00_crazyflie_sim_teacher

May 2, 2025

1 Crazyflie Demo in Jupyter Notebook

This notebook allows you to test the **Crazyflie Simulator** and run real drone flight sequences. ## Instructions: 1. **Set `USE_REAL_CRAZYFLIE = False`** to run the **simulator only** (no real flight). 2. **Set `USE_REAL_CRAZYFLIE = True`** to fly a **real Crazyflie drone**. 3. Run each cell step by step for **better control** over execution.

[ ]:
```
# Import necessary modules
import time
from crazyflie_sim import CrazyflieSimulator  # Ensure this file is in the same␣
↪directory or accessible
```

[ ]:
```
#  Set mode: False for simulation, True for real Crazyflie
USE_REAL_CRAZYFLIE = False  # Change to True to fly the real drone

# Initialize Crazyflie Simulator (or real Crazyflie)
drone = CrazyflieSimulator(real=USE_REAL_CRAZYFLIE)
print("\n Crazyflie Demo Initialized")
```

[ ]:
```
#  Takeoff
drone.takeoff()
time.sleep(2)  # Wait for takeoff
```

[ ]:
```
#  Move Forward
drone.forward(1.0)  # Move forward 1 meter
time.sleep(2)
```

[ ]:
```
#  Move Right
drone.right(0.5)  # Move right 0.5 meters
time.sleep(2)
```

[ ]:
```
#  Ascend
drone.up(0.3)  # Move up 0.3 meters
```

```
time.sleep(2)
```

[ ]:
```
#  Rotate 90 Degrees
drone.rotate(90, 1.0)  # Rotate 90 degrees
time.sleep(2)
```

[ ]:
```
#  Move Backward
drone.backward(1.0)  # Move backward 1 meter
time.sleep(2)
```

[ ]:
```
#  Move Left
drone.left(0.5)  # Move left 0.5 meters
time.sleep(2)
```

[ ]:
```
#  Descend
drone.down(0.3)  # Move down 0.3 meters
time.sleep(2)
```

[ ]:
```
#  Land
drone.land()
print("\n Crazyflie Demo Complete!")
```