IPY Ubitrack Demo

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1 Introduction to UbiTrack Python Bindings

Let's first import some system packages

```
In [1]:  import numpy as np
         import time
         import os
```

The Ubitrack bindings currently consists of the following modules:

- ubitrack.core.utmath
- ubitrack.core.utmeasurement
- ubitrack.dataflow.dataflow
- ubitrack.facade.facade

others might follow, to allow the use of algorithms and components directly.

So .. import some basic functionality:

```
In [2]:  from ubitrack.core import math as utmath
         from ubitrack.core import util
         from ubitrack.facade import facade
```

In order to see what's happening, we configure logging:

```
In [3]:  util.initLogging("tests/log4cpp.conf")
```

then we create an instance of AdvancedFacade:

```
In [4]:  f = facade.AdvancedFacade("/usr/local/lib/ubitrack")
```

and load a simple dataflow, which produces test poses:

```
In [5]:  f.loadDataflow("tests/single_pushsinkpose.dfg", True)
```

then we define a simple callback to receive measurements. Callbacks have a single argument - the measurement, which consists of a timestamp and a payload

```
In [6]:  def cb(m):
             print m
```

then register the callback with the application push sink:

```
In [7]:  f.setCallbackPose("receiver", cb)
```

next, we'll start the dataflow

```
In [8]:  f.startDataflow()
```

now, the dataflow is running.

```
In [9]:  time.sleep(3)
```

```
[ -0.0369177 -0.0655897 -0.0102938 ] [ ( -0.00969364 -0.0250324
0.067903 ) 0.997331 ] 23:02:00.945126
[ -0.0347439 -0.0660196 -0.0085368 ] [ ( -0.0103512 -0.0237258
0.0682555 ) 0.997332 ] 23:02:00.978726
[ -0.0326035 -0.066443 -0.00680675 ] [ ( -0.0109986 -0.0224392
0.0686025 ) 0.997331 ] 23:02:01.011811
[ -0.0304633 -0.0668663 -0.0050769 ] [ ( -0.011646 -0.0211527
0.0689493 ) 0.997328 ] 23:02:01.044892
[ -0.0283234 -0.0672895 -0.00334731 ] [ ( -0.0122932 -0.0198664
0.0692959 ) 0.997323 ] 23:02:01.077968
[ -0.0261834 -0.0677128 -0.00161762 ] [ ( -0.0129404 -0.0185799
0.0696423 ) 0.997315 ] 23:02:01.111046
[ -0.0240424 -0.0681362 0.0001128 ] [ ( -0.0135879 -0.0172929
0.0699887 ) 0.997305 ] 23:02:01.144138
[ -0.0219018 -0.0685596 0.00184296 ] [ ( -0.0142352 -0.016006
0.0703349 ) 0.997293 ] 23:02:01.177225
[ -0.0197589 -0.0689835 0.00357506 ] [ ( -0.0148832 -0.0147177
0.0706814 ) 0.997279 ] 23:02:01.210349
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0.0710273 ) 0.997263 ] 23:02:01.243442
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0.071373 ) 0.997245 ] 23:02:01.276523
[ -0.0133378 -0.0702535 0.00876497 ] [ ( -0.0168245 -0.0108577
0.0717184 ) 0.997224 ] 23:02:01.309599
[ -0.0111976 -0.0706768 0.0104948 ] [ ( -0.0174714 -0.00957113
0.0720637 ) 0.997201 ] 23:02:01.342680
[ -0.00905781 -0.0711 0.0122243 ] [ ( -0.0181181 -0.0082849 0.0724088
) 0.997176 ] 23:02:01.375754
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0.0727537 ) 0.997149 ] 23:02:01.408830
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0.0730985 ) 0.997119 ] 23:02:01.441908
[ -0.00263822 -0.0723697 0.017413 ] [ ( -0.0200579 -0.00442633
0.073443 ) 0.997088 ] 23:02:01.474981
[ -0.000498268 -0.0727929 0.0191426 ] [ ( -0.0207044 -0.00314022
0.0737874 ) 0.997054 ] 23:02:01.508058
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0.0741316 ) 0.997018 ] 23:02:01.541138
[ 0.00378163 -0.0736395 0.0226019 ] [ ( -0.021997 -0.000568251
```

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```
) 0.994074 ] 23:02:03.360531
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[ 0.0435893 −0.0479434 0.0678913 ] [ ( −0.0360447 0.0594633 0.0697365
) 0.995139 ] 23:02:03.923393
```

In [10]: `f.stopDataflow()`

In [10]: