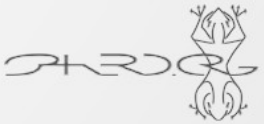
Code Orchestration

or: “recipes for good spaghetti”

Universiteit Leiden

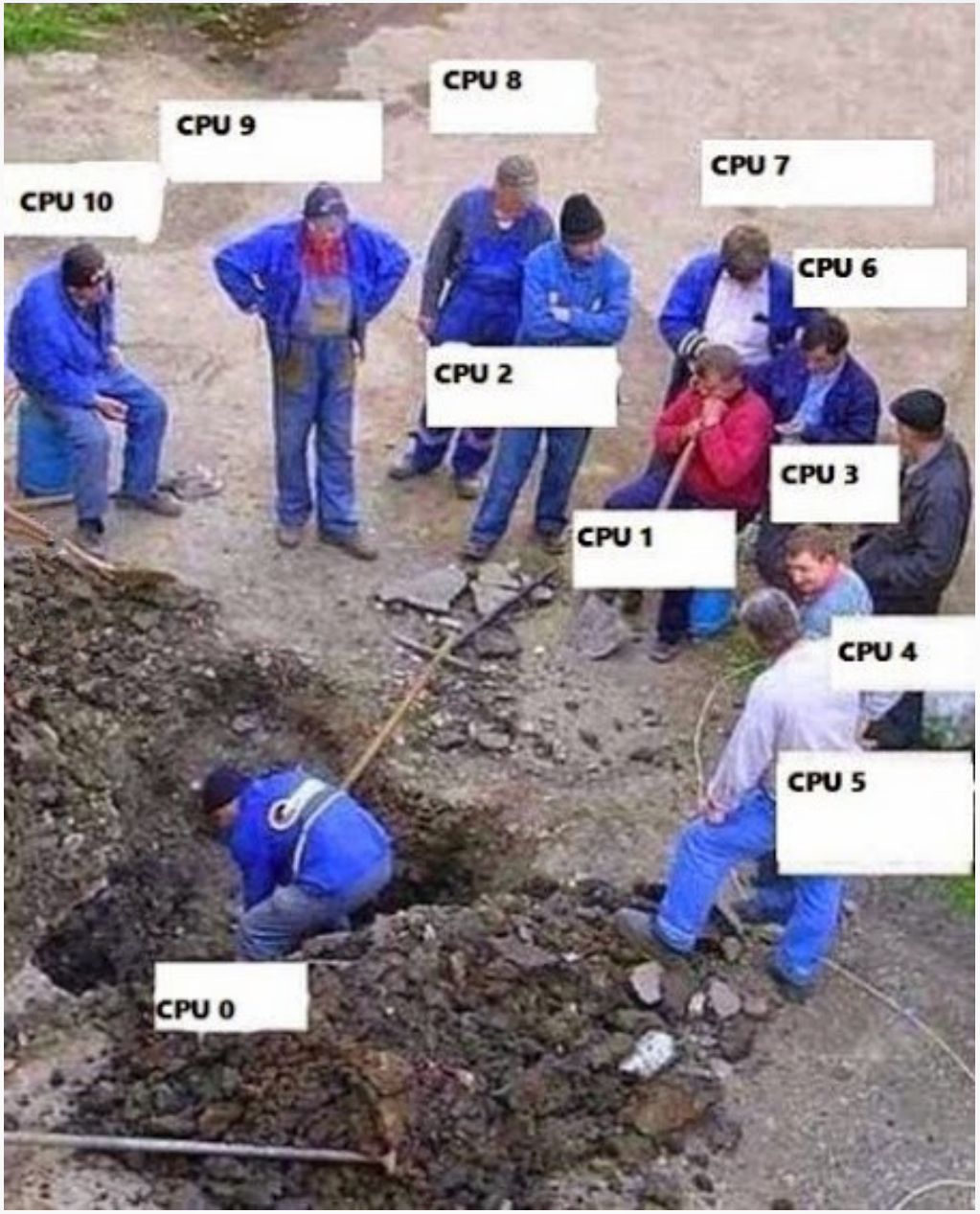
Arnaud Loonstra, 30-01-2016, FOSDEM, Brussels



