Increasing Accuracy of VSLAM by integrating

Sebastian Echegaray

Introduction:

Increase accuracy in 3D reconstruction using VSLAM and information from the cellphone IMU

Technical details:

We can use extra information from the cellphone sensors to provide a better estimate of the position and pose of the camera and create more accurate 3D models.

How do you propose to solve it?

We can use the accelerometers and gyroscopes of the cellphone unit together with the visual clues to feed an extended Kalman filter which would provide a better estimate of the position of the scene.

The target mobile platform

Nvidia Tegra Note 3

Milestones (dates and sub-goals)

6/2/2014 – Prototype working

6/4/2014 – Presentation Ready

6/8/2014 – Final write up

References

http://cvg.ethz.ch/mobile/LiveMetric3DReconstructionICCV2013.pdf

http://publications.asl.ethz.ch/files/weiss11real.pdf