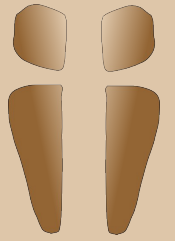


Lightning Strikes

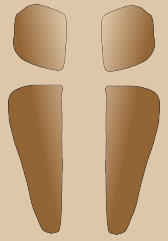
Dr Russel Winder

It'z Interactive Ltd

russel@itzinteractive.com



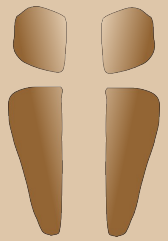
The Multicore Revolution



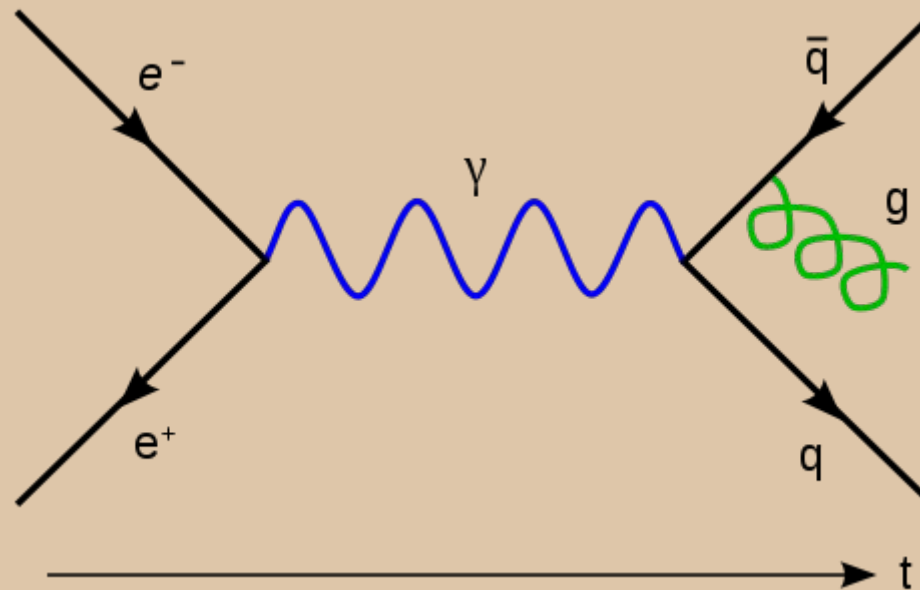
The Standard Model – 1

For Martin, Carwyn, Tony & John

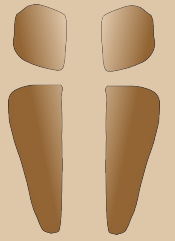
$$SU(3) \times SU(2) \times SU(1)$$



The Standard Model – 2



http://en.wikipedia.org/wiki/Higgs_mechanism



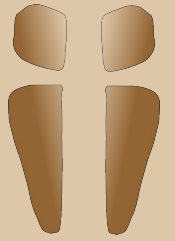
The Standard Model – 3

Electro-weak ✓

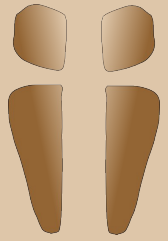
Strong ✓

Gravity ✗

Use the Force.

