

Human Brain Development Project

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Why our brain works the way it works?



Cell growth!



Brain simulation!

Done:

- Ported from Java to C++
- Set-up a solid development environment



BioDynaMo

The Biology Dynamic Modeller

To do:

- Parallel execution
- **Data persistence**
- ...



DATA = GONE!



simulation progress...



~ days

← 99%



DATA = SAVED!



simulation progress...

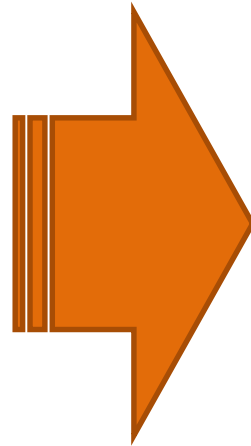
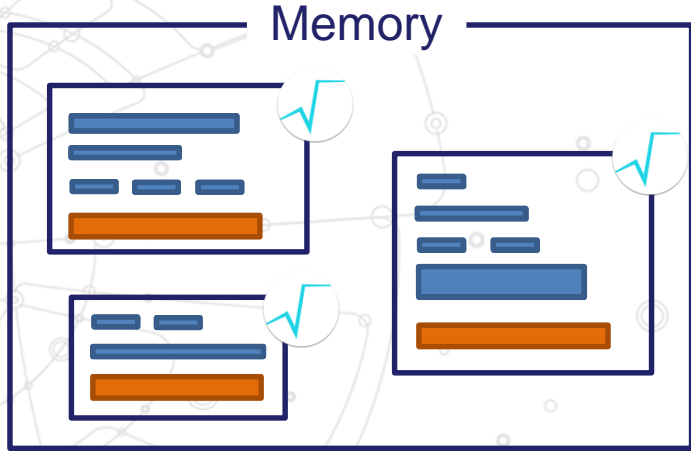


95%



ROOT I/O

Data Analysis Framework



buffer

ROOT file

```
2bff a01d c1e2 a8a3 4505 6a47 71e4 4e50
2be2 1415 3a02 4540 ac3a 2a52 b4a8 f5ab
e9bb 23c9 86e6 6392 993a 93f7 c7dd dbdb
f7f6 debe dfec ddee 62e4 7613 f130 427c
f6ea ba09 f545 0889 30e2 6fd5 80c4 2724
0605 25af d990 a694 a705 052d e014 992a
2a79 8d22 5581 c028 8175 e26d e41a 3848
9a41 e311 ea76 bee1 08cd 4a10 f26c 0a5c
0f9a 0742 0fdd 986a 681e 3c91 08a1 5ccd
b6bf b4a5 b9fa 97a5 25cb d295 3255 9c3a
75b5 2c49 9901 0575 5250 5054 b24c ae98
af4e 504c 371d 115b 15c2 360b bd60 9b04
e121 1c71 6a61 47cc cd3a 8de6 b527 46c8
```



What next?

Done so far:

Made classes persistent

- Streamers implemented
- Linked ROOT and BioDynaMo through dictionary

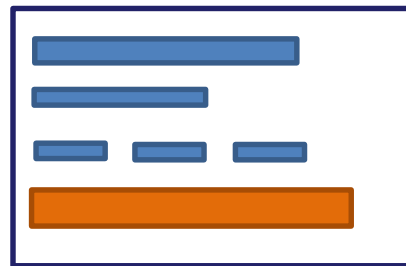
To do:

Fix incompatible data members

- C++11: shared_ptrs

More efficient I/O

- ROOT TTree



Thank you for your attention!

Contact Info

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