


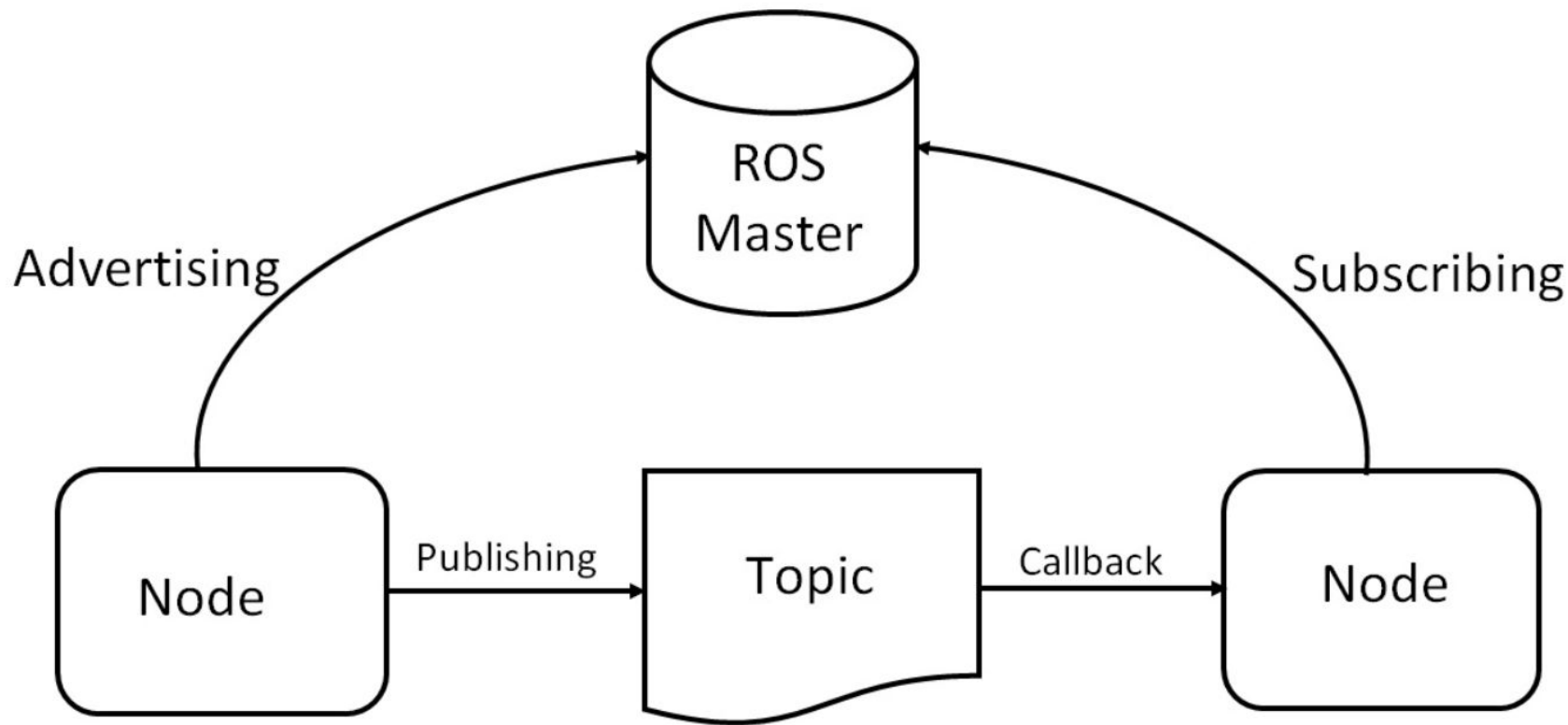
Firefighter Indoor Navigation: Prototype I