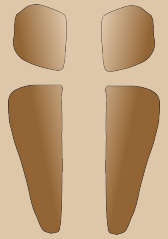


The Multicore Revolution

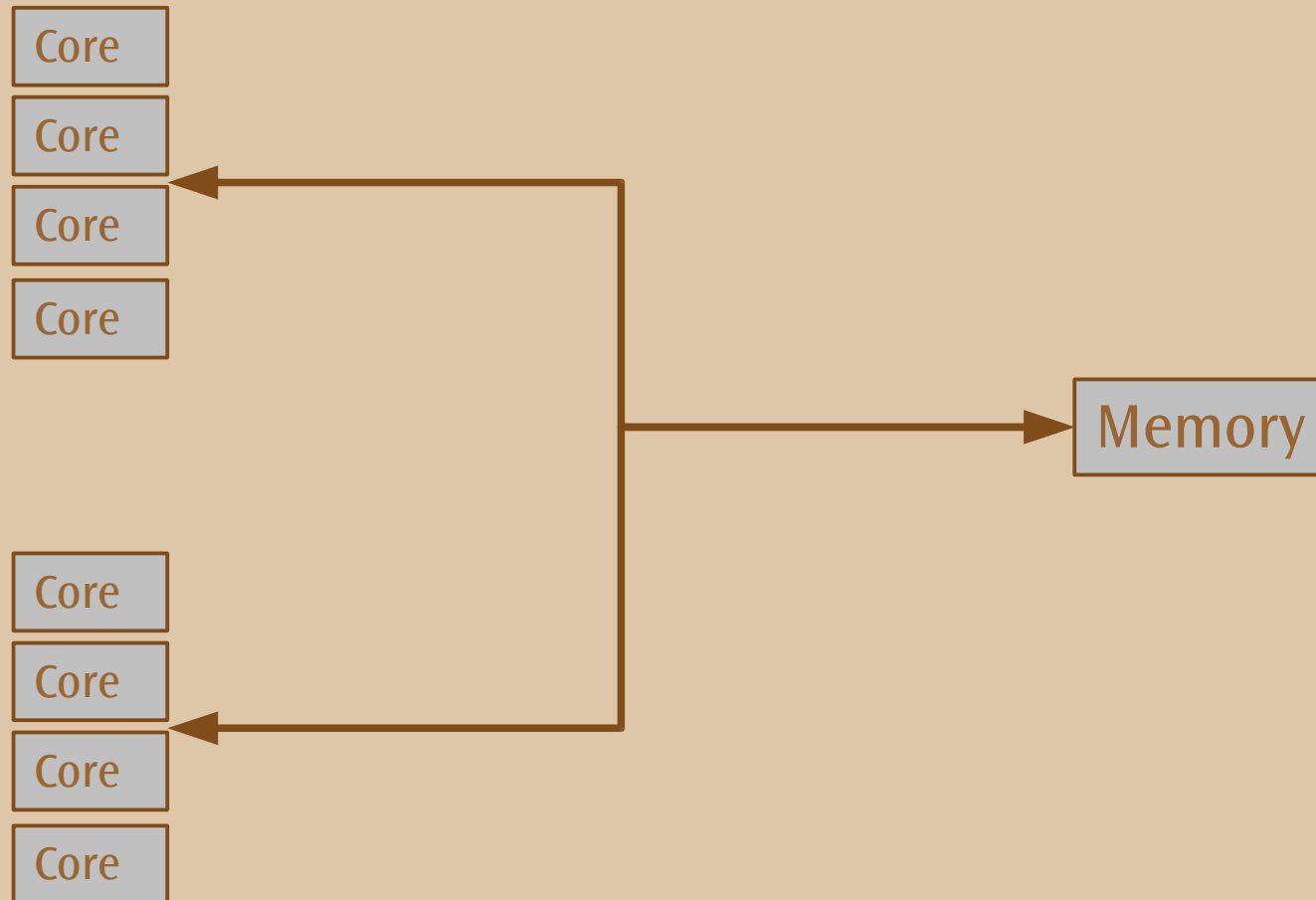


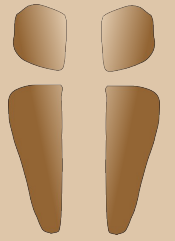
1950 – 2000



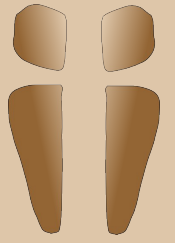


2005 – 201x

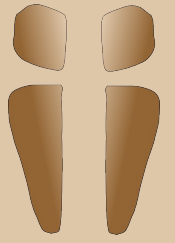




