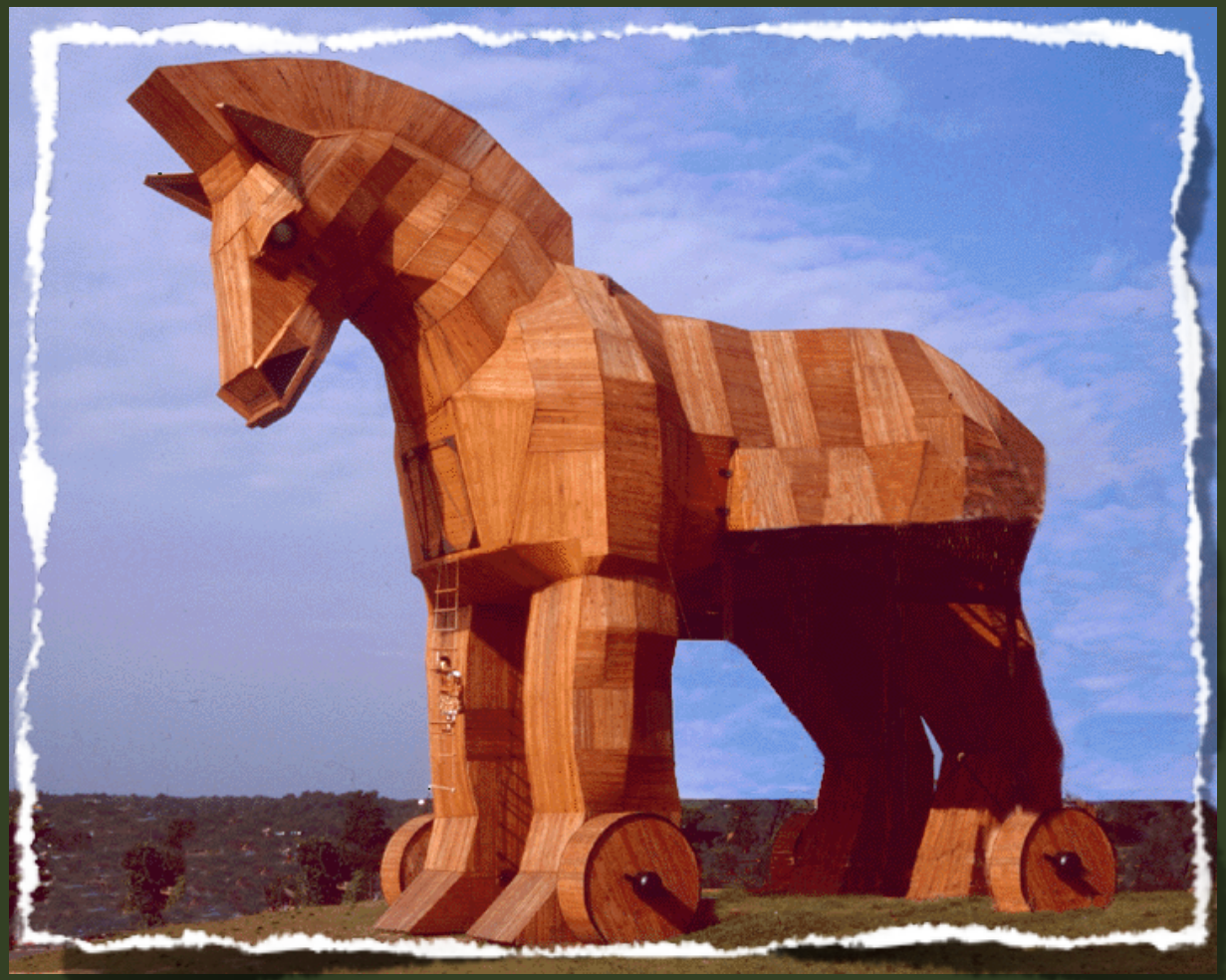
PhD on Rails

Sam Aaron



http://www.zsquad.com/images/trojanhorse.gif

Interest Management

Users

Interest Management

Artefacts

