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Summary

For preparing the Mid-term presentation, we made the visuals and practice the presentation. Also, The Related works in the paper was written in this week. Also, the sensor, RGB-D camera and Jetson Nano, was tested for using in the experiment. The dataset for the SLAM was selected [1], [2]. Lastly, we had the discussion about the way of marking the stable path using the GPS in the Path planning.

What FarmVroong completed this week:

- Mid-term presentation
  In this week, preparing for the Mid-term presentation is progressed. The presenter was chosen to Jueun Mun and Seongil Heo. Also, the question for the presentation was prepared. In this progress, the visuals were made and the script for the Mid-term presentation was written.

- Testing the RGB-D camera and Jetson Nano
  The RGB-D camera and Jetson Nano was tested for using in our experiment. First of all, the RGB-D camera was tested in the indoor environment. As we checked that the RGB-D camera is performance well in the indoor, we had the test in the outdoor environment. The result of the outdoor test was good. Eventually we could have the test with the RGB-D SLAM.
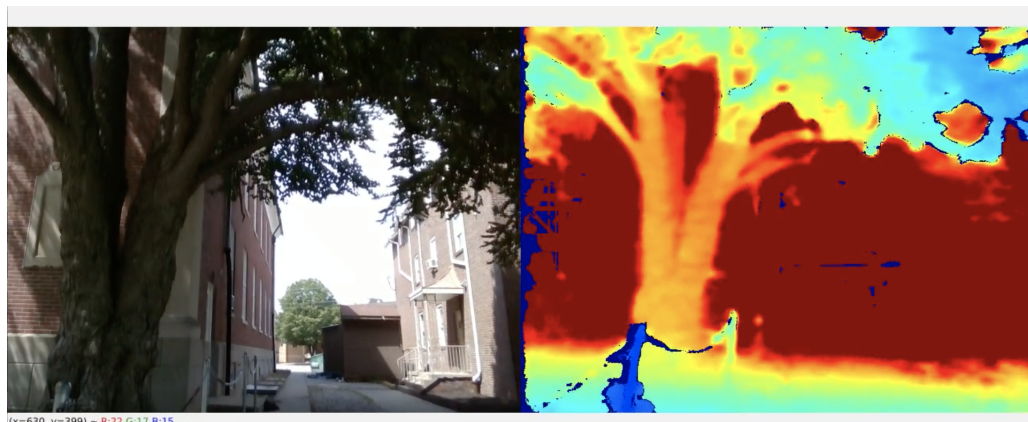

Fig. 1. The result of the RGB-D camera in the outdoor.

Things to do by next week

- Implement the source code of the RGB-D SLAM with the GPS
- Experiment the RGB-D SLAM in the indoor.
- Printing the additional frame by a 3D printer.

Problems or challenges:

- Marking the stable path using the GPS in the map.
- The way of collecting the data.

References

[1] D. Maturana, P.-W. Chou, M. Uenoyama, and S. Scherer, "Real-time semantic mapping for autonomous off-road navigation," *Field and Service Robotics*, pp. 335–350, 2017.

[2] M. Wigness, S. Eum, J. G. Rogers, D. Han, and H. Kwon, "A RUGD dataset for autonomous navigation and visual perception in unstructured outdoor environments," in *IROS*, 2019.