Jordan Shimel
Thomas Anter
Nawar Mikha



System Overview



Accomplishments

Jordan

Program developed for UP board to process data taken from camera

Thomas

Script written to convert video file to rosbag

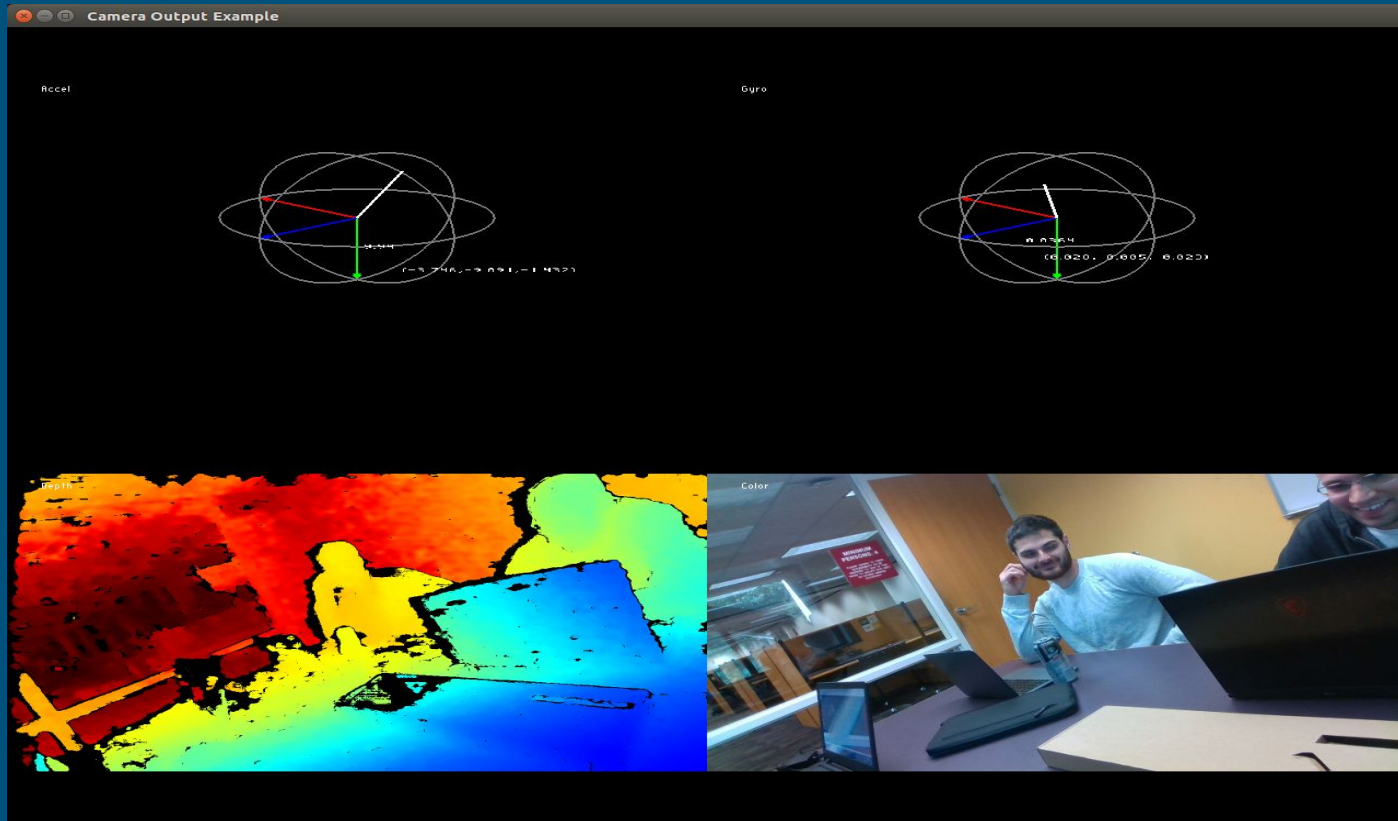
Nawar

Extracted video file from a ros bag

Zak

Put together mockup of GUI on main console

Capturing Video from Camera



Converting Video file to ROSbag

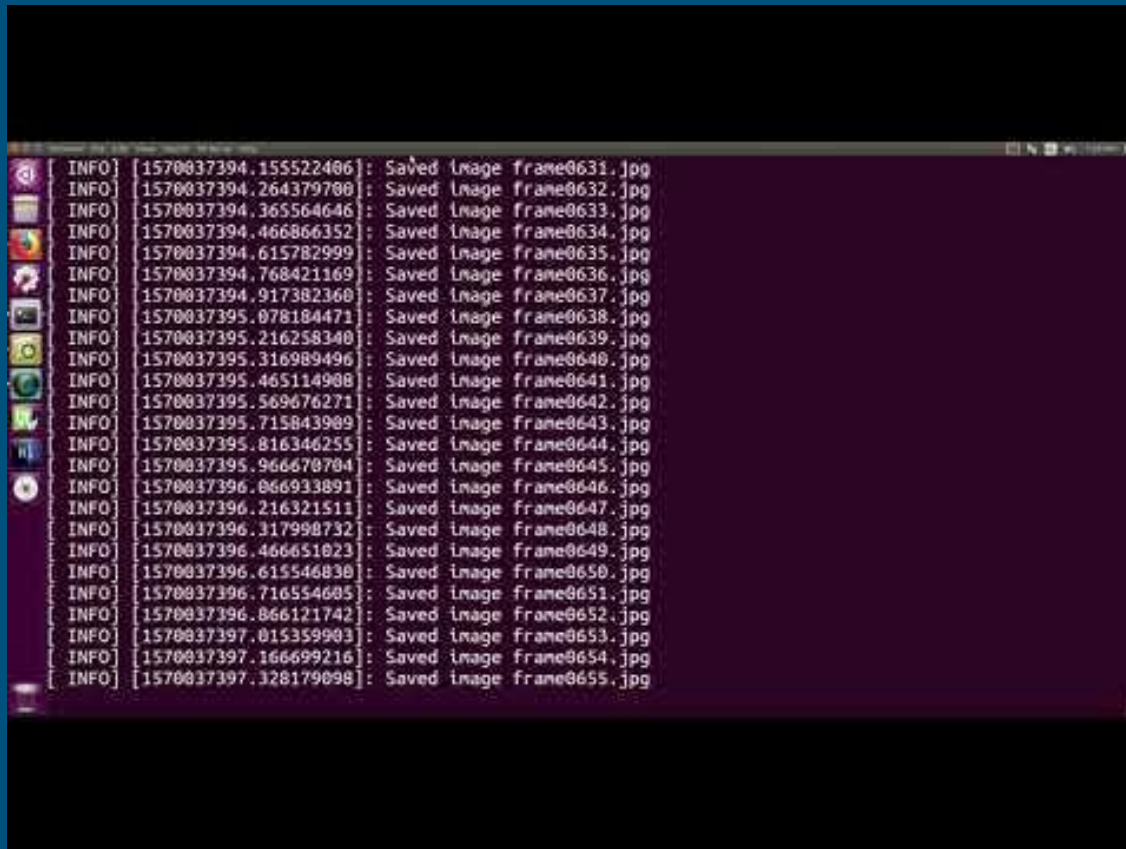
Processed frame #	Timestamp
1	0 nsec
2	33333333 nsec
3	66666666 nsec
4	100000000 nsec
5	133333333 nsec
6	166666666 nsec
7	200000000 nsec
8	233333333 nsec
9	266666666 nsec
10	300000000 nsec

```
newBag.bag
100% 334.2 MB
00:13
path: newBag.bag
version: 2.0
duration: 30.0s
start: Dec 31 1969 19:00:00.00 (0.00)
end: Dec 31 1969 19:00:30.00 (30.00)
size: 32.9 MB
messages: 901
compression: bz2 [301/301 chunks; 9.82%]
uncompressed: 334.2 MB @ 11.1 MB/s
compressed: 32.8 MB @ 1.1 MB/s (9.82%)
types: sensor_msgs/Image [060021388200f6
f0f447d0fcd9c64743]
topics: camera/image_raw 901 msgs :
sensor_msgs/Image
```

ROS Bag Visual Data Extraction

1. Image_view ros package includes tools for image extraction
2. Launch file allows multiple ros nodes to be executed
3. Roscore, rosbag, and extract node are run
4. Extract node turns image messages in the bag to jpg files
5. Script moves images into a new folder and generates an mp4 file

SLAM on Sample Bag Files



GUI Mockup

Features include:

- Text output showing camera connections
- Toggling between cameras 1 and 2
- Toggling different information to display on point cloud