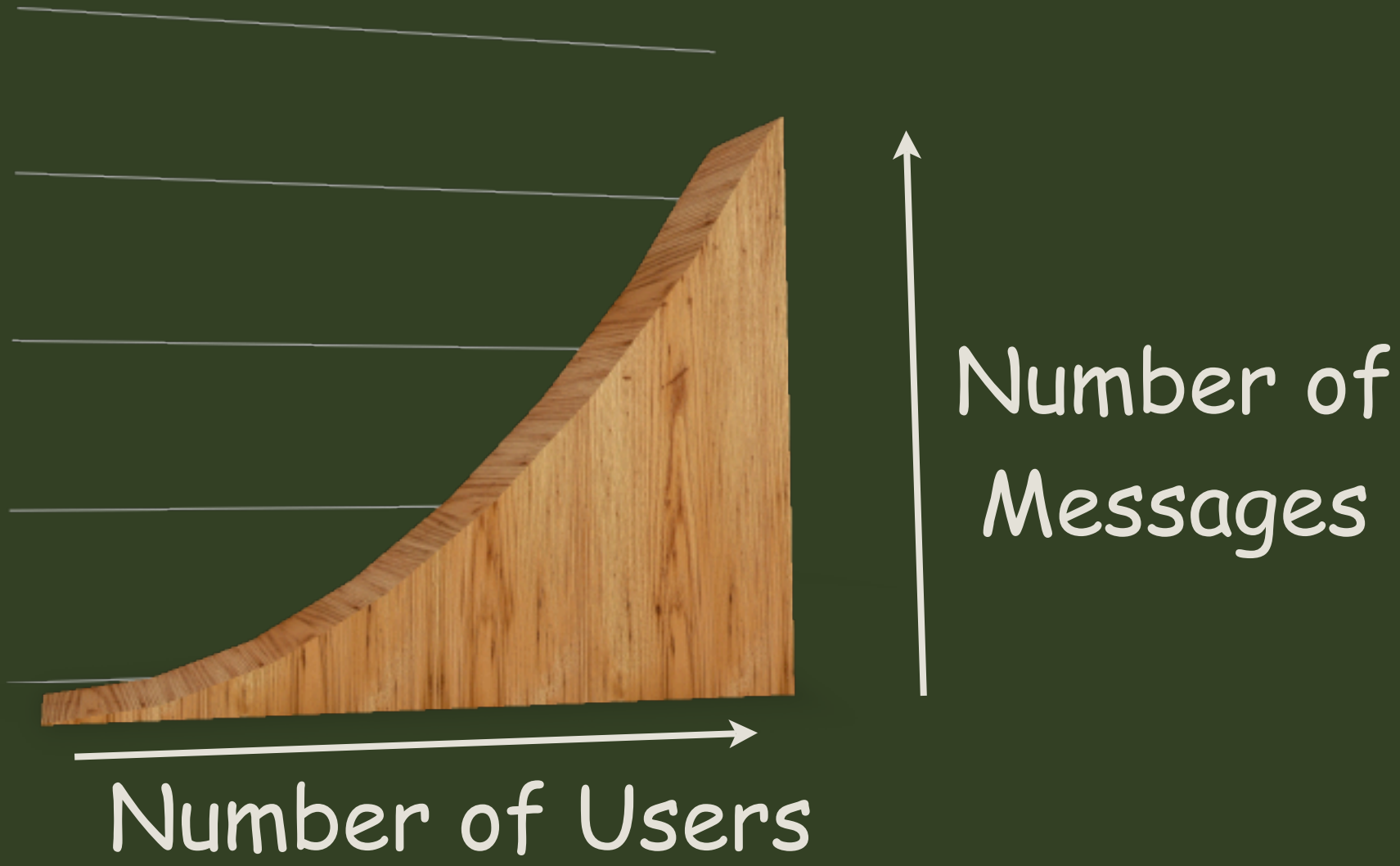
Interest Management

Events

Interest Management

- Each user creates a given average number events per unit of time.
- Each user needs to be made aware of all events.