- Arnaud Loonstra
- arnaud@sphaero.org
- http://twitter.com/sphaero

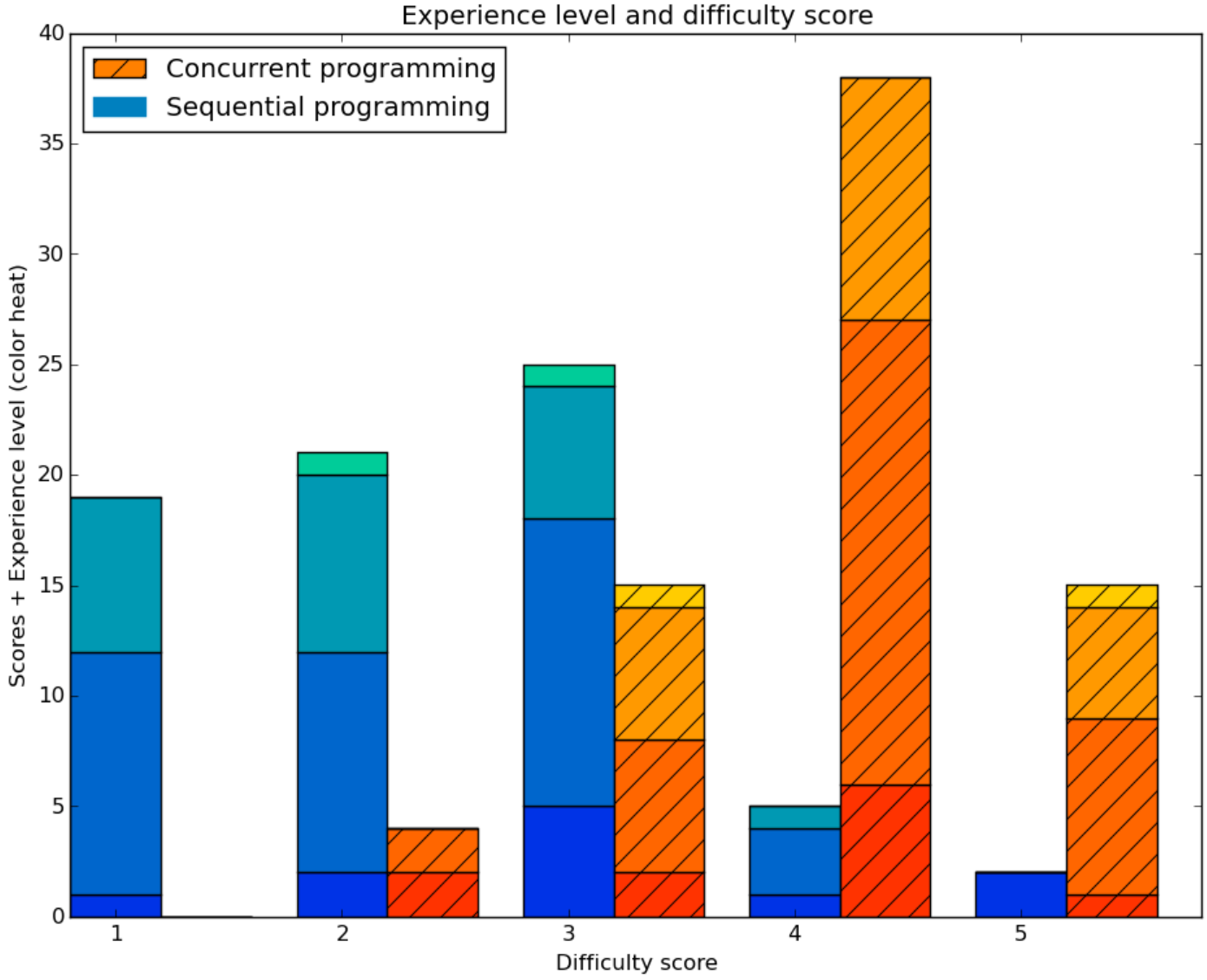
Universiteit Leiden

Problem illustration

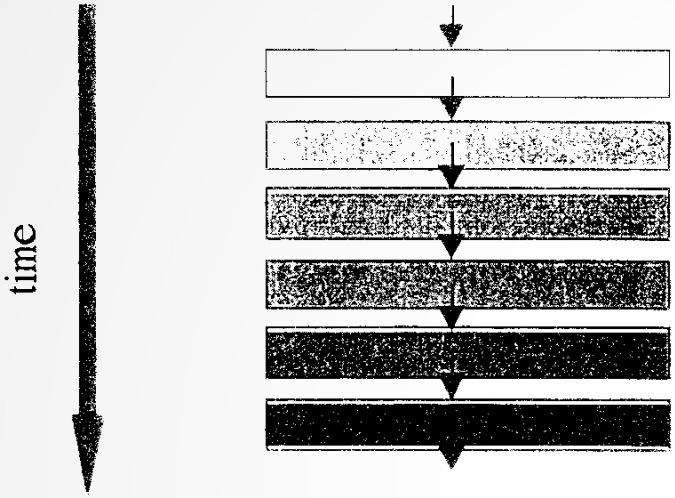


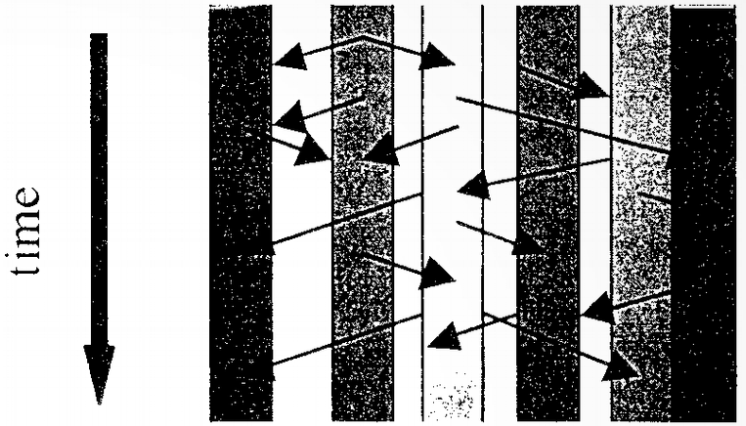
Source: https://plus.google.com/+Dxfans/posts/5zR2jmbe6WU

Survey


Experience level and difficulty score
Concurrent programming
Sequential programming
Scores + Experience level (color heat)
Difficulty score
0
5
10
15
20
25
30
35
40
1
2
3
4
5

New paradigms?





