coding {the} architecture

Agile software architecture sketches

Simon Brown
@simonbrown

Greenland
Iceland
Sweden
Finland
Norway
Russia
Northwestern Passages
NU
Hudson Bay
nada
MB
SK
ON
QC
NL
United Kingdom
Ireland
Denmark
Belarus
Poland
Germany
Ukraine
Kazakhstan
Mongolia
Austria
Romania
France
Bay of Biscay
Italy
Spain
Portugal
Greece
Turkey
Uzbekistan
Kyrgyzstan
Turkmenistan
China
Afghanistan
Iran
Iraq
Syria
Pakistan
Nepal
India
Mediterranean Sea
Tunisia
Morocco
Algeria
Libya
Egypt
Saudi Arabia
Oman
Western Sahara
Mauritania
Mali
Niger
Chad
Sudan
Yemen
Gulf of Aden
Arabian Sea
Bay of Bengal
Andaman Sea
Myanmar (Burma)
Thailand
Vietn
Gulf of
aysia
Guinea
North Atlantic Ocean
South Atlantic Ocean
MT
ND
MN
SD
WI
MI
WY
NE
IA
IL
IN
OH
PA
NY
VT
ME
NB
NS
PE
NH
MA
CT
RI
NJ
DE
MD
VA
WV
KY
NC
TN
SC
GA
AL
MS
AR
MO
KS
CO
UT
AZ
NM
OK
TX
LA
FL
United States
Gulf of California
Mexico
Gulf of Mexico
Cuba
Puerto Rico
Guatemala
Caribbean Sea
Nicaragua
Venezuela
Guyana
Suriname
Colombia
RR
AP
Ecuador
AM
PA
MA
CE
RN
PB
PE
AL
SE
PI
AC
Brazil
hile
Oslo
Gothenburg
North Sea
Glasgow
United Kingdom
Isle of Man
Leeds
Dublin
Ireland
Liverpool
Birmingham
Bristol
London
Denmark
Copenhagen
Hamburg
Bremen
Amsterdam
Berlin
Netherlands
Poz
Belgium
Cologne
Germany
Wro
Luxembourg
Prague
Paris
Czech Republi
Munich
Vienna
Nantes
Zurich
Austria

Jersey, Îles de la Manche

Jersey

JERSEY FINANCE

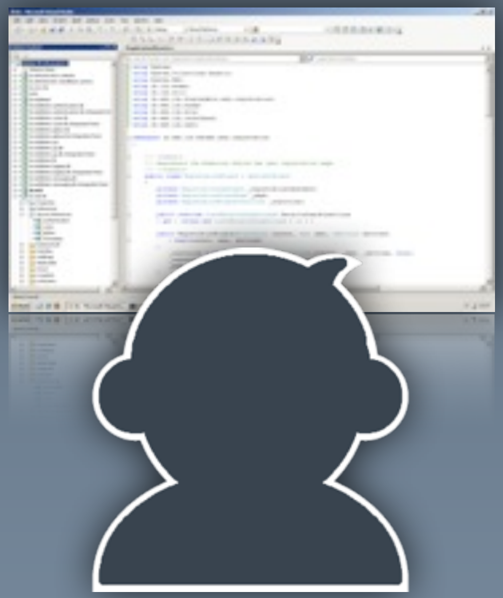
VOICE OF THE INTERNATIONAL FINANCE CENTRE

DIGITAL JERSEY

Locate Jersey

I help software teams understand

software architecture, technical leadership and the balance with agility



I code too

⇧ ; - ⇧ 0

Software architecture needs to be more accessible

Training

In-house and public courses

coding the architecture

Software Architecture *for Developers*

Software architecture, technical leadership and the balance with agility

Coding, coaching, collaboration, sketching and just enough up front design

Simon Brown

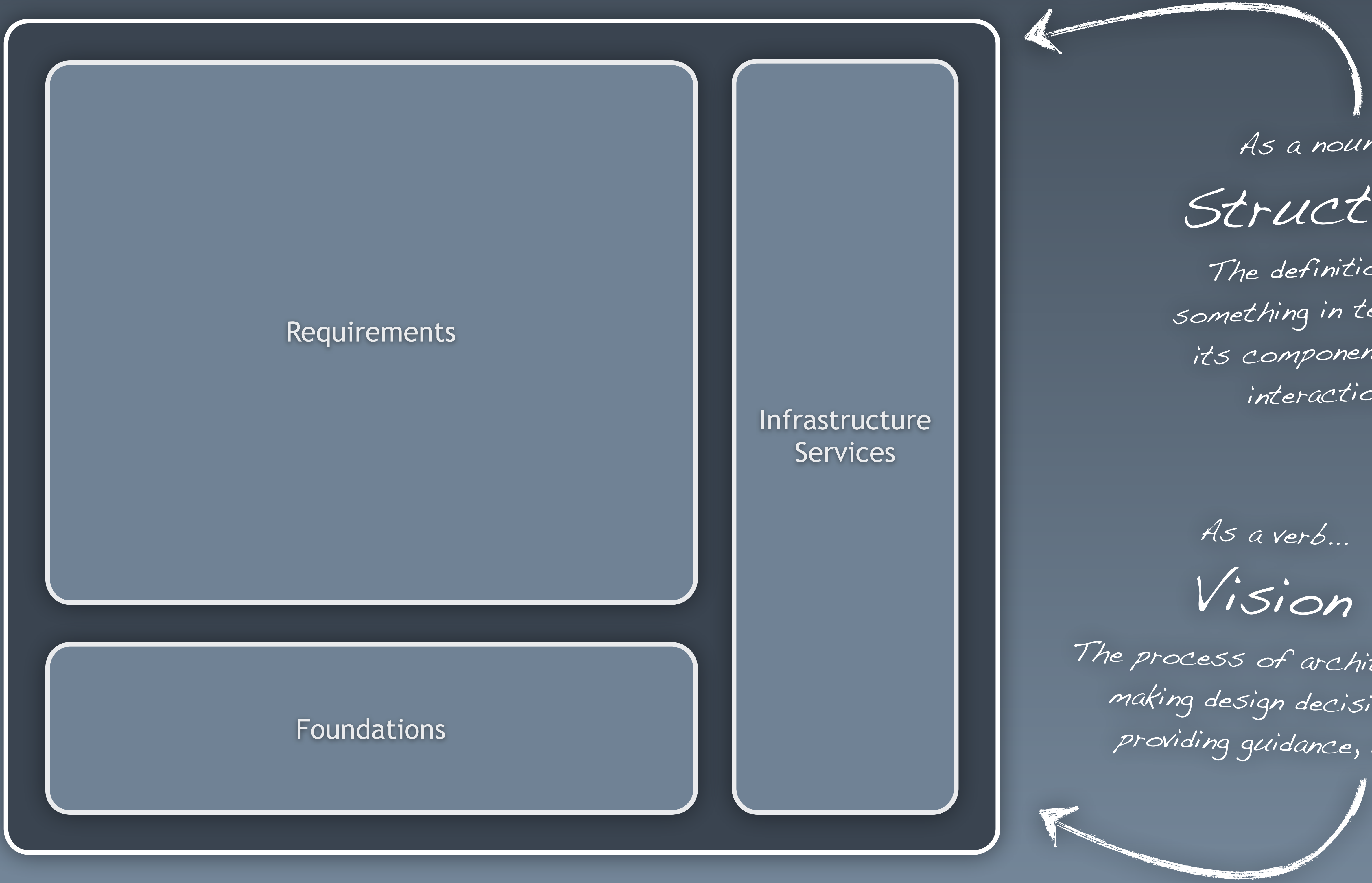
Book

leanpub.com

Speaking

Conferences and user groups

What is architecture?



As a noun...

Structure

The definition of something in terms of its components and interactions

As a verb...

Vision

The process of architecting, making design decisions, providing guidance, etc

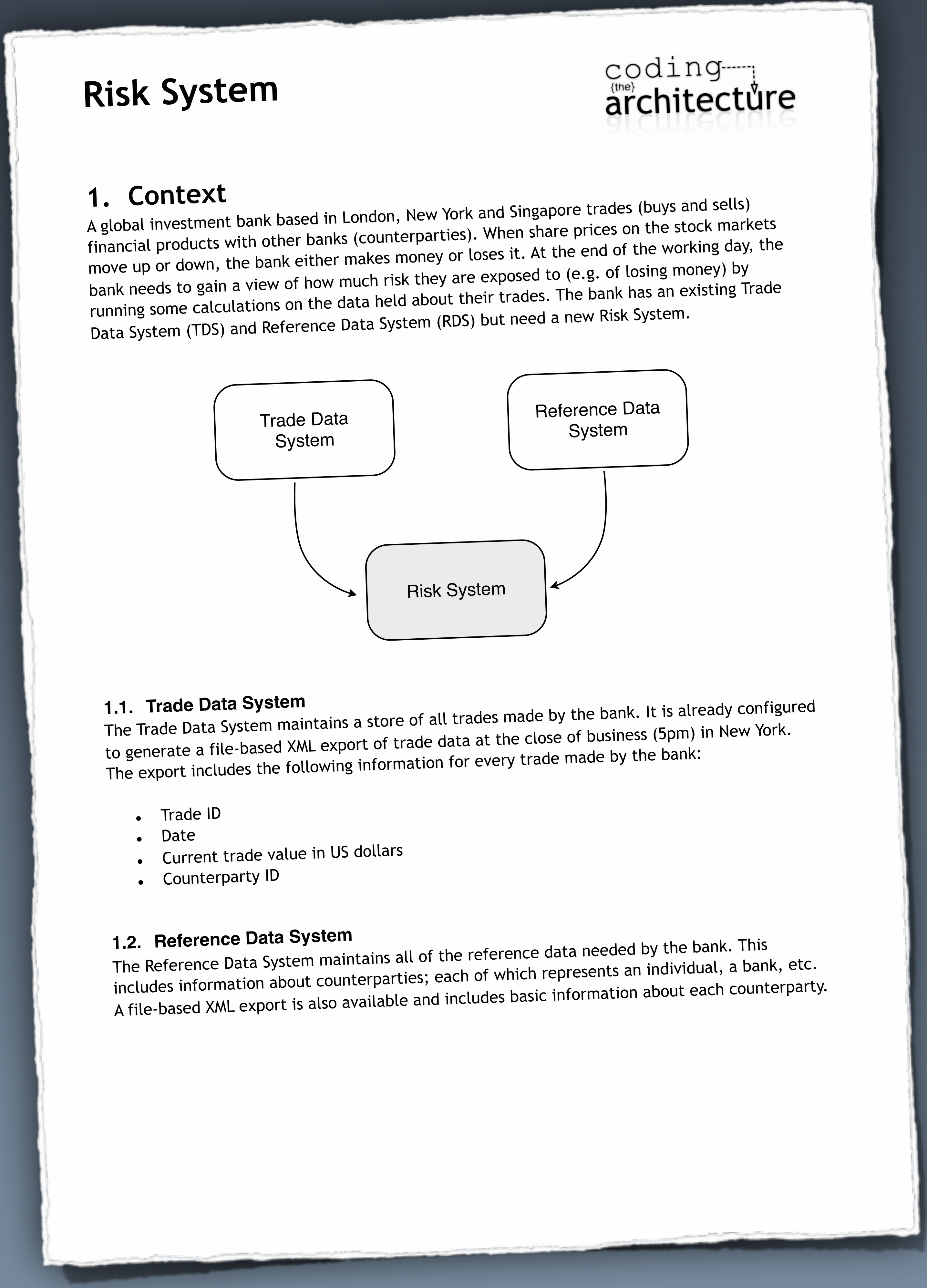
Architecture vs design

Architecture represents the **significant decisions**, where significance is measured by **cost of change**.

Grady Booch

*Can you **refactor** it in an afternoon?*

Financial risk system



Risk System

coding {the} architecture

1. Context

A global investment bank based in London, New York and Singapore trades (buys and sells) financial products with other banks (counterparties). When share prices on the stock markets move up or down, the bank either makes money or loses it. At the end of the working day, the bank needs to gain a view of how much risk they are exposed to (e.g. of losing money) by running some calculations on the data held about their trades. The bank has an existing Trade Data System (TDS) and Reference Data System (RDS) but need a new Risk System.

1.1. Trade Data System

The Trade Data System maintains a store of all trades made by the bank. It is already configured to generate a file-based XML export of trade data at the close of business (5pm) in New York. The export includes the following information for every trade made by the bank:

- Trade ID
- Date
- Current trade value in US dollars
- Counterparty ID

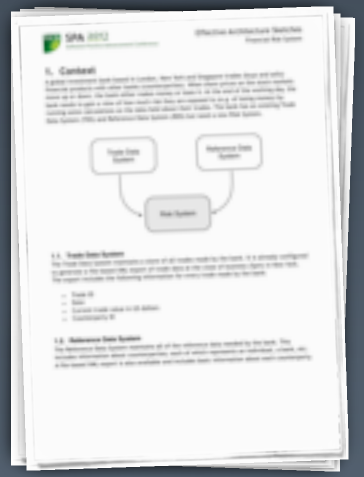
1.2. Reference Data System

The Reference Data System maintains all of the reference data needed by the bank. This includes information about counterparties; each of which represents an individual, a bank, etc. A file-based XML export is also available and includes basic information about each counterparty.

Iteration 1 (~90 minutes)

Groups of 2-4

+



SPA 2012

Effective Architecture Sketches
Financial Risk System

1. Context

[illegible]

1.1. Trade Data System

[illegible]

- Trade ID
- Date
- Current trade value in US dollars
- Counterparty ID

1.2. Reference Data System

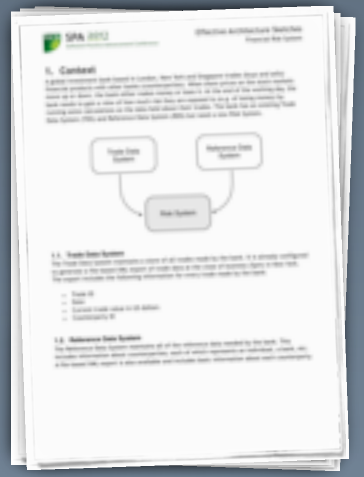
[illegible]

Requirements

Iteration 2 (~90 minutes)

Groups of 2-4

+



SPA 2012

Effective Architecture Sketches
Financial Risk System

1. Context

[illegible]

1.1. Trade Data System

[illegible]

1.2. Reference Data System

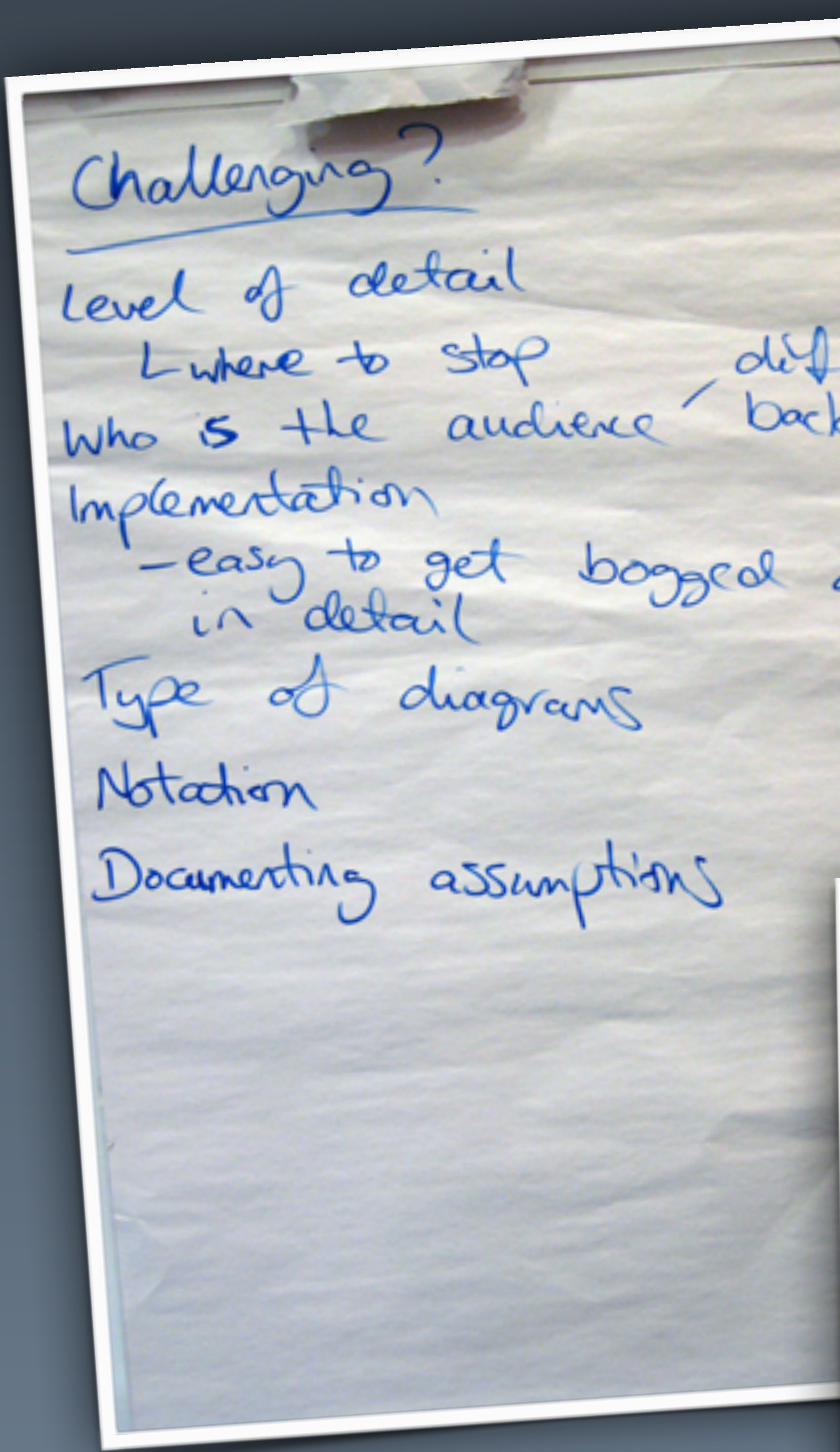
[illegible]

Requirements

+

Feedback and guidance

What’s been challenging about the exercise so far?



Challenging?

Level of detail
- L where to stop

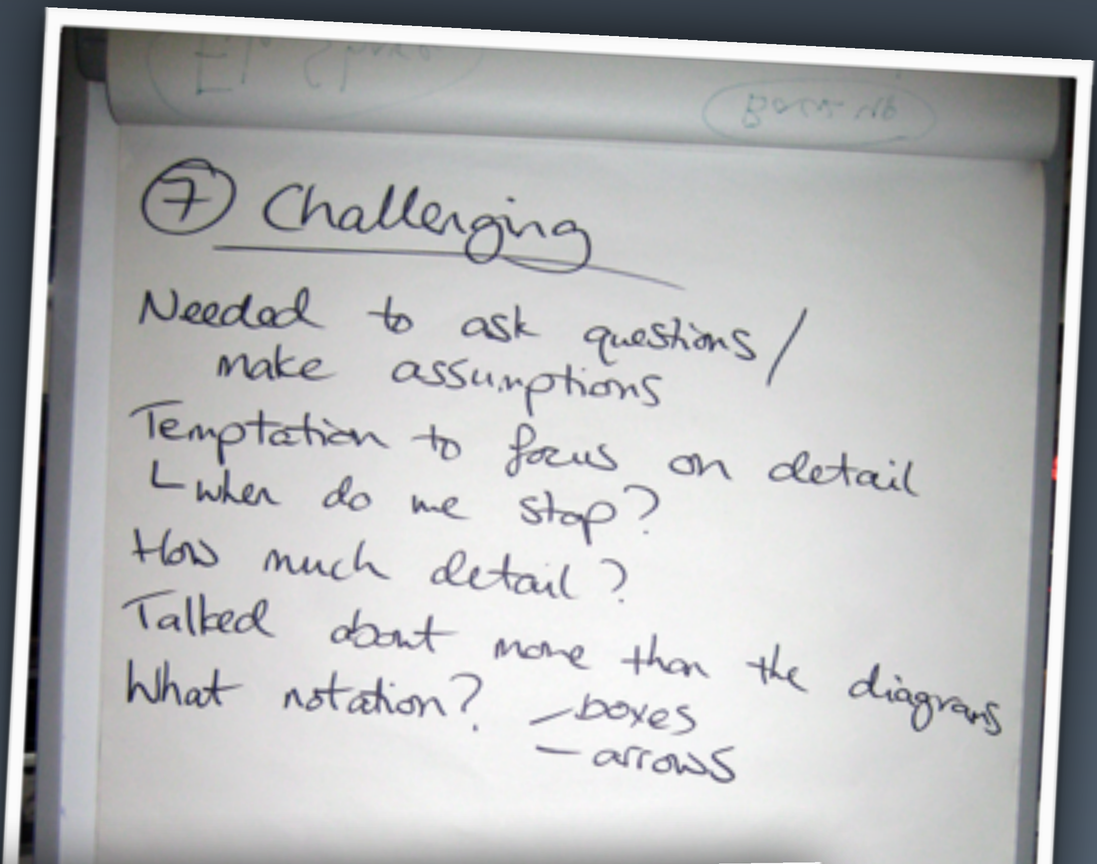
Who is the audience / different backgrounds

Implementation
- easy to get bogged down in detail

Type of diagrams

Notation

Documenting assumptions



7 Challenging

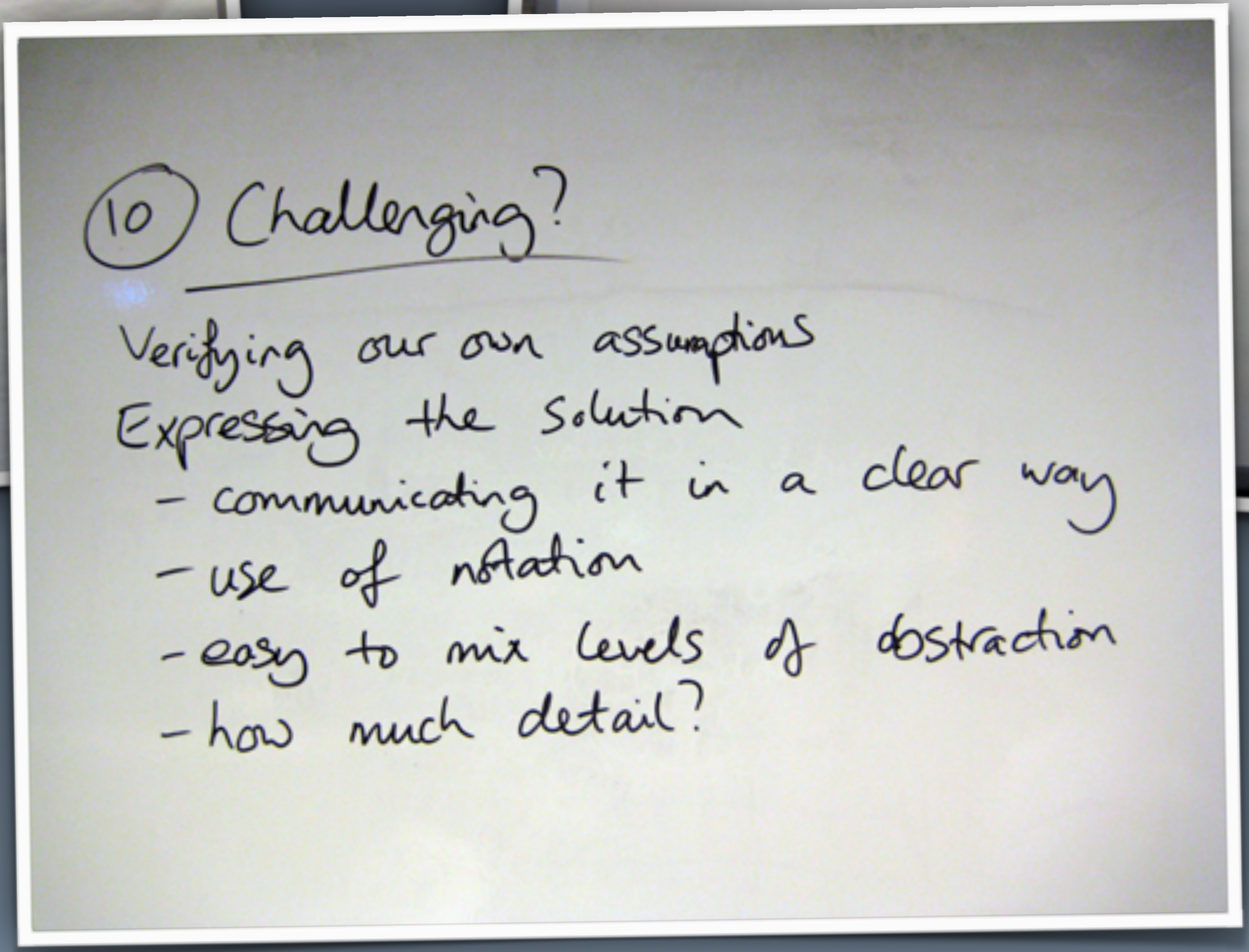
Needed to ask questions / make assumptions

Temptation to focus on detail
- L when do we stop?

How much detail?

