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Contents

Research Achievements of “Spray Nozzle with Multiply Water Droplet Size”

spray nozzle with multiply water droplet size

Actively undertaking research on the fire-fighting related equipment

Due to Taiwan’s limited land with dense population and its characteristics of urbanization, a great amount of population is highly concentrated in the urban area. Once a fire accident occurs, it always endangers the public security seriously. For this reason, how to prevent fire accidents from jeopardizing a human life has become an extremely important administrative job of the government and the fire-fighting related organizations.

In the recent years, the university has been eagerly encouraging the teachers to undertake the research on the fire-fighting security equipments and, after several years of efforts and the long-term joint research with the industry circles, a great many of fruitful results have been accumulated. The research group led by Chi-Chiang Chung, professor of the Mechanical Engineering Department of the College of Engineering, successfully invented “automatic electricity-free escape ladder.” After that professor Chung alone invented the fire-fighting related equipment called “spray nozzle with multiply water droplet size,” which greatly improves the current water-system fire functions.

The theoretical principles of “spray nozzle with multiply water droplet size”

“Spray nozzle with multiply water droplet size” is designed by the precise measurement of hydrodynamics. It combines with different vortex holes and vortex heads, producing the droplets of multiple sizes under low pressure (the diameter of the droplet ranges from 700 ìm to 150 ìm). Through the center of the sprinkle-nozzle it sprays droplets with bigger diameter and from the around sides it sprays droplets with smaller diameter so that the droplets sprinkling close to the center of the sprinkle-nozzle gain more powerful energy. They are able to reach directly to the root of the fire through the flame area and stifle the fuel materials as well as dampen in advance the unaffected area to avoid the expansion of fire. Besides, the droplets with smaller diameter can make use of their larger superficial measure and absorb large amount of heat source from the fire, thus reducing the temperature of the scene of the fire. Furthermore, since tiny water droplets absorb heat, evaporate and then oxidize to steam more easily, the volume of mist particles after nebulization inflates up to 1,680 times and replaces rapidly the oxygen near the root of the fire to terminate the continuation of the burning. Thus, this device can help fully enhance the fire-fighting measures, such

Professor Chi-Chiang Chung published "spray nozzle with multiply water droplet size"

as cooling, asphyxia (oxygen displacement), segregation and so forth to extinguish the fire rapidly and efficiently.

The superiority of "spray nozzle with multiply water droplet size"

Water-system fire-fighting device is generally acknowledged as the most efficient and the commonest fire-extinguishing equipment. In addition, this device can be had easily and produces no contamination; it has excellent capacity of absorbing and cooling heat and is able to be a very good fire-extinguishing agent. It can control the fire efficiently and quickly when a fire accident occurs. However, even though the water system fire-fighting equipment of the traditional sprinkler has efficacy to a certain extent for fire-extinguishing, it also causes damages to some degree and increases difficulty in the disaster recovery. Furthermore, it would also cause unnecessary damages to equipment as well as articles. At the same time, in order to maintain the time period for the sprinkle-nozzle to carry out the protective sprinkle, the design for storing up a great quantity of fire-fighting water has become indispensable. However, this needs to squander some space for fire-fighting water storage basin in such "an-inch-of-land-values-an-inch-of-gold" Taiwan. On the contrary, the amount of the sprinkling water of this "spray nozzle with multiply water droplet size" reduces around 30%~40% in comparison with the traditional sprinkle-nozzle, and also decreases greatly the amount of water needed as well as unnecessary water damage. Although this device sprays less amount of water than the traditional ones do, its fire-extinguishing function is better than the function of traditional sprinkle-nozzle, which is proven by full-scale fire-fighting experiments. Besides, the equipment helps to lower the temperature of the fire scene by around 20%~30% more than the traditional sprinkle-nozzles do and is able to control the Class B Fire (fuel fire) that the traditional water spraying system can not extinguish.

Seeds Are Sprouting – English Teachers Visit Australia for Research and Study

In order to promote the teaching ability of the English teachers of technical and vocational schools and also to enhance the professional literacy of "English for Specific Purposes" and "(English) Remedial Teaching", the Ministry of Education particularly entrusted National Yunlin University of Science and Technology and Cultural Division Taipei Economic Cultural Office in Australia to jointly draw up and undertake "Training Plan of Seed Teachers to Promote the English Teaching in Technical and Vocational Schools". The plan chose the first 30 seed English teachers from the teachers of the related applied foreign languages departments of the national technical and vocational schools. The chosen teachers were divided in two groups and headed to University of Canberra and Melbourne University Private in Austria respectively from September 9, 2003 to August 21, 2003 to take the six-week training courses.

