

CSIE Retriver Progress Report

Team 4

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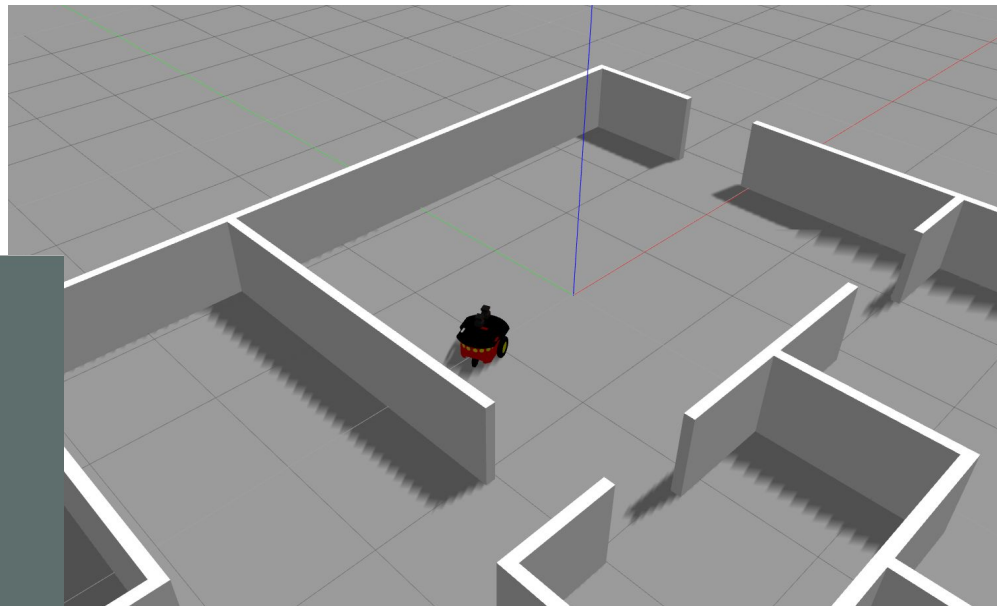
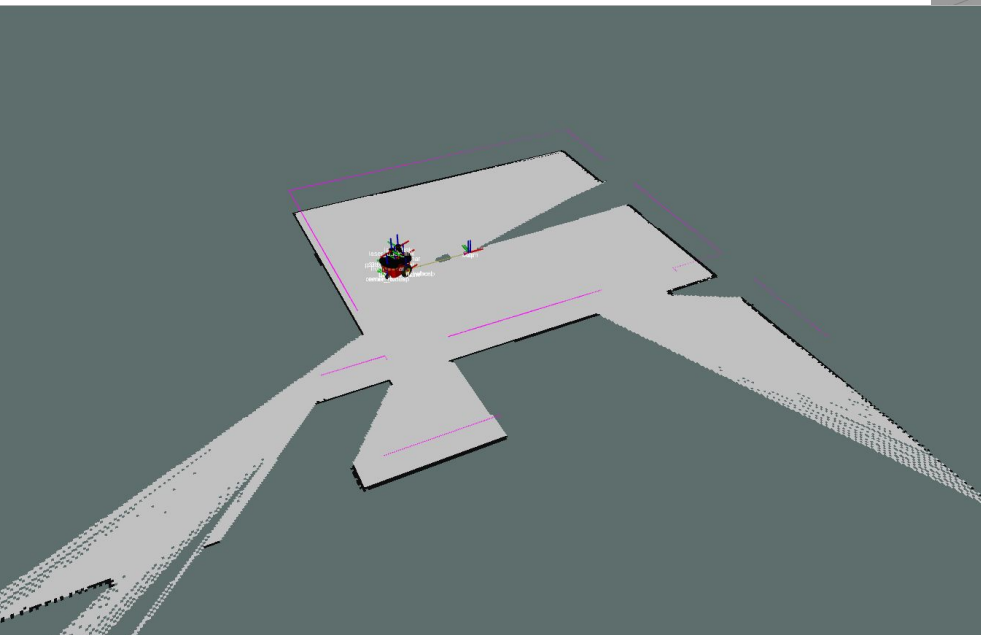
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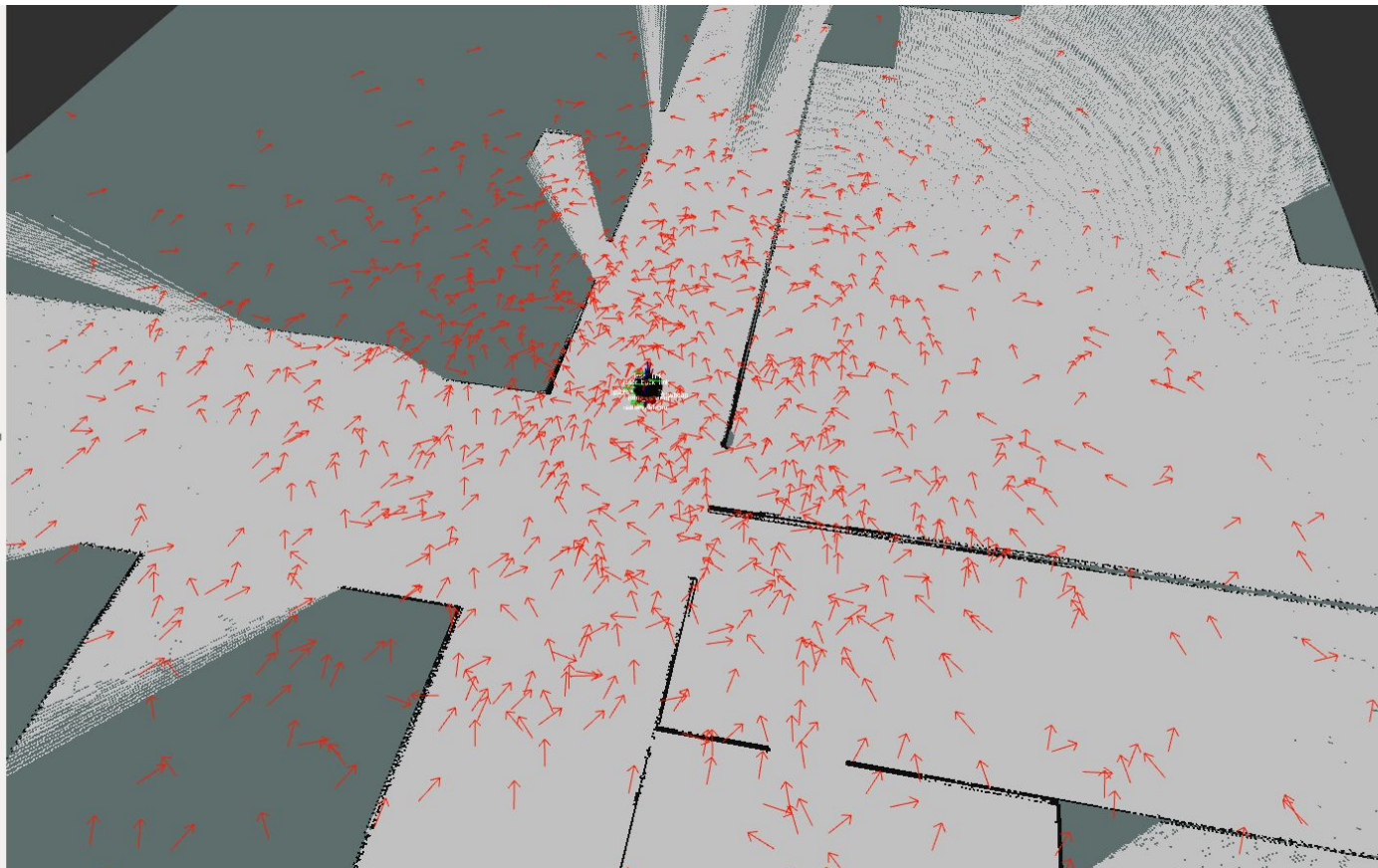
Progress

