

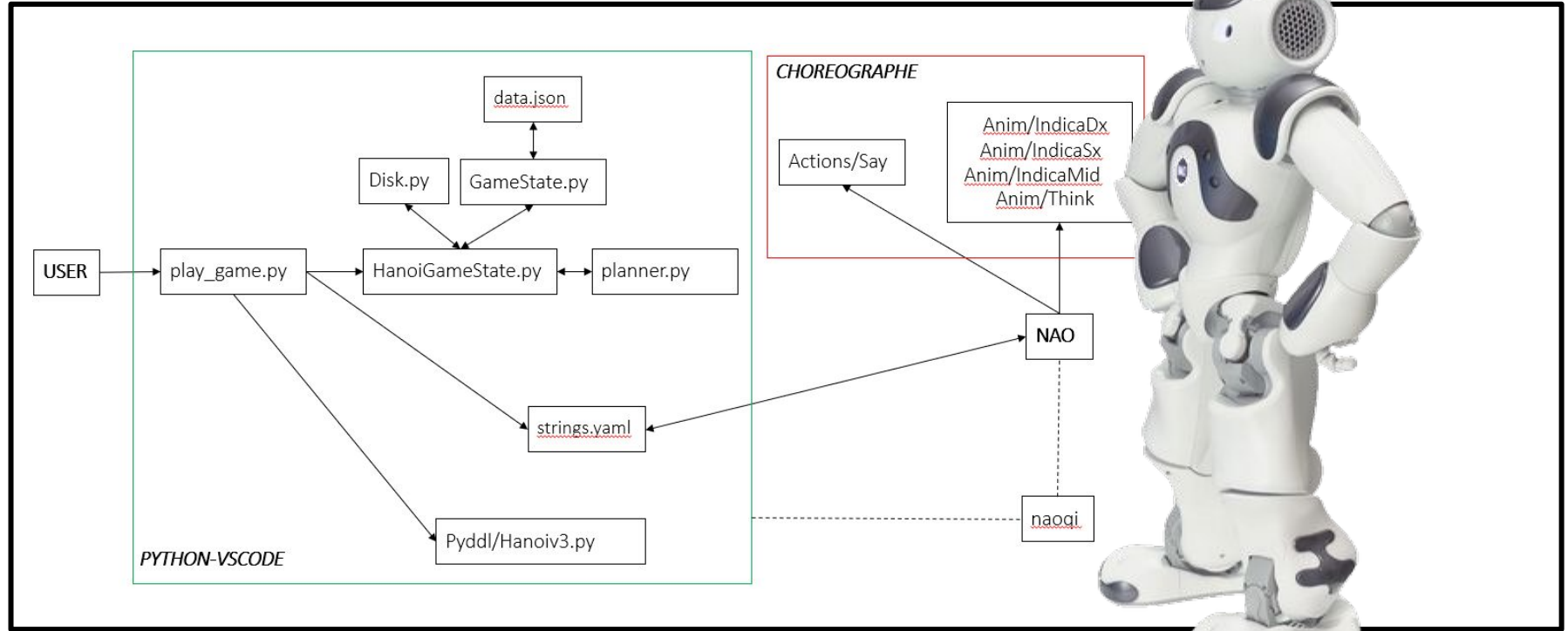
HaNAO Robot

Attività Progettuale su NAO Robot

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Corso di Fondamenti di Intelligenza Artificiale

Project Overview



Obiettivi

- Risolvere il gioco con:
 1. Breadth First Algorithm
 2. STRIPS Planner
- Comparare i risultati

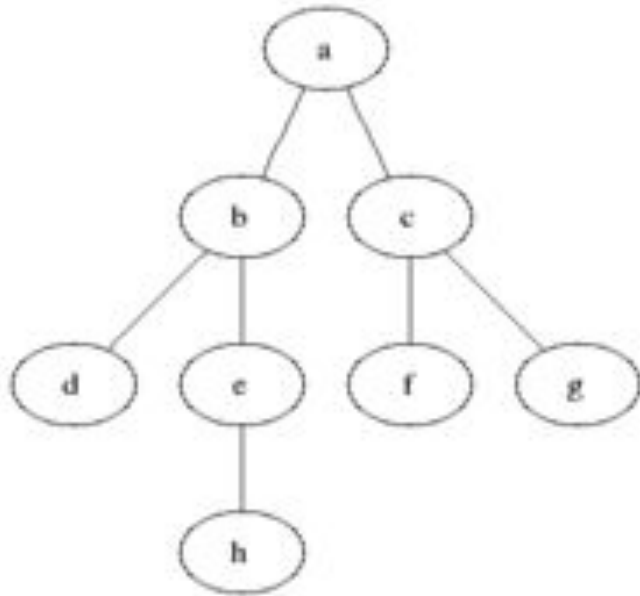


Strumenti

- Naoqi Python Library
- Choregraphe
- VisualStudio Code
- Python 2.7.18
- PyDDL
- Google



