

Riak and Games

Eric Liaw – Quark Games
Seth Thomas - Basho

Databases at Quark Games



Eric Liaw

Co-founder & Developer

Quark Games, formerly PlayMesh

Scrappy Start



iMafia (2008-2010)

Game Requirements:
Text-based MMORPG



Technical Requirements:
Build it fast
Get it to work



Stack



What we learned

Use memcached

Use indicies

Profitable == let's build more



iFarm, Fishies(2009-2011)

Game Requirements

Time-based sim

Technical Requirements

Build Fast

Re-usable tech



iFarm, Fishies

Stack



What we learned

Not really relational

Migrations suck

AWS EBS has a limit

Built for us



Valor (2010 - present)

Game Requirements

MMORTS

Complex time actions

Technical Requirements

Graph dependencies

Locking mechanisms



Valor Stack 1.0



Problems:

Background processing
Leaderboards

Solution:

Add  redis

Valor Stack 2.0



Problems:
EBS bottleneck



Solution:

Shard:  



Valor Stack 3.0

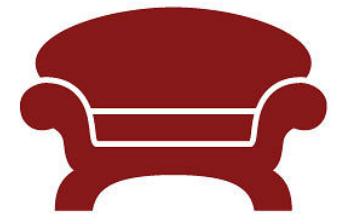


Problems:

EBS bottleneck still?!

Solution:

Add NoSQL



CouchBase

Valor Stack 4.0



Problems:

Many points of failure
Operational Complexity

Solution:

SIMPLIFY!

Current Valor Stack



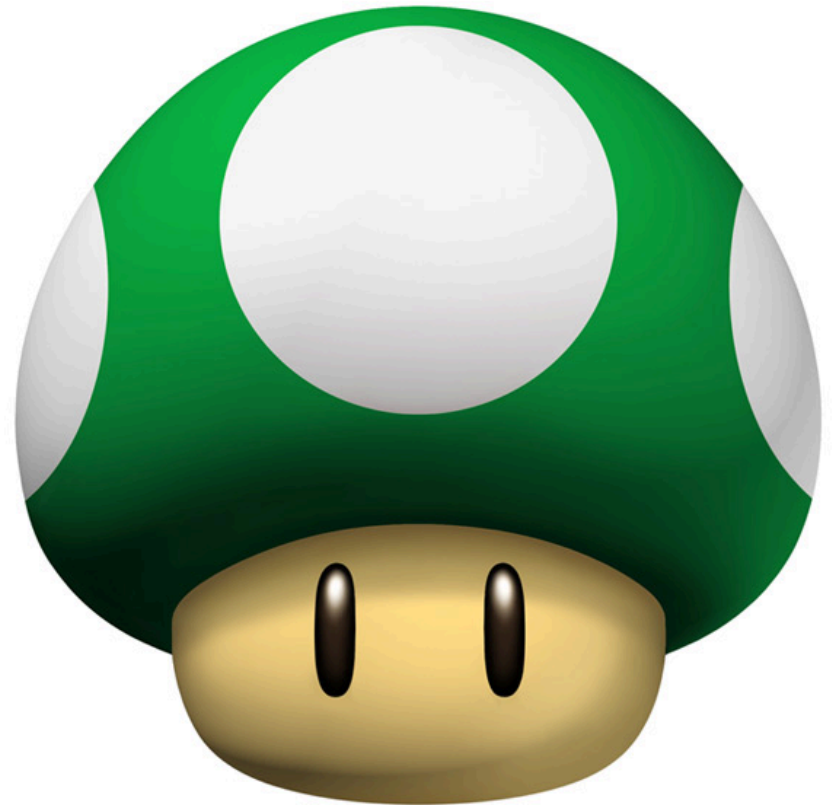
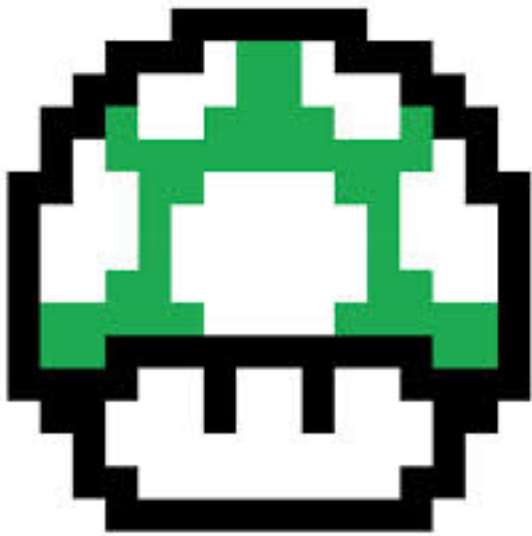
Summary:

New tools are great

Don't overcomplicate

Understand the ops

Level up



Champs(2012 - present)

Game Requirements

Multiplayer

Online

Squad

Strategy

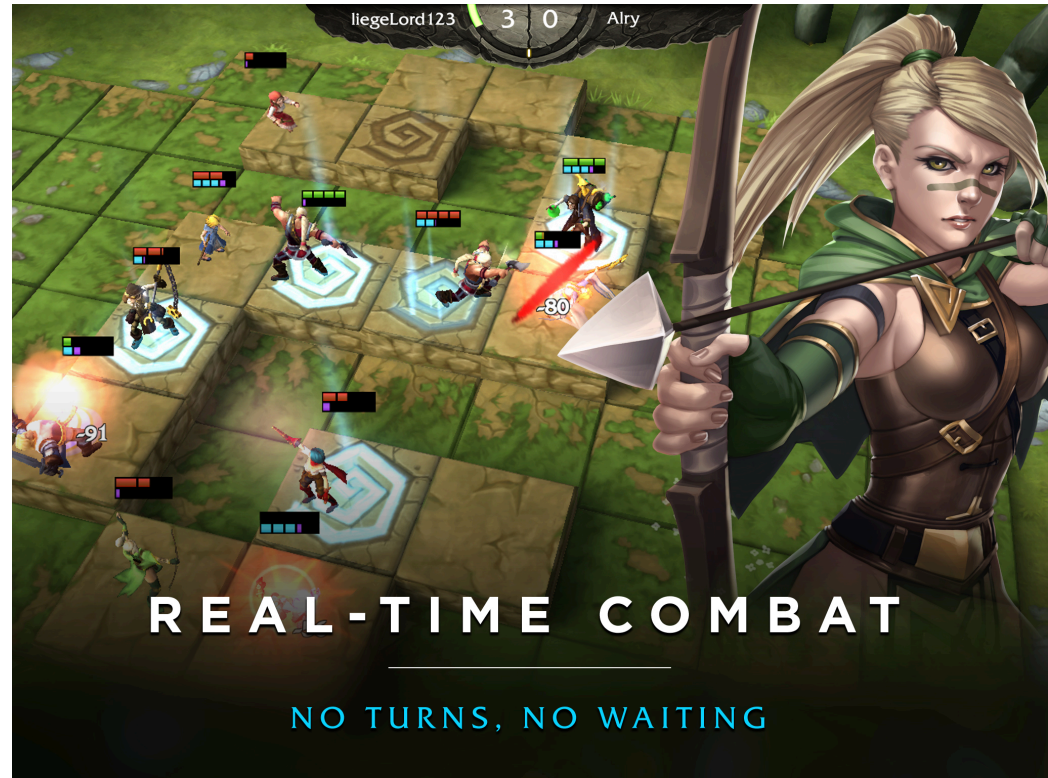
Technical Requirements

High Concurrency

Low latency

Fault tolerant

Avoid excessive data access



Champs

Stack



What we learned
(and why Riak)

AP over CP

Stateful over Stateless

Easy operations

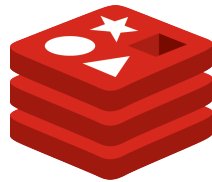
More games to come!



Future Stack:



elixir



redis

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