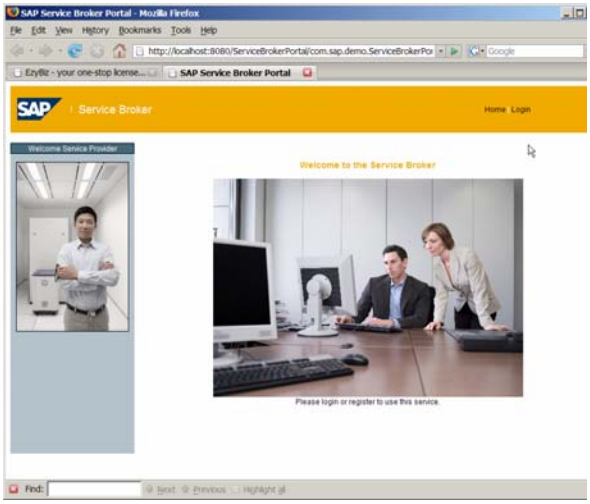


integration of location based services with state of the art mobile technology.

The **RoofTop** Lightweight Composition Platform allows users to create mash-ups of SAP enterprise services and external web-based services on the fly without the need for writing a single line of code. The work of SAP Research shows the application of the information mash-up concept in the SAP space and the feasibility of a product in this new market segment. "RoofTop" can run within an SAP portal or as a stand-alone Web application and is designed based upon Web Services, Enterprise SOA and open web standards such as RSS feeds.

This technology has been developed for Smart Services CRC by Dr. Alistair Barros, Dr. Alexander Dreiling, Dr. Marek Kowalkiewicz and Dr. Julien Vayssière, of SAP Research.

SWARM

Multiple identities for mobile profiles

The Swarm mobile phone prototype was developed in response to users needs identified during a three-year study of mobile phones and youth culture.

Swarm provides the user with multiple avatars though which they can simultaneously represent a number of identities to different caller groups, for example a work avatar for professional contacts to see and a social avatar that friends see. The design also allows digital content to be embedded in the avatars so users can create personalised representations of themselves. The use of these content specific avatars addressed a major problem identified in the study - the need to reduce unnecessary mobile interaction.
The avatars allow people to communicate to others what they are doing without having to interact with

them. The result is the ability to maintain a constant digital presence without the intrusion that continuous connectivity too often brings.

Originally the subject of a PhD thesis by Christine Satchell (inventor), the technology is currently being assessed for commercialisation opportunities. Swarm as a system and method for communicating information has been patented.

Immersive Learning

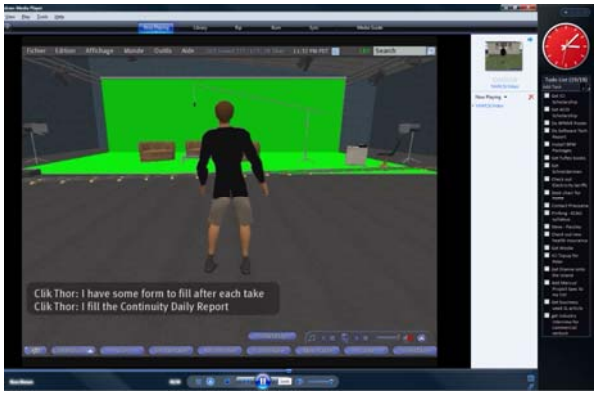
Educational Workflows and Digital Story Telling

This technology utilises a combination of virtual world and workflow software to both ease the process of creating a lesson plan, and to ensure its quality during the delivery of the service. Workflow systems are used to guide multiple people through their tasks within large organisations. They can therefore be used to help educators create a quality lesson plan.

A lesson plan that is followed by a student, often takes the form of a set of steps and decisions which is amenable to being coordinated by a workflow system. Thus a combination of workflow technology and virtual worlds can be used to enhance the usage of this new virtual world technology, and to ensure that the developed lesson plans are of the highest pedagogical quality.

It is the first time anyone has combined the use of virtual world technology and workflow systems in such a manner for education and training applications.

Most virtual world applications are only created in world using the limited provided software. Here, we utilise Second Life's service invocation capabilities in order to fully integrate a workflow system, and thus facilitate any future integration between virtual worlds and external software.



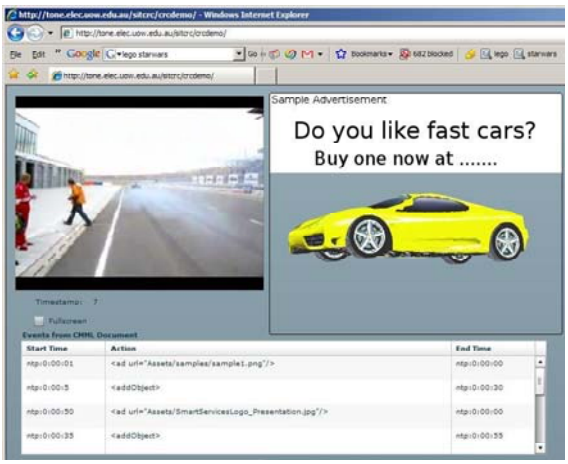
By hiding a lot of the complexities, these tools will overcome some of the difficulties of using virtual worlds in lesson planning, providing an easy to use interface for exploring the benefits of virtual world technology in much more exciting ways than using them as social communication sites.

Quality issues are also addressed by using the workflow technology to ensure that an educator has carried out the appropriate steps in ensuring the creation of a quality lesson.

The work, invented by Ross Brown, Queensland University of Technology, Brisbane, Australia, s commercialisable into international education software markets. It also has broad applications to many business, education and training domains, including: health, mining and safety applications.

Social Media

The Smart Services research team is exploring ways of creating immersive, seamless experiences between users and their chosen method of interaction with web information, companies and other users.



This demonstrator shows some initial research investigating new ways of integrating web content (e.g. video) with interactive 3D visualisations.

The demonstrator works seamlessly in a web browser, requiring no standalone software to be installed, and is

Seamless integration of web content

based on open standards. It shows how events on a webpage can be linked to temporal events within a video. The events and time-points where they occur can be easily customised. Being able to improve the relationship between web content (especially user generated content) is important for encouraging users to stay longer on websites and consume more of the content.

Allowing for the linking of 3D events to time-points in a video provides new ways of creating seamless and relevant experiences for a user. It will allow new ways of customising presentation of web content to match e.g. user generated video content. This could allow for the automatic/semi-automatic adaptation of web content to a user, increasing stickiness to websites and improving the relevance of targeted advertising material or other web-content.

This research has been developed by Stephen Davis, Christian Ritz (University of Wollongong) and Ian Burnett (RMIT).

Keep in Touch

How do we address the increasing problem of social isolation for the elderly?

Keep in Touch technology allows aged parents and their family to maintain regular contact through a simple touch screen and voice activated messaging system without any need for knowledge of computers. By simply touching the photo of a family member or carer allows a person to send a voice message to that person to either their KIT machine or to their e-mail at home.

The technology allows families to keep in touch across various time zones without having to worry about getting times synchronised or interrupting the other person at a busy time. Family members are able to send photos and video content with their message to show exciting events occurring in their life as they happen. A simple platform for messaging this technology has potential for much broader patient care

and monitoring of health and well-being for those living independently and in aged care facilities. Developed by the key researcher, Assoc. Prof. Bob Kummerfeld, at the University of Sydney for the Smart Internet CRC this technology is currently undergoing site trials as part of a commercialisation plan with partner Consult Point Pty Ltd.

PhoTable Technology

Developed with the primary driver of revitalising social interaction around sharing photos, the PhoTable is set to reinforce the tradition of sharing memories and experiences with families and friends. Designed as a multi-user tabletop interface, the horizontal surface lends itself to a more natural sharing environment and provides a practical, innovative environment to share photos.

Digital photographs, videos streams and documents are transferred straight from the camera, in a raw state.

The PhoTable technology has been developed to enhance the social and business interaction around digital documents, photos and video streaming.

Multiple users then annotate, crop, zoom in or even create a collage of photos or albums with either a stylus or using their hand, depending on whether it is a touch screen interface or otherwise.

Beyond providing the ideal collaborative tool for sharing photos, the PhoTable could be applied and tailored to a range of industry sectors including publishing, banking, health, education, reminiscence with the elderly, transport control, games, government and emergency planning.

The PhoTable innovation has been developed by researchers at the University of Sydney led by Assoc. Prof. Judy Kay, and PhD student Trent Apted, who was a recent finalist in the CRC Young Scientists awards. The technology is supported by 6 patents as avenues for commercialisation, each of which focuses on unique software designs.

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