Talked about more than the diagrams

What notation?
- boxes
- arrows



10 Challenging?

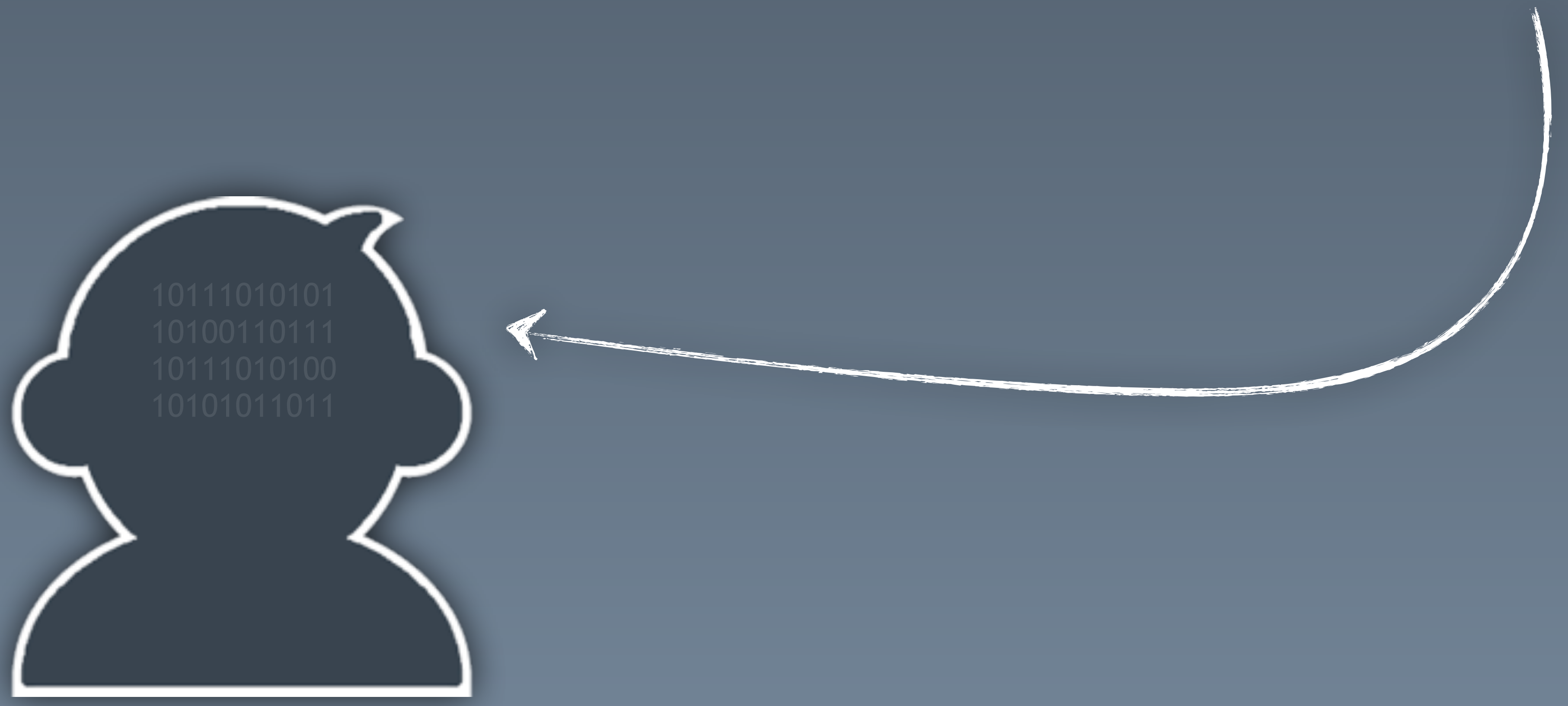
Verifying our own assumptions

Expressing the solution
- communicating it in a clear way
- use of notation
- easy to mix levels of abstraction
- how much detail?

What's been challenging about the exercise?

People expect to present their designs and therefore

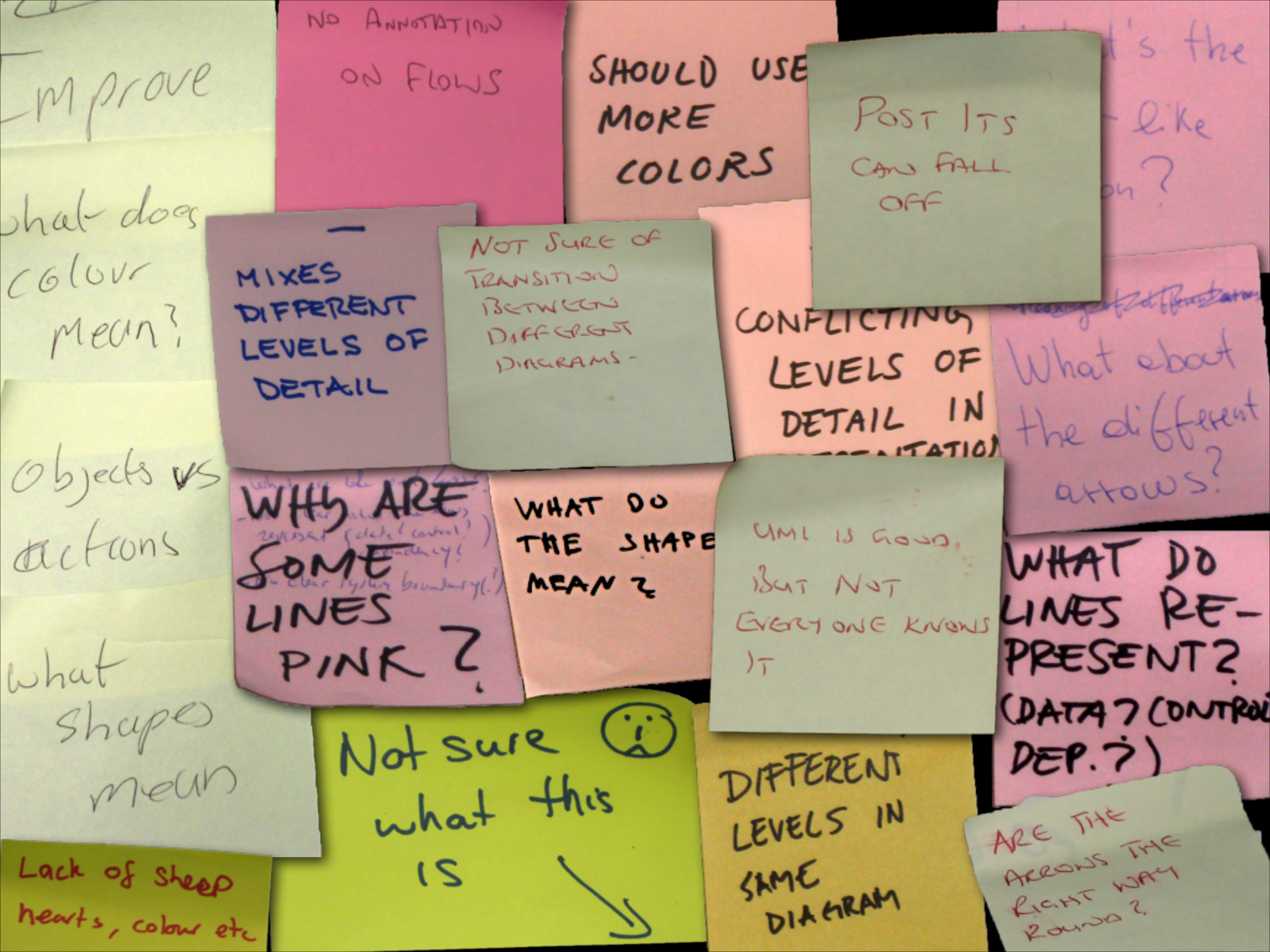
information is still stuck in their heads



Review the diagrams

3 things we like about the diagrams

3 things we think would improve the diagrams



Improve

what does colour mean?

objects vs actions

what shapes mean

Lack of sheep hearts, colour etc

NO ANNOTATION ON FLOWS

MIXES DIFFERENT LEVELS OF DETAIL

WHY ARE SOME LINES PINK?

what is the ... lines?
- no clear ...
represent (data / control?
dependency!
- no clear system boundary(.)

Not sure what this is

SHOULD USE MORE COLORS

NOT SURE OF TRANSITION BETWEEN DIFFERENT DIAGRAMS -

WHAT DO THE SHAPE MEAN?

POST ITS CAN FALL OFF

CONFLICTING LEVELS OF DETAIL IN

UML IS GOOD, BUT NOT EVERYONE KNOWS IT

DIFFERENT LEVELS IN SAME DIAGRAM

...t's the ... like ...on?

What about the different arrows?

WHAT DO LINES REPRESENT? (DATA? CONTROL DEP.?)

ARE THE ARROWS THE RIGHT WAY ROUND?

Who here uses UML

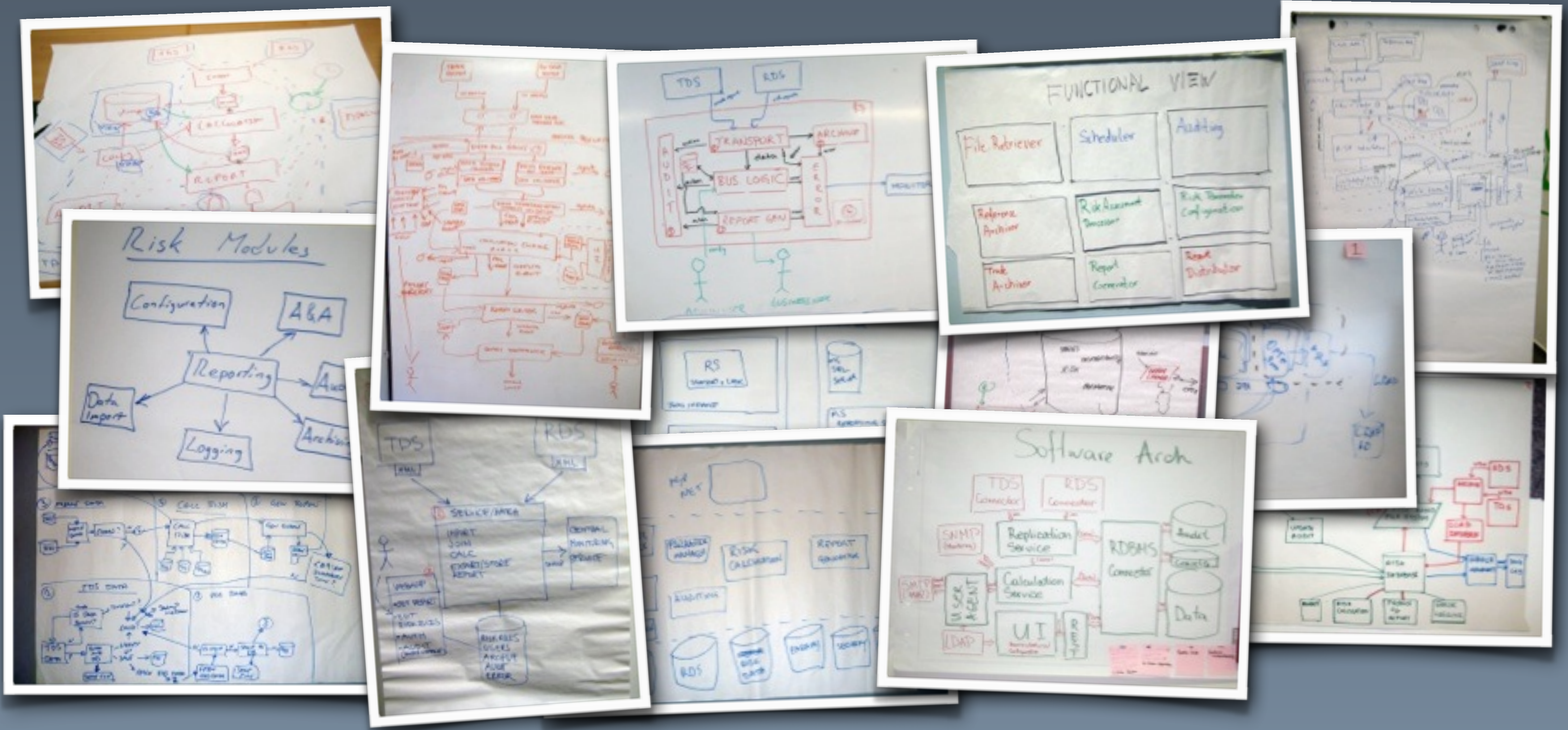
on a regular basis?

9 out of 10 people
don’t use UML

(in my experience)

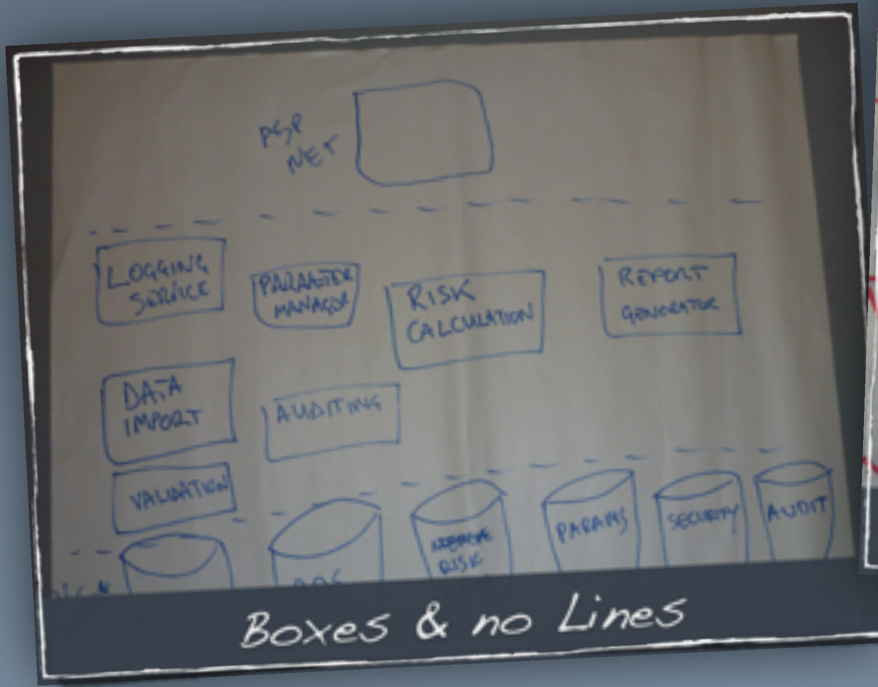
NoUML

diagrams?

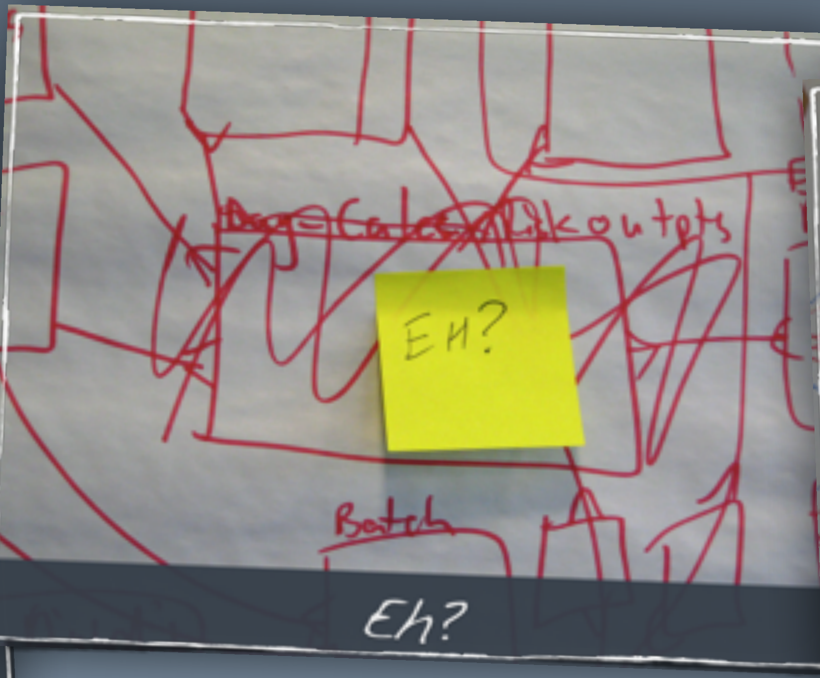


We can visualise our process…

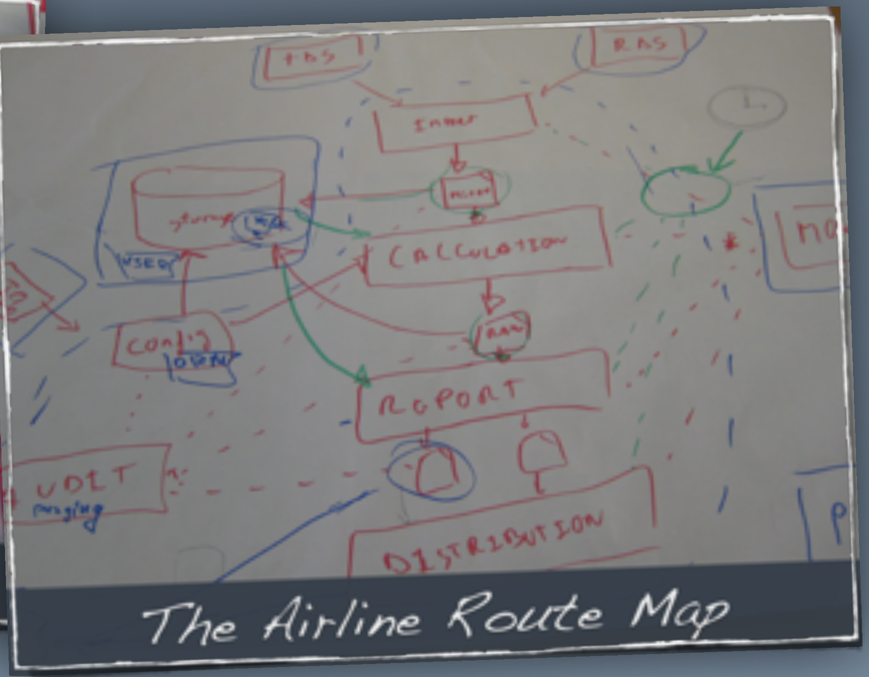
…but not our software!



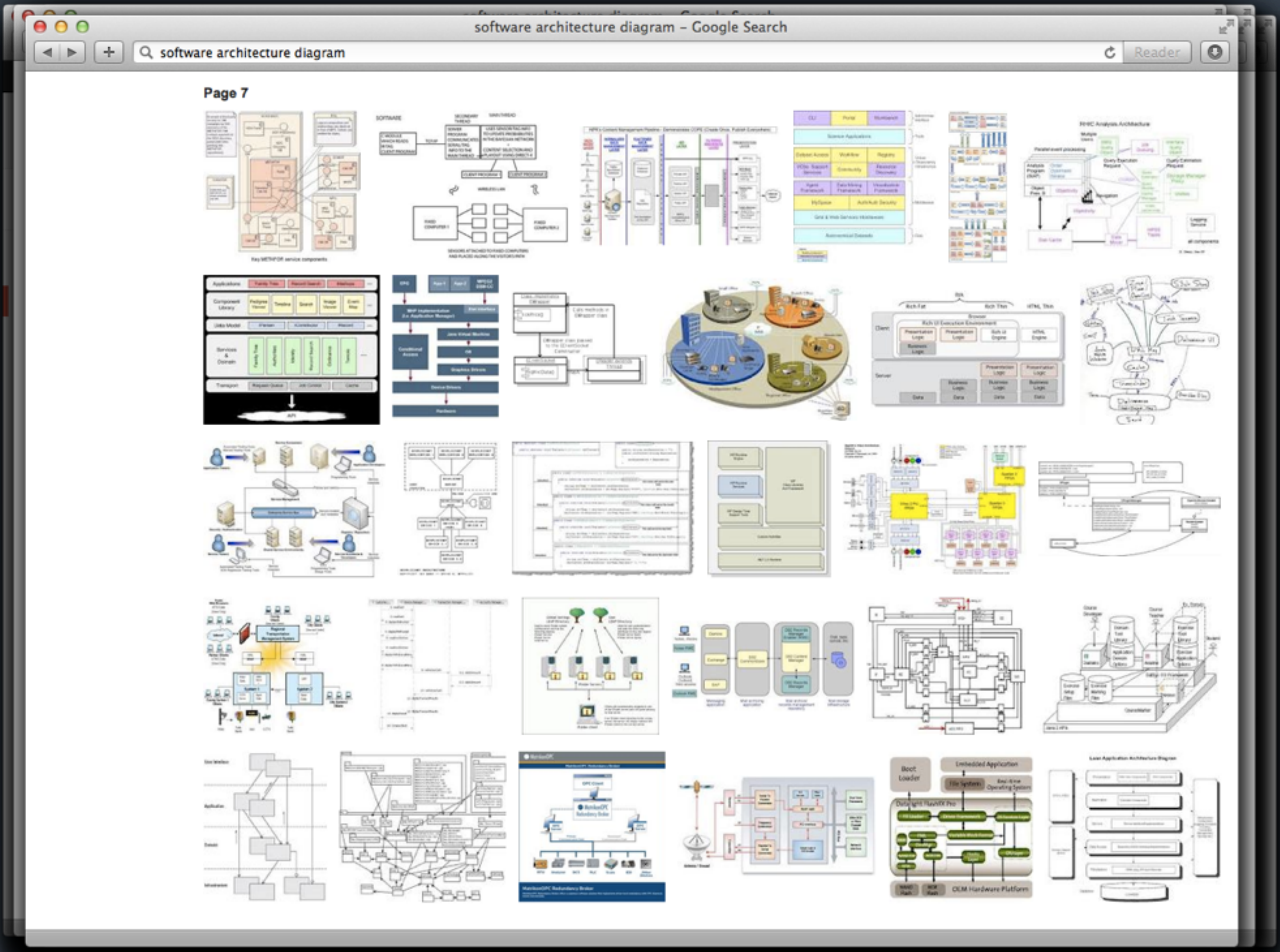
Boxes & no Lines

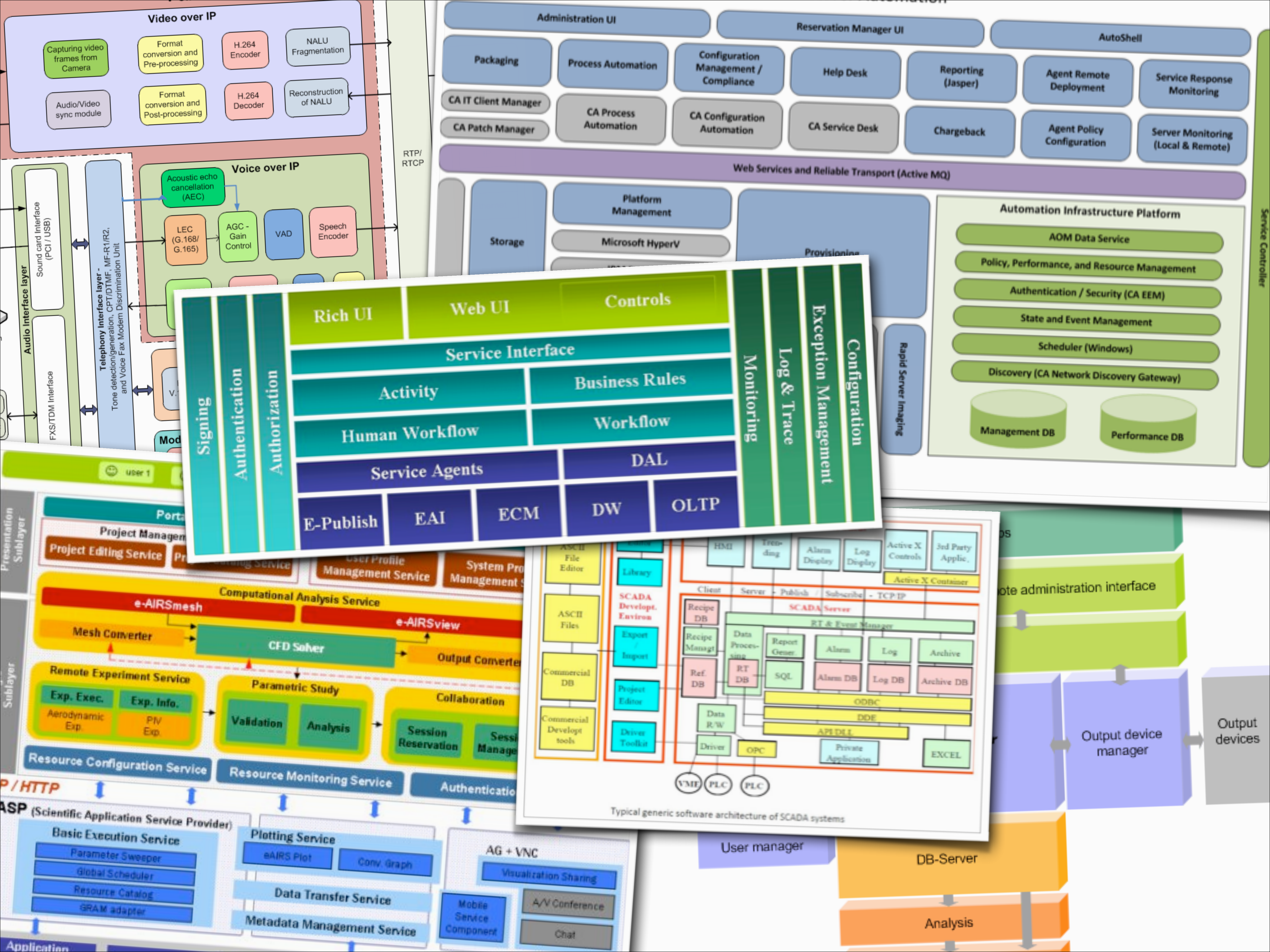


Eh?



