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— Paul Bray, REA National Project Manager.

Re-Engineering Australia creates a collaborative solution using WebEx Meeting Center.



INDUSTRY
e-learning

WEBEX APPLICATIONS
Meeting Center

SUMMARY

A key initiative of REA is the Schools Innovation Design Challenge which runs as a competition offered to all high school students aged 12-17 years of age throughout Australia. A collaborative online tool was needed to allow students to meet and work together in teams, no matter where they lived in Australia.

ABOUT REA

Re-Engineering Australia (REA) is a not for profit company created to provide initiative and leadership in addressing skill shortages in the engineering fields. It aims to work with corporations and individuals to improve student interest in engineering/design careers.

Re-Engineering Australia Forum (REA) is a not for profit public company created to contribute to broad national interests. Although government support and involvement is critical to advancing REA and its goals, the company's ethos is that corporations and individuals should also provide initiative and leadership in addressing skill shortages in the engineering fields.

The primary aim of REA is to advance Australian manufacturing and engineering technology through innovation, and the creation of collaborative techniques for major projects. REA aims to develop an innovative culture to assure an engineering and competitive advantage for Australia in a globalised market.

To achieve these goals, REA created a program of initiatives aimed at nurturing the interest of Australian children in engineering as a future career. REA believes students should be given the opportunity to understand the role and importance of technology and innovation within industry, and through this exposure, gain greater insight into the realities, challenges and opportunities of careers in the engineering and manufacturing industries.

REA's flagship initiative is the Schools Innovation Design Challenge (SIDC) for high schools. This initiative is run as a competition offered to all high schools throughout Australia and is open to students between 12-17 years of age. The program focuses on developing the creativity and innovation of students through a collaborative and interactive engineering design project based on the development of CO2 powered, F1 style, model racing cars.

The challenge

In creating the SIDC, REA recognised that developing a collaborative platform for the program was essential to its usability and ultimate success. Students needed the ability to work together and share ideas both intra-school and with external parties such as industry partners and other school groups. In all instances, real-time collaboration was required.

Paul Bray, REA national project manager, explains, “A core component of the program is enabling students to have access to corporate expertise and resources. The level of technical expertise offered by staff from our partners such as Toyota and Dassault Systemes is not something that is currently available through any curriculum. Equally, access to modern design and manufacturing technologies used in the corporate sector is beyond the reach of the education sector.

“Our primary challenge initially was to ensure that the program was available to all secondary schools in Australia. At the same time we were working within the constraints that it is logistically impractical to have teams travel from every school to regularly meet with our partners and meet with each other or utilise disparate software resources.”

REA was aware that a collaborative working solution was required. “We needed a tool that would enable experts from our partners to share their knowledge with a disparate audience. At the same time we needed to enable inter-school teams to regularly work together on their projects, and finally for those teams to collaboratively utilise design and manufacturing technology,” said Paul.

The solution

"In identifying a suitable collaborative solution, it became apparent that accessibility would be a critical factor in our final decision. Participating schools required a solution that was readily accessible and would not require significant investment in IT infrastructure. For that reason a web based solution was identified as the most applicable.

"While investigating web based solutions it was our partner Telstra who identified WebEx's Meeting Centre web-conferencing product as a potential solution. On further inspection, it became very clear that WebEx would be the ideal solution based on a variety of key criteria," said Paul.

No additional infrastructure

Crucially, WebEx did not require any additional infrastructure or IT resource investment from schools wishing to participate. WebEx's web conferencing solution can be accessed from any internet enabled desktop. All that is required from schools to access this technology is internet access and an REA issued username and password.

"The functionality that WebEx delivered went beyond our original expectations of a collaborative platform."

— Paul Bray, REA National Project Manager

Ease of use

Usability was also a key criteria. Students wishing to compete in the challenge had varying degrees of competence with technology. One of the aims of the program was to improve their familiarity with technology overall. Therefore, it was crucial that the platform on which they worked together was as user friendly and as intuitive as possible.

"The functionality that WebEx delivered

went beyond our original expectations of a collaborative platform. Capable of handling multiple participants concurrently, it enabled our partner experts to share documents and presentations, and deliver lectures and demonstrations in a virtual classroom environment, without leaving their offices. Students could watch the presenter in real-time, and have the ability to interact, asking questions as they would in the classroom.

"A high level of collaboration among students was also required with inter-school student teams needing to work together through each step of the project including investigation, design of the model, analysis and testing of that design and ultimately construction of the

"Once we understood the structure and procedures, using WebEx became very intuitive and it was easy to find all the tools we needed to complete the project,"

— Daniel, project winner,
REA Schools Innovation Design Challenge.

model itself. WebEx enabled students to work together on-line through-out the process regardless of distance," Bray explained.

Benefits

REA selected two of the most innovative students from across the nation to represent Australia at the final of the world wide competition. Daniel and Rochelle had never met and were working together on the project over a distance of 1100 kilometres. They took just four weeks working with WebEx Meeting Center to design, test and remotely manufacture their model, before flying to the UK.

"WebEx's Meeting Center was critical for the project and we had to learn how to

use it quickly. Once we understood the structure and procedures, using WebEx became very intuitive and it was easy to find all the tools we needed to complete the project," said Daniel.

Rochelle agreed, "WebEx was really easy to use and understand. The greatest benefit of using WebEx's Meeting Center was that I could discuss different matters concerning the design challenge and express my designs and ideas with Daniel, whom I had never met before and who lived a long way from me."

Daniel explains, "WebEx's Meeting Centre was essential in enabling Rochelle and I to meet virtually and have normal interaction and discussions. The ability to visually describe thoughts and ideas, share documents and manage the design and manufacturing process was something we otherwise were not able to do, due to the distance between us. WebEx negated any disadvantage we may have had by not being able to physically meet during the project."

Reward

For Daniel and Rochelle the rewards of the program have been numerous, as Daniel explains, "The opportunity that the SIDC realised for us through the vision of REA and WebEx's technology can't be understated. Ultimately it gave us the chance to spend 16 days overseas, win the world's "Best Engineered Car" award, speak and meet with very important people and receive praise from some very experienced industry professionals."

The rewards also continue beyond the initial experience. "Rochelle and I were invited by GKN Aerospace and Hawker de Havilland Australia to give a presentation on how we collaborated during the project. These companies were keen to learn how we completed the project without ever meeting," said Daniel.

"We were very fortunate to be given access to so much leading edge technology to assist us in achieving our final design, but it was WebEx's Meeting Center application that played the most telling role in helping us to accomplish the world's best engineered car award. Daniel and I are very thankful for this amazing opportunity," said Rochelle.

HIGHLIGHTS

- WebEx's Meeting Center supported REA's key initiatives by enabling students to have access to corporate expertise and resources from all over Australia, without leaving their classrooms.
- By being able to visually describe thoughts and ideas online, share documents and manage the design and manufacturing process, students could collaborate together from disparate parts of Australia in real time.