

FAILURES
OF
DISTRIBUTED
SYSTEMS

and How To Survive

by Mike Bourgeois

A Tale of Two Systems

Software Writers
can learn from
Software Engineers

Engineers Study Failure

What can fail?

HTTP Request

HTTP Response

Job Queue Insertion

Job Completion

User Notification

How to Survive

Repeatable (“idempotent”) actions

Unique request identifiers

Exponential retry

Persistent queues

Orphaned job detection

Comprehensive monitoring

Background validation

Consider each piece of a system.

Ask how it can fail.

Ask who is affected.

Figure out how to respond.

Fear Not!
Go forth and write!

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