The Airline Route Map

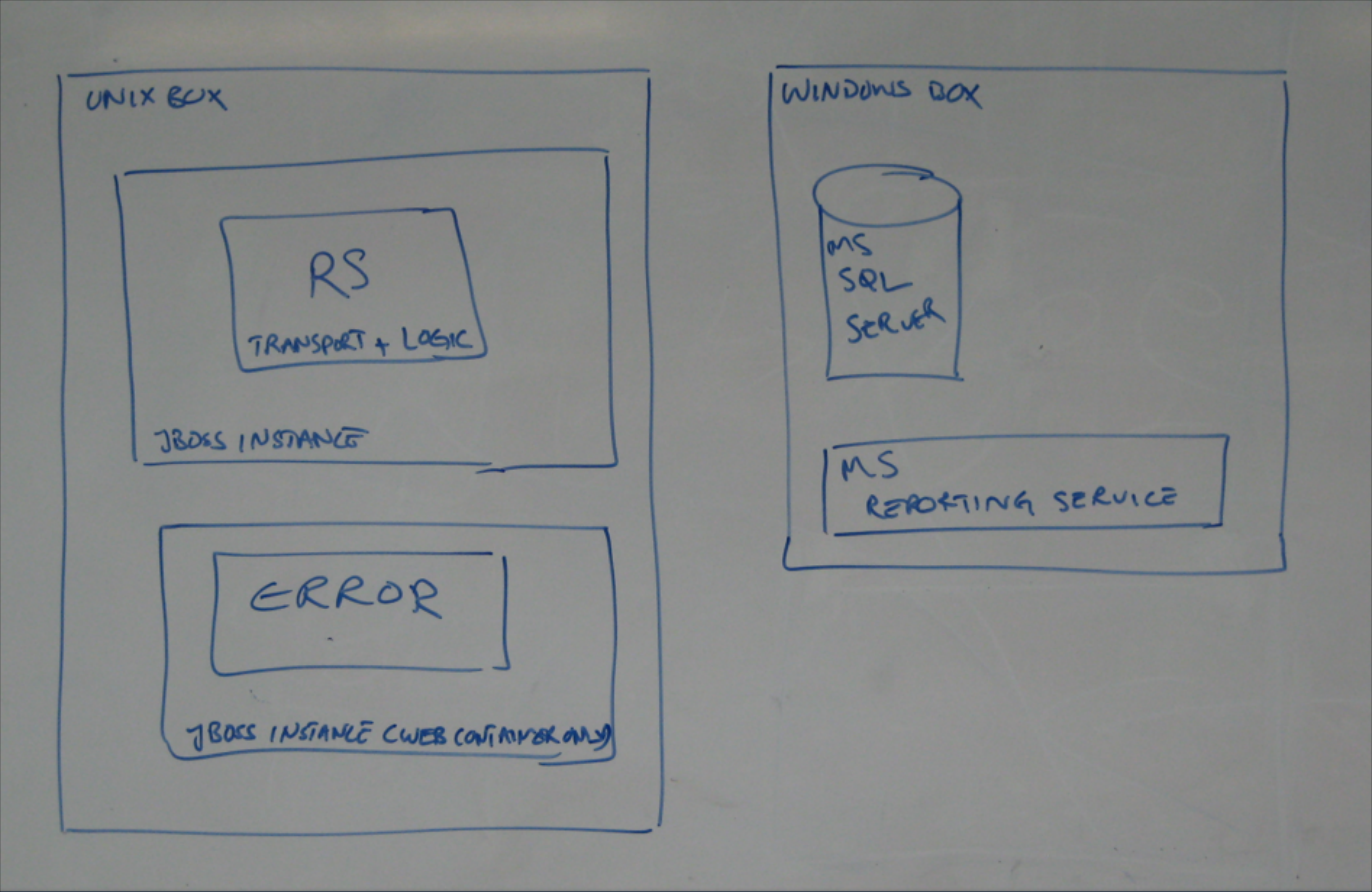

software architecture diagram – Google Search
software architecture diagram
Reader
Page 7



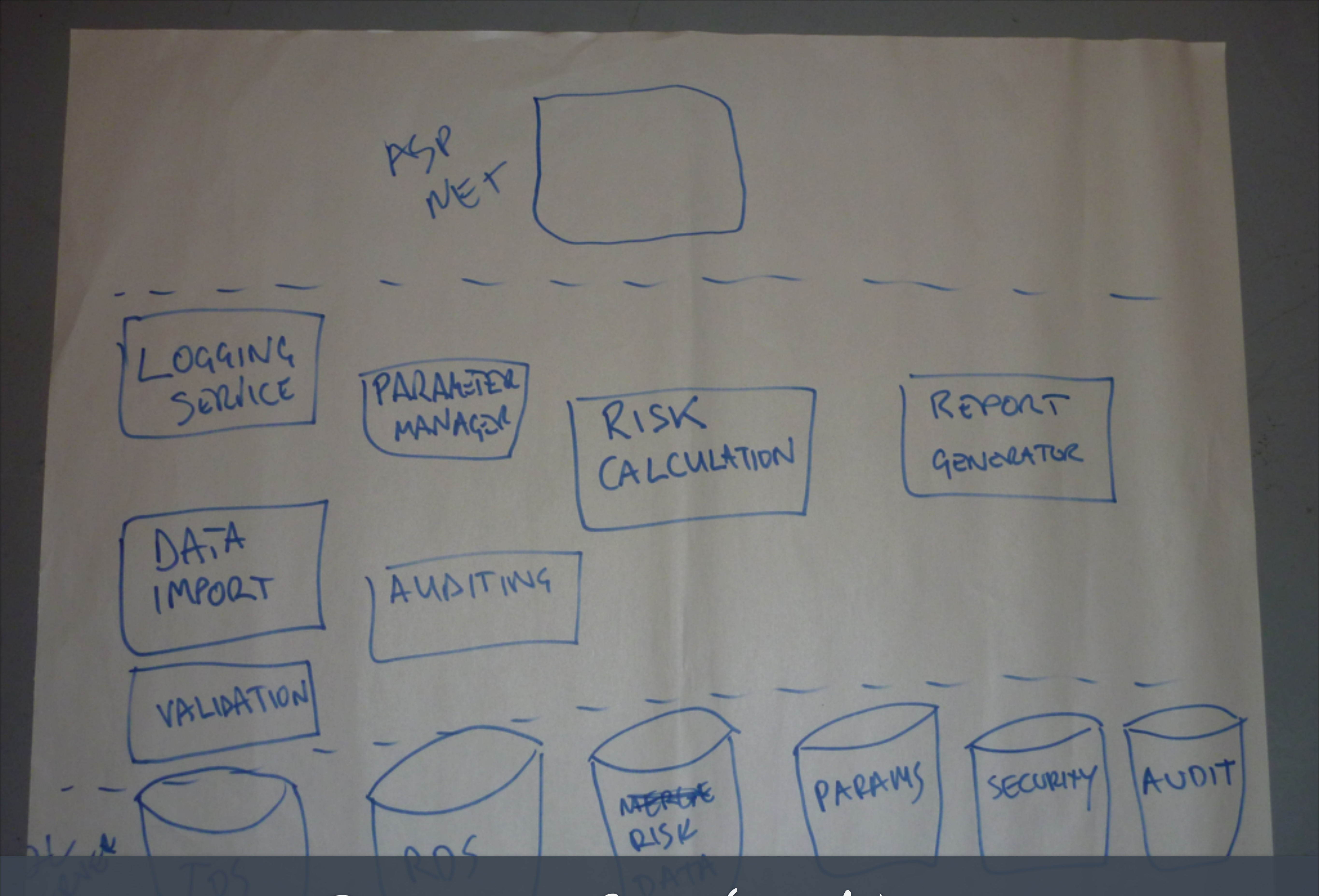
Video over IP
Capturing video frames from Camera
Format conversion and Pre-processing
H.264 Encoder
NALU Fragmentation
Audio/Video sync module
Format conversion and Post-processing
H.264 Decoder
Reconstruction of NALU
RTP/ RTCP
Voice over IP
Acoustic echo cancellation (AEC)
LEC (G.168/ G.165)
AGC - Gain Control
VAD
Speech Encoder
Audio Interface layer
Sound card Interface (PCI / USB)
FXS/TDM Interface
Telephony Interface layer - Tone detection/generation, CPT/DTMF, MF-R1/R2, and Voice Fax Modem Discrimination Unit
Administration UI
Reservation Manager UI
AutoShell
Packaging
Process Automation
Configuration Management / Compliance
Help Desk
Reporting (Jasper)
Agent Remote Deployment
Service Response Monitoring
CA IT Client Manager
CA Patch Manager
CA Process Automation
CA Configuration Automation
CA Service Desk
Chargeback
Agent Policy Configuration
Server Monitoring (Local & Remote)
Web Services and Reliable Transport (Active MQ)
Storage
Platform Management
Microsoft HyperV
Provisioning
Rapid Server Imaging
Automation Infrastructure Platform
AOM Data Service
Policy, Performance, and Resource Management
Authentication / Security (CA EEM)
State and Event Management
Scheduler (Windows)
Discovery (CA Network Discovery Gateway)
Management DB
Performance DB
Service Controller
Signing
Authentication
Authorization
Rich UI
Web UI
Controls
Service Interface
Activity
Business Rules
Human Workflow
Workflow
Service Agents
DAL
E-Publish
EAI
ECM
DW
OLTP
Monitoring
Log & Trace
Exception Management
Configuration
user 1
Presentation Sublayer
Sublayer
Portal
Project Management
Project Editing Service
User Profile Management Service
System Management
Computational Analysis Service
e-AIRSmesh
e-AIRSview
Mesh Converter
CFD Solver
Output Converter
Remote Experiment Service
Exp. Exec.
Exp. Info.
Aerodynamic Exp.
PIV Exp.
Parametric Study
Validation
Analysis
Collaboration
Session Reservation
Session Manage
Resource Configuration Service
Resource Monitoring Service
Authentication
P / HTTP
ASP (Scientific Application Service Provider)
Basic Execution Service
Parameter Sweeper
Global Scheduler
Resource Catalog
GRAM adapter
Plotting Service
eAIRS Plot
Conv. Graph
Data Transfer Service
Metadata Management Service
AG + VNC
Visualization Sharing
Mobile Service Component
A/V Conference
Chat
Application
ASCII File Editor
ASCII Files
Commercial DB
Commercial Develop tools
Library
SCADA Develop. Environ
Export / Import
Project Editor
Driver Toolkit
HMI
Trending
Alarm Display
Log Display
Active X Controls
3rd Party Applic.
Active X Container
Client
Server
Publish
Subscribe
TCP/IP
SCADA Server
Recipe DB
RT & Event Manager
Recipe Managt
Data Processing
Report Gener
Alarm
Log
Archive
Ref. DB
RT DB
SQL
Alarm DB
Log DB
Archive DB
ODBC
DDE
API DLL
Data R/W
Driver
OPC
Private Application
EXCEL
VME
PLC
PLC
Typical generic software architecture of SCADA systems
ps
ote administration interface
Output device manager
Output devices
User manager
DB-Server
Analysis

Are these

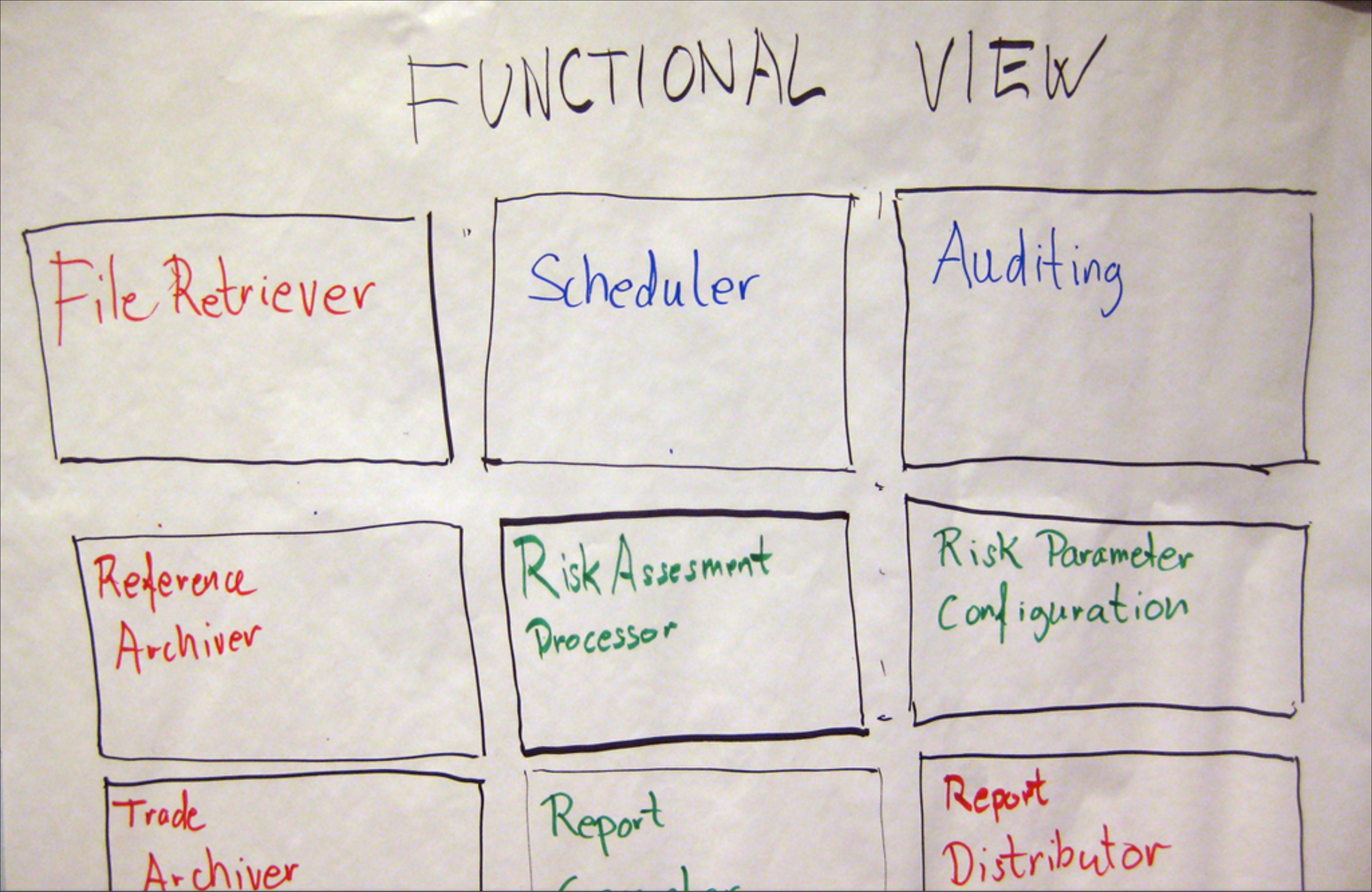
effective sketches?



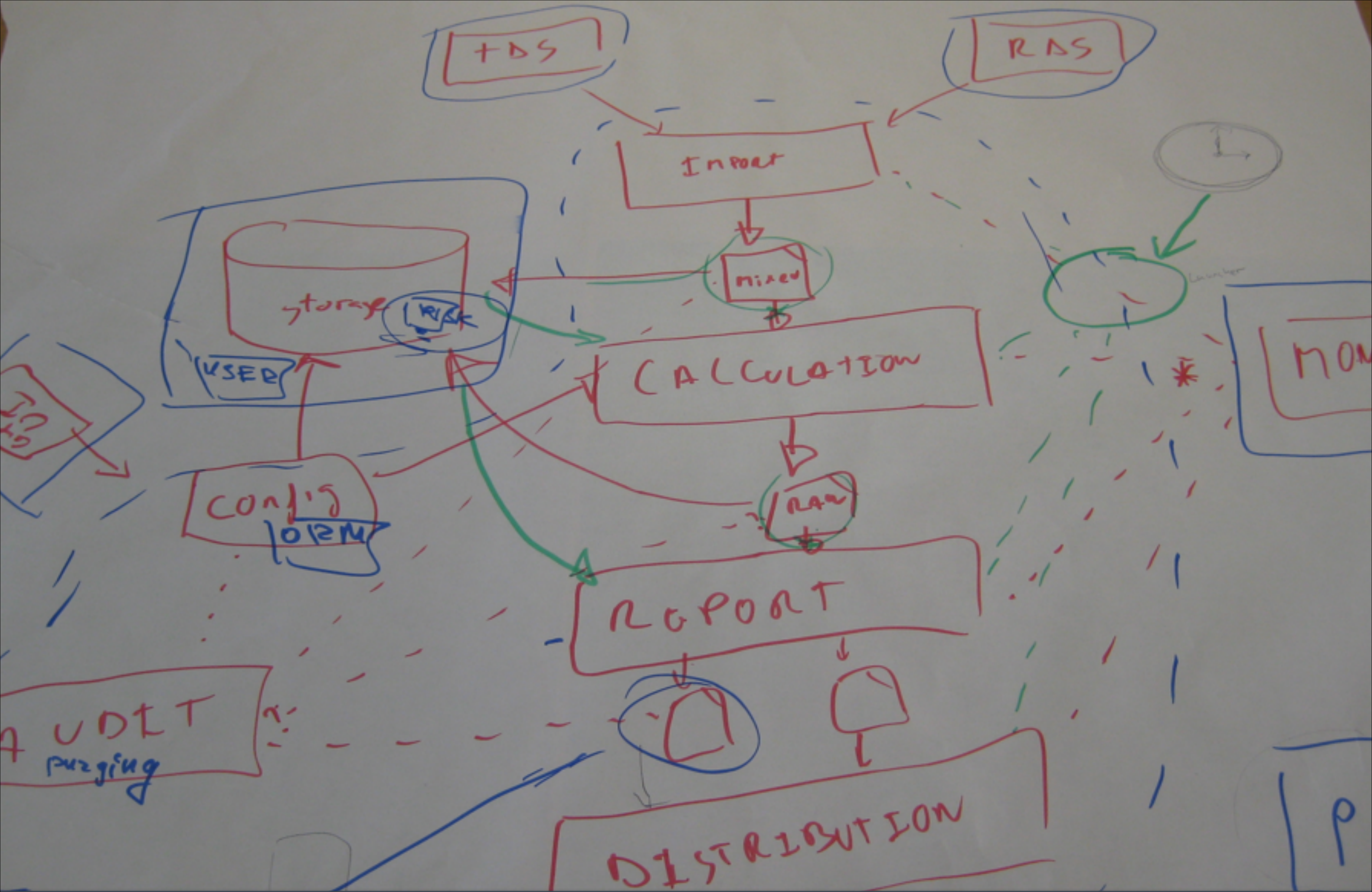
The Shopping List



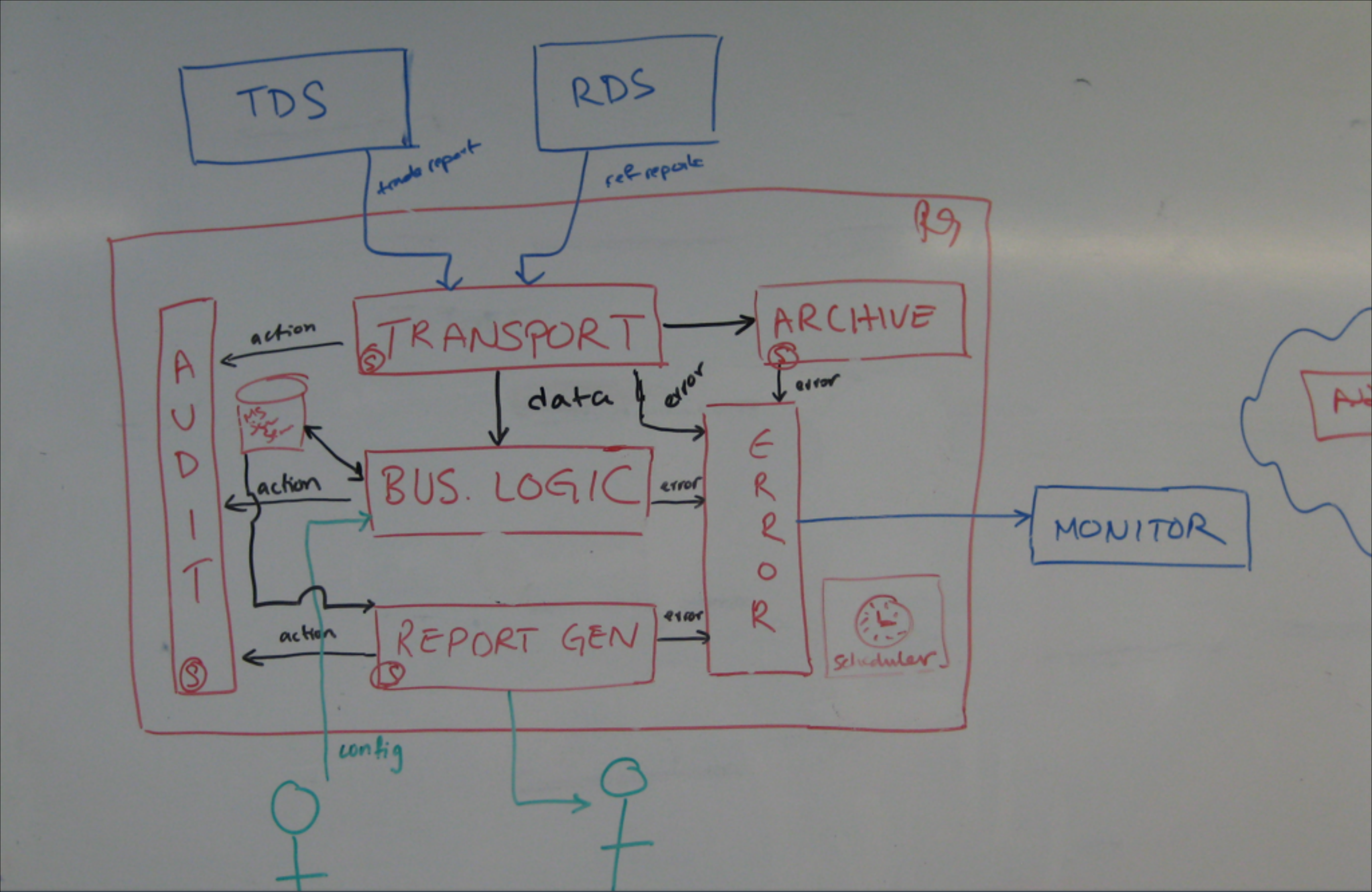
Boxes & No Lines



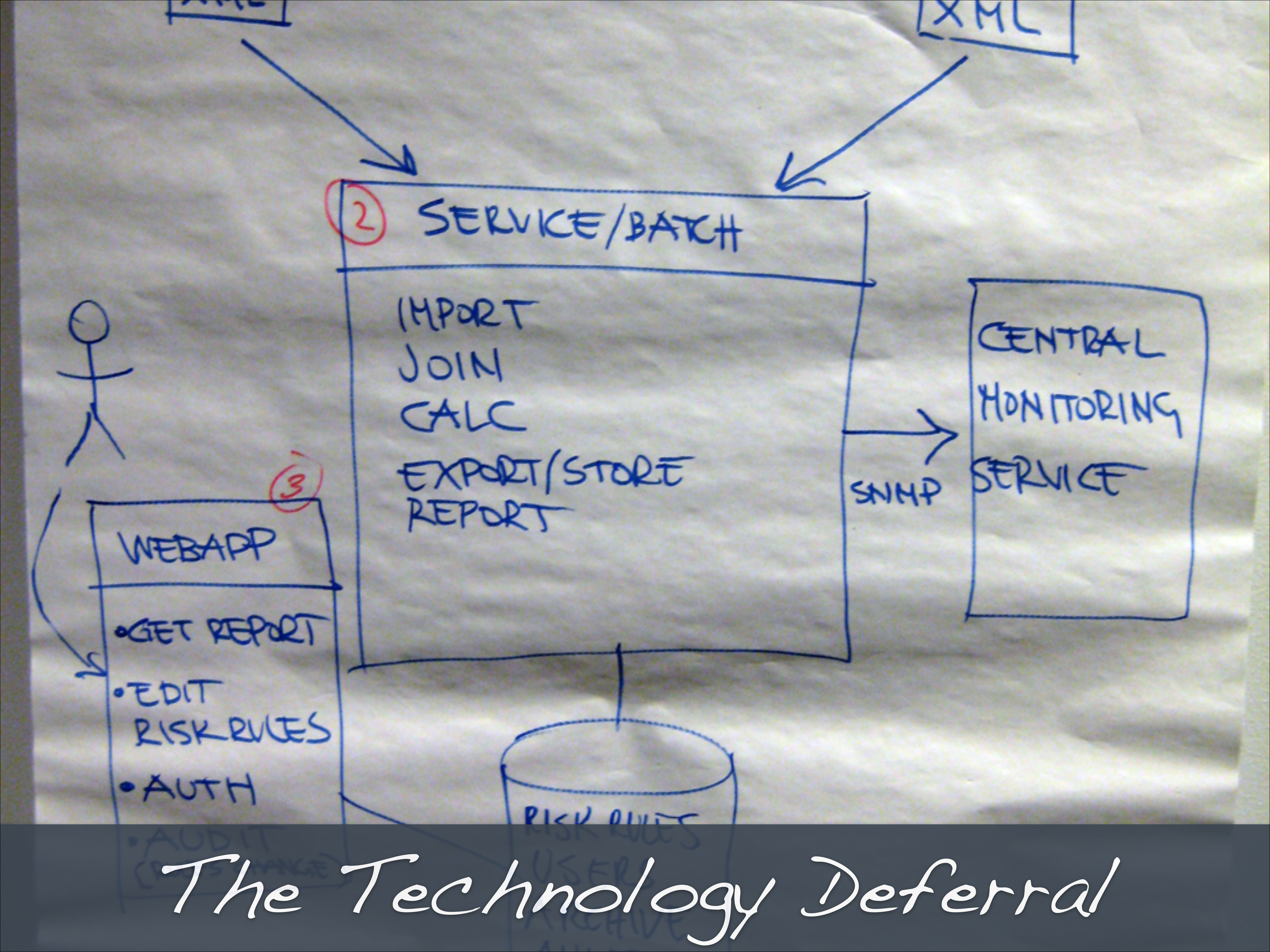
The Functional View



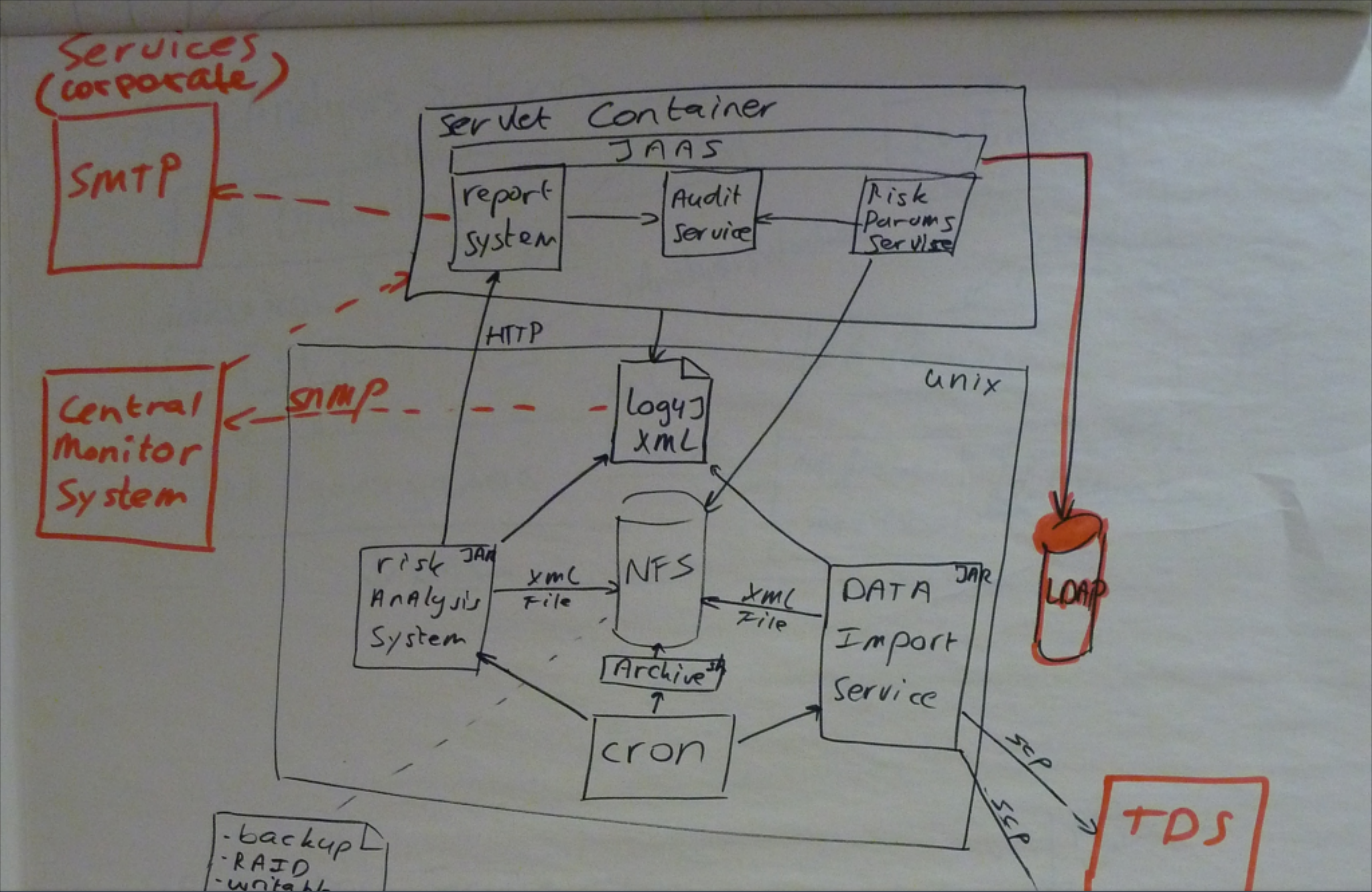
The Airline Route Map



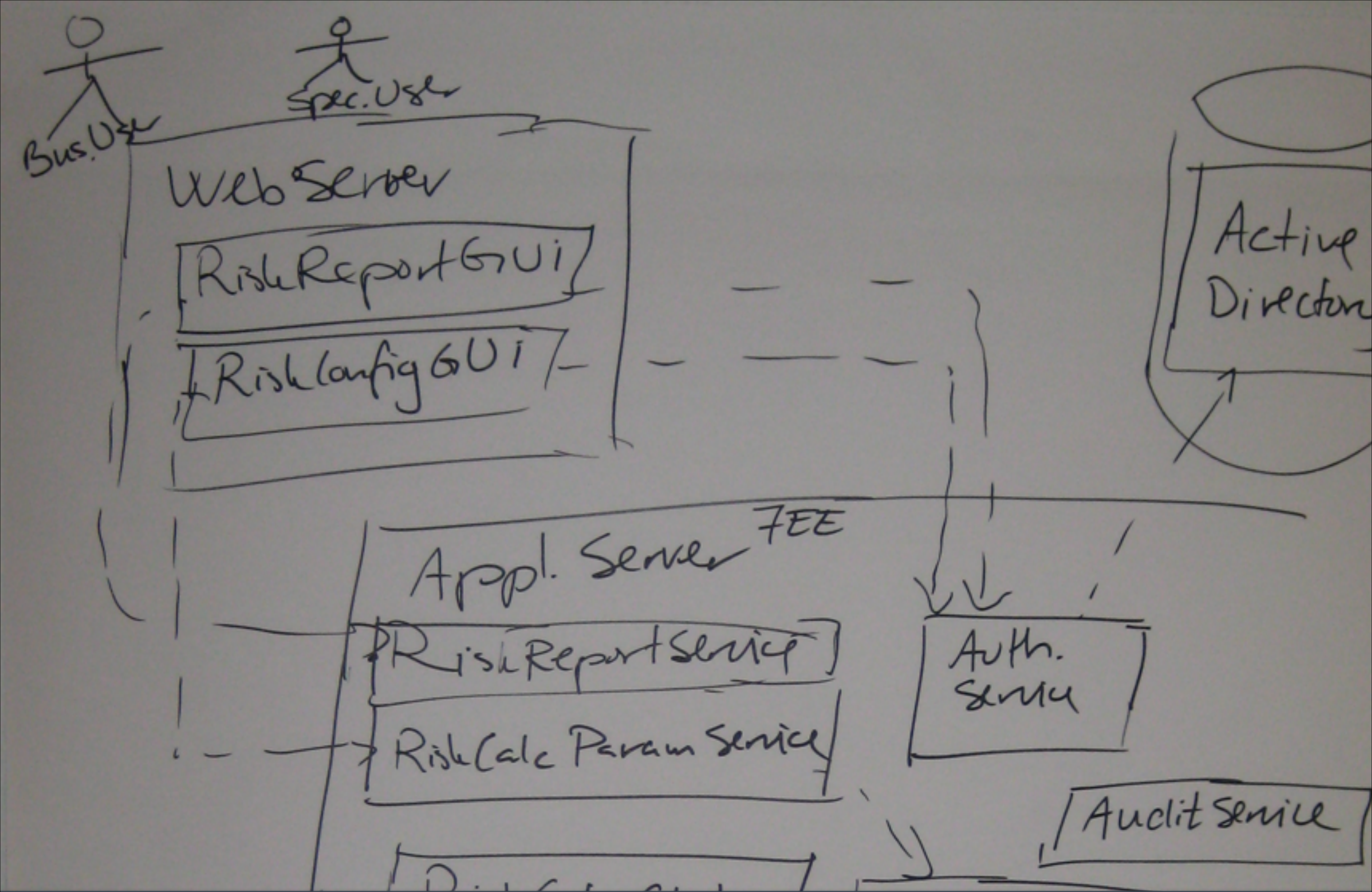
Generically True



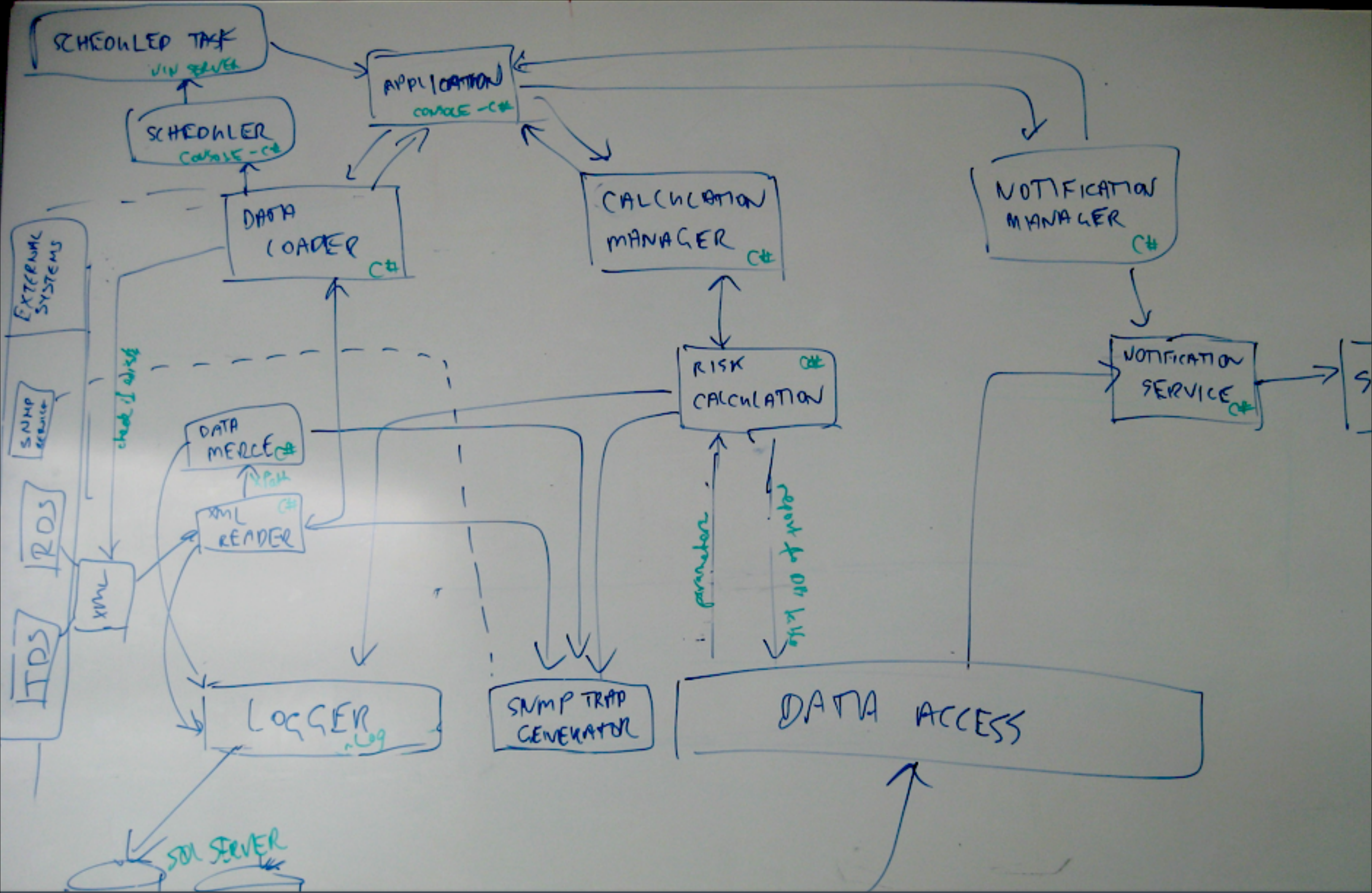
The Technology Deferral



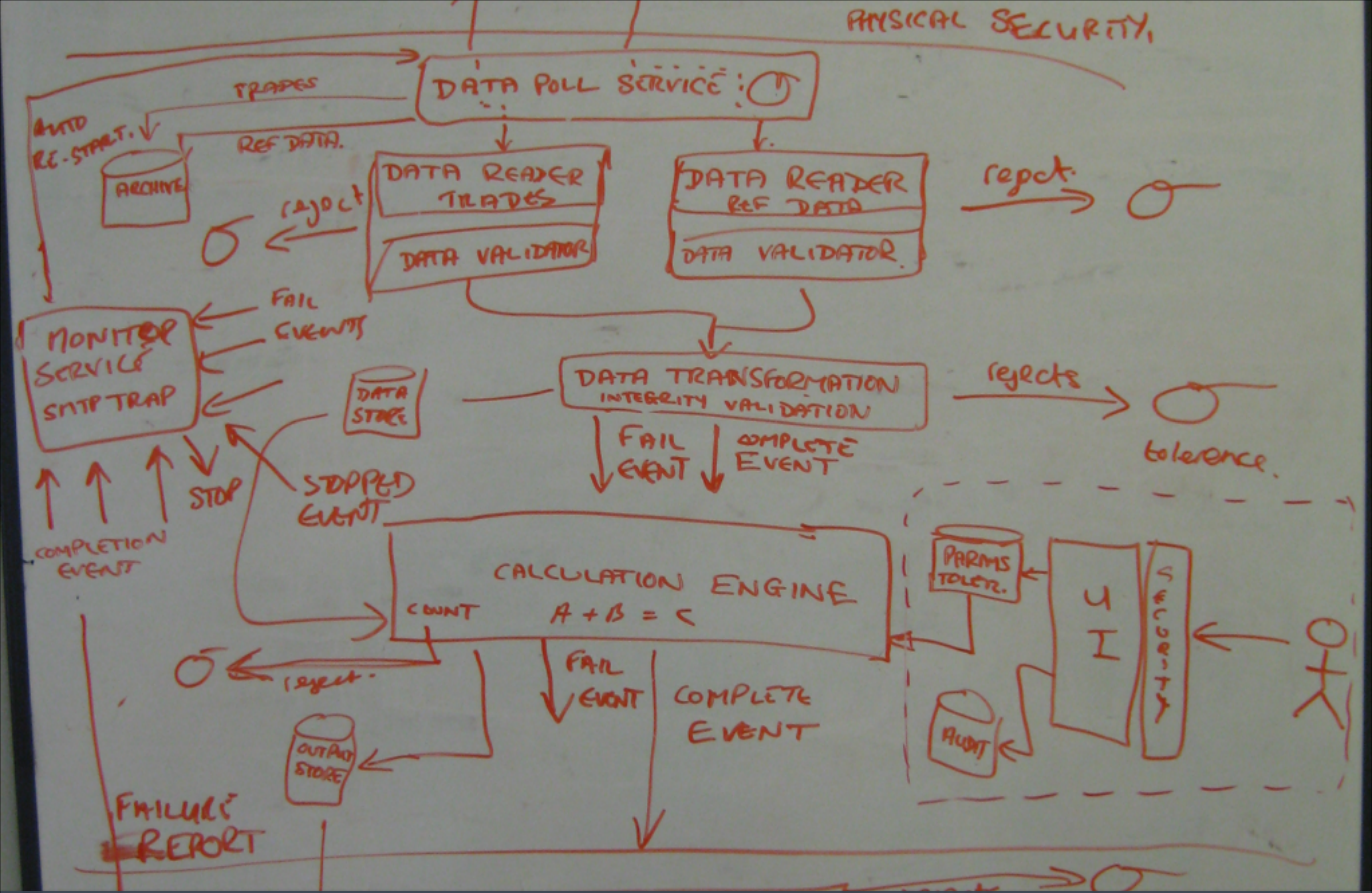
Missing Details



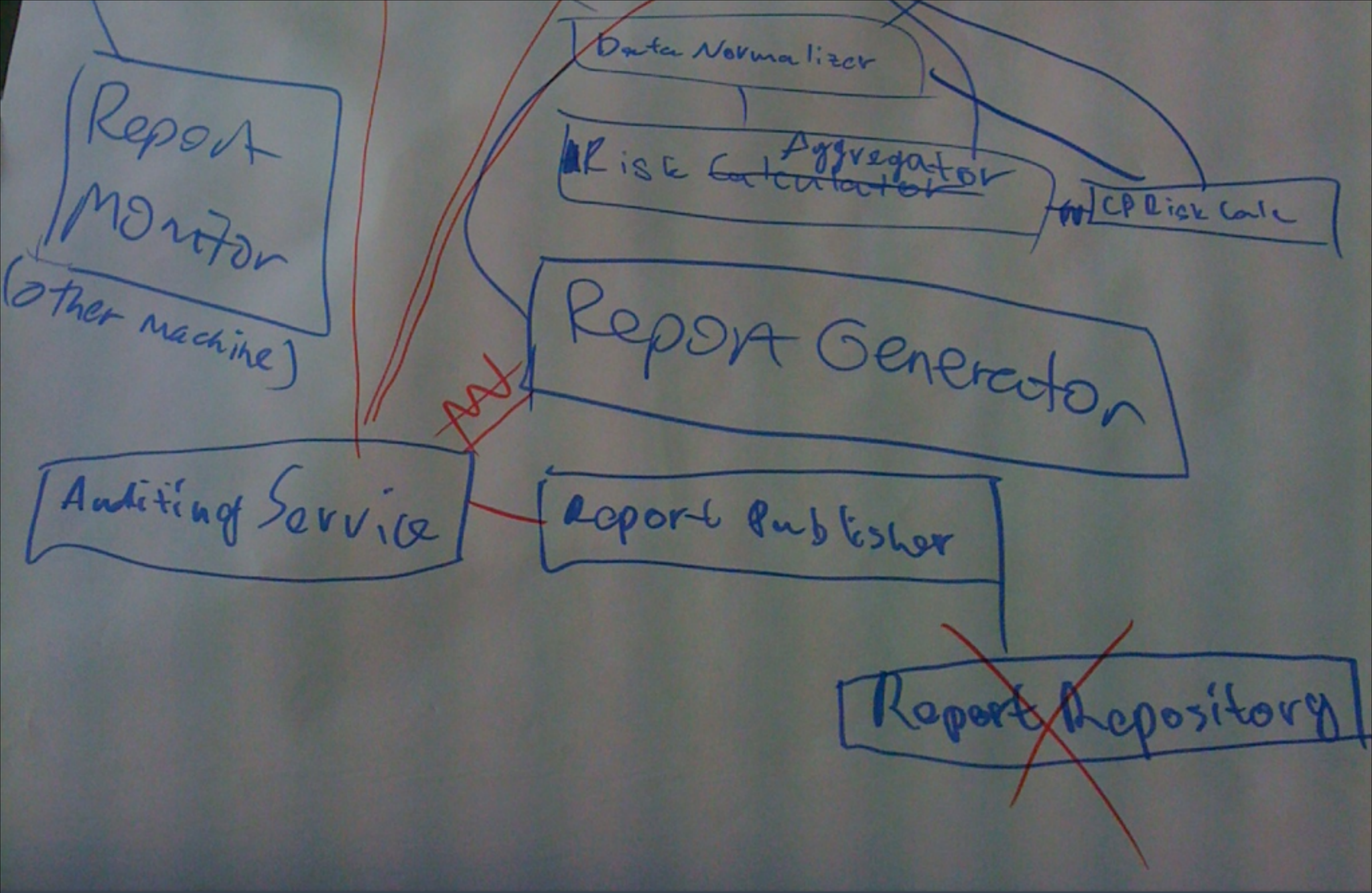
Assumptions



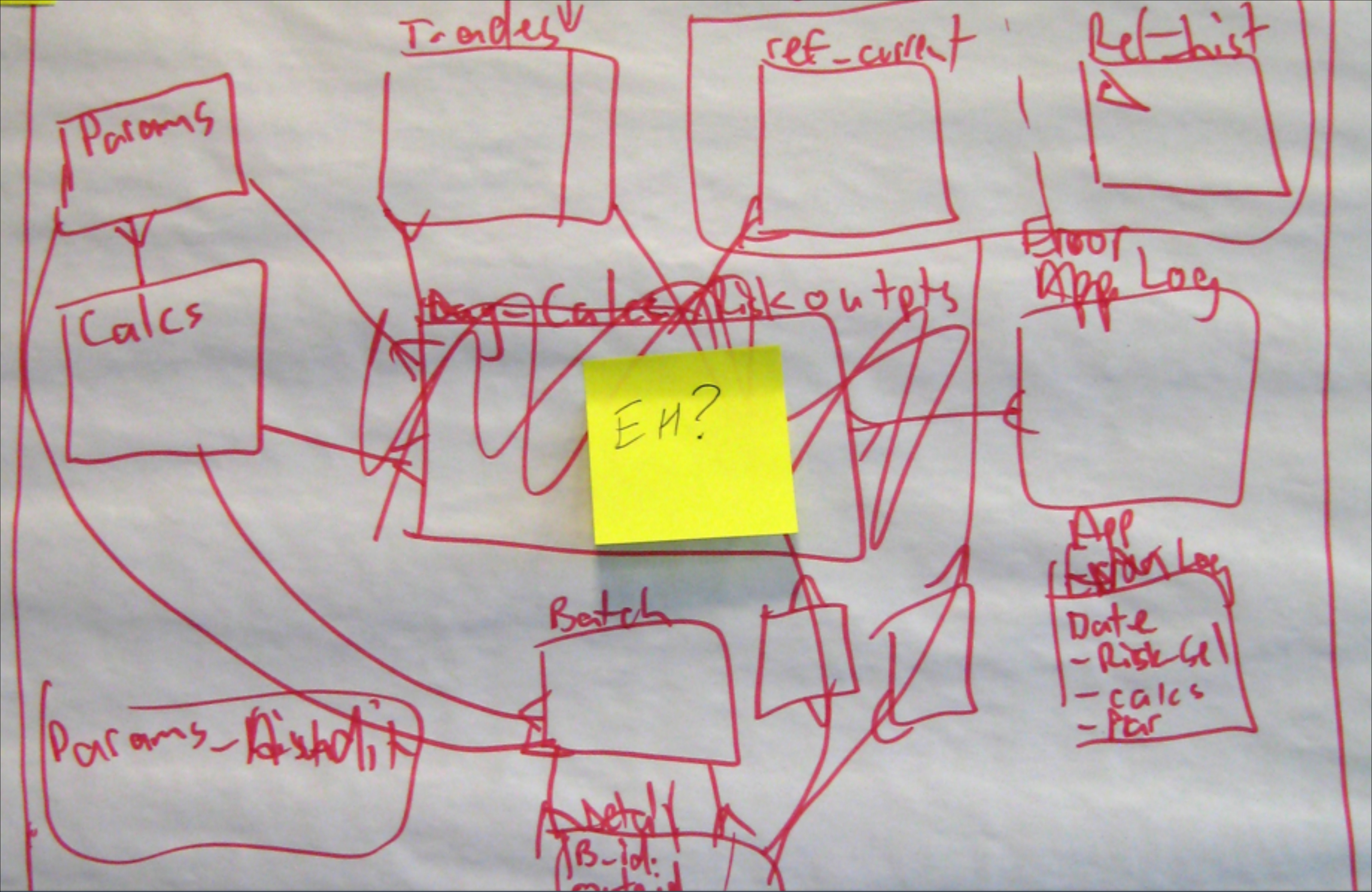
Homeless Old C# Object (HOCO)



Choose your own adventure



Should have used a

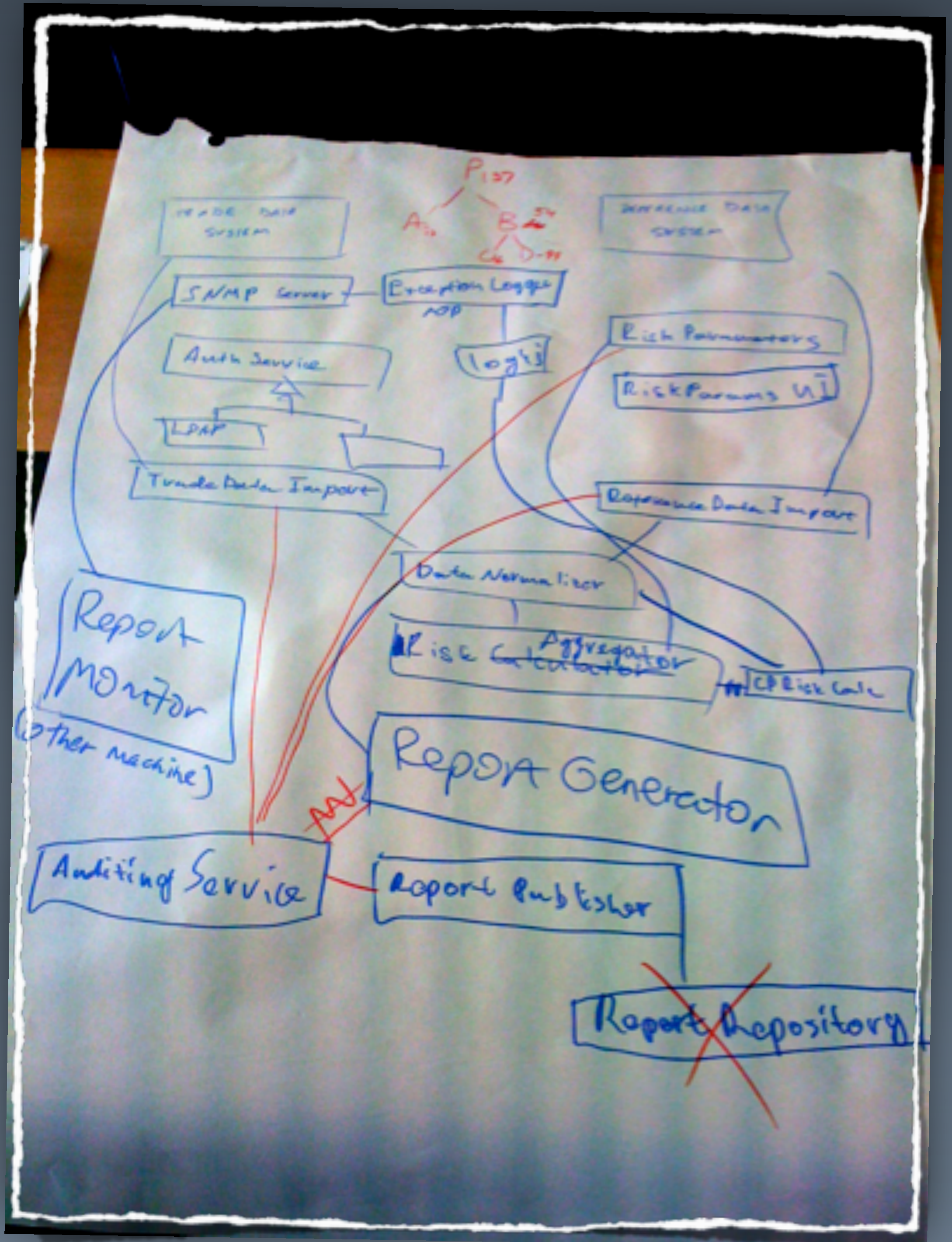

Trades
ref_current
Ref_hist
Params
Calcs
Risk outputs
Eh?
Error
App Log
App
Error Log
Date
- Risk Cal
- calcs
- Par
Batch
Params_Distrib
Detail
B_id:
Outp id
Trade id

Eh?

http://www.flickr.com/photos/codingthearchitecture/sets/

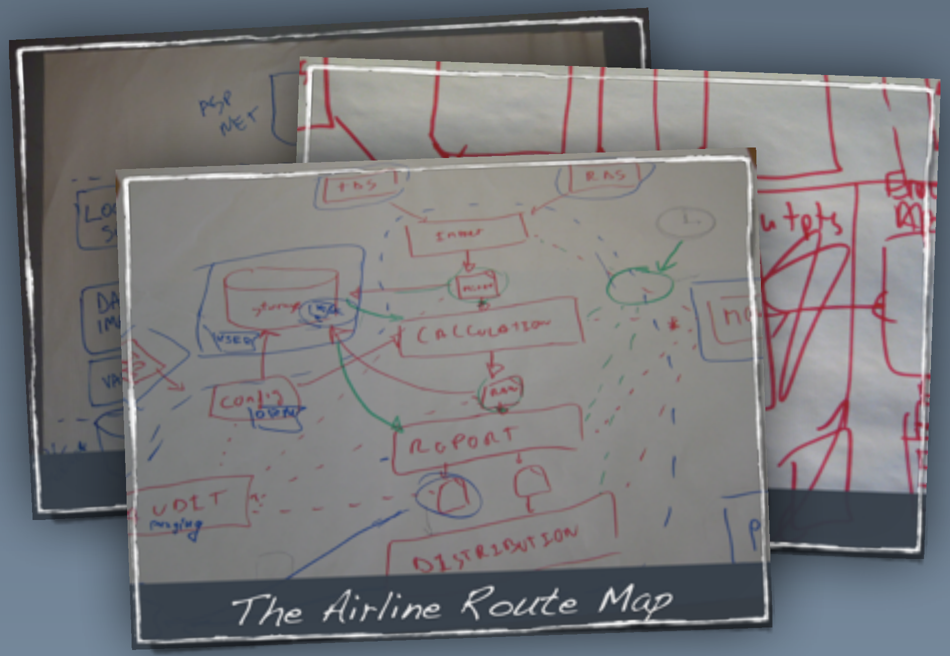
In my experience,

software teams aren't able to effectively visualise the software architecture of their systems



Moving fast (agility) requires

good communication



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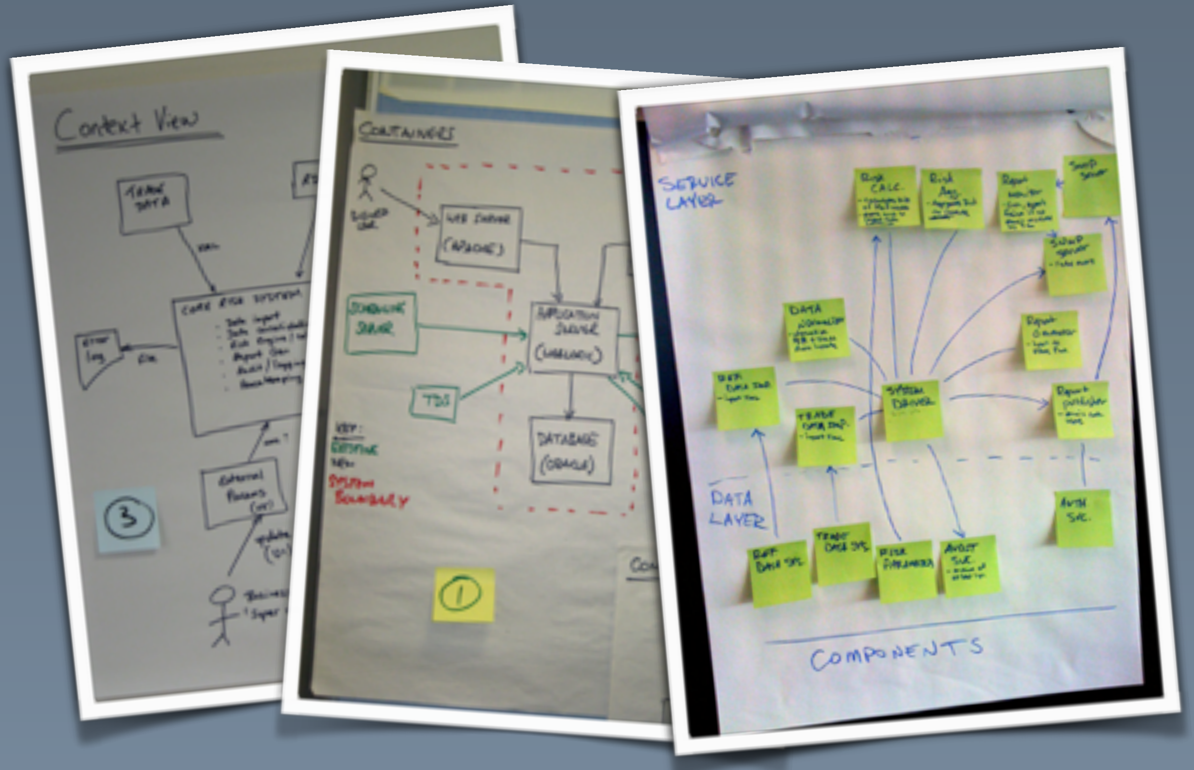
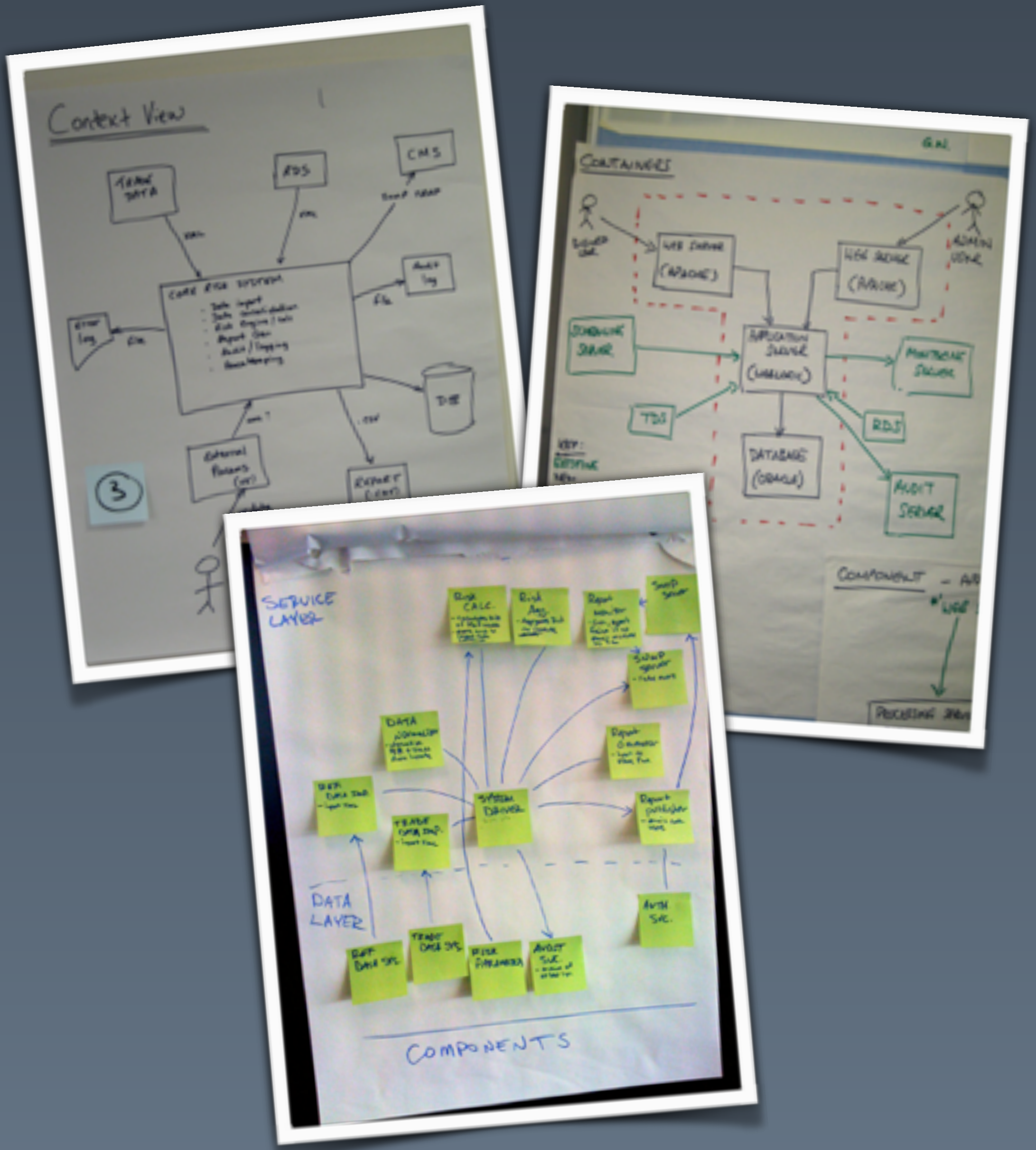
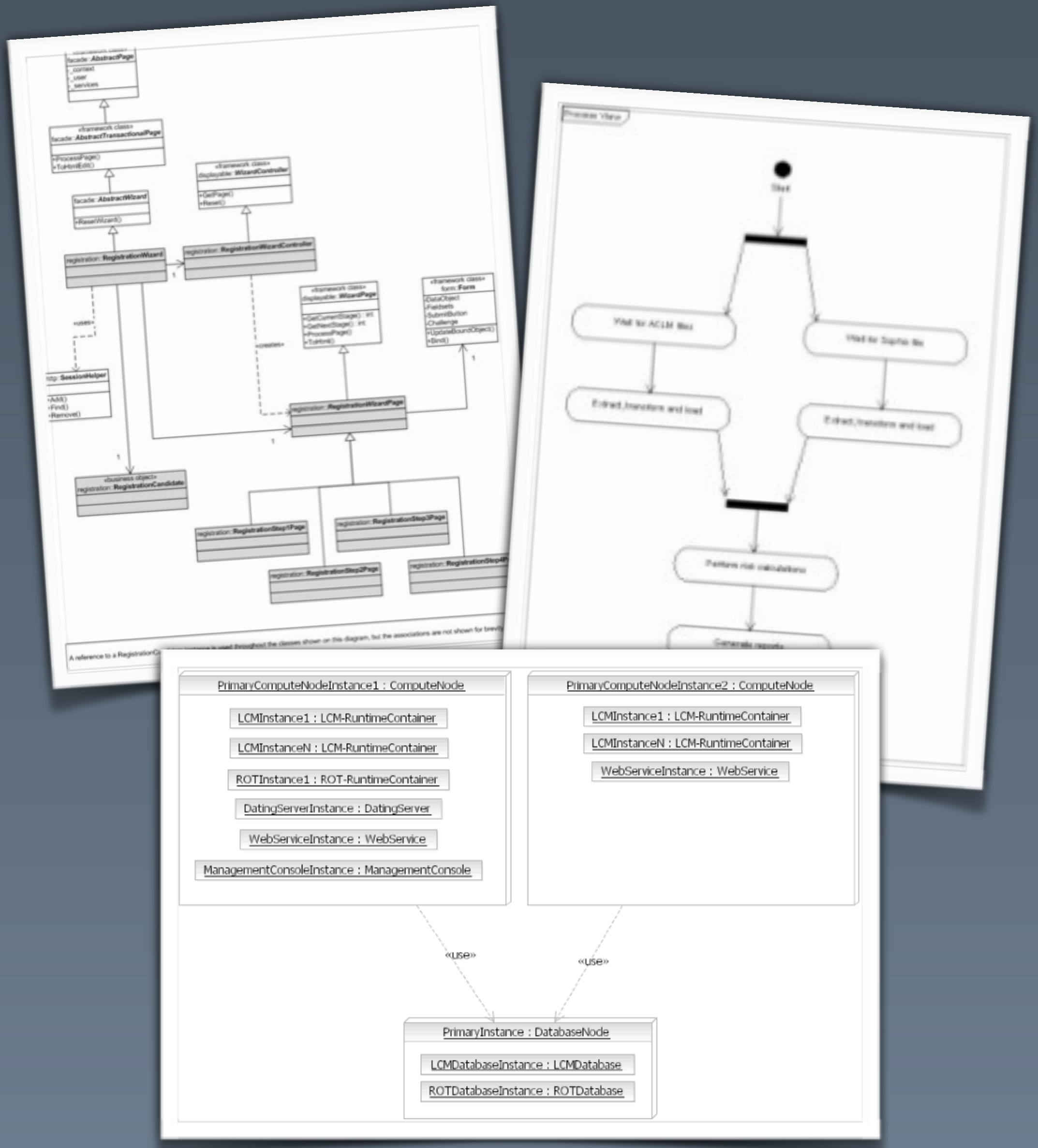
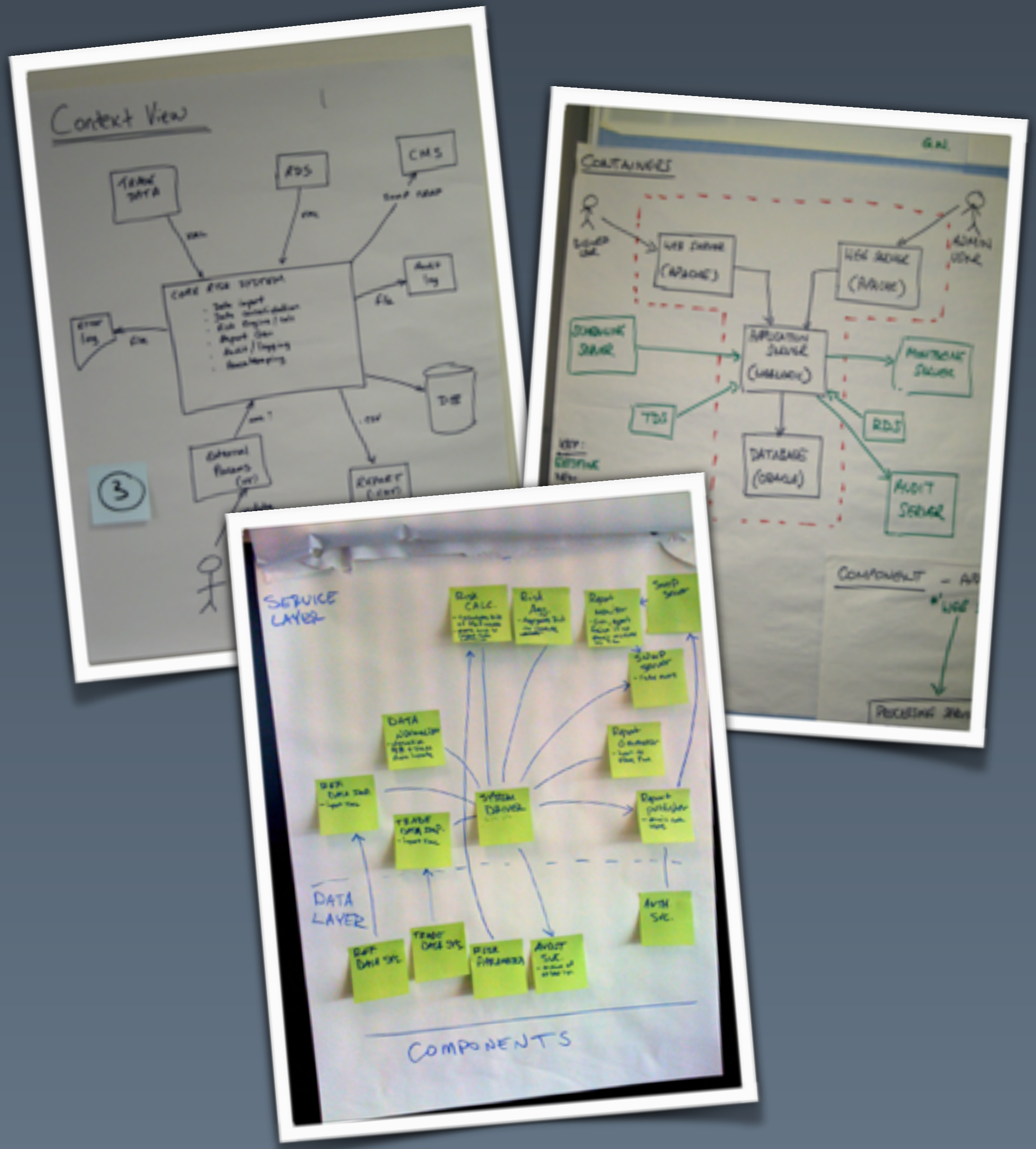




UML tool?

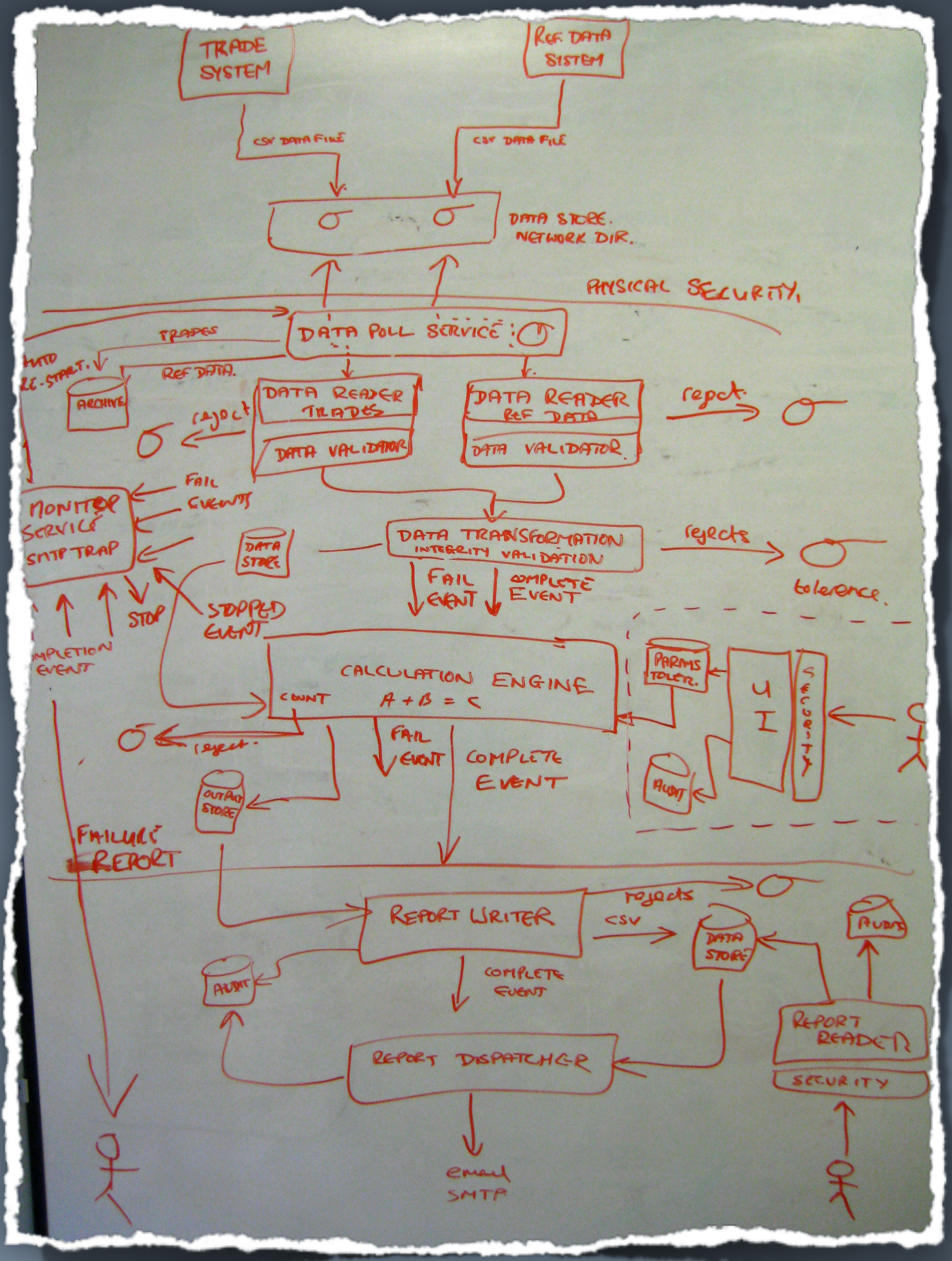

PrimaryComputeNodeInstance1 : ComputeNode
LCMInstance1 : LCM-RuntimeContainer
LCMInstanceN : LCM-RuntimeContainer
ROTInstance1 : ROT-RuntimeContainer
DatingServerInstance : DatingServer
WebServiceInstance : WebService
ManagementConsoleInstance : ManagementConsole
PrimaryComputeNodeInstance2 : ComputeNode
LCMInstance1 : LCM-RuntimeContainer
LCMInstanceN : LCM-RuntimeContainer
WebServiceInstance : WebService
«use»
«use»
PrimaryInstance : DatabaseNode
LCMDatabaseInstance : LCMDatabase
ROTDatabaseInstance : ROTDatabase

Whiteboard or flip chart?



Collaborative design

(e.g. pair architecting)



It's usually difficult to show the entire design on a **single** diagram

Different **views** of the design can be used to manage complexity and highlight different aspects of the solution

Do the names of those views make sense?

Conceptual vs Logical

Process vs Functional

Development vs Physical

Development vs Implementation

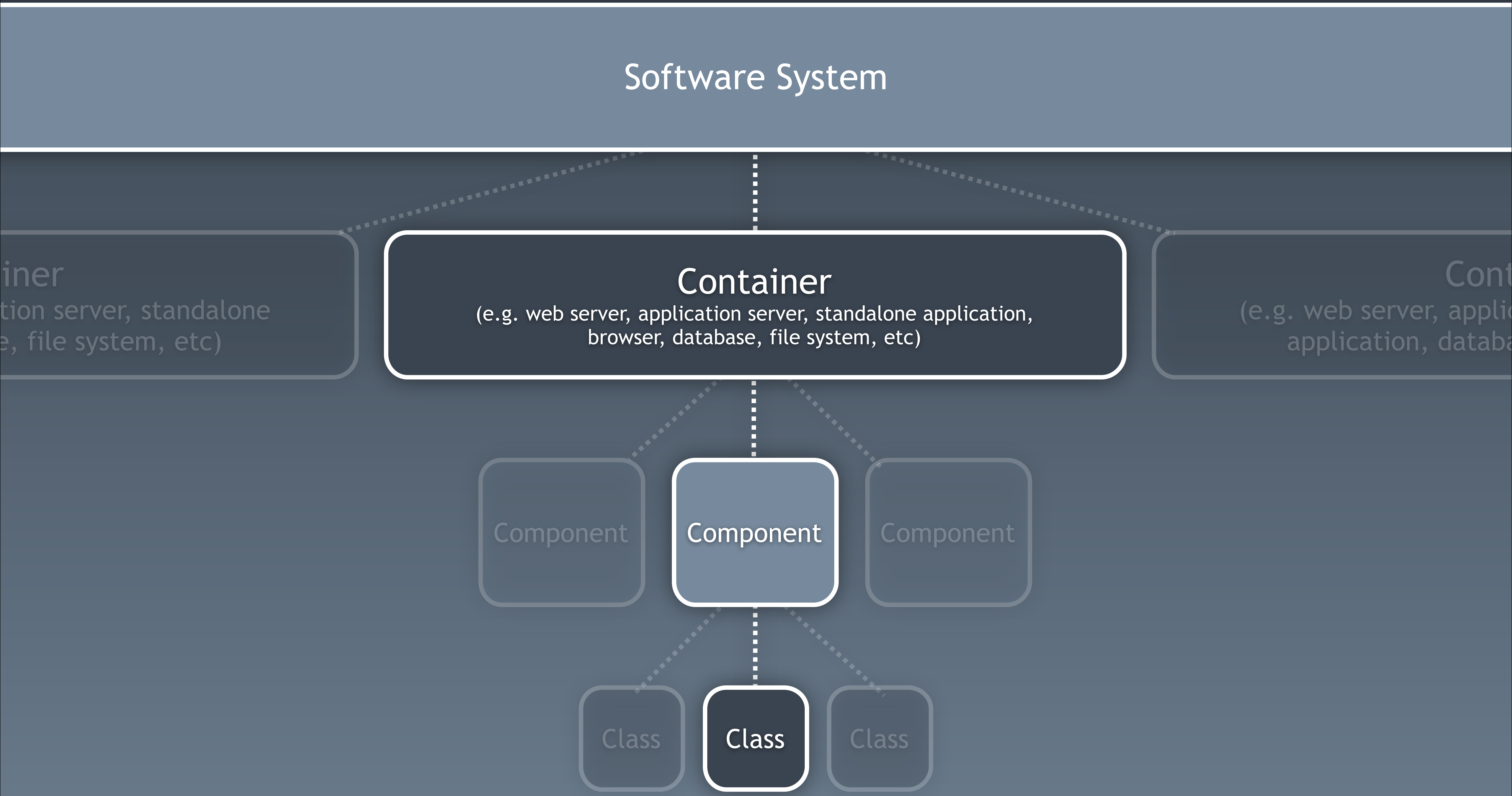
Physical vs Implementation

Physical vs Deployment

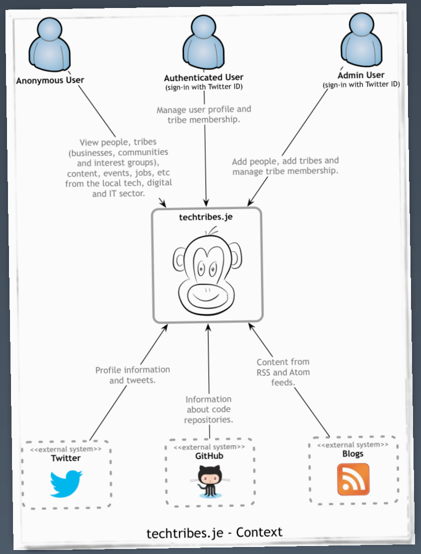
Would you

code

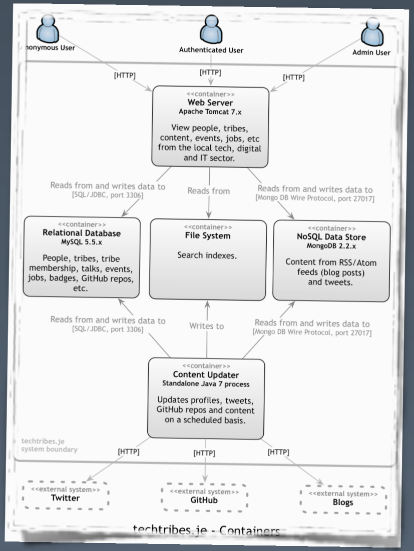
it that way?



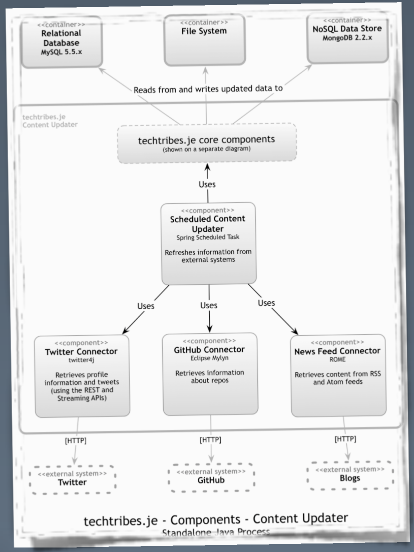
Agree on a simple set of **abstractions** that the whole team can use to communicate


Anonymous User
Authenticated User
(sign-in with Twitter ID)
Admin User
(sign-in with Twitter ID)
Manage user profile and tribe membership.
View people, tribes (businesses, communities and interest groups), content, events, jobs, etc from the local tech, digital and IT sector.
Add people, add tribes and manage tribe membership.
techtribes.je
Profile information and tweets.
Information about code repositories.
Content from RSS and Atom feeds.
<<external system>>
Twitter
<<external system>>
GitHub
<<external system>>
Blogs
techtribes.je - Context

1. Context


Anonymous User
Authenticated User
Admin User
[HTTP]
[HTTP]
[HTTP]
<<container>>
Web Server
Apache Tomcat 7.x
View people, tribes, content, events, jobs, etc from the local tech, digital and IT sector.
Reads from and writes data to
[SQL/JDBC, port 3306]
Reads from
Reads from and writes data to
[Mongo DB Wire Protocol, port 27017]
<<container>>
Relational Database
MySQL 5.5.x
People, tribes, tribe membership, talks, events, jobs, badges, GitHub repos, etc.
<<container>>
File System
Search indexes.
<<container>>
NoSQL Data Store
MongoDB 2.2.x
Content from RSS/Atom feeds (blog posts) and tweets.
Reads from and writes data to
[SQL/JDBC, port 3306]
Writes to
Reads from and writes data to
[Mongo DB Wire Protocol, port 27017]
<<container>>
Content Updater
Standalone Java 7 process
Updates profiles, tweets, GitHub repos and content on a scheduled basis.
techtribes.je
system boundary
[HTTP]
[HTTP]
[HTTP]
<<external system>>
Twitter
<<external system>>
GitHub
<<external system>>
Blogs
techtribes.je - Containers

2. Containers



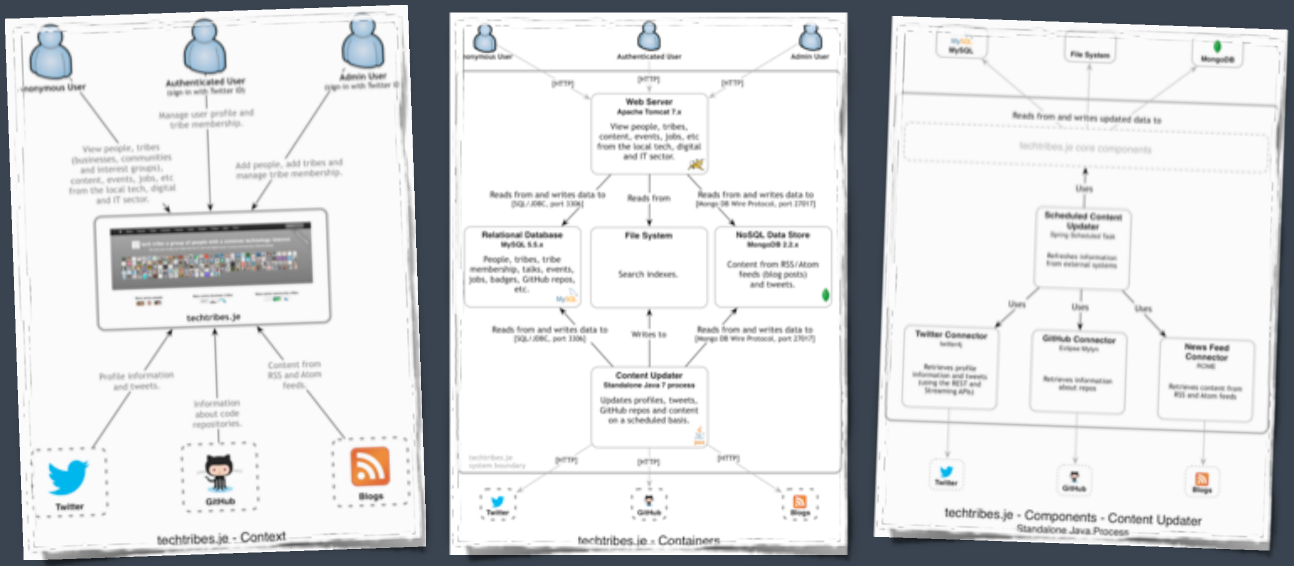
3. Components

C4

4. Classes

Sequence & collaboration

Process & workflow



Static structure (C4)

Infrastructure

Deployment

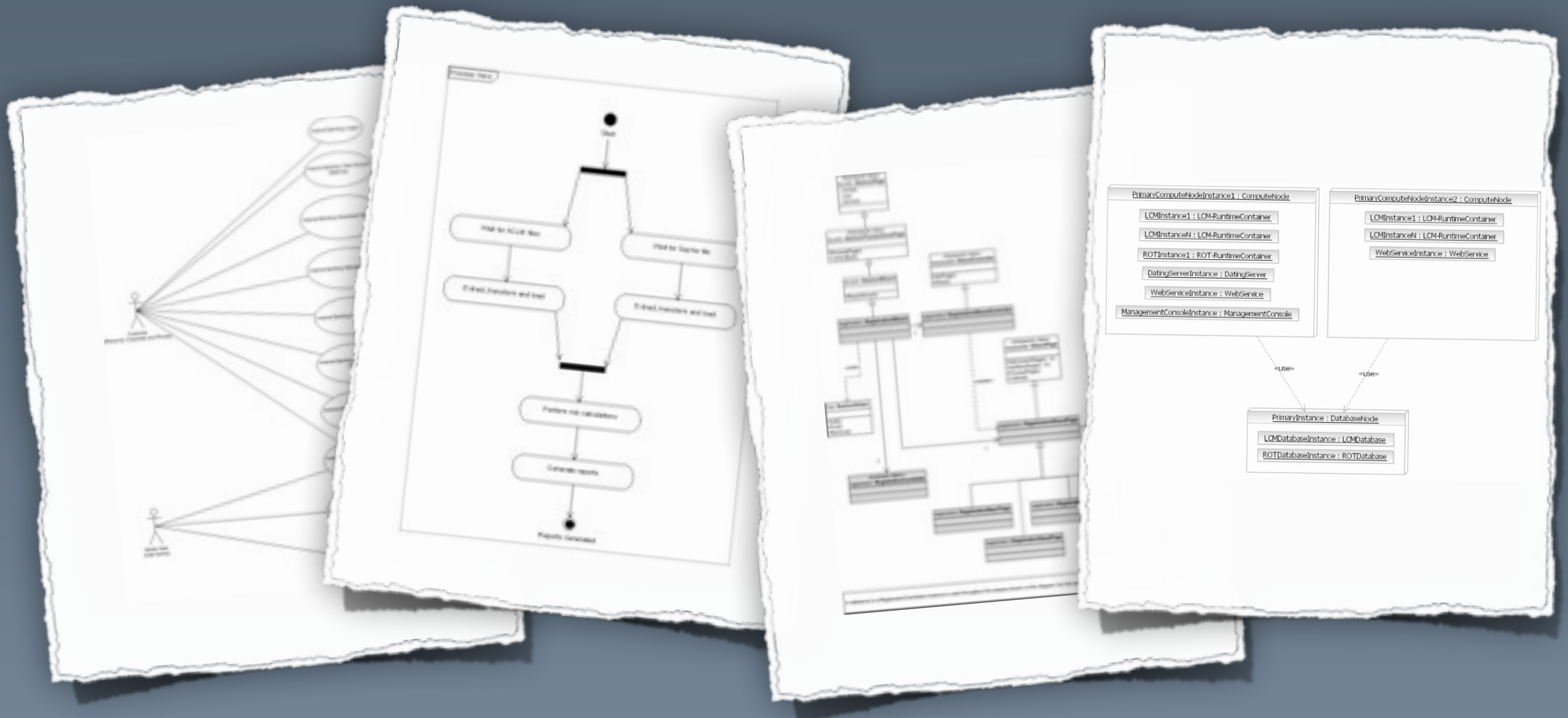
This isn’t about creating a standard

A common set of abstractions

is more important than
a common notation

I do use UML

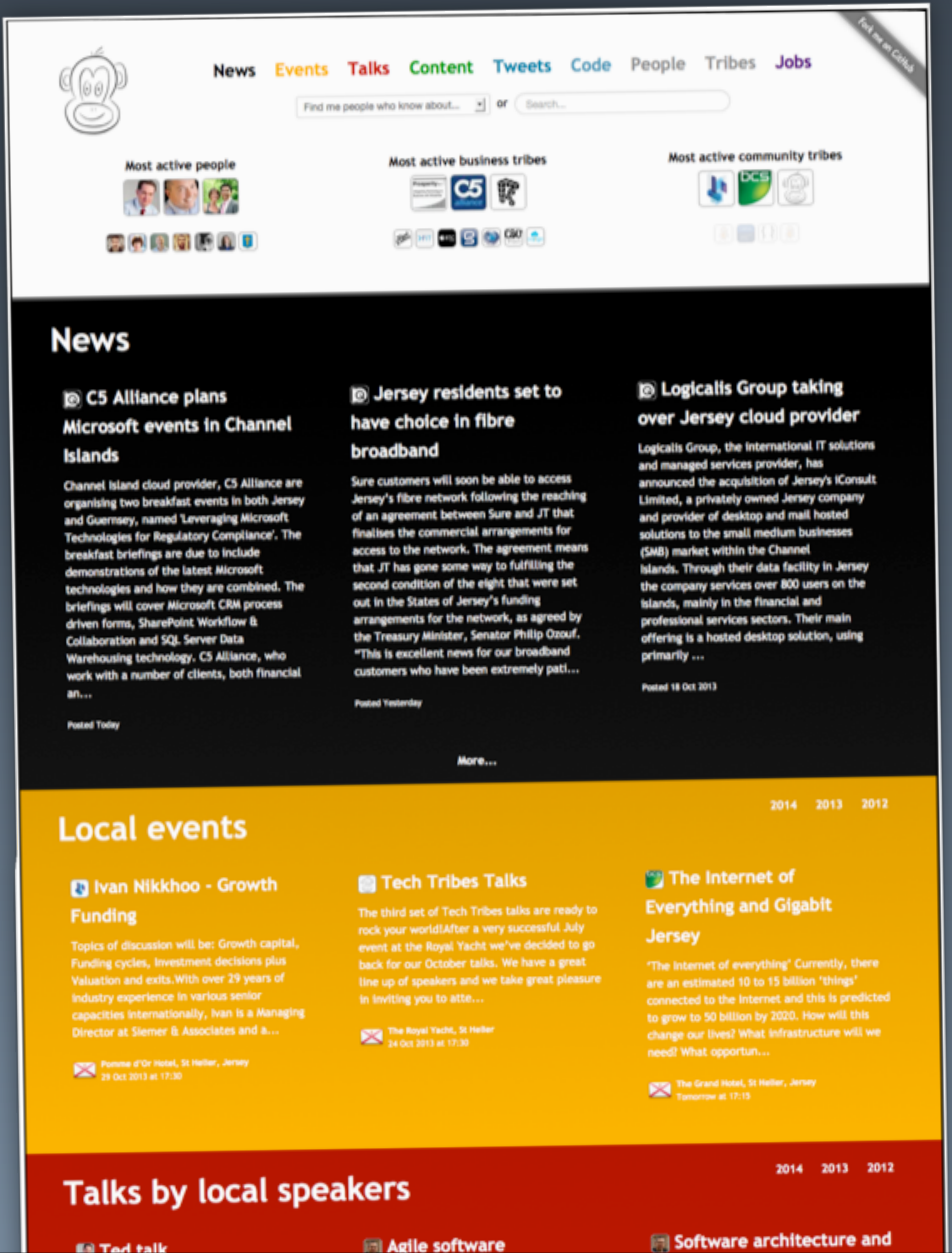
(e.g. activity, class, sequence, collaboration, state)


Start
Extract, transform and load
Extract, transform and load
Perform risk calculations
Generate reports
Reports Generated
PrimaryComputeNodeInstance1 : ComputeNode
LCMInstance1 : LCM-RuntimeContainer
LCMInstanceN : LCM-RuntimeContainer
ROTInstance1 : ROT-RuntimeContainer
DatingServerInstance : DatingServer
WebServiceInstance : WebService
ManagementConsoleInstance : ManagementConsole
PrimaryComputeNodeInstance2 : ComputeNode
LCMInstance1 : LCM-RuntimeContainer
LCMInstanceN : LCM-RuntimeContainer
WebServiceInstance : WebService
«use»
«use»
PrimaryInstance : DatabaseNode
LCMDatabaseInstance : LCMDatabase
ROTDatabaseInstance : ROTDatabase

Think about the target audience

Non-technical Semi-technical Very technical

techtribes.je



Fork me on GitHub
News Events Talks Content Tweets Code People Tribes Jobs
Find me people who know about...
or
Search...

Most active people

Most active business tribes

Most active community tribes

News

C5 Alliance plans Microsoft events in Channel Islands

Channel Island cloud provider, C5 Alliance are organising two breakfast events in both Jersey and Guernsey, named 'Leveraging Microsoft Technologies for Regulatory Compliance'. The breakfast briefings are due to include demonstrations of the latest Microsoft technologies and how they are combined. The briefings will cover Microsoft CRM process driven forms, SharePoint Workflow & Collaboration and SQL Server Data Warehousing technology. C5 Alliance, who work with a number of clients, both financial an...

Posted Today

Jersey residents set to have choice in fibre broadband

Sure customers will soon be able to access Jersey's fibre network following the reaching of an agreement between Sure and JT that finalises the commercial arrangements for access to the network. The agreement means that JT has gone some way to fulfilling the second condition of the eight that were set out in the States of Jersey's funding arrangements for the network, as agreed by the Treasury Minister, Senator Philip Ozouf. "This is excellent news for our broadband customers who have been extremely pati...

Posted Yesterday

Logicalis Group taking over Jersey cloud provider

Logicalis Group, the international IT solutions and managed services provider, has announced the acquisition of Jersey's iConsult Limited, a privately owned Jersey company and provider of desktop and mail hosted solutions to the small medium businesses (SMB) market within the Channel Islands. Through their data facility in Jersey the company services over 800 users on the islands, mainly in the financial and professional services sectors. Their main offering is a hosted desktop solution, using primarily ...

Posted 18 Oct 2013

More...

Local events

2014 2013 2012

Ivan Nikkhoo - Growth Funding

Topics of discussion will be: Growth capital, Funding cycles, Investment decisions plus Valuation and exits.With over 29 years of industry experience in various senior capacities internationally, Ivan is a Managing Director at Siemer & Associates and a...

Pomme d'Or Hotel, St Helier, Jersey
29 Oct 2013 at 17:30

Tech Tribes Talks

The third set of Tech Tribes talks are ready to rock your world!After a very successful July event at the Royal Yacht we've decided to go back for our October talks. We have a great line up of speakers and we take great pleasure in inviting you to atte...

The Royal Yacht, St Helier
24 Oct 2013 at 17:30

The Internet of Everything and Gigabit Jersey

'The Internet of everything' Currently, there are an estimated 10 to 15 billion 'things' connected to the Internet and this is predicted to grow to 50 billion by 2020. How will this change our lives? What infrastructure will we need? What opportun...

The Grand Hotel, St Helier, Jersey
Tomorrow at 17:15

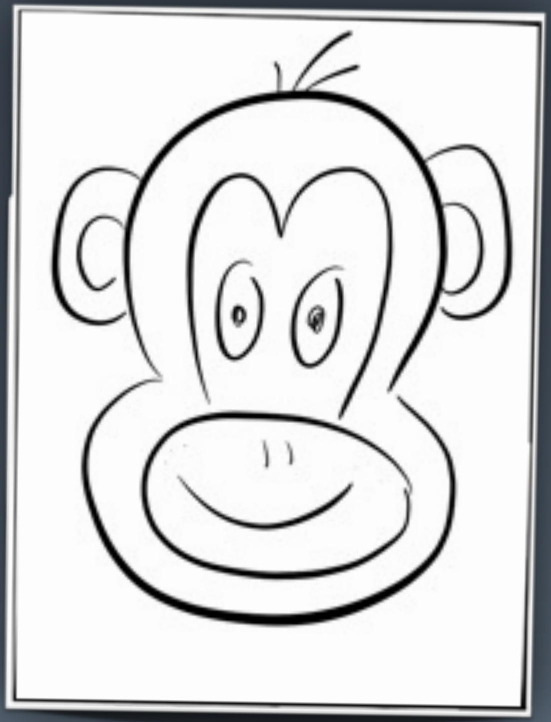
Talks by local speakers

2014 2013 2012

Ted talk

Agile software

Software architecture and

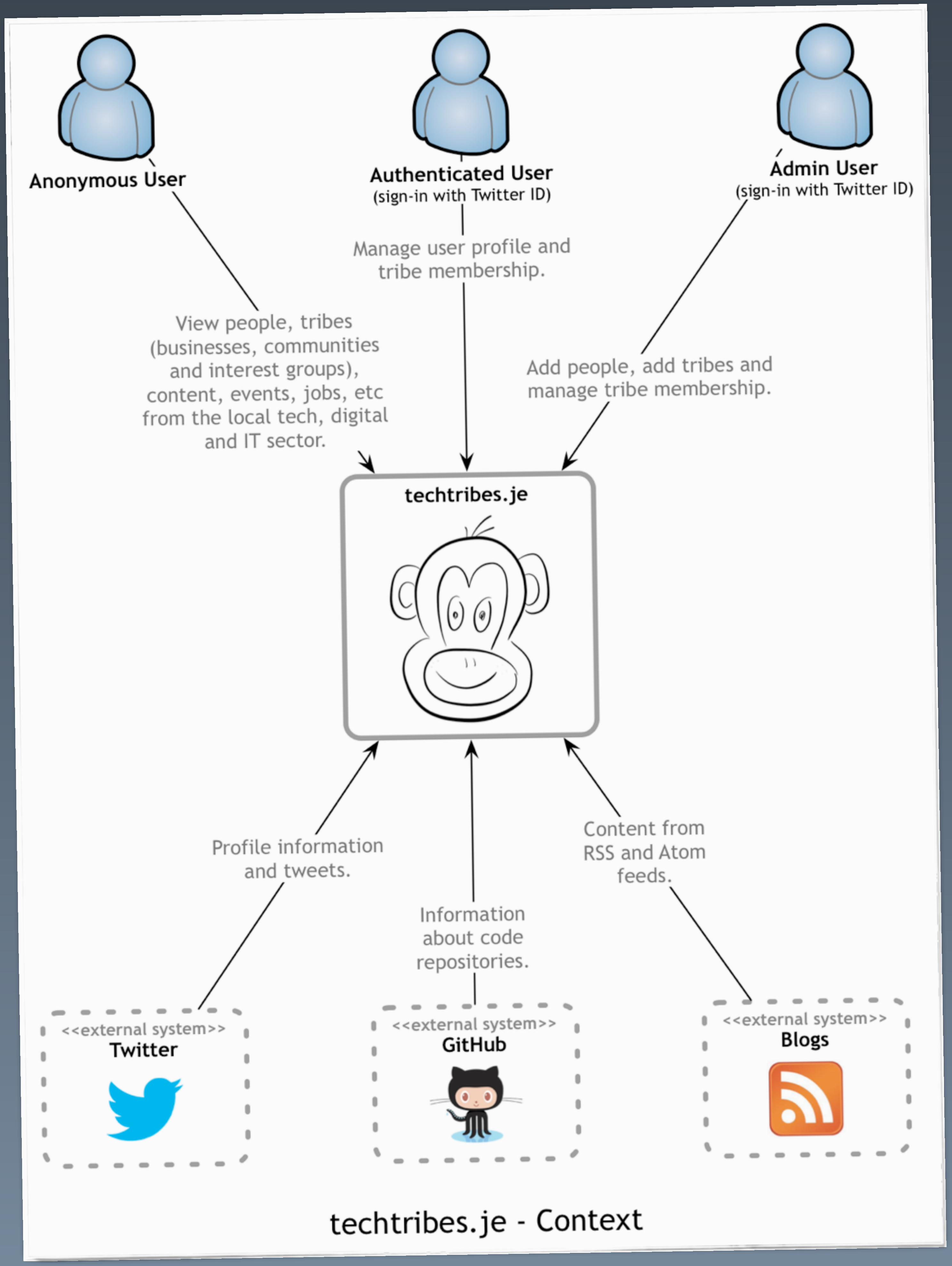


Context

- What are we building?

- Who is using it?
  (users, actors, roles, personas, etc)

- How does it fit into the existing IT environment?
  (systems, services, etc)



Anonymous User

Authenticated User
(sign-in with Twitter ID)

Admin User
(sign-in with Twitter ID)

Manage user profile and tribe membership.

View people, tribes (businesses, communities and interest groups), content, events, jobs, etc from the local tech, digital and IT sector.

Add people, add tribes and manage tribe membership.

techtribes.je

Profile information and tweets.

Information about code repositories.

Content from RSS and Atom feeds.

<<external system>>
Twitter

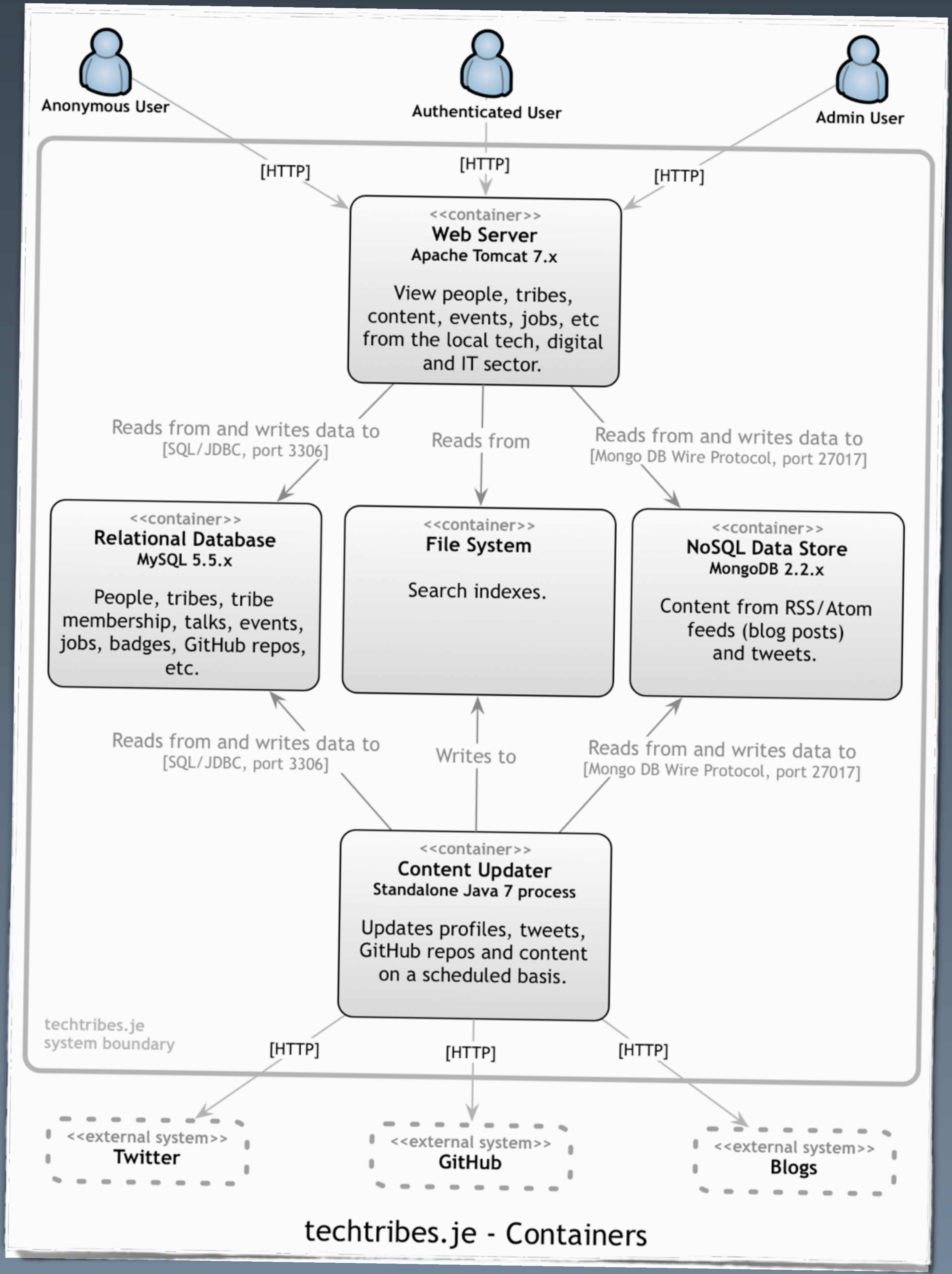
<<external system>>
GitHub

<<external system>>
Blogs

techtribes.je - Context

Containers

- What are the high-level technology decisions? (including responsibilities)
- How do containers communicate with one another?
- As a developer, where do I need to write code?



Anonymous User

Authenticated User

Admin User

[HTTP]

[HTTP]

[HTTP]

<<container>>
Web Server
Apache Tomcat 7.x

View people, tribes, content, events, jobs, etc from the local tech, digital and IT sector.

Reads from and writes data to
[SQL/JDBC, port 3306]

Reads from

Reads from and writes data to
[Mongo DB Wire Protocol, port 27017]

<<container>>
Relational Database
MySQL 5.5.x

People, tribes, tribe membership, talks, events, jobs, badges, GitHub repos, etc.

<<container>>
File System

Search indexes.

<<container>>
NoSQL Data Store
MongoDB 2.2.x

Content from RSS/Atom feeds (blog posts) and tweets.