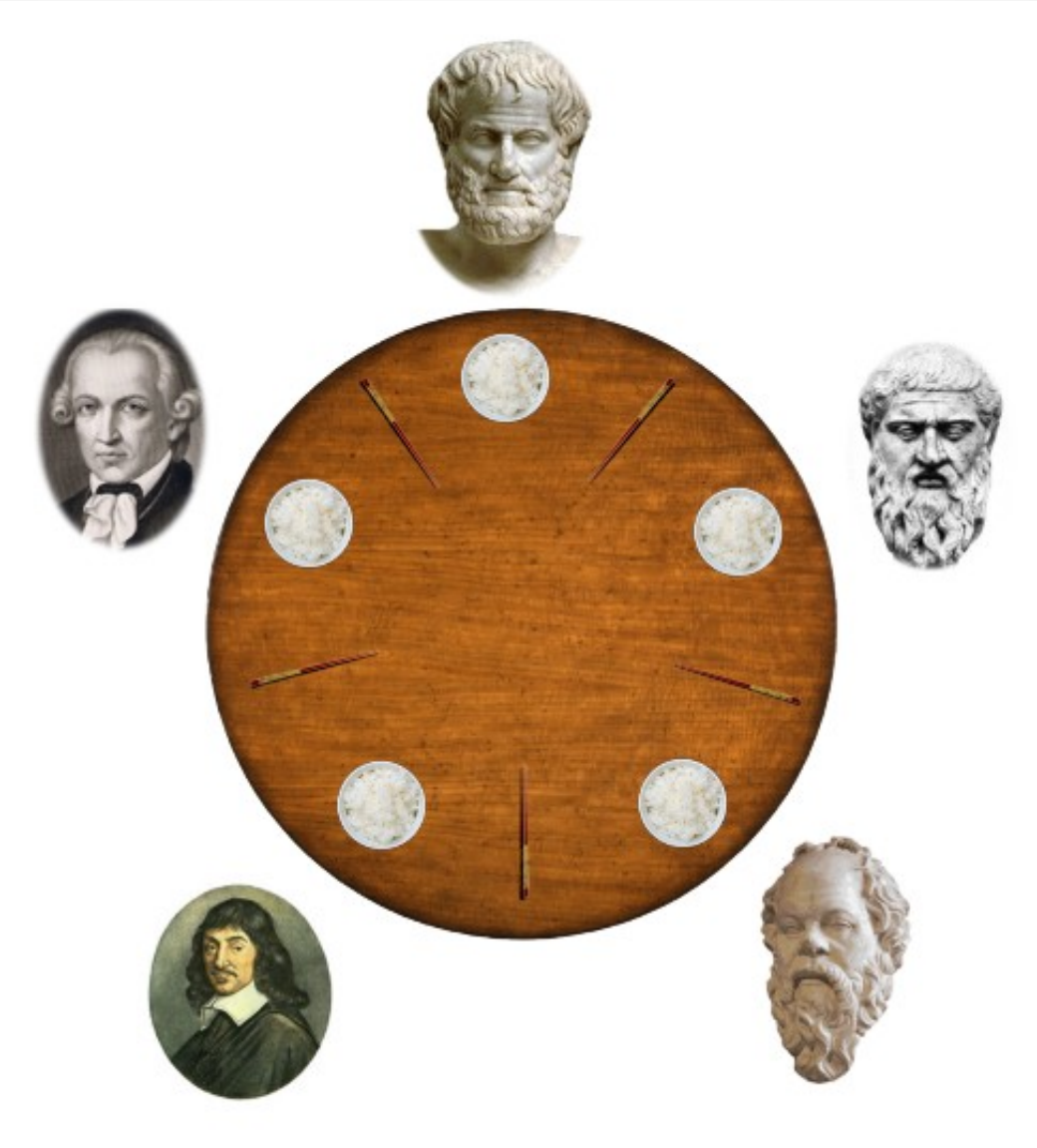
Computational models as illustrated by L.A. Stein, 1999

Code example

```
node = ZOCP(“MyNode”)

node.register_int(“MyInt”, 0, “re”)

node.start()

node.run()
```