Interest Management



Describing Subsets

Everything

Describing Subsets

Interest Management

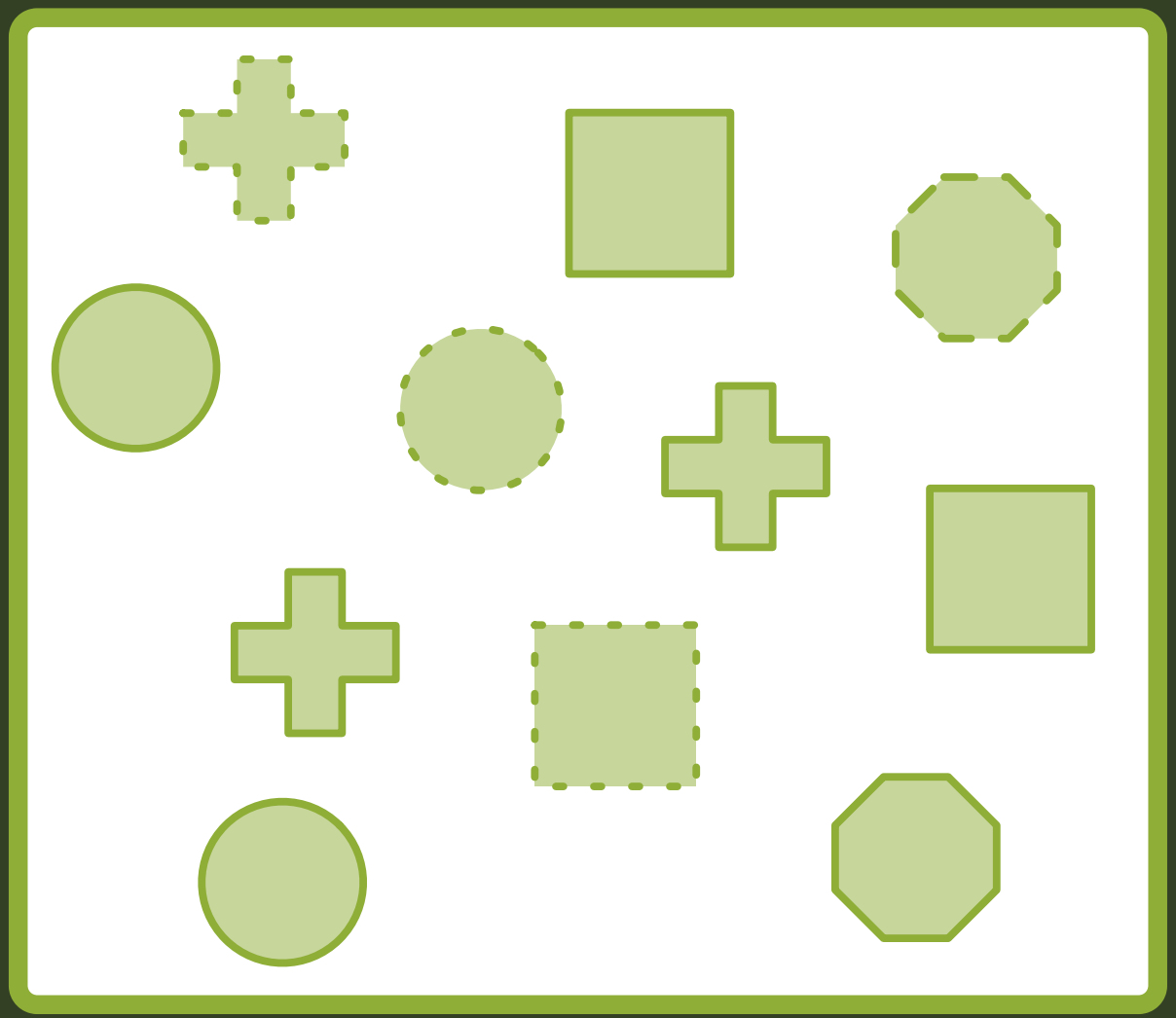
"the process of filtering irrelevant messages"

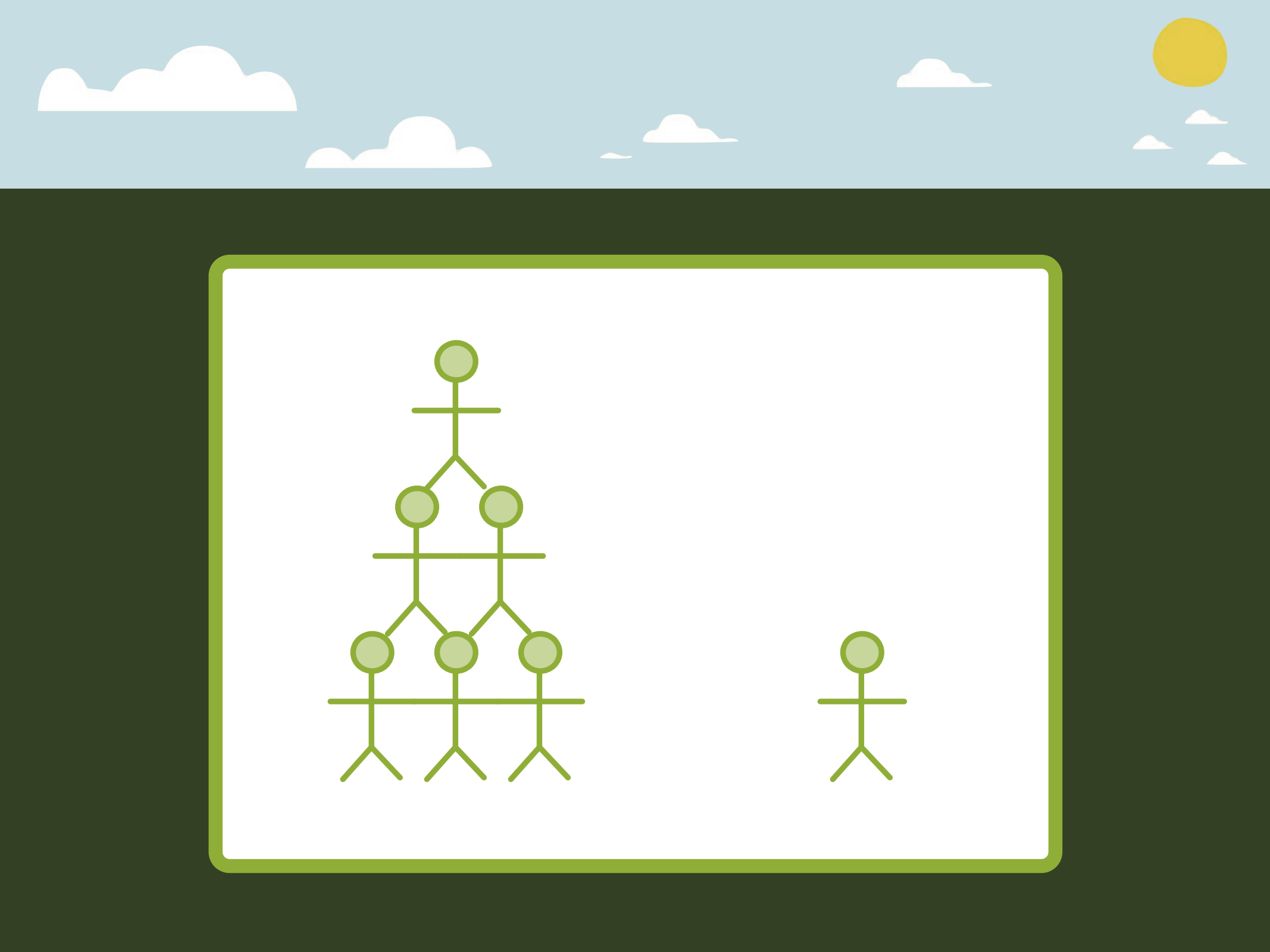
Masa and Zara

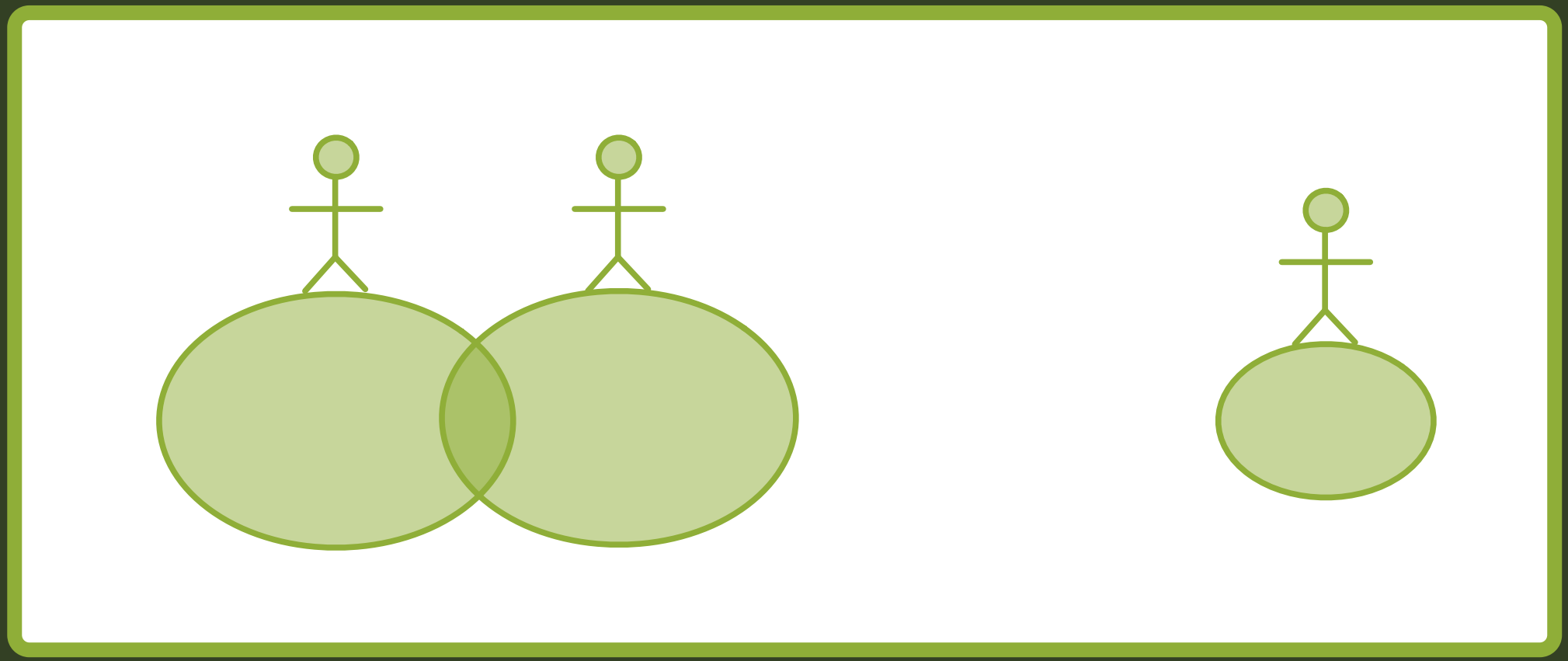
Interest Management

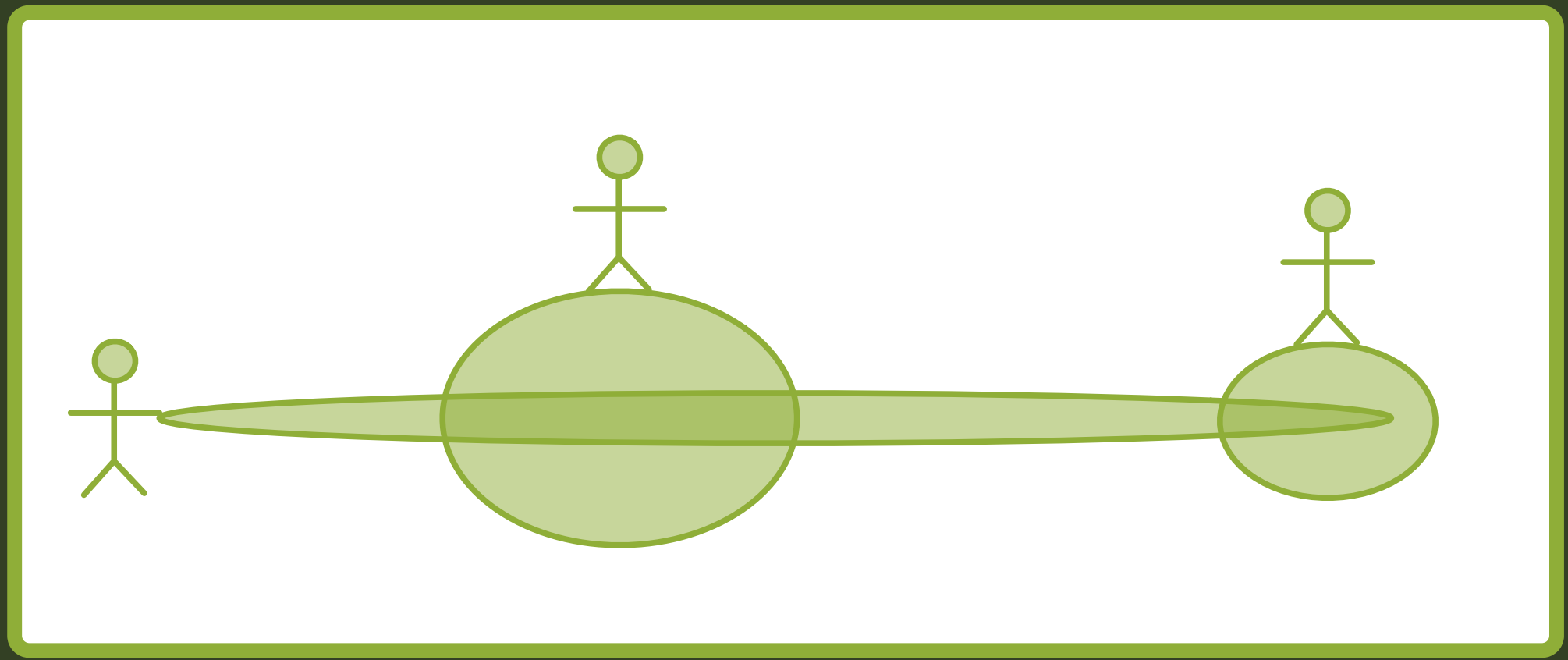
"reducing messages to a smaller relevant set"