Reads from and writes data to
[SQL/JDBC, port 3306]

Writes to

Reads from and writes data to
[Mongo DB Wire Protocol, port 27017]

<<container>>
Content Updater
Standalone Java 7 process

Updates profiles, tweets, GitHub repos and content on a scheduled basis.

techtribes.je
system boundary

[HTTP]

[HTTP]

[HTTP]

<<external system>>
Twitter

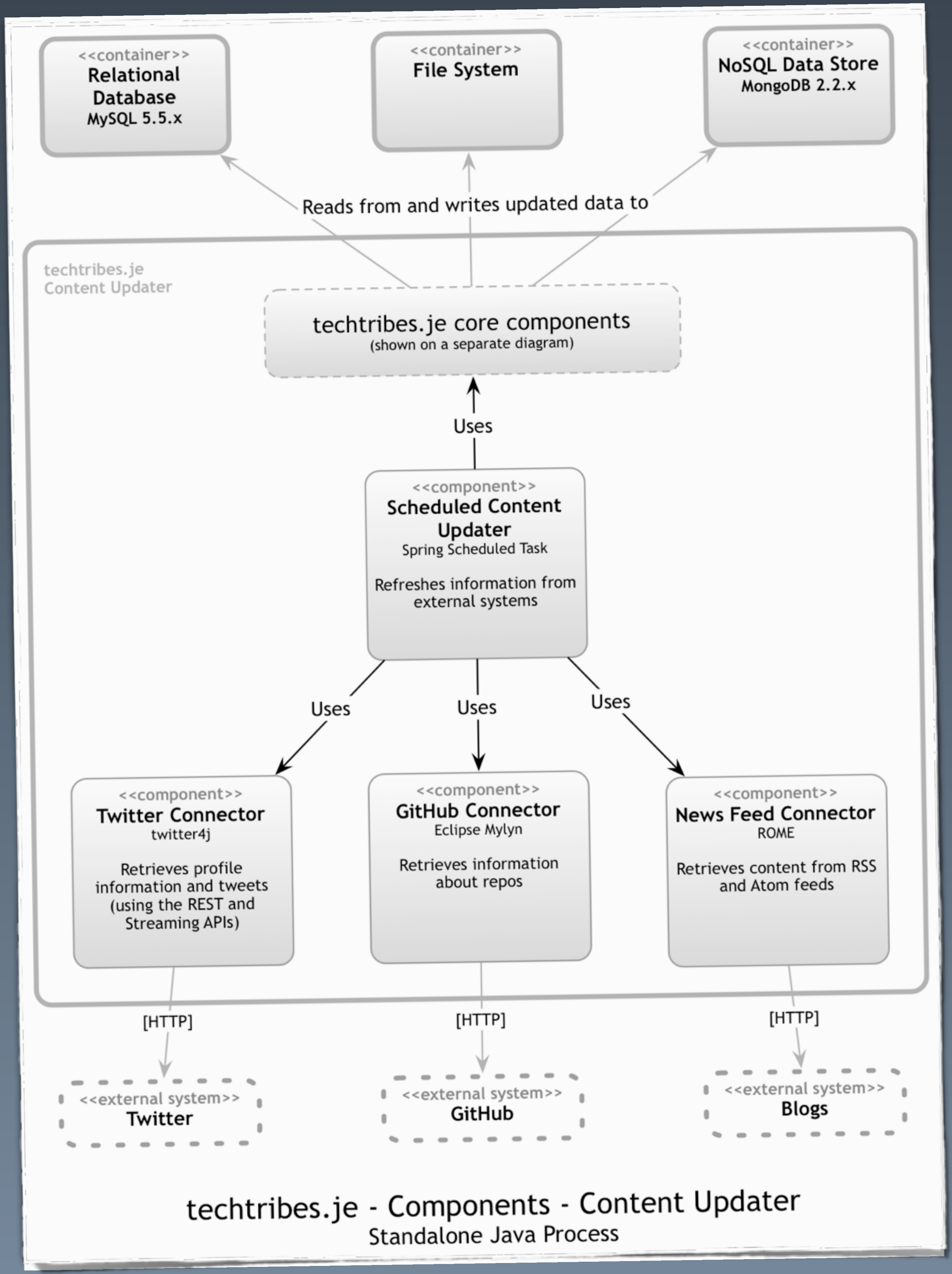
<<external system>>
GitHub

<<external system>>
Blogs

techtribes.je - Containers

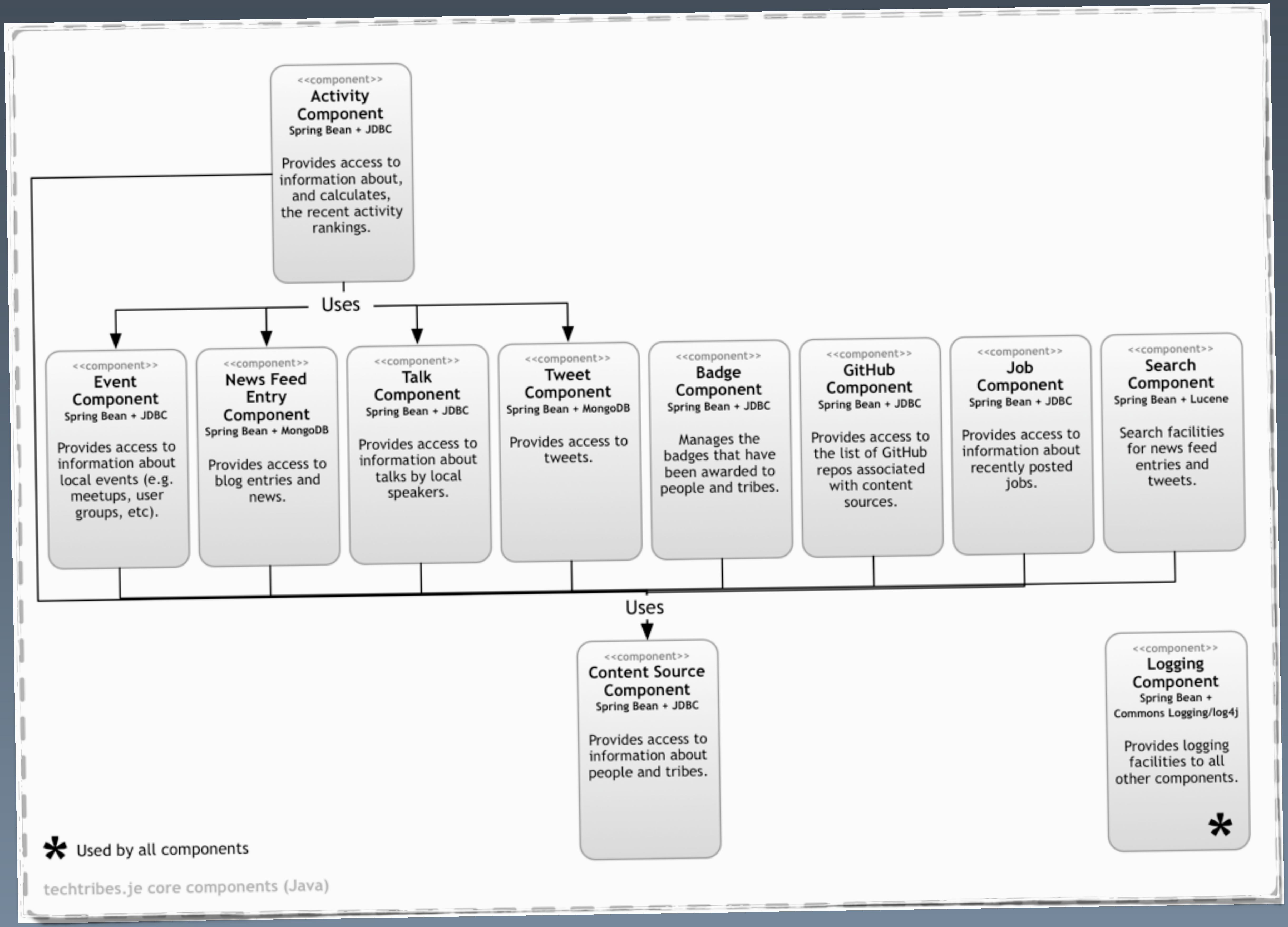
Components

- What components/ services is the container made up of?
- Are the technology choices and responsibilities clear?



techtribes.je - Components - Content Updater
Standalone Java Process

Components



<<component>>
Activity Component
Spring Bean + JDBC

Provides access to information about, and calculates, the recent activity rankings.

Uses

<<component>>
Event Component
Spring Bean + JDBC

Provides access to information about local events (e.g. meetups, user groups, etc).

<<component>>
News Feed Entry Component
Spring Bean + MongoDB

Provides access to blog entries and news.

<<component>>
Talk Component
Spring Bean + JDBC

Provides access to information about talks by local speakers.

<<component>>
Tweet Component
Spring Bean + MongoDB

Provides access to tweets.

<<component>>
Badge Component
Spring Bean + JDBC

Manages the badges that have been awarded to people and tribes.

<<component>>
GitHub Component
Spring Bean + JDBC

Provides access to the list of GitHub repos associated with content sources.

<<component>>
Job Component
Spring Bean + JDBC

Provides access to information about recently posted jobs.

<<component>>
Search Component
Spring Bean + Lucene

Search facilities for news feed entries and tweets.

Uses

<<component>>
Content Source Component
Spring Bean + JDBC

Provides access to information about people and tribes.

<<component>>
Logging Component
Spring Bean + Commons Logging/log4j

Provides logging facilities to all other components.

*

* Used by all components

techtribes.je core components (Java)

Titles

Short and meaningful, numbered if diagram order is important

Lines

Make line style and arrows explicit, add annotations to lines to provide additional information

Layout

Sticky notes and index cards make a great substitute for drawn boxes, especially early on

Labels

Be wary of using acronyms

Colour

Ensure that colour coding is made explicit

Orientation

Users at the top and database at the bottom? Or perhaps “upside-down”?

Shapes

Don’t assume that people will understand what different shapes are being used for

Keys

Explain shapes, lines, colours, borders, acronyms, etc

Responsibilities

Adding responsibilities to boxes can provide a nice “at a glance” view (Miller’s Law; 7±2)

Some tips for *effective sketches*

Use sticky notes or index cards instead of drawing boxes

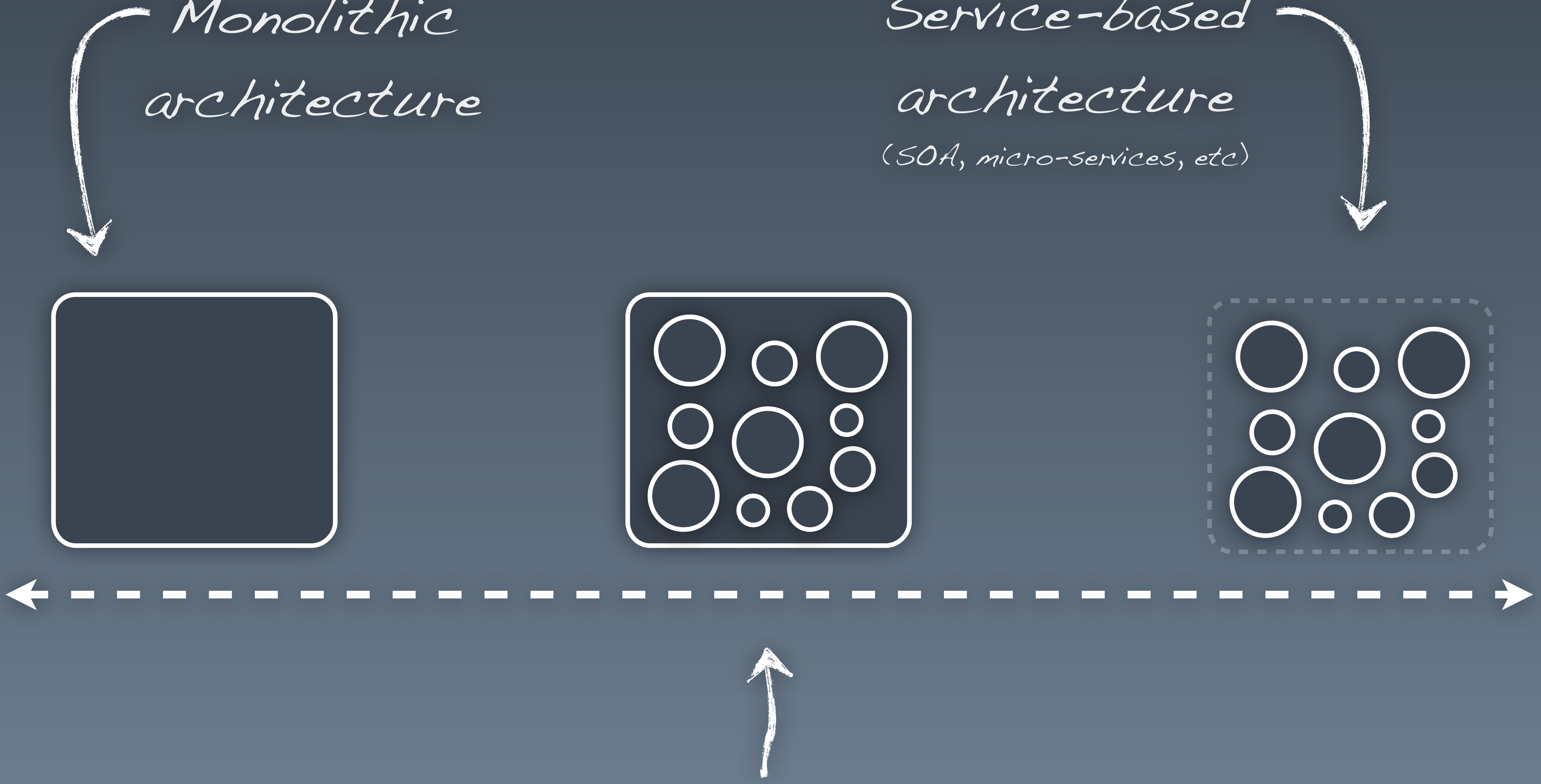
Checklist

- □ I can see the solution from multiple levels of abstraction
- □ I understand the big picture (context)
- □ I understand the logical containers
- □ I understand the major components used to satisfy the important user stories/features
- □ I understand the notation, colour coding, etc used on the diagrams
- □ I can see the traceability between diagrams
- □ I understand the major technology decisions
- □ I understand the implementation strategy (frameworks, libraries, APIs, etc)

How would you code it?

Sketches
in context

A good architecture enables agility



Monolithic architecture

Service-based architecture

(SOA, micro-services, etc)

Something in between

(components)

Effective sketches

are an excellent way to

communicate

software architecture

During the design process and retrospectively

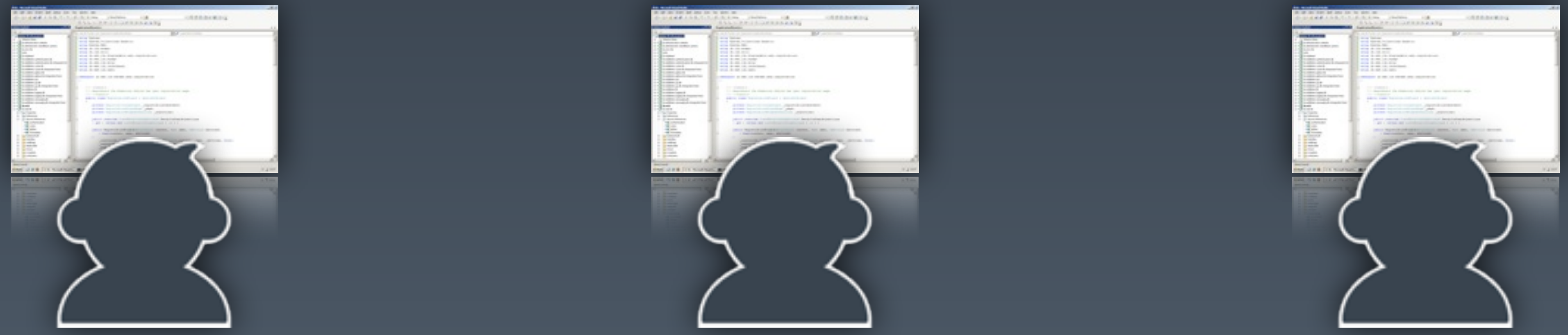
Every
software developer
should know how to

sketch

Architecture sketching

assists with having

better conversations

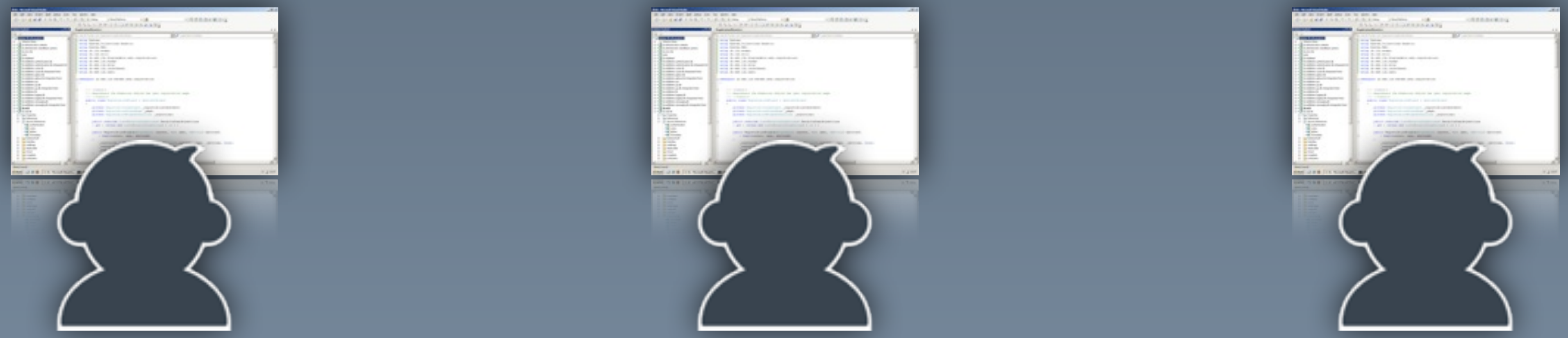


Architecture sketching

assists with

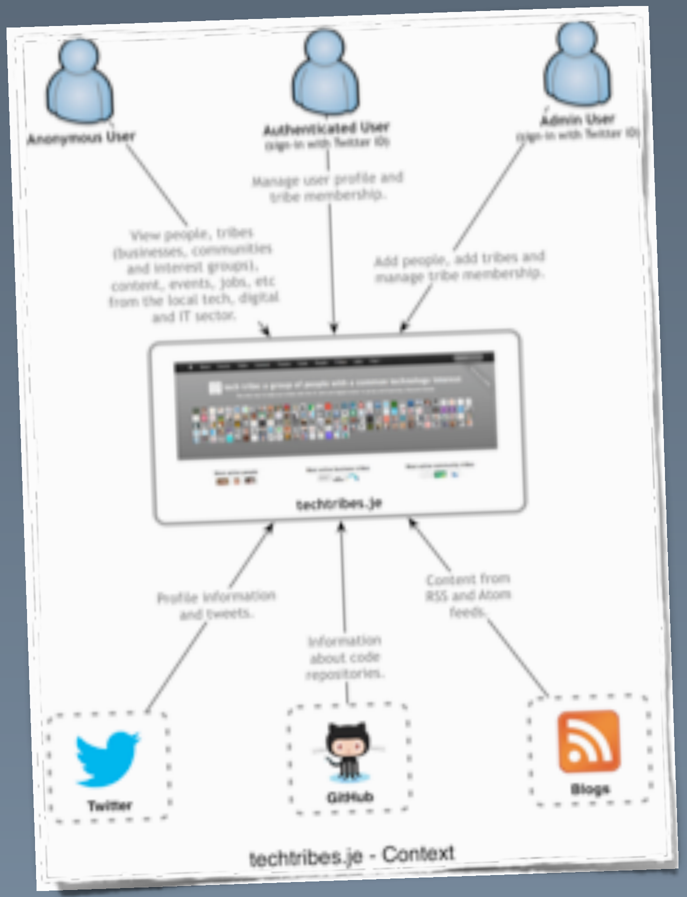
collective ownership

of the code

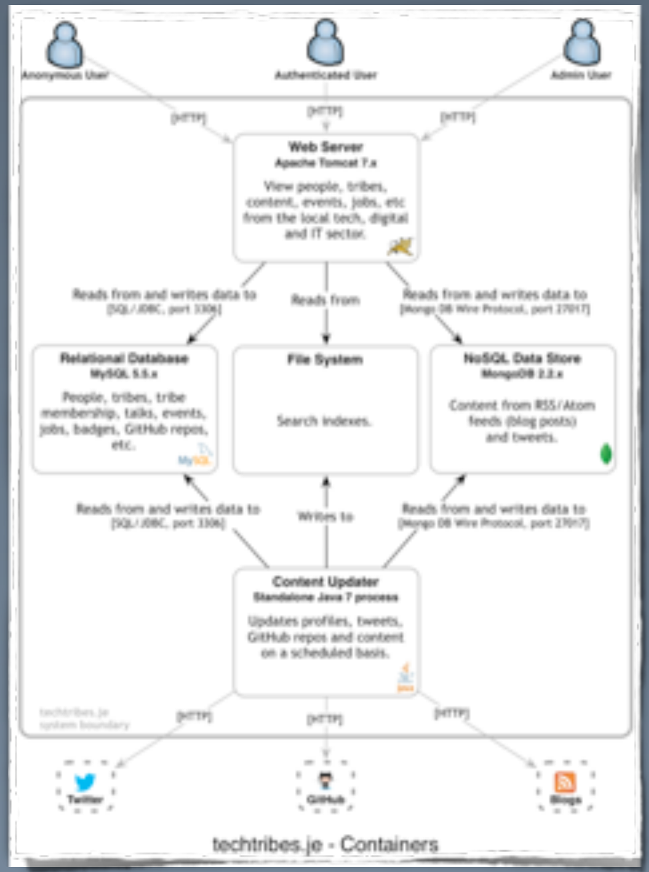


Pictures

are the simplest form of documentation


Anonymous User
Authenticated User
(sign-in with Twitter ID)
Admin User
(sign-in with Twitter ID)
Manage user profile and tribe membership.
View people, tribes (businesses, communities and interest groups), content, events, jobs, etc from the local tech, digital and IT sector.
Add people, add tribes and manage tribe membership.
techtribes.je
Profile information and tweets.
Information about code repositories.
Content from RSS and Atom feeds.
Twitter
GitHub
Blogs

techtribes.je - Context


Anonymous User
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[HTTP]
[HTTP]
[HTTP]
Web Server
Apache Tomcat 7.x
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Reads from
Reads from and writes data to
[Mongo DB Wire Protocol, port 27017]
Relational Database
MySQL 5.5.x
People, tribes, tribe membership, talks, events, jobs, badges, GitHub repos, etc.
File System
Search indexes.
NoSQL Data Store
MongoDB 2.2.x
Content from RSS/Atom feeds (blog posts) and tweets.
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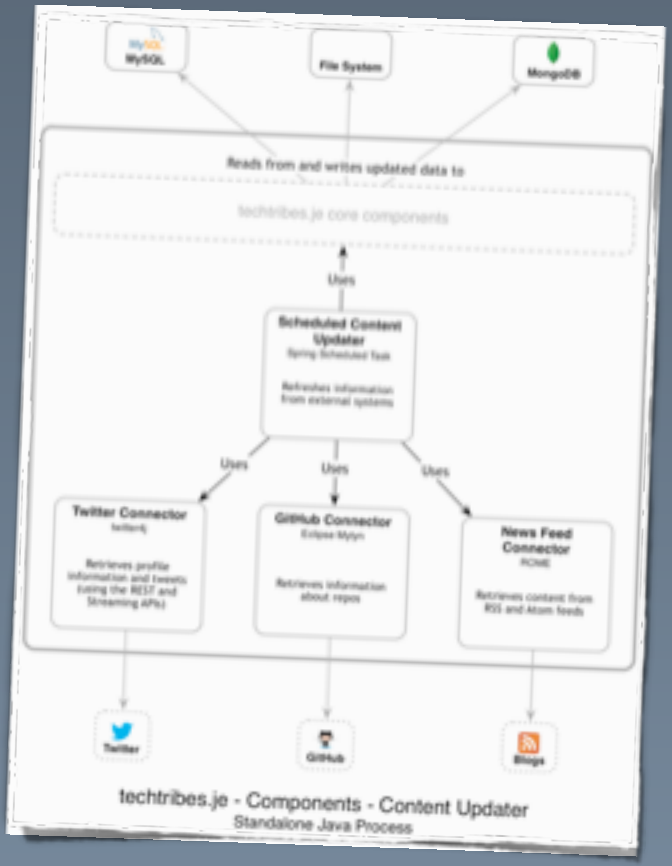
Writes to
Reads from and writes data to
[Mongo DB Wire Protocol, port 27017]
Content Updater
Standalone Java 7 process
Updates profiles, tweets, GitHub repos and content on a scheduled basis.
techtribes.je
system boundary
[HTTP]
[HTTP]
[HTTP]
Twitter
GitHub
Blogs

techtribes.je - Containers


MySQL
File System
MongoDB
Reads from and writes updated data to
techtribes.je core components
Uses
Scheduled Content Updater
Spring Scheduled Task
Refreshes information from external systems
Uses
Uses
Uses
Twitter Connector
twitter4j
Retrieves profile information and tweets (using the REST and Streaming APIs)
GitHub Connector
Eclipse Mylyn
Retrieves information about repos
News Feed Connector
ROME
Retrieves content from RSS and Atom feeds
Twitter
GitHub
Blogs

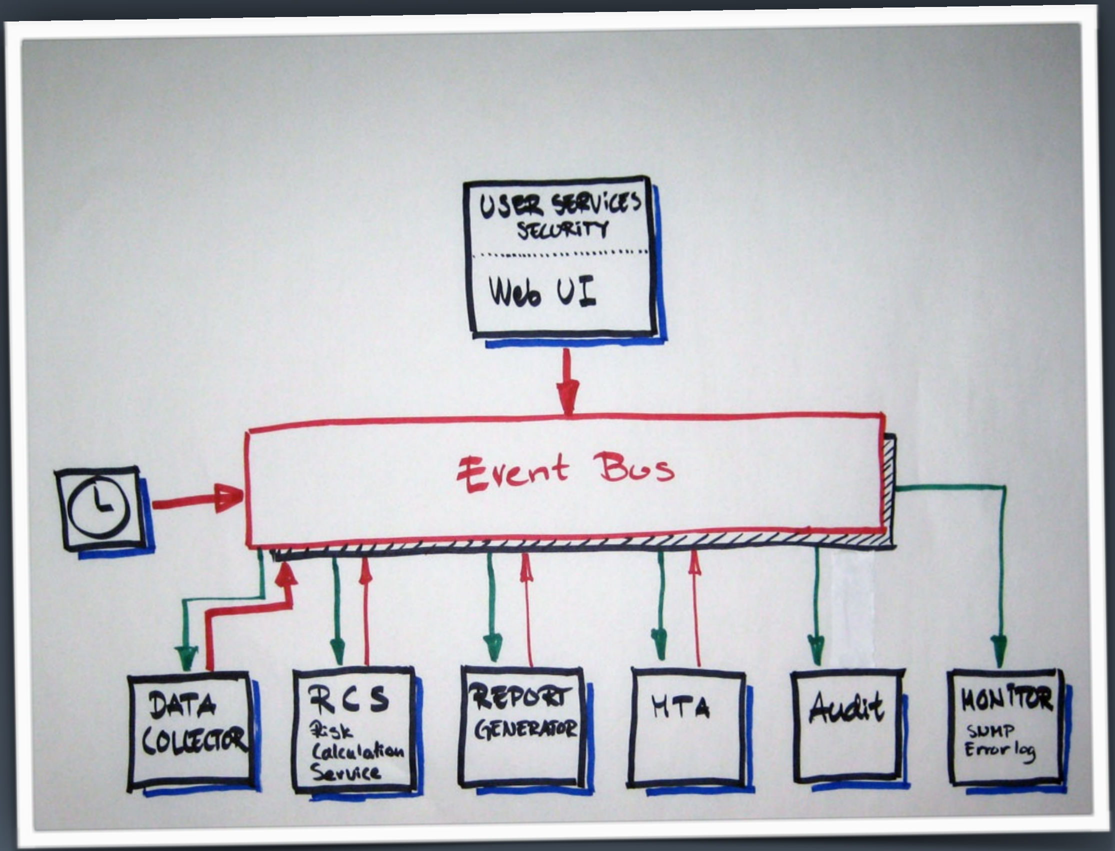
techtribes.je - Components - Content Updater
Standalone Java Process