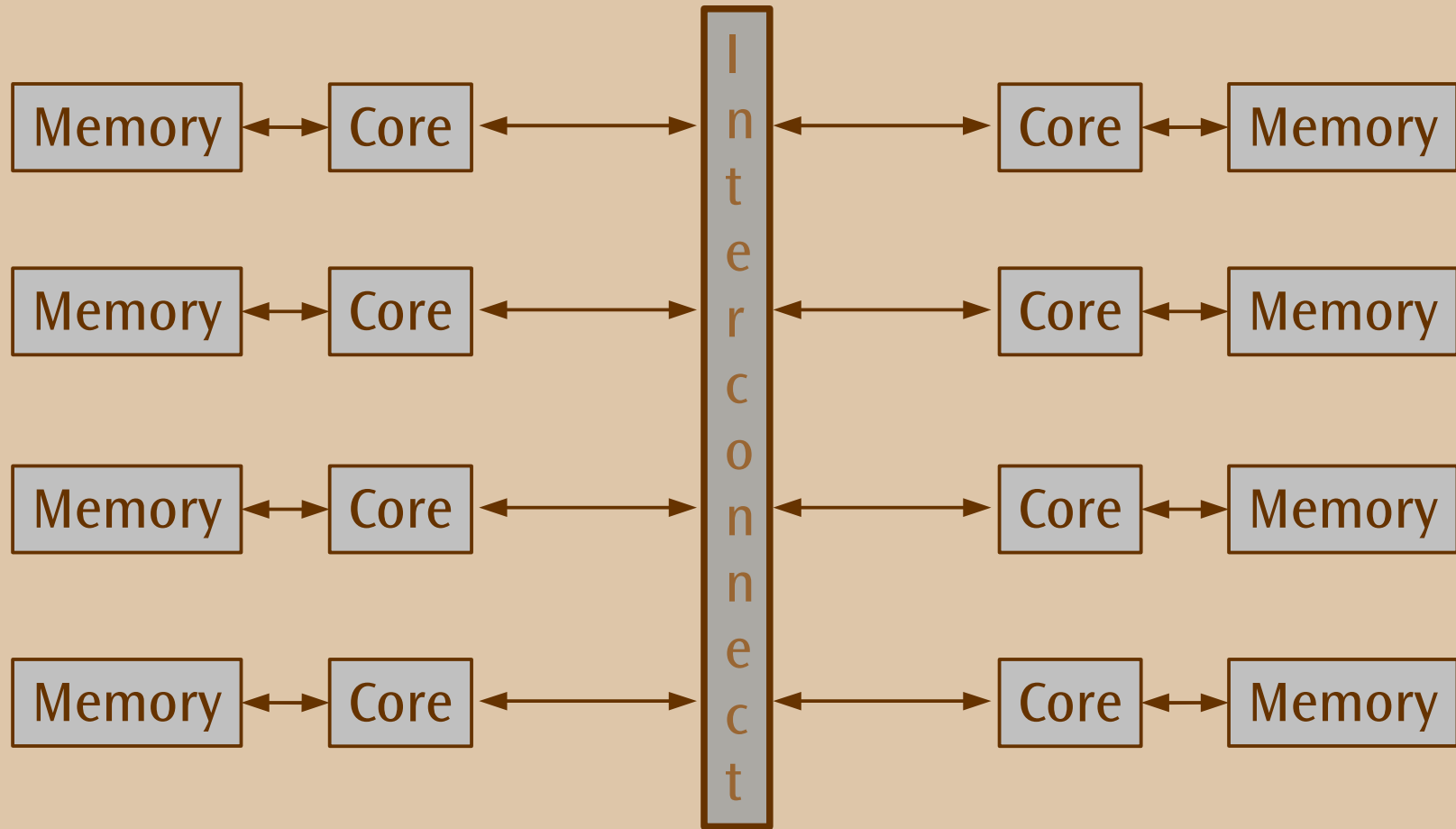
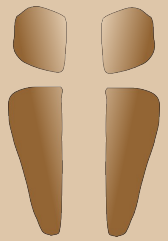
Shared-memory multi-threaded code is much, *much* harder than *extremely* hard to program.

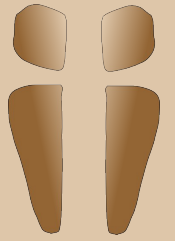


Can cache cope?