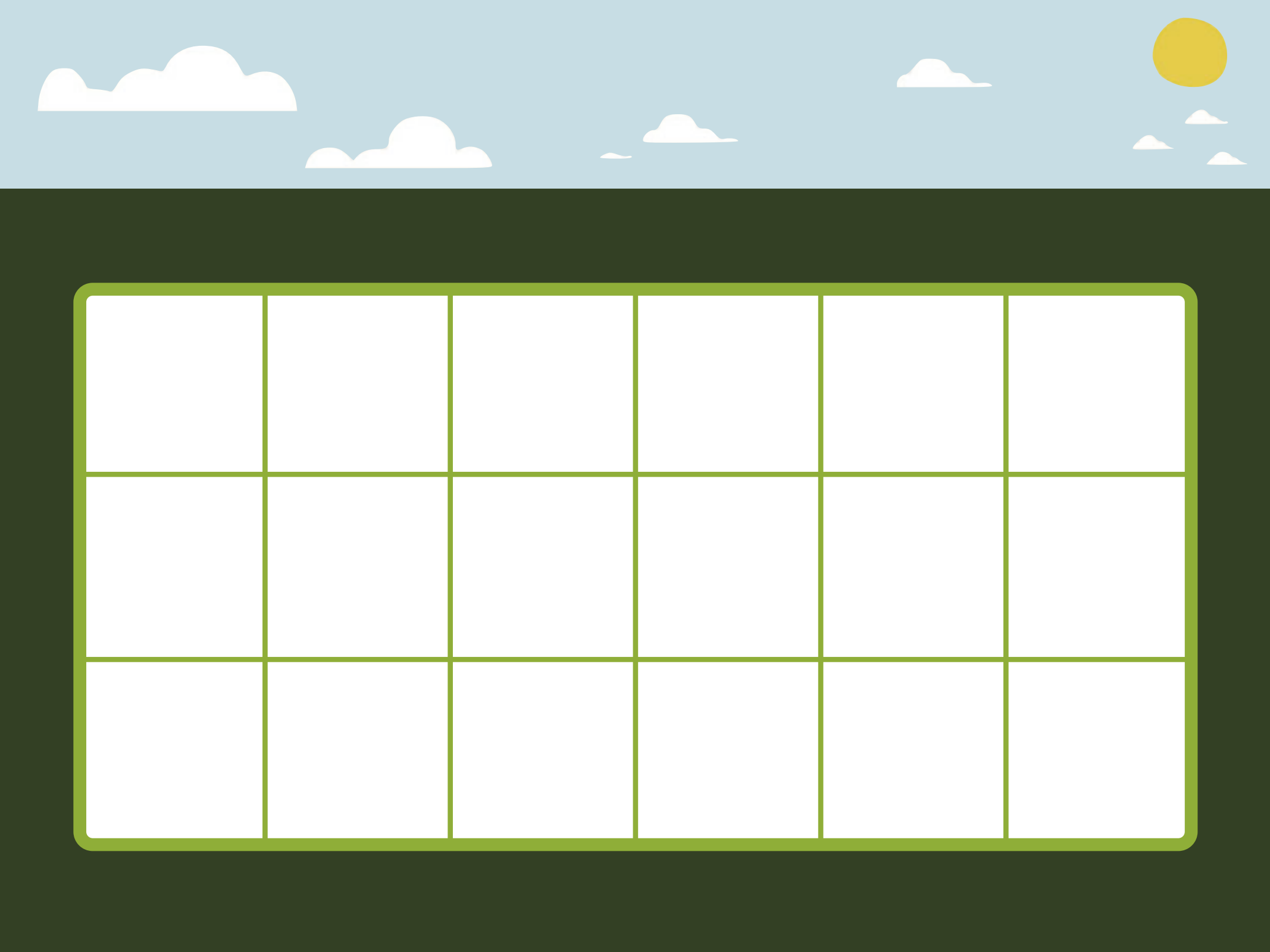
Morse

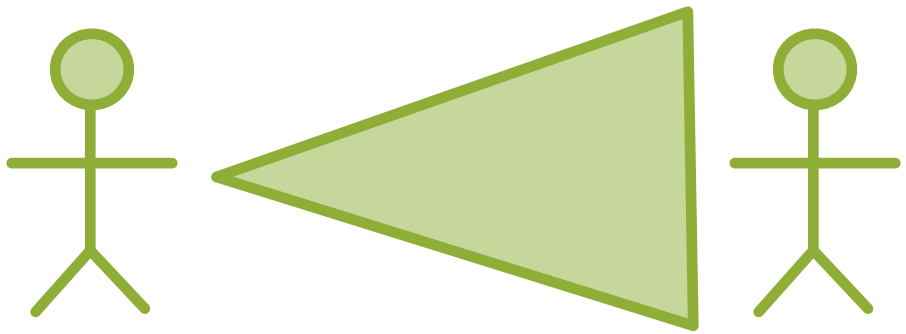


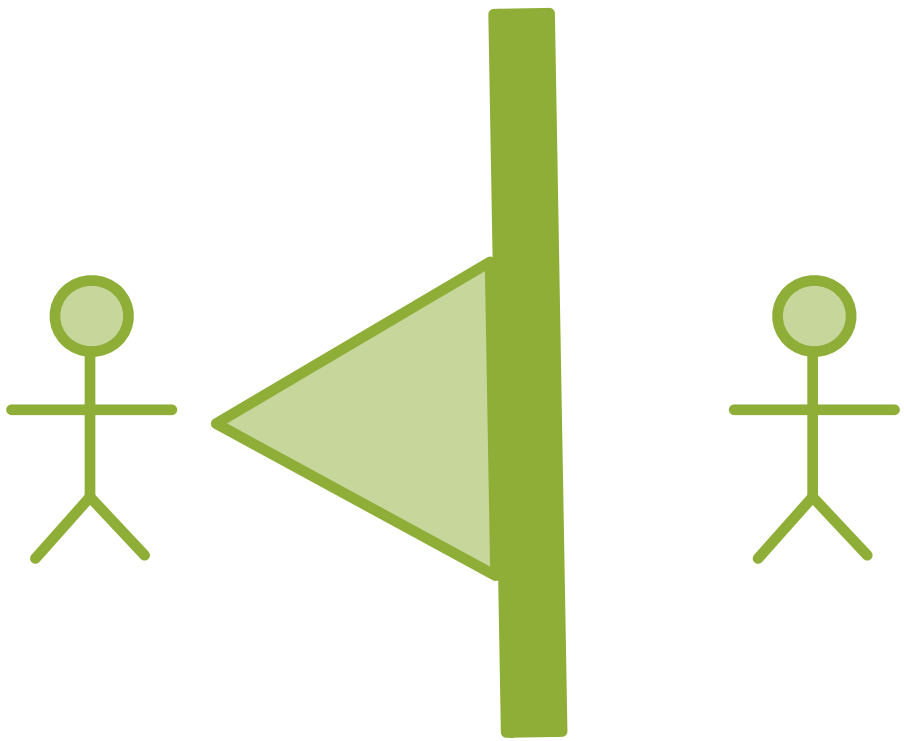












- Describing Subsets
  - Categorisation
  - Locales
  - Interacting Locales

Describing Subsets

