3DVAR: From 3D Reconstruction to Virtual and Augmented Reality

Ruofei Du
Shanghai Jiao Tong University
me@duruofei.com

Zhiwei Li
Microsoft Research Asia
zli@microsoft.com

Rui Cai
Microsoft Research Asia
ruicai@microsoft.com

Bao-Liang Lu
Shanghai Jiao Tong University
blu@cs.sjtu.edu.cn

Lei Zhang
Microsoft Research Asia
leizhang@microsoft.com

Figure 1: A blooming artwork rendered by 3DVAR in real-time.

CHI'13, April 27 – May 2, 2013, Paris, France.
ACM 978-1-XXXX-XXXX-X/XX/XX.

Abstract
This video demonstrates an exploration from online 3D reconstruction to various applications including virtual reality, holography and augmented reality. Firstly, we presents how portable 3D reconstruction with iterative segmentation enables ordinary users to create and consume 3D models. Secondly, we demonstrate that users could interact with reconstructed models in the virtual world using proxies and produce awesome artworks with favorite reconstructed models. Moreover, we introduce "Holography" with reconstruction for both advertisement and comparison between virtual and real models. Eventually, we propose that reconstructed models could decorate your room, enrich magazines and innovate story-telling in augmented reality scenarios on the head-mounted or mobile hand-held devices. In summary, our video presents a promising trend from 3D reconstruction to virtual and augmented reality.

Author Keywords
Reconstruction, Virtual Reality, Augmented Reality, Holography

ACM Classification Keywords
H.5.m [Information interfaces and presentation (e.g., HCI)]: Miscellaneous.