Kintinuous: Spatially Extended Kinect Fusion

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Colour Image

Depth Image
Volumetric Model
Kintinuous Motion
Kintinuous Motion
Features

• Real-time
• Mesh Generation
• Not limited to “desk space”
• Adaptive odometry estimate
  – Dynamic switching from ICP to FOVIS visual odometry [Huang et al. ’11]
• Fused model coloring
  – Also done by Newcombe et al.
Features “in the oven”

• Pose graph optimisation
  – Place recognition (Dbow [Gálvez-López & Tardós ’11])
  – iSAM [Kaess et al. ‘08]

• Reintegration
  – Synthetic depth map approach
  – Mesh/point cloud to TSDF?

• Shape extraction
  – Fitting primitives like planes and curves
Source Code

• In discussion with NUI Maynooth
  – Ultimate IP owners

• Aim to put source back into PCL
  – Make freely available to research community

• A few months off