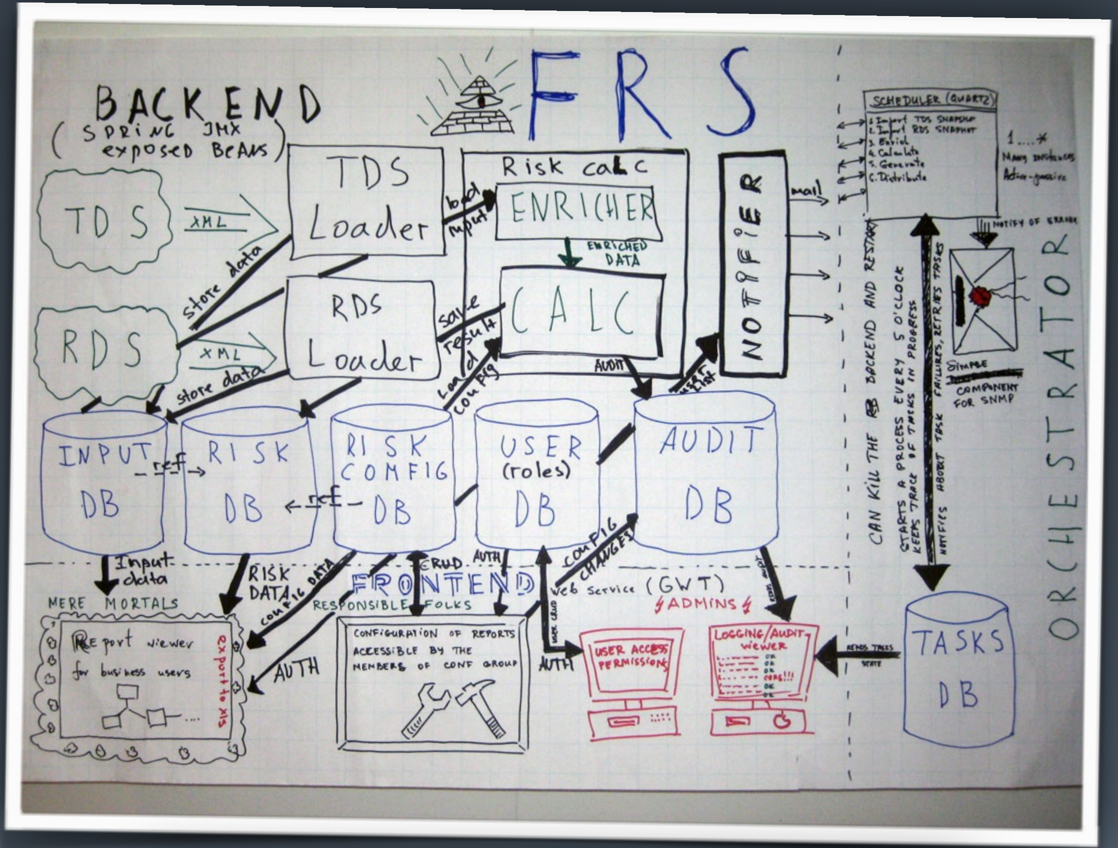
Architecture sketches

are not

comprehensive

models

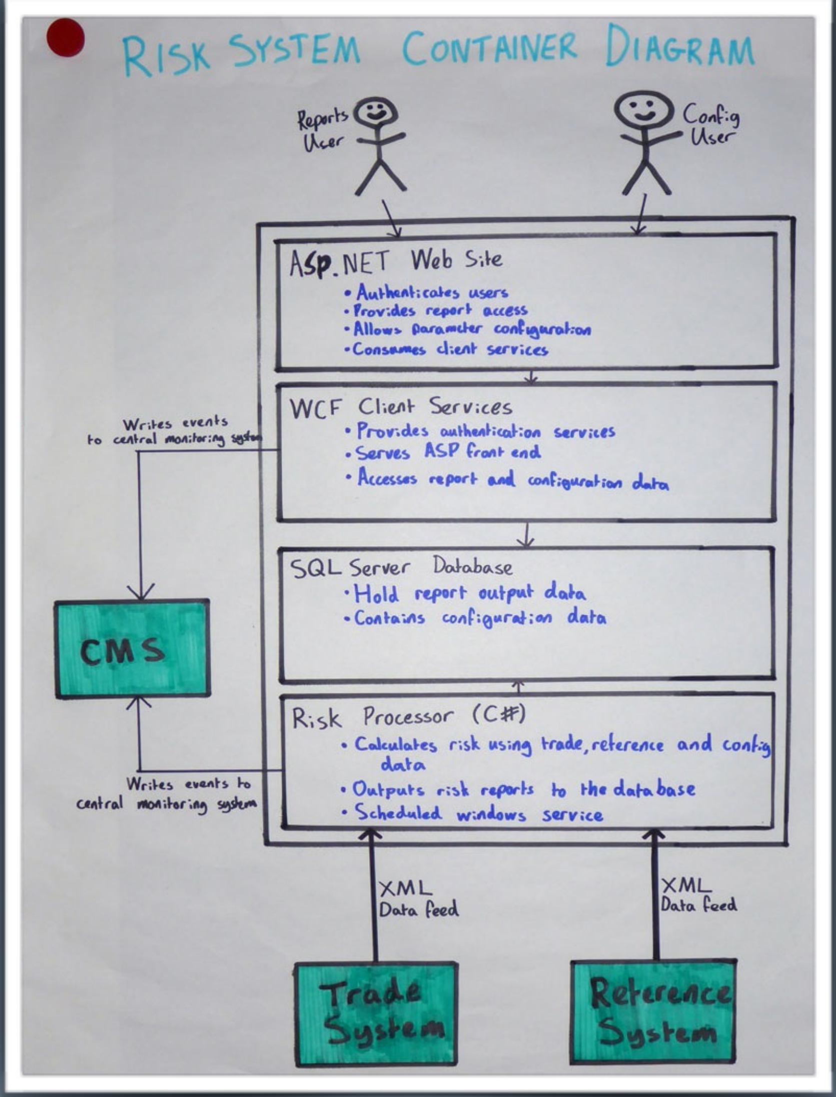




Architecture sketches

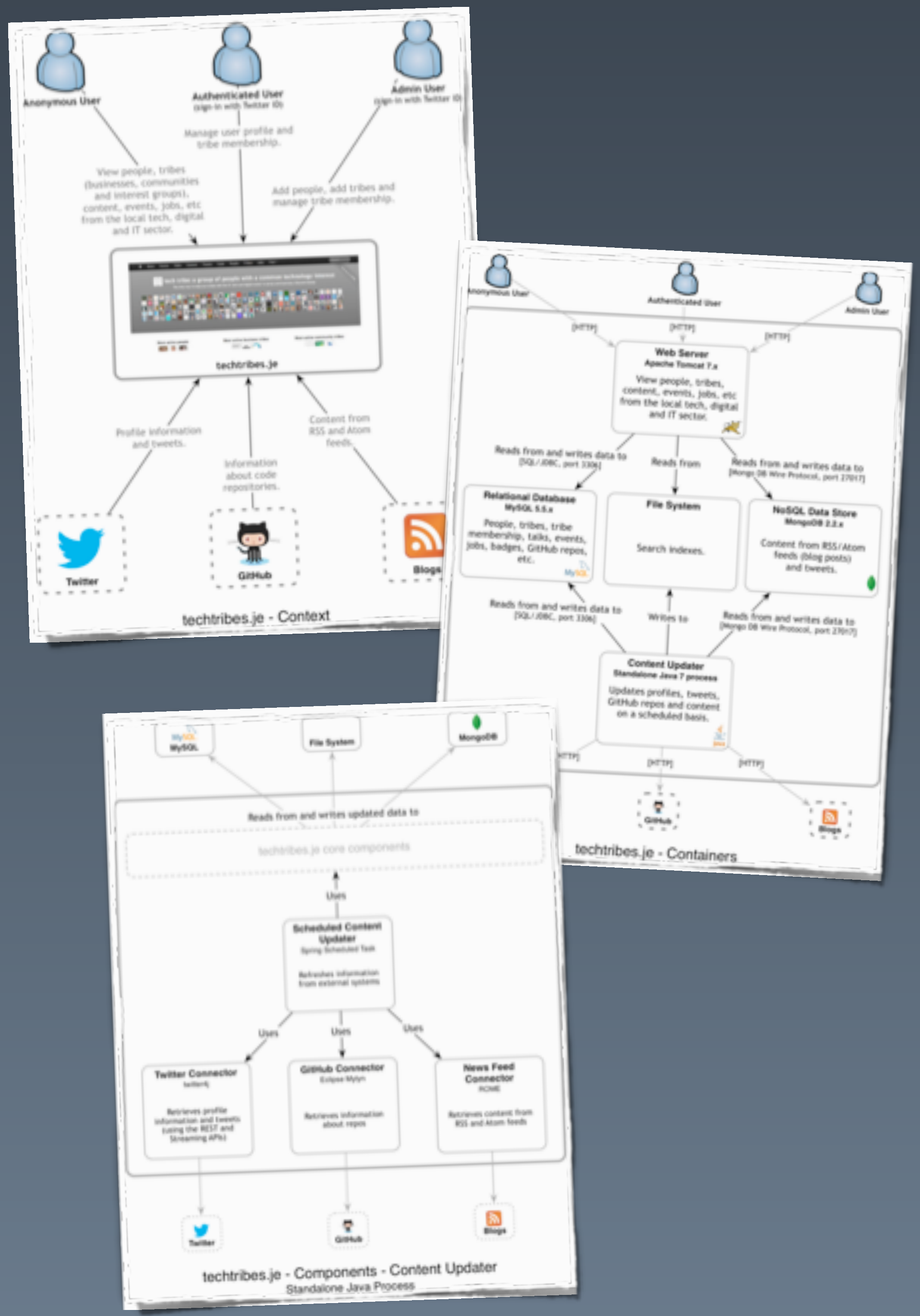
are not art

(although they can be!)


RISK SYSTEM CONTAINER DIAGRAM
Reports User
Config User
ASP.NET Web Site
• Authenticates users
• Provides report access
• Allows parameter configuration
• Consumes client services
WCF Client Services
• Provides authentication services
• Serves ASP front end
• Accesses report and configuration data
SQL Server Database
• Hold report output data
• Contains configuration data
Risk Processor (C#)
• Calculates risk using trade, reference and config data
• Outputs risk reports to the database
• Scheduled windows service
Writes events to central monitoring system
Writes events to central monitoring system
CMS
XML Data feed
XML Data feed
Trade System
Reference System

Leave your *sketches* on the wall

A point of reference for technical discussions
(The Pointability Factor)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techtribes.je - Context
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techtribes.je core components
Uses
Scheduled Content Updater
Twitter Connector
GitHub Connector
News Feed Connector
techtribes.je - Components - Content Updater
Standalone Java Process

Sketches are maps

that help a team navigate a complex codebase

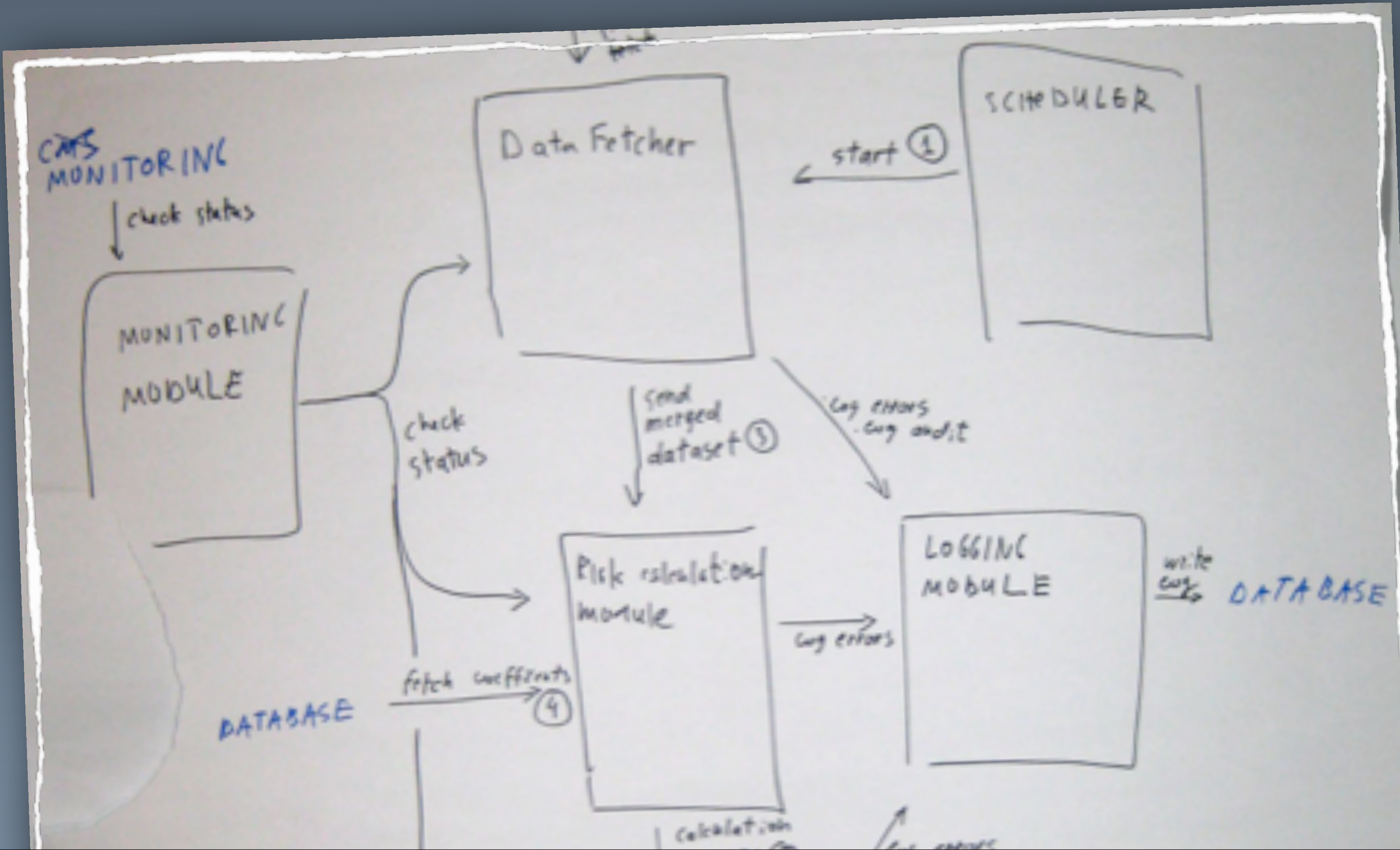
Do whatever works for

you

Abstraction

is about reducing detail

rather than creating a different representation

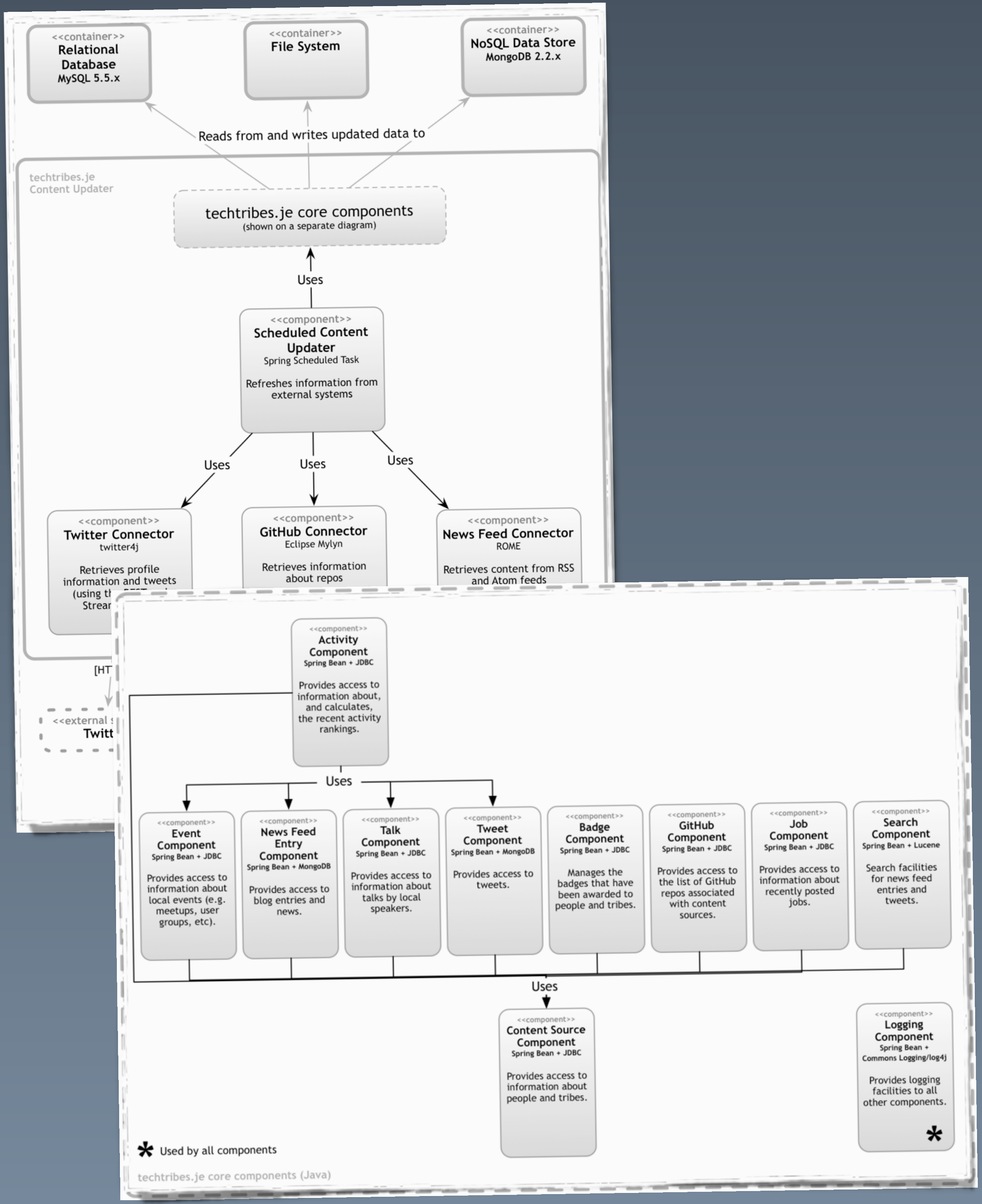


Does your `code` reflect the

abstractions

that you think about?

Does your code reflect the abstractions that appear on your software architecture diagrams?



<<container>>
Relational Database
MySQL 5.5.x
<<container>>
File System
<<container>>
NoSQL Data Store
MongoDB 2.2.x
Reads from and writes updated data to
techtribes.je
Content Updater
techtribes.je core components
(shown on a separate diagram)
Uses
<<component>>
Scheduled Content Updater
Spring Scheduled Task
Refreshes information from external systems
Uses
Uses
Uses
<<component>>
Twitter Connector
twitter4j
Retrieves profile information and tweets (using tl
Strear
<<component>>
GitHub Connector
Eclipse Mylyn
Retrieves information about repos
<<component>>
News Feed Connector
ROME
Retrieves content from RSS and Atom feeds
[HT
<<external s
Twitt
<<component>>
Activity Component
Spring Bean + JDBC
Provides access to information about, and calculates, the recent activity rankings.
Uses
<<component>>
Event Component
Spring Bean + JDBC
Provides access to information about local events (e.g. meetups, user groups, etc).
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<<component>>
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Tweet Component
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Provides access to tweets.
<<component>>
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Manages the badges that have been awarded to people and tribes.
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<<component>>
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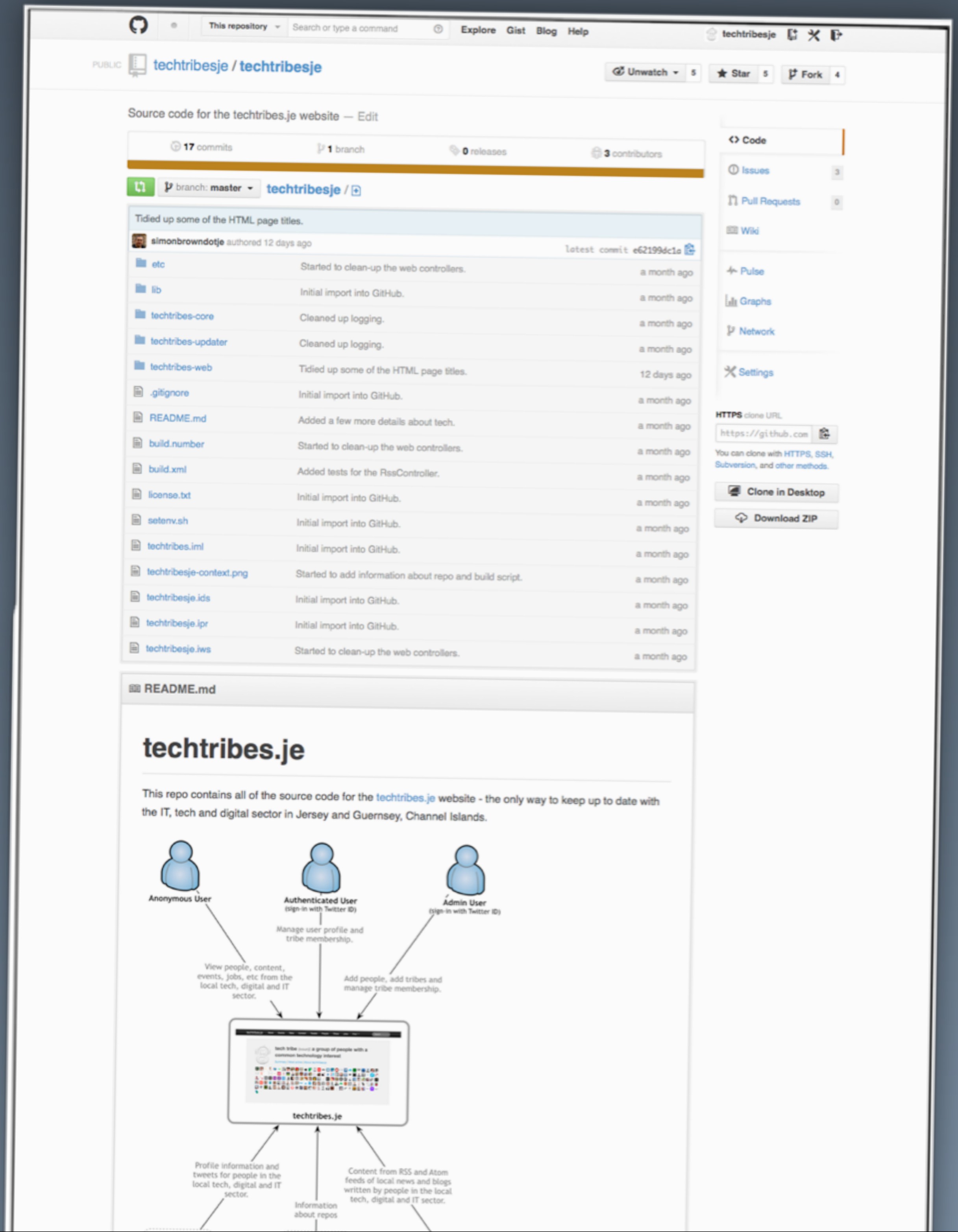
Search facilities for news feed entries and tweets.
Uses
<<component>>
Content Source Component
Spring Bean + JDBC
Provides access to information about people and tribes.
<<component>>
Logging Component
Spring Bean + Commons Logging/log4j
Provides logging facilities to all other components.
*
* Used by all components
techtribes.je core components (Java)



techtribesje / techtribesje

Source code for the techtribes.je website — Edit

17 commits · 1 branch · 0 releases · 3 contributors

techtribesje /

Tidied up some of the HTML page titles.

simonbrowndotje authored 12 days ago — latest commit e62199dc1a

etc	Started to clean-up the web controllers.	a month ago
lib	Initial import into GitHub.	a month ago
techtribes-core	Cleaned up logging.	a month ago
techtribes-updater	Cleaned up logging.	a month ago
techtribes-web	Tidied up some of the HTML page titles.	12 days ago
.gitignore	Initial import into GitHub.	a month ago
README.md	Added a few more details about tech.	a month ago
build.number	Started to clean-up the web controllers.	a month ago
build.xml	Added tests for the RssController.	a month ago
license.txt	Initial import into GitHub.	a month ago
setenv.sh	Initial import into GitHub.	a month ago
techtribes.iml	Initial import into GitHub.	a month ago
techtribesje-context.png	Started to add information about repo and build script.	a month ago
techtribesje.ids	Initial import into GitHub.	a month ago
techtribesje.ipr	Initial import into GitHub.	a month ago
techtribesje.iws	Started to clean-up the web controllers.	a month ago

HTTPS clone URL

https://github.com

You can clone with HTTPS, SSH, Subversion, and other methods.

README.md

techtribes.je

This repo contains all of the source code for the techtribes.je website - the only way to keep up to date with the IT, tech and digital sector in Jersey and Guernsey, Channel Islands.

Anonymous User
Authenticated User
(sign-in with Twitter ID)
Admin User
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Manage user profile and tribe membership.
View people, content, events, jobs, etc from the local tech, digital and IT sector.
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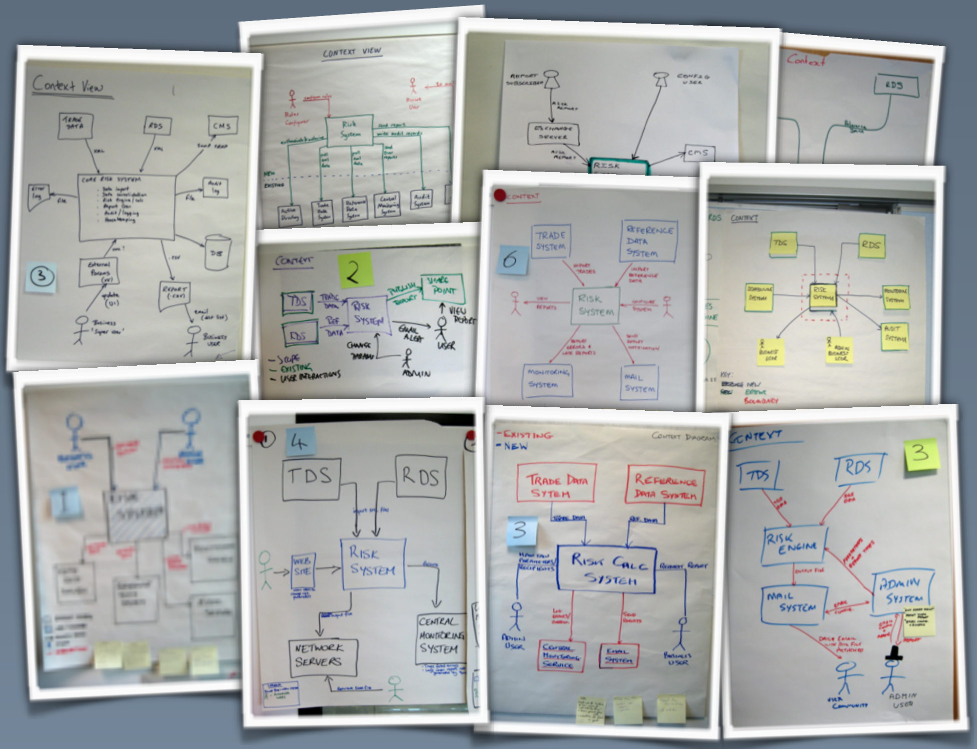
techtribes.je
Profile information and tweets for people in the local tech, digital and IT sector.
Information about repos
Content from RSS and Atom feeds of local news and blogs written by people in the local tech, digital and IT sector.

Thanks

and happy sketching!



simon.brown@codingthearchitecture.com

@simonbrown on Twitter