Planning - BFA



Planning - STRIPS

```
8  global_domain=Domain((
9      Action(
10         'move',
11         parameters=(
12             ('position', 'X'),
13             ('position', 'Y'),
14             ('position', 'Z'),
15         ),
16         preconditions=(
17             ('clear', 'X'),
18             ('clear', 'Z'),
19             ('on', 'X', 'Y'),
20             ('smaller', 'X', 'Z'),
21         ),
22         effects=(
23             neg(('clear', 'Z')),
24             neg(('on', 'X', 'Y')),
25             ('clear', 'Y'),
26             ('clear', 'X'),
27             ('on', 'X', 'Z'),
28         ),
29     ),
30 ))
31
```



Animazioni - Coreografie

- PointStart
- PointMiddle
- PointGoal
- Thinking
- *Nodd*
- *Wave*

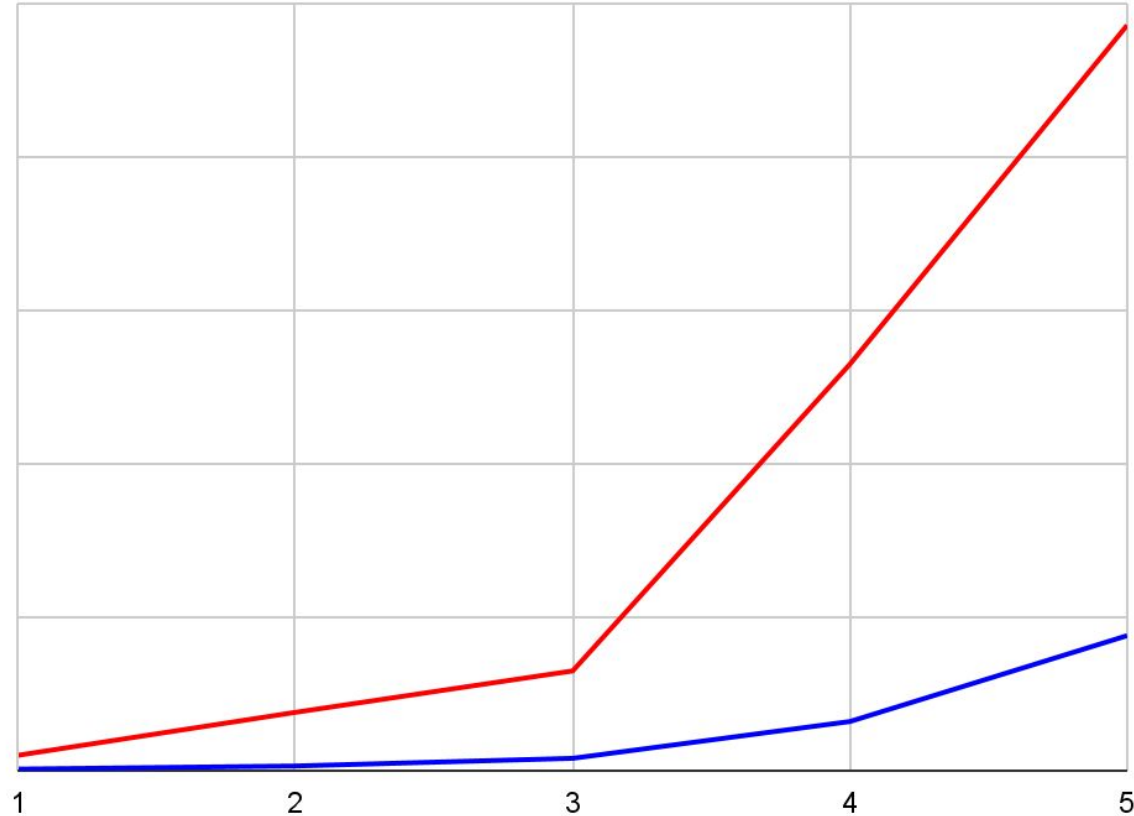


Comparazione Risultati (Su 10 Test)

