5 How can I subscribers multiple topics to get data at the same time (python)?

subscribe multiple

Hi, Am new to ROS and I need a little help. There are 4 topics (robot0/sonar1, robot0/sonar2, ...) of same type (sensor_msgs/Range). I need to process these 4 values together.

asked Oct 18 '15
Ananthakrishnan
63 ●3 ●4 ●6

updated Nov 29 '18
jayess
5112 ●17 ●57 ●72

```
#!/usr/bin/env python
import rospy
from sensor_msgs.msg import Range



def callback0(data):
    rospy.loginfo(rospy.get_caller_id() + "I heard %s",
data.range)
    sonar0 = int(data.range)
def callback1(data):
    rospy.loginfo(rospy.get_caller_id() + "I heard %s",
data.range)
    sonar1 = data.range
def callback2(data):
    rospy.loginfo(rospy.get_caller_id() + "I heard %s",
data.range)
    sonar2 = data.range
def callback3(data):
    rospy.loginfo(rospy.get_caller_id() + "I heard %s",
data.range)
    sonar3 = data.range
def listener():
    # In ROS, nodes are uniquely named. If two nodes wit
h the same
    # node are launched, the previous one is kicked off.
The
    # anonymous=True flag means that rospy will choose a
unique
    # name for our 'listener' node so that multiple list
eners can
```

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Last updated:	Nov 28 '18

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```
    # run simultaneously.
    rospy.init_node('listener', anonymous=True)
    rospy.Subscriber("robot0/sonar_0", Range, callback0)
    rospy.Subscriber("robot0/sonar_1", Range, callback1)
    rospy.Subscriber("robot0/sonar_2", Range, callback2)
    rospy.Subscriber("robot0/sonar_3", Range, callback3)
    rospy.loginfo(rospy.get_caller_id() + "I heard %s %s
%s %s", sonar0,sonar1,sonar2,sonar3)
    # spin() simply keeps python from exiting until this
node is stopped
    rospy.spin()

if __name__ == '__main__':
    sonar0=0
    sonar1=0
    sonar2=0
    sonar3=0
    listener()
```

The line

```
rospy.loginfo(rospy.get_caller_id() + "I heard %s %s %s
%s", sonar0,sonar1,sonar2,sonar3)
```

is not even executing. But I was able to see the result of individual callback. What is the best way to do this? I need an another function that has to process these 4 values.

Update:

Just like you said I am only getting the

```
rospy.loginfo(rospy.get_caller_id() + "I heard %s %s %s
%s", sonar0,sonar1,sonar2,sonar3)
```

line executed once. What is the best way to do this? I want to store all the values in an array and process once all the four values are received. Then repeat this process again.

Comments

do you get anything displayed - one set of values (probably all zeros) then nothing else, or nothing at all ?

 nickw (**Oct 19 '15**)

yes. one set of values... All zero

 Ananthakrishnan (**Oct 19 '15**)

add a comment

You need to use

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message_filters.TimeSynchronizer for this. Please look at the example code in the documentation:
http://wiki.ros.org/message_filters#E...

answered Oct 19 '15
Dimitri Schachmann
719 ●12 ●13 ●23

updated Oct 19 '15

Please note that there is also the ApproximateTime synchronization, which is often what you want if the sensor time stamps are not exactly in sync.

link

Comments

Thanks... That worked. I was able to use ApproximateTime synchronization. That solved my issue. But I am not able to use message_filter with cmd_vel bcz it doesn't have any header. Is there any workaround 4 tat? Now am chckng t value of cmd_vel inside the call back function using wait_for_message
Ananthakrishnan (**Oct 19 '15**)

a solution would be to make the data source publish messages with a header.
Dimitri Schachmann (**Oct 19 '15**)

a workaround could be to use http://wiki.ros.org/topic_tools/trans... to subscribe to your sensor data and output a new message type with a header. Than your node subscibes to that. You probably have to define that new message type yourself, unless it already exists.
Dimitri Schachmann (**Oct 19 '15**)

I think its easy to use wait_for_message inside the callback function rather than going for republishing the topic. It solved my issue. But thanks for the reply...
Ananthakrishnan (**Oct 19 '15**)

add a comment

2

I just ran your code, don't have a bunch of nodes publishing to the topics, but I get one line of 4 zeros as I would expect.

answered Oct 19 '15
nickw
1279 ●5 ●15 ●25
http://twitter.com/tinkernick

updated Oct 20 '15

The line you say never runs does run, but onlyruns once at the beginning, on the next line it reaches ros.spin(). It stays at that point. The only activity you will then see are from the callbacks being called when messages come in on a topic, so you would see individual values being printed out as they come in on each of the topics.

link

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