1. Able to Manually control the pioneer in simulation/reality
2. Able to perform SLAM with laser sensors to aquire global map.
3. Able to Automatically Navigate the pioneer to certain location on the map.
4. Developing Speech recognition part.

Construct 2D Map and Localize



Localization



Speech Recognition Progress

- Using DeepSpeech package
 - small LM model
 - small memory footprint
 - fine word error rate
- microphone VAD streaming
- Communicate with robot control node through ros

```
Initializing model...
INFO:root:ARGS.model: deepspeech-0.6.0-models/output_graph.pbmm
TensorFlow: v1.14.0-21-ge77504ac6b
DeepSpeech: v0.6.0-0-g6d43e21
2019-12-08 20:30:49.519148: I tensorflow/core/platform/cpu_feature_guard.cc:142] Your CPU supports instructions that this TensorFlow binary was not compiled to use: AVX2 FMA
INFO:root:ARGS.lm: deepspeech-0.6.0-models/lm.binary
INFO:root:ARGS.trie: deepspeech-0.6.0-models/trie
Listening (ctrl-C to exit)...
Recognized: o
Recognized: i
Recognized: going to a petre
Recognized: going to the bathroom
```

Things to do

- voice/speech part
 - recognize each person's voice to determine who is newcomer
 - maybe chat with newcomers while guiding them
- object detection part
 - recognize the place during localization
- robot trajectory and planning
- aggregate all the parts
- refine some parts

Thanks for listening