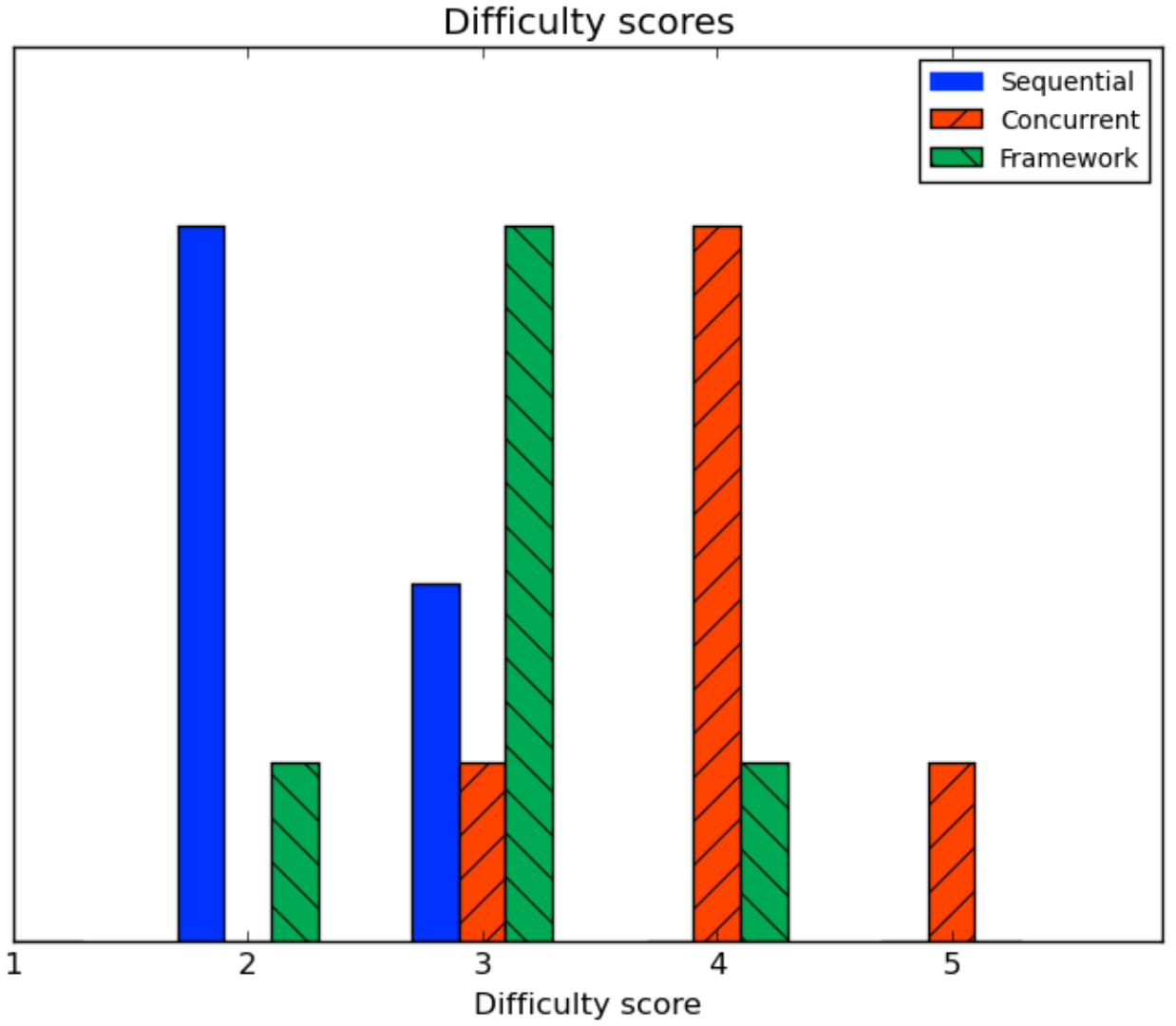
```
class MyFirstActor(Actor):


  def setup(self):
    self.register_int(\
              "MyInt", 0, "re")


  def update(self):
    self.emit_signal("MyInt",\
      self.get_value("MyInt")+1)
```

Dining Philosphers



Test 3

Results


Difficulty scores
Sequential
Concurrent
Framework
1
2
3
4
5
Difficulty score

Conclusion

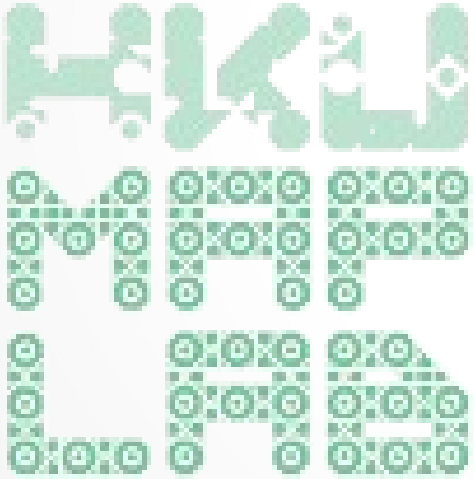
- http://github.com/sphaero/sphof
- http://sphof.readthedocs.org
- Research: http://z25.org/007

What's next

- Code Orchestration: ZOCP → SPHOF → ???
- Port to C
- Research Synchronisation primitives!

Thanks:

- Aldo Hoeben: Node Editor
- Z25.org foundation: http://z25/org
- HKU MAPLAB: http://maplab.nl
- ZeroMQ: http://www.zeromq.org



Questions

- SPOF: http://sphof.readthedocs.org
- ZOCP: https://github.com/z25/pyZOCP
  https://github.com/z25/pyZNodeEditor
- ZYRE/ZRE: https//github.com/zeromq/zyre
  https//github.com/zeromq/pyre
- ZeroMQ: http://www.zeromq.org

Universiteit Leiden