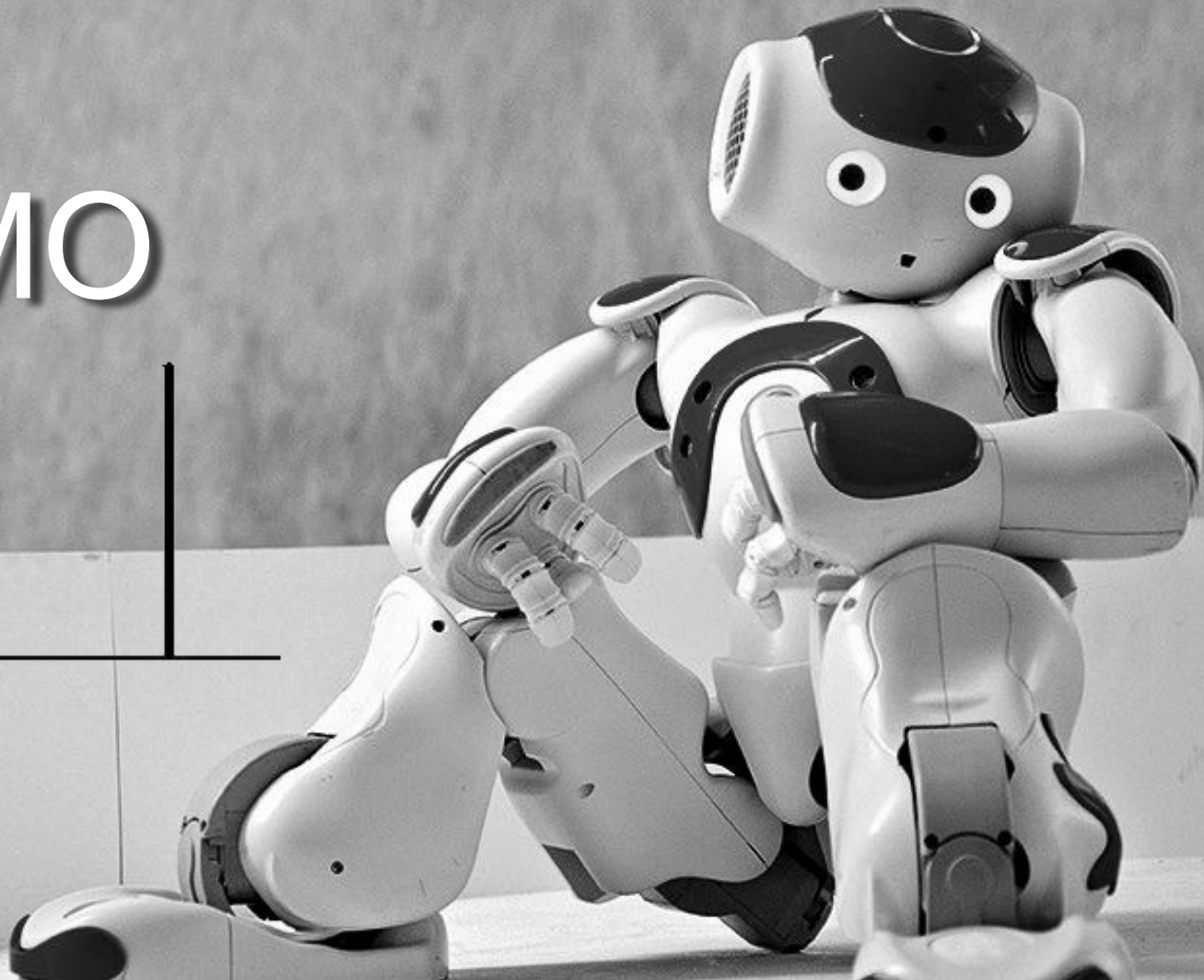
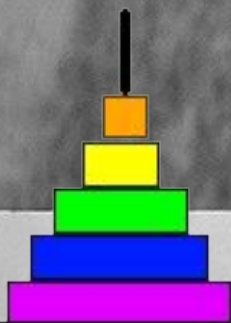
N° Dischi	Mosse - BFS	Mosse - STRIPS	Durata media - BFS	Durata media - STRIPS
1	1	1	0.0099999904633	0.0010001659393
2	3	3	0.0380001068115	0.0030000209808
3	7	7	0.0650000572205	0.0080001354218
4	15	15	0.265000104904	0.0320000648499
5	31	31	0.486000061035	0.0880000591278

Comparazione Risultati (Su 10 Test) - Tempo di risoluzione

— BFA
— STRIPS



DEMO



Grazie per l'attenzione

Progetto e presentazione a cura di:
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