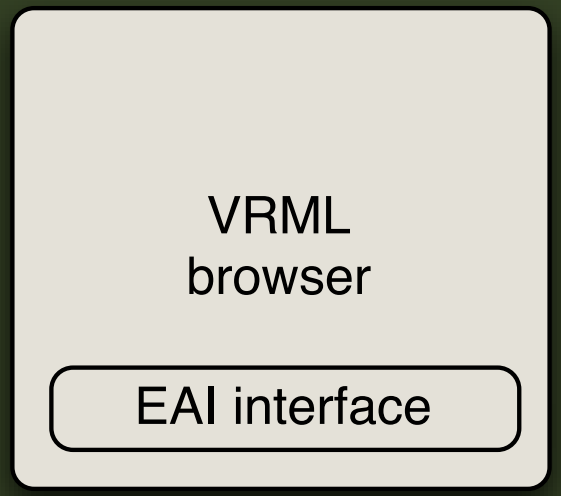
Categorisation

- Artefact Attribute Values
- Explicit Metadata
- Implicit Metadata

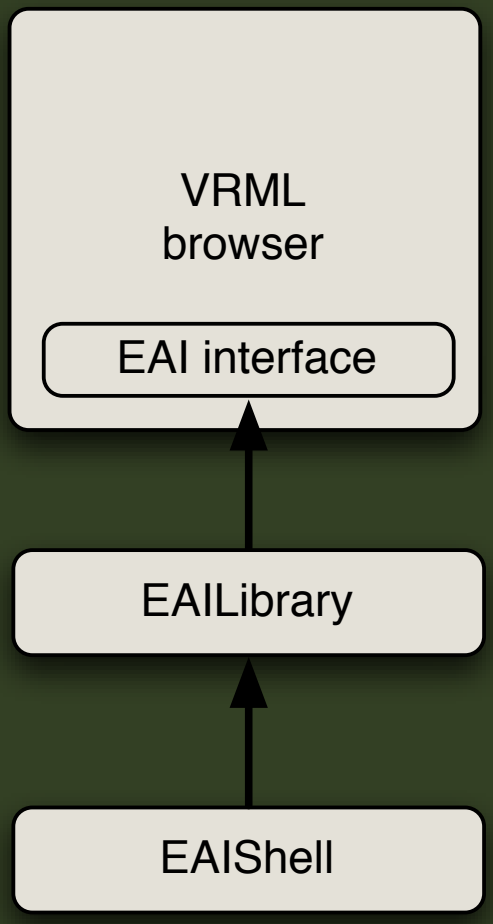
VE Implementation

- Categorisation ➡ Artefacts
- Locales ➡ (*Virtual*) Artefacts
