Starting Guide Scanse Sense

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What is Scanse Sense

Sweep is a scanning LiDAR sensor designed to bring powerful 360 degree sensing[1]. This can be used in surveying, robotics, security and education. In robotics, sweep can be used to detect and avoid obstacles.

Getting Started

In their quickstart[2] they suggest to start with connecting the sensor to an usb port of your computer. In principal this should install the usb to serial drivers. At Linux systems, this could be checked by commands like `dmesg | tail` and `lsusb`.

Installing Software

The manufacturer provides several downloads for their sensor[3]. To get an impression of the capabilities of the Sweep Visualizer is a good choice.
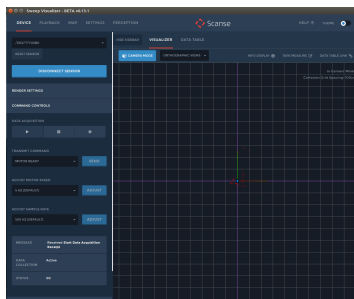

Figure 1: Screenshot of Sweep Visualiser (Science Park room C3.157)

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[1] http://scanse.io/
[2] http://scanse.io/quickstart
[3] http://scanse.io/downloads

Once you want to start programming, you need the provided Software Development Kit (SDK). The SDK is a link to github[4], with bindings for C, Python and JavaScript. On top of the SDK, there is software to create a Robot Operating System (ROS) node, also on github[5]. As indicated in the background article[6], which describes the principals how the sensor measures distances, the sensor doesn't measure at fixed angular intervals. So, the ROS node publishes messages like 2D point clouds, which can be converted to laserscan messages. Once you have laserscan messages, you could follow the ROS tutorial which guides trough the basics of working with the data produced by a planar laser scanner[7].

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[4] https://github.com/scanse/sweep-sdk
[5] https://github.com/scanse/sweep-ros
[6] https://support.scanse.io/hc/en-us/articles/115006333327-Theory-of-Operation
[7] http://wiki.ros.org/laser_pipeline/Tutorials/IntroductionToWorkingWithLaserScannerData