Meeting 15.03.2022

Start: 16:06
End: 17:02

Attendence: Dusmanu Mihai-Alexandru, Forgaard Theodor, Heine Tom Martin, Kalananthan Senthuran, Steinsland Kristoffer, Weder Silvan

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   1. Meetup / Introduction
      a. Introduction round
         i. SLAM in Future, some Open Cv and Robotics before
   2. Project Idea
      a. Utilize already existing Data
      b. Automated Approach
      c. Labour free (give some Info's and get going)
      d. Expect groundwork
      e. Good Dataset and web crawling
         i. Input City name
         ii. Output suitable Videos
   3. Meeting Scheduler
      a. 1/week to 2/semester
      b. We decide
   4. Presenting Pipeline
      a. Cam Calibration one of the most difficult part
         i. No Data, difficulty to generated
         ii. ORB-SLAM unable to work without calibrating Camera's
         iii. Intrinsic calibration is needed
         iv. Retrieved Parameters from the camera model data sheet (Phone Camera
   one run down the floor could change focal length about 10%)
      b. Tipp: H-Log CVG Camera Localisation
         i. Does sub Map without map merging
         ii. [Structure from Motion]
   5. Steps suggests
      a. Get data
      b. Use uncalibrated for slam or (uncalibrated) Structure from Motion (can be
   used as fake SLAM)
         i. Constraints for Place recognition
      c. Map Merging
         i. Get Waypoints/Landmark reconstruction
         ii. OrbSLAM does Images Orb-Keyframes Bag of Words
         iii. Learning to solve this would work, using Local and Global Descriptors
   (included in H-Log)
                1) Net VLAD???
                2) State of the art in ORBSLAM
         iv. SIFF and Super superglue -> Better models
   6. Only Crowed Sourced Data
      a. Don't think about what's missing!
      b. Less focus about completion of the map -> focus on doing a good automated
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   workflow
7. Goal
     a. Have one single Model from partial trajectory of Zürich
          i. In videos from YT
             1) A lot of data used
          ii. Do Partial Reconstruction
          iii. Solve Map puzzle
     b. Mid Term
          i. Have some part of Crawler (possibly complete crawler)
          ii. Have some first trajectory
     c. Output Colmap -> H-Log (for 3D Reconstruction)
          i. Forget ORB-SLAM3
          ii. Use H-Log as a Toolbox
8. Next Meeting in Around 2 Weeks
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