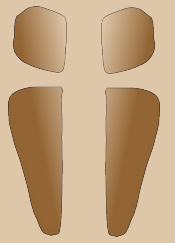
No



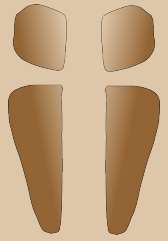


Tilera Tile-64
Tilera Tile-100

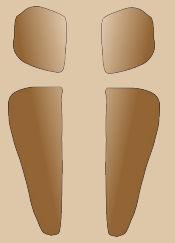
Intel Poseidon



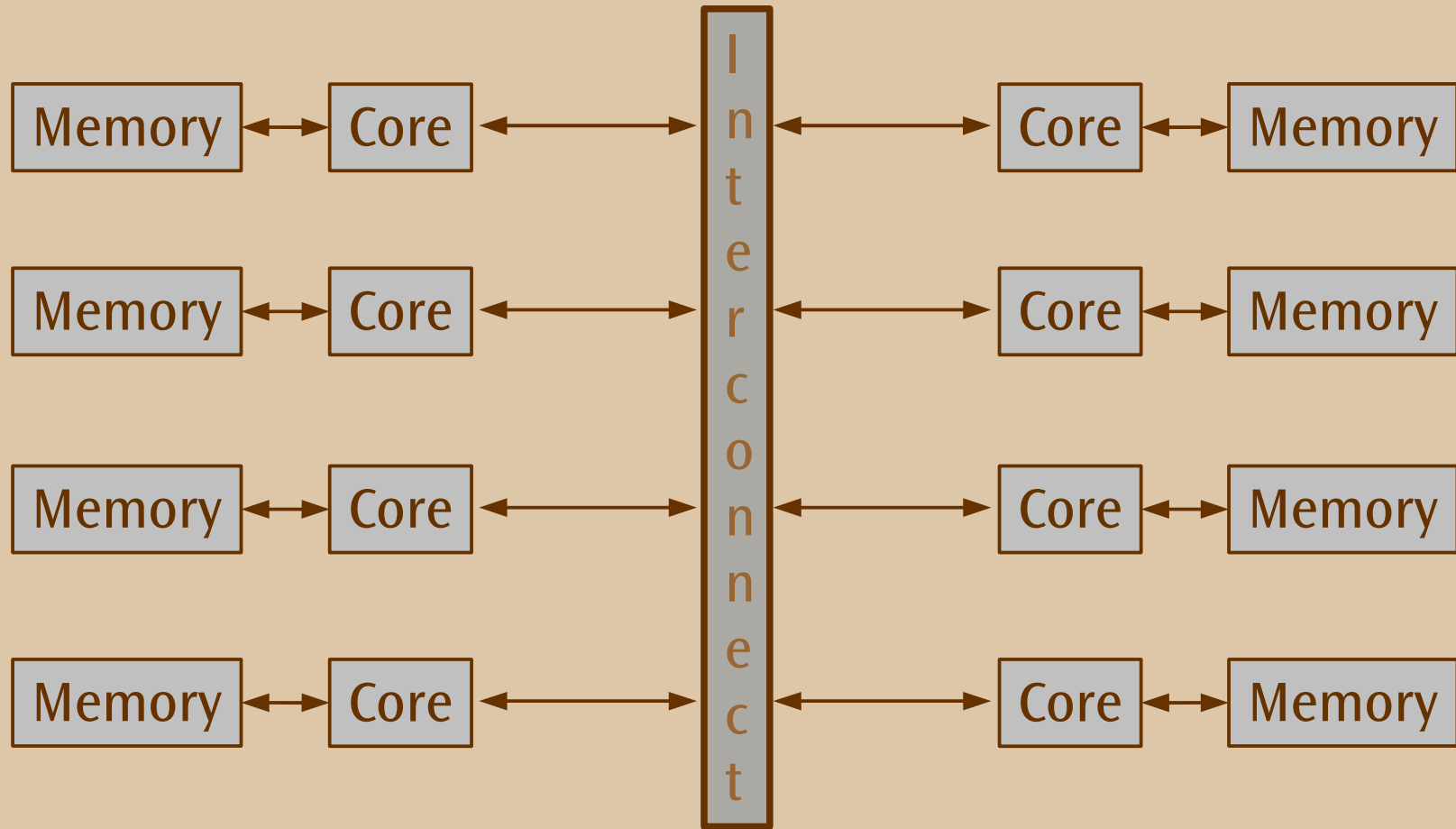
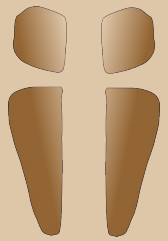
UKUUG

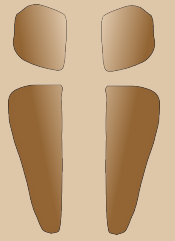


UKL+UUG



Microkernels

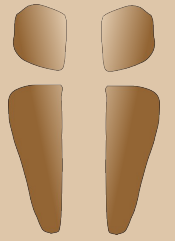




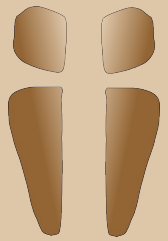
Software architectures:

Actors
Dataflow
CSP

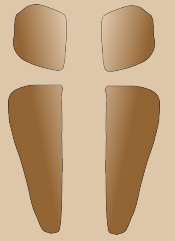
Communicating Sequential Processes



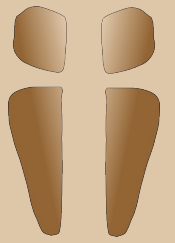
UK <something> UG



<http://www.lifeclever.com/wp-content/uploads/2008/01/lightning.jpg>

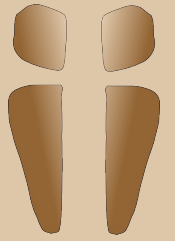


The Multicore Revolution



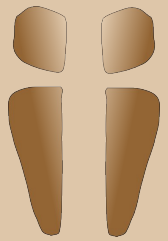
We've only just
begun.

Cue singing by Karen Carpenter.



No kittens were killed in the making
of this presentation.

Because it's an OpenOffice.org presentation.



Except this one.



http://maggieandjim.files.wordpress.com/2009/04/shrig-im-dead-cat_2.jpg