Video Forgery

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Summary: Video Forgery is a technique for generating fake video by altering, combining, or creating new video contents. We change the behavior of actors in a video. For instance, the outcome of a 100-meter race in the Olympic Game can be falsified. We track objects and segment motions using a modified mean shift mechanism. The resulting video layers can be played in different speeds and at different reference points with respect to the original video. In order to obtain a smooth movement of target objects, a motion interpolation mechanism is proposed based on reference stick figures (i.e., a structure of human skeleton) and video inpainting mechanism. The video inpainting mechanism is performed in a quasi-3D space via guided 3D patch matching. Interpolated target objects and background layers are fused. It is hard to tell whether a falsified video is the original. We demonstrate the original and the falsified videos in our website accessible at http://member.mine.tku.edu.tw/www/. Although video falsifying may create a moral problem, our intention is to create special effects in movie industry.

Biography: Dr. Shih is a Professor at the National Central University, Taiwan. He was the Dean of College of Computer Science, Asia University, Taiwan and the Department Chair of the CSIE Department at Tamkang University, Taiwan. Dr. Shih is a Fellow of the Institution of Engineering and Technology (IET). In addition, he is a senior member of ACM and a senior member of IEEE. Dr. Shih also joined the Educational Activities Board of the Computer Society. His current research interests include Multimedia Computing and Distance Learning. Dr. Shih has edited many books and published over 480 papers and book chapters, as well as participated in many international academic activities, including the organization of more than 60 international conferences. He was the founder and co-editor-in-chief of the International Journal of Distance Education Technologies, published by the Idea Group Publishing, USA. Dr. Shih is an associate editor of the ACM Transactions on Internet Technology and an associate editor of the IEEE Transactions on Learning Technologies. He was also an associate editor of the IEEE Transactions on Multimedia. Dr. Shih has received many research awards, including research awards from National Science Council of Taiwan, IIAS research award from Germany, HSSS award from Greece, Brandon Hall award from USA, and several best paper awards from international conferences. Dr. Shih has been invited to give more than 30 keynote speeches and plenary talks in international conferences, as well as tutorials in IEEE ICME 2001 and 2006, and ACM Multimedia 2002 and 2007.
Ubiquitous Services

Claudio Pinhanez

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Summary: This talk examines the use of service systems as a way to bring the benefits of ubiquitous computing and media solutions to the real world. We compare the use of service systems to the traditional view of computer applications as user tools, where a service system is characterized by the significant presence of humans as part of the service system during the time of use. As a consequence, service systems are perceived as having human characteristics by their users and are expected to exhibit human-like behaviors. We hypothesize that this fundamentally changes the way interfaces must be designed, built, and maintained. This talk presents and discusses those issues, under the light of Service Science and HCI theory.

Biography: Claudio Pinhanez is a professor, researcher, and media artist. He is the leader of the Service Systems Research group of IBM Research-Brazil, where he has been a research scientist since 2009, working on Service Science, Ubiquitous Computing, and Human-Computer Interfaces. Claudio got his PhD. in 1999 from the MIT Media Laboratory, and was a researcher at the T.J. Watson laboratory of IBM Research from 1999 to 2009. Before that, from 1987 to 1997 he as a faculty member of the department of Computer Science of the University of São Paulo. He has also been a visiting researcher at the ATR-MIC Laboratory in Kyoto, Japan in 1996, and at the Sony Computer Science Laboratory in Tokyo, Japan in 1998. He has more than 17 journal papers and 61 articles and abstracts published in international conferences, including 3 Best Paper awards, and 4 patents awarded in US and Japan, and 9 being examined. He is a Senior Member of ACM, member of the IBM Academy of Technology, and has received the 2003 Most Promising Scientist award from HENAAC (Hispanic Engineers National Achievement Awards Conference).
Summary: Wireless Sensor Networks (WSN) are composed of embedded computers equipped with sensors, actuators and wireless networking facilities. In recent years, WSN have been applied to tackle a number of critical problems including: environmental monitoring, energy conservation and industrial automation. This talk will discuss some previous work in providing support for WSN-based flood monitoring, along with experiences gained during the development of this work. The talk will also include a discussion of the author's current work in deploying a flood monitoring and warning system in the state of São Paulo. Finally, we will also include a discussion of our ongoing work which uses WSN and Cloud Computing for energy conservation.

Biography: Jo Ueyama is Assistant Professor and researcher with University of São Paulo. He got his PhD at the University of Lancaster, UK. He is a strong research in Wireless and Sensor Networks, showing particular interest in real-world sensing applications.