

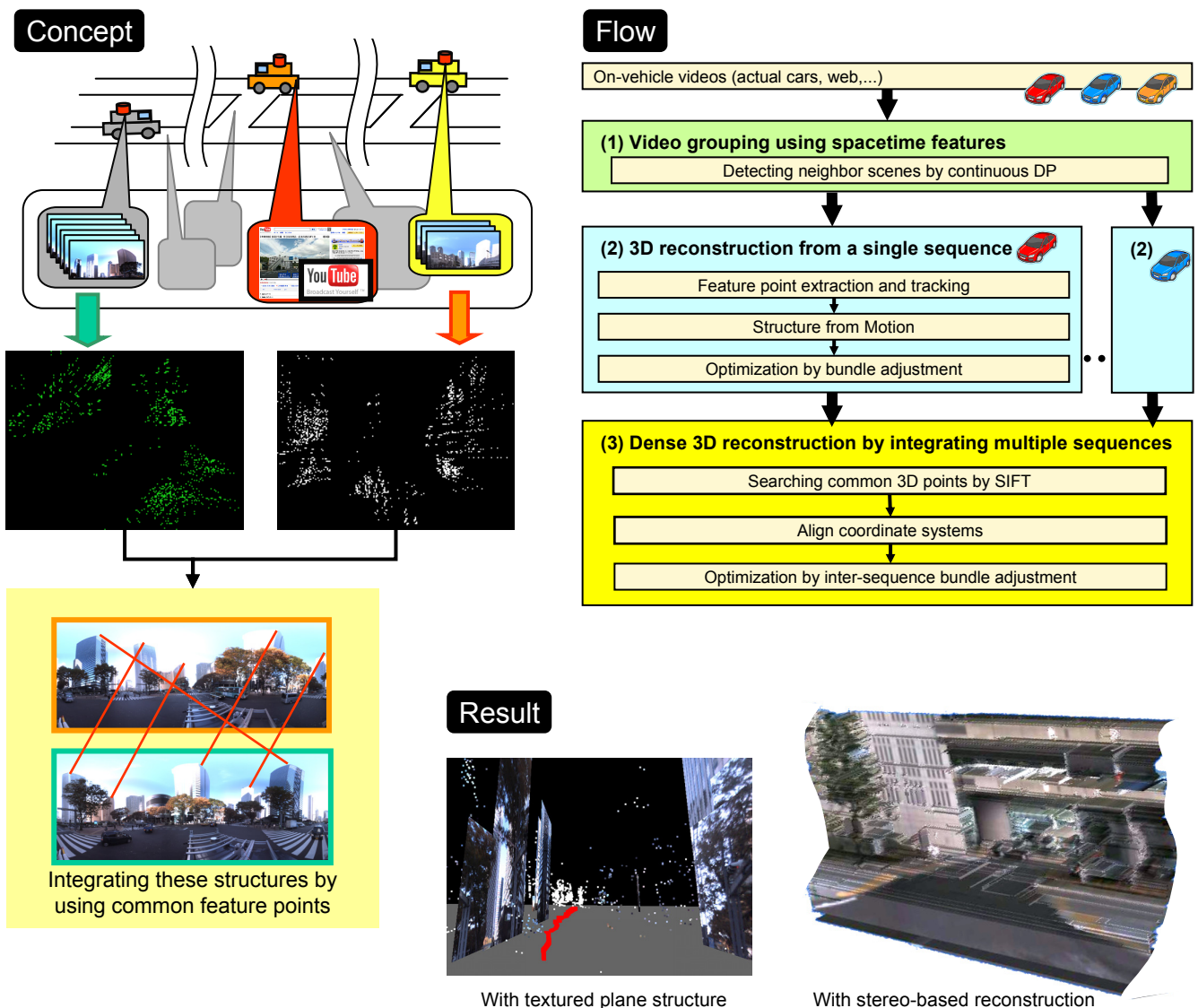
Scalable Shape Acquisition Technique for Urban City using Multiple Car-mounted Omnidirectional Cameras

Ryota Matsuhisa, Shintaro Ono, Hiroshi Kawasaki*, and Katsushi Ikeuchi

In recent years, car-mounted camera is spreading through common vehicles for the driving support at the time of parking and retreat etc. Camera is comparatively inexpensive and it seems that it is established for the various purpose. Therefore, we are building the system which builds or updates the 3D object model of urban city by unifying the data of two or more sequences taken by the omnidirectional cameras mounted on general vehicles. This enables presents to not only make it easy to update and expand the model to wide area, but also improve estimation accuracy and stability.

Publications

- [1] R. Matsuhisa, S. Ono, H. Kawasaki, A. Banno, K. Ikeuchi, "Image-Based Ego-Motion Estimation Using On-Vehicle Omnidirectional Camera", *Int'l Journal of ITS Research*, Vol. 8, Issue. 2, pp. 106-117, 2010.
- [2] R. Matsuhisa, S. Ono, H. Kawasaki, A. Banno, K. Ikeuchi, "Extensive urban city model construction using multiple omnidirectional image sequences taken by vehicle camera" (in Japanese), *Meeting on Image Recognition and Understanding (MIRU)*, Jul. 2009.



* Kagoshima University