Close ceremony at Melbourne University Private

The University of Canberra in Australia gains international reputation for teachers of English to speakers of other languages (TESOL) and for the technology in language learning. The course design and teaching quality are all under strict control, so is the issue of certificates. Melbourne University Private is famous all over the world for its outstanding research. It not only establishes a close relationship with the business circles and the government, but also has been one of the top universities listed in "national research grant" for the past five years. Besides, a lot of academic awards in Australia all went to the students of the university.

By these two universities, the training courses of the plan

were designed for the English teachers from Taiwan and applied topic-based mode, processing intensive study and discussion in view of four main topics: language testing, technical and vocational English, English teaching and remedial teaching. In addition to course study, they also arranged the seed teachers to visit the real English teaching courses, providing them with an opportunity to learn how to prove the combination of theory and practice in a real teaching setting. Besides, through the arrangement of the training universities, the seed teachers also visited various outstanding colleges, such as The University of Melbourne, Holmesglen Institute of TAFE, Swinburne University of Technology, Narrabundah College and so forth so that the teachers were able to further understand the educational system and development experiences in Australia, and to take this understanding as the basis for the English teaching development in Taiwan.

President Tsong-Ming Lin visited Melbourne University Private (Professor Malcolm Good is on the left side)

The Ministry of Education also expected that this training plan could stimulate the seed teachers to reflect on their own teaching strategies as well as methods and to encourage the teaching creativity accordingly. It was more expected to propel the improvement and development of the national English teaching environment in the future through the teaching-development experiences of the seed teachers.

The closing ceremonies of this studying activity were held respectively at University of Canberra and Melbourne University Private. The president, Tsong-Ming Lin, of National Yunlin University of Science and Technology went to Australia on behalf of the Ministry of Education to preside at the ceremonies. Chin-Tien Yang, representative of Taipei Economic and Cultural Office in Australia and Ying-Pin Liang, ex-director of Taipei Economic and Cultural Office, Melbourne, Australia were also invited to attend the ceremony and deliver a speech. In addition, National Yunlin University of Science and Technology grasped this visiting opportunity to sign a letter of Intent with University of Canberra and both parties all agreed to propel together the further research plan in applied languages.

President Tsong-Ming Lin signed a letter of Intent with University of Canberra

International Vision – International Conference on Advanced Contents of Digital Content Design

Vice-president Manlai You (first from right) presided at the opening ceremony. (second from right: Karen Sullivan, third from right: Joseph Gilland, fourth from right: Mohammed Allababidi)

Goals of conference

The field of digital contents is one of the key constructions of the national development. For this reason, the Ministry of Education especially drafted “Fostering Plan for Professionals in Art and Design” and assigned the “Digital Media Design Educational Center” of the university to carry out the talent cultivation of the field. This conference focused on the design innovative information and the applied technology of the national and international digital contents. Through the close exchange of the international maestros at the conference, they discussed the issues between technology, culture and new aesthetics and exchanged.

Besides they mutually shared the fruitful results of the creative work, thus promoting the level of the prospective digital media in the nation and encouraging the digital creation style that possesses Taiwanese cultural characteristics.

Introduction to international guests

The guests invited for this conference are three professional lecturers from the United States and Canada, who are famous in both business and academic circles. The three guests are:

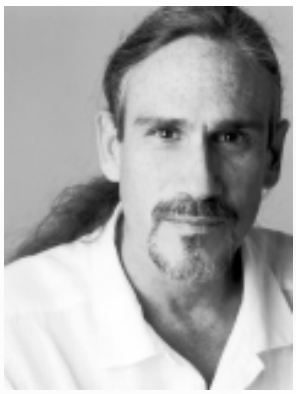
Mohammed Allababidi

Mohammed Allababidi worked in various well-known American animation studios, including Letca Entertainment, Minds Eye Media, In-Orbit Entertainment and Paprikaas Animation Studios. He is currently a veteran animation designer at the video games company, Electronic Arts. He was once a 3D animation lecturer at San Francisco Art Institute and also served as a seminar speaker at Siggraph, 2001 American 3D Animation Conference. Mohammed Allababidi is expert in character animation. His works include TV advertisements, 3D cartoons, various action-adventure video games of PS2 and XBox and the video game of Devil's World: The Return of the King.

