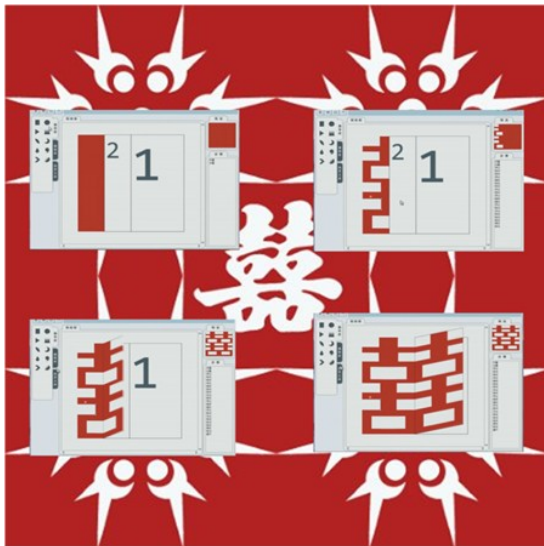


Shining Light on the Lost Beauty of History:

2010 Microsoft Student Challenge in China

Anyone who attends a Chinese wedding can not overlook the paper cuttings of the big red Chinese character “Xi”, meaning happiness. The jubilant character reflects the red cheeks of the bride and groom.

However, the traditional handicraft of Chinese paper cutting or *jianzhi* in Chinese, which dates back to the Eastern Han dynasty in China in the first century A.D, is a dying art in this digital information age.



Now, the same technology that decreases the need for hand-written characters is working to bring the art form back. A computer-aided design software based on Windows Presentation Foundation has been initiated by the Microsoft Technology Club in the South China University of Technology to compete in the 2010 Microsoft Student Challenge, with a theme of Shining Light on the Lost Beauty of History.

“The *jianzhi* art is complicated for most people to learn, and perfecting the skill takes a lot of time. So we wanted to create an computer-aided design system to simplify the paper-cutting process and increase youths’ interests in cultural traditions,” says Jianbo Qiu, a team member in the club.

The software offers a template library of various basic shapes that enables users to ‘cut’ out their

own beautiful designs by folding over a proportioned crease, says another member Tianming Zheng.

“Say you want to cut out the Chinese character ‘Xi’. You only need to fold twice, choose the rectangular shape in the left-hand-side toolbar, and click to cut out a quarter character. When unfolded, it forms a symmetrical character. The whole process takes no more than 30 seconds,” Tianming said.

The paper-cutting project is not the only novel way to save China’s national treasures. Forty-five more ideas were selected from participating teams.

The annual Microsoft Student Challenge launched by Microsoft Research Asia engages 30 Microsoft Technology clubs across the country with more than 10,000 active student members to participate in applying advanced technology to the great historical and cultural legacy around them.

The contest has received lots of responses since it was unveiled in May 2009. In September, nearly 150 projects competed in the first round of the challenge, and 46 were selected to move to the next phase.

“With the world becoming global, the differences among countries, regions and nationalities begin to fade away. It’s hard to tell any major distinction in supermarkets or shopping malls in Beijing, Hong Kong and New York. In fact, to protect historical and cultural heritage is to extend people’s memory for the precious human treasure worldwide,” says Lolan Song, senior director of Microsoft Research Asia.

“By providing the resources of Microsoft’s novel technologies, such as Photosynth, Azure and SilverLight through the Microsoft Student Clubs in 30 universities, we hope to empower the creativity of students who shoulder the mission to pass on legacy and bloom the future,” Song said.

Chasing lost shadow

As one of the favorites to win, the project of Chinese Shadow Theater, promoted by the Microsoft Technology Club at Beihang University, has attracted much attention.

The Chinese shadow play, or shadow puppetry, regarded as a predecessor of movies and film, is an ancient form of storytelling and entertainment using sticks and puppets, usually made of donkey leather, behind an illuminated backdrop to create the illusion of moving images.

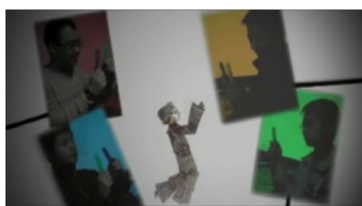
"During the Ming dynasty, there were 40 to 50 shadow show troupes performed in the city of Beijing alone, while today only eight audience sit in a shadow play at the Sky Dragon Shadow Museum, the best commercialized shadow show troupe in Beijing," says Linhan Wang, who has visited the shadow museum with other team members. "The wonderful shadow show sometimes plays only to empty seats. We need to save this beautiful art."

Fangcai Li, a fan and collector of shadow play artifacts, welcomed the team members to learn more about the traditional art.

"The once popular ancient art appeared to be in an awkward position at an age with animation and movies as main-stream media. Nowadays, not many people will engage in this career," Li said, "It's a pity that the traditional art will gradually become extinct."

The solitude of an elderly man trying to protect the fading art deeply impressed the team of young men and women full of vigor and ambition, and confirmed their goal to help bring back shadow play's lost beauty.

"Based on spatial-positioning technology developed on Microsoft Visual Studio, we use three colored sticks that can be recognized by an ordinary PC camera to control three joints of shadow play puppets. As we move colored sticks to simulate true performance, the captured displacement will make shadow figures come alive," says Fan Wang, a project member.



"By moving the sticks in the air, you can use the computer to tell dramatic versions of traditional fairy tales, myths, even your own stories. It's really exciting to watch the figure walk, wave and turn somersaults under your manipulation. We hope to create a unique way to let people access the folk art."

Activating paper handicrafts

With so many extinct and nearly extinct traditional arts, can we bring them all back to life?

To the Microsoft Technology Club team at Sichuan University, the answer is "yes".

Zerong Li, a craftsman of paper-bundling in Sichuan province, could use only simple materials and tools such as napkins, pigments, scissors and glue to make paper works "stand up", which has promoted the traditional 2D paper-cutting to a new level.

However, Li, the founder of this art, died of rheumatic heart disease all of a sudden in 2008, without leaving any successor to pass on the fascinating handicraft.

With faith to revive this folk art, the team developed a paper-active software to bring the lost treasure to people.

"Through the Microsoft Visual Studio 2008, our team uses 3D technology to do a stereoscopic analysis of Li's works, and try to find the core technique to make paper figure moves," says



Dongqiang Lou, a Microsoft Technology Club member involved in the project.

"Our project aims to provide users with the interface to simulate the formation of paper figures, showcase the beauty of Li's works, and to demonstrate the secret of the folk art."

Encouraging citizen science

Gao Zhang, Senior University Relations Manager of Microsoft Research Asia, said he is quite impressed with the creativity of the students.

"They came up with some very interesting projects," Zhang said. "The Microsoft Technology Club was established to provide students with useful tools and the latest technologies that empower their passion and ideas into real life projects."

"Every project is small, but the model of citizen science makes a big difference," Zhang concludes. "What a great use of technology—to help save art forms that otherwise could become extinct."