- Interacting Locales ➡ Relationships

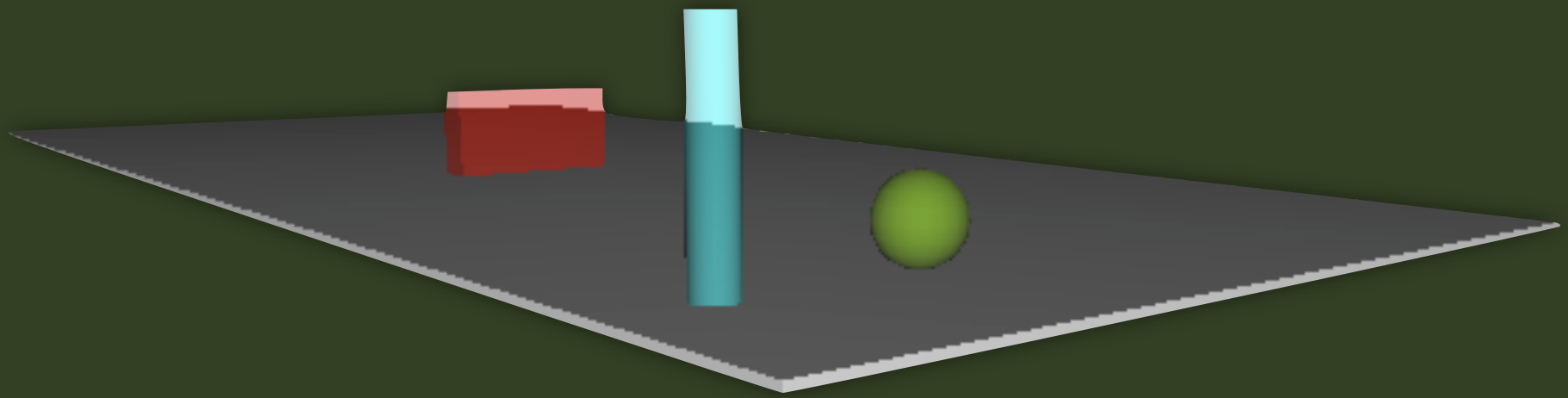
VE Implementation



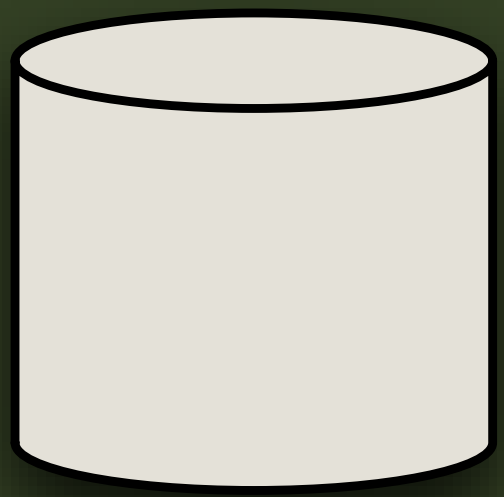
VE Implementation



VE Implementation



VE Implementation



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