Kazuki Otao

Personal Infomation

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School Infomation (Univerisity of Tsukuba)

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Education

Bachelor of Science in Media Sciences and Engineering
University of Tsukuba, Japan (Apr. 2017 to Current) Exptected graduation date : Mar. 2019
Digital Nature Group
Researching near-eye see-through display using transmissive mirror device, and aerial image on retroreflective particles with Prof. Yoichi Ochiai

Associate Degree in Computer Science and Electronic Engineering
National Institute of Technology, Tokuyama College, Japan (Apr. 2012 to Mar. 2017)
Soft Computing Laboratory
Researching a fog display for visualization of adaptive shape-changing flow with Prof. Takanori Koga.

Publication

International Conference with Peer Review

[1] Kazuki Otao, Yuta Itoh, Kazuki Takazawa, Hiroyuki Osone, and Yoichi Ochiai. 2017. Air Mounted Eyepiece : Optical See-Through HMD Design with Aerial Optical Functions. In Proceedings of the 9th Augmented Human International Conference (AH ’18). (to appear)

[2] Kazuki Otao, Yuta Itoh, Hiroyuki Osone, Kazuki Takazawa, Shunnosuke Kataoka, and Yoichi Ochiai. 2017. Light field blender: designing optics and rendering methods for see-through and aerial near-eye display. In SIGGRAPH Asia 2017 Technical Briefs (SA '17). ACM, New York, NY, USA, Article 9, 4 pages. DOI: https://doi.org/10.1145/3145749.3149425

[3] Kazuki Otao and Takanori Koga. 2017. Mistflow: a fog display for visualization of adaptive shape-changing flow. In SIGGRAPH Asia 2017 Posters (SA '17). ACM, New York, NY, USA, Article 17, 2 pages. DOI: https://doi.org/10.1145/3145690.3145696

[4] Shinnosuke Ando, Kazuki Otao, Kazuki Takazawa, Yusuke Tanemura, and Yoichi Ochiai. 2017. Aerial image on retroreflective particles. In SIGGRAPH Asia 2017 Posters (SA '17). ACM, New York, NY, USA, Article 7, 2 pages. DOI: https://doi.org/10.1145/3145690.3145730

Pre-print

[5] Yoichi Ochiai, Kazuki Otao, and Hiroyuki Osone. 2017. Air Mounted Eyepiece: Design Methods for Aerial Optical Functions of Near-Eye and See-Through Display using Transmissive Mirror Device. ArXiv e-prints (Oct. 2017). arXiv:cs.HC/1710.03889

Research Interest

Human-Computer Interaction, Computer Graphics, Virtual Reality, Augmented Reality, Light Field Display, Fog Display, Aerial Imaging System, Interactive Art, Media Art, Metamaterials

Technical Skills

I'm expert in especially C# and Unity.
Programming Languages: C, C++, Java, HTML/CSS, Ruby, Python, Swift
Programming Environment: Sublime Text, Visual Studio, Android Studio, Eclipse
Toolkits: Android SDK, Rails, DXLibrary, Bootstrap

Work Experience

Student Researcher @ Pixie Dust Technologies, Inc.
Sep. 2017 to Current
Researching extended reality device using transmissive mirror device.
Used Tools : C#, Unity

Unity Engineer @ Unirobot Corporation.
Dec. 2016 to Aug. 2017
Development of facial expression and interface of home robot.
Used Tools : C#, Unity, Java, Android

My Project (Selected)

Air Mounted Eyepiece (2018)

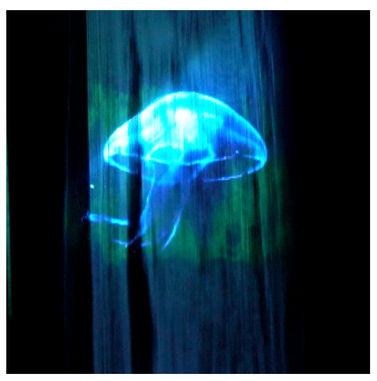
This research presents a head-mounted display using transmissive mirror device as new optical element.
Project Page : http://digitalnature.slis.tsukuba.ac.jp/2017/09/metamate-glass/
Youtube : https://youtu.be/fvUzAeQL9uA

Light Field Blender (2017)

This research presents a novel light field display using transmissive mirror device as new optical element.
Project Page : http://digitalnature.slis.tsukuba.ac.jp/2017/09/metamate-glass/
Youtube : https://youtu.be/isgaDS-qXsI

Aerial Image on Retroreflective Particles (2017)

This research presents a novel method to project aerial image using the transmissive retroreflective particles as aerial screen.
Project Page : http://digitalnature.slis.tsukuba.ac.jp/2017/11/glassbeads-display/
Youtube : https://youtu.be/sLHKTFW9i90



MistFlow (2016)

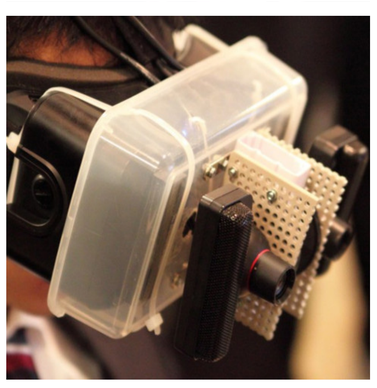
This research presents a fog display for visualization of adaptive shape-changing flow.
Project Page : http://meo-cs.net/works/mistflow/
Youtube : https://youtu.be/YwNEVw1YgCY

Re:ink (2015)

This work is an installation in which the image projected by projection mapping is interactively changed by the viewer's interference.
Project Page : http://meo-cs.net/works/reink/
Youtube : https://youtu.be/tylQ3OqYGl4

Pianist (2015)

This work is a system for practicing fingering of keyboard instruments using video see-through HMD and Leap Motion.
Project Page : http://meo-cs.net/works/pianist/
Youtube : https://youtu.be/7xNNoWNeetY (Japanese Presentation)



References

Prof. Yoichi Ochiai secretary@pixiedusttech.com
University of Tsukuba / Pixie Dust Technologies, Inc.

Dr. Takayuki Hoshi star@pixiedusttech.com
Pixie Dust Technologies, Inc.

Dr. Taisuke Ohshima hosono1@gmail.com
University of Tsukuba / Nature Architects.Inc