Karen Sullivan

Karen Sullivan once taught as a professor at various universities of arts. The field of her lessons embraced direction of animated story concept, digital art history, color design concept, multimedia, visual concept, film production, animation and so forth. She is currently the planning director of the computer animation curriculum at Ringling School Art and Design. She once worked as a designer for advertisement story page, Siggraph newsletter cover editor, Siggraph art gallery chair and computer art adviser. She also taught as a visiting professor at many universities, published various articles regarding visual art and story concept design and also held her personal art exhibitions several times.

Joseph Gilland



Joseph Gilland serves currently as head of 2D animation and digital character animation at Vancouver Film School. During twenty-eight years in the animation circles, he once worked for Walt Disney Company, Canadian Film Institute and so forth.

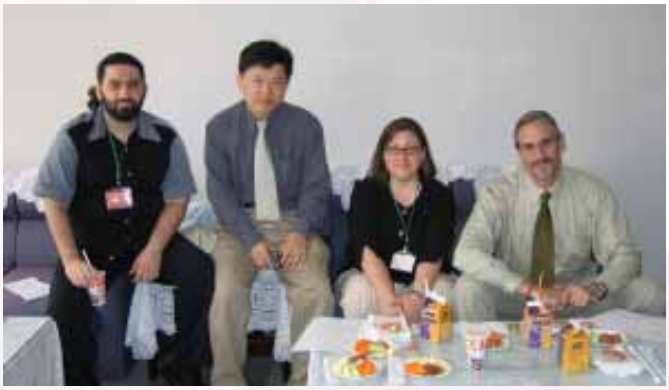
During the production of Disney's "Lilo & Stitch" and "Brother Bear", Joseph Gilland served as the visual effects supervisor. He also took the post as FX animator for Disney's "Tarzan", "Pocahontas", "Mulan", "The Hunchback of Notre Dame", "James and the Giant Peach" as well as "Hercules".

The rounds in National Yunlin University of Science and Technology

Chuan-Fang Lee, director of the Graduate School of College of Design, delivered a speech.

Sheng- Min Hsieh, director of Department of Visual Communication Design (right), participated in the conference.

The whole activity lasted in total for ten days with more than one thousand participants. At the opening ceremony at the university, in addition to welcoming and appreciating all the guests from afar, we also emphasized that the College of Design of the university is one of the most outstanding design colleges in Taiwan. There are four departments under the College: Department of Industrial Design, Department of Visual Communication Design, Department of Space Design and Department of Digital Media Design, with nine hundred undergraduate students and three hundred graduate students. The faculty and students of the College won a lot of awards each year for design exhibitions as well as competitions, and gained an excellent reputation and glory for the university. Thanks to the above-mentioned achievements, the university won the chance to establish the Digital Media Design Educational Center and also to conduct this conference.



Professor Yi-Jen Chiu (second from left) of Digital Media Design Educational Center and the three guests.

No Limits - Elaborating Boundless Creative Ideas

"To elaborate unlimited creative ideas in limited space; to look for and satisfy the needs for the modern living environment; and to arouse people's innermost eagerness" were the contents of the annual presentation of the graduated students of the Department of Industrial Design. The topic of the said presentation was "No Limit".

The exhibition activities were divided in five areas based upon different categories: supplies, furniture, household appliances, outdoors and transportation. The published works ranged from writing materials to police motorcycle, versatile trailer, living room and so forth. Each design work expanded the designers' ideas and energies. However, the designers elaborated limited time and efforts to present such admirable originality.

In respect to the design work entitled "Street Sweeper", the designer observed and learned from the toil of street sweeping and thus devised a "street sweeper" which is small volume and is able to clear up the street dead space.

Street Sweeper

"Kitchenware Design for The Elder" eliminates the possible dangers and obstacles that the elder might have when using the kitchen utensils. It also provides safety and pleasure to the advance-aged retiring life.

"Walking Music" is a kind of personalized music device especially designed for the street dance group. It solves the inconvenience in both carrying and operating.

Walking Music

"Multi Trailer" goes with the two-day weekend holidays and becomes a good partner for family day out.

"Modern Orientalized Style" is designed out of originality and contemplation, adding at the same time elements of oriental culture. This device helps the modern furniture represent naturally the traditional essence.

As for "Trash or Treasure," the designer changed successfully the remainder of timber to writing materials as well as DIY module that are provided with culture and story.

Trash or Treasure

“Fresh ¡DEnjoy ¡DFun” subverts the messy and noisy impressions that the traditional fish market makes. From this work, the fish-selling table becomes the performance stage for the fishmongers.

“E-BOX” has abundant originality. With “E-Box”, students can play and learn at the same time.

E-Box

“Take Easy” is designed for the needs of house renting, and can be made into new modular furniture by extending.

“SOHO New Life” is designed to promote the interaction between SOHO’s home life and work environment. As a starting point, it is to satisfy the modern people’s living needs.

“Uniqueness” brings attractive elements of parks to home, thus constructing a natural family atmosphere.

“Funny Music” guides children to learn the rhythm of music by the corporal rhythm while playing games.

In respect to “1+1=3”, the designer subverted the traditional image of sitting utensils, and created such fascinating sitting utensils accompanied with bookshelf function.

New Concept of Collecting-SOHO New Life

In “Elf No. 8”, the community general construction project of Hu-Pen Village is extended to the project of cultural innovation of the said village. This extension helps the tourists to understand Taiwanese culture through the local cultures.

“Police Vehicle Concept Design” is designed by considering the needs of the police when they are carrying out the duty. Because of this design, the said needs are thought about again and a new concept of motorcycle thus emerges.

As to “Refrigeration System for Medical Use”, the designer took advantage of his/her own experience as a care worker before to correct the serious mistake of taking the wrong medicine from the medical refrigerator.

New Concept of Collecting-Easy Box

Making a comprehensive survey of the students' works, the efforts of the faculty and the students of the Department of Industrial Design are obvious. The efforts also stimulate students to elaborate what they learned in the past four years to present each new and original work. We also expect that based upon such a solid foundation, these graduates will have more outstanding performances in the industry circles in the future, and create a new turning point for the industry as well as for the country.

The Design of "Nature, Concern, Future"

At the student exhibition on the topics of "nature, concern, future" that was held by the "Department of Visual Communication Design" of the College of Design, more than forty design works were displayed. The exhibition included computer multimedia, 2D and 3D computer animation, drawing books, packing design, web design, drama and so forth. From the displayed works, it was noted that the students brought the design skills as well as infinitely possible original ideas into full play.

The animated work entitled "The Match Maker" of Szu-Hsuan Tai and Yi-Hsuan Tsai is a story from the well-known figure "matchmaker" in Chinese legend. This work presents an animated cartoon full of oriental characteristics, and leads the audience to the oriental world. The background of the animated cartoon applies colors of ink, thus displaying the graceful artistic conception in the Chinese landscape painting. Also, the application of lovely and witty characters leads the frame to become lively and also to show enriched gradation, which creates different visual feelings.

The Match Maker

The work "Paper Said" of Shu-Yen Liu, Po-Min Cheng and Yu-Tsung Lai is transformed from the ideas of "Confucius said" (which sounds the same as "Paper said") of the Chinese great teacher, Confucius. This work indicates the functions and influences that paper has brought to our life, and also states that paper will not be replaced even in such a multimedia era. Paper has a strong plasticity. With its variety, the environmental protection paper pulp tableware, calendar aromatic essential, CD-collecting curtain, versatile unit chair are designed to demonstrate the diversity of paper. The main topic of this work concerns humankind's life and needs, and through the design procedure, the use of paper looks for new joys and functions for the articles for daily use and also encourages the new life attitude and style of the humankind.

Paper Said

In the animated film "Foreseeing before Catching" designed by Wei-Chieh Tang, Chien-Lin Chen and Hsin-Hui Wu, the designers employed 3D animated style to demonstrate the work and also applied more exaggerating techniques to express more different visual effects. The whole animation uses global illumination to simulate the clay quality, and also cooperates with the musical rhythm so that the animation and the music can combine closely, thus enhancing the integration of the contents of the undulating story with the music.

This year is Wright Brothers Flyer 100th Anniversary and the flying fanaticism has surged all over the world. Chi Teng, Ya-Chi Tsai and Hui-Ling Chan applied the "illusion"-style flight to their work "Fantasy ¡DFly". They used various medium materials on picture and literary books and then associated directly with "flight", developing memorial articles as well as expressing our affections for flight.

Poster

The design device “Jumbo 3G Mobile Life” of Tsui-Hua Lin and Wei-Chieh Huang provides dazzling, plentiful and high quality multimedia video broadcast service. Consumers can freely get Internet access on the go, meet friends, get instant information and enjoy a happy M-Life. This device leads mobile service to a service that focuses on video, audio-visuals as well as statistics and to a service with which more clear and colorful contents can be seen. From this “Jumbo 3G Mobile Life”, consumers can enjoy a “vivid, dramatic and instant transmitting” easy M-Life.

Fantasy ¡ DFly

Jumbo 3G Mobile Life

Floating Root


Tropical Fish

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