TCD3DIntelMovidius2017: Drone imagery and 3D model dataset of Trinity College Dublin campus

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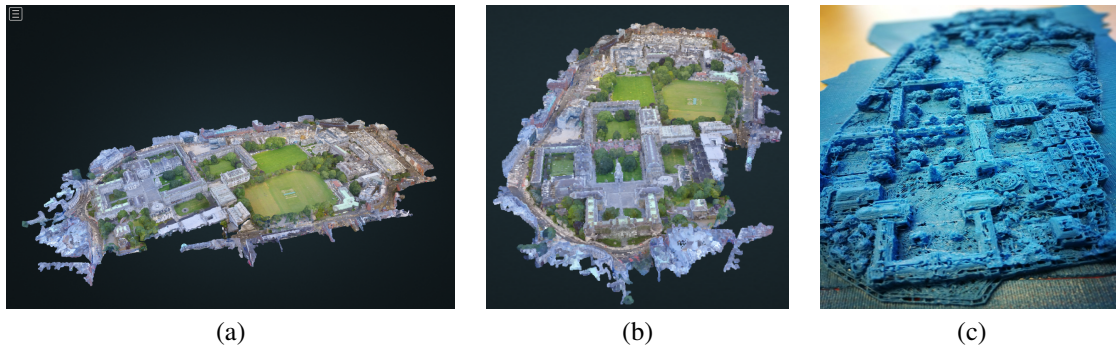[◇]Trinity College Dublin, Ireland

Fig. 1: Visualisation of the 3D point cloud using Potree ((a) and (b)) and 3D print (c).

This report describes the capture of a large set of images of Trinity College Dublin campus, Ireland, on the 15th of July 2017 using a drone [1], [2]. The JPEG images are released with an Attribution 4.0 International (CC BY 4.0) license [1]. In addition to the images, a 3D model computed from the images is also distributed in point cloud and 3D mesh format. This new dataset allows us to make comparisons with a previous 3D dataset [3] captured with Lidar technologies in 2015, also released with an Attribution 4.0 International license. If you use this dataset, please cite this report with corresponding permanent link to it. A visualisation of the 3D point cloud can be created using Potree [4] (cf. Fig. 1) and can be seen online[2]. Visualisation in VOLA format is also available at http://vola.movidius.com.

I. ORGANISING THE DATA CAPTURE

The data was recorded in the early hours of Saturday 15th of July 2017, maximising the chance of good weather conditions with low human traffic on the ground. The preparation of this project required the following to get permission for this recording:

- A short support email from a TCD academic staff indicating the usefulness of the data for research and education.
- An email from Intel-Movidius to the relevant authorities in Trinity College providing license and public liability insurance information for their drone.

On the day of the recording, several research staff volunteered to help monitor the process on the ground. Intel-Movidius contributed in providing staff to fly the drone capturing the 800+ images of the campus and in generating the point cloud and mesh files also distributed with the dataset.

II. CALL FOR ACADEMIC PARTICIPATION

Intel-Movidius is interested in contributing to the creation of 3D datasets to be used for research and education purposes. If you are an academic in the Republic of Ireland & Northern Ireland and you want to capture a 3D model of your campus for research and education, please contact jonathan.byrne@movidius.com. The process is straight forward as indicated in Section I.

REFERENCES

[1] T. Deane, "Next-gen drone footage puts trinity on the 3d map," https://www.tcd.ie/news_events/articles/next-gen-drone-footage-puts-trinity-on-the-3d-map/8135, September 5th 2017.

[2] J. Byrne, "Converting trinity survey to the vola format," https://youtu.be/D59P3b1REDY, 2017.

[3] D. F. Laefer, S. Abuwarda, A.-V. Vo, L. Truong-Hong, and H. Gharibi, "2015 aerial laser and photogrammetry survey of dublin city collection record," New York University, Tech. Rep., 2017, https://doi.org/10.17609/N8MQ0N.

[4] I. of Computer Graphics and T. W. Algorithms, "Potree: a free open-source webgl based point cloud renderer for large point clouds," http://potree.org, online; accessed 08 September 2017.

[1]https://creativecommons.org/licenses/by/4.0/

[2]https://www.scss.tcd.ie/Rozenn.Dahyot/TCD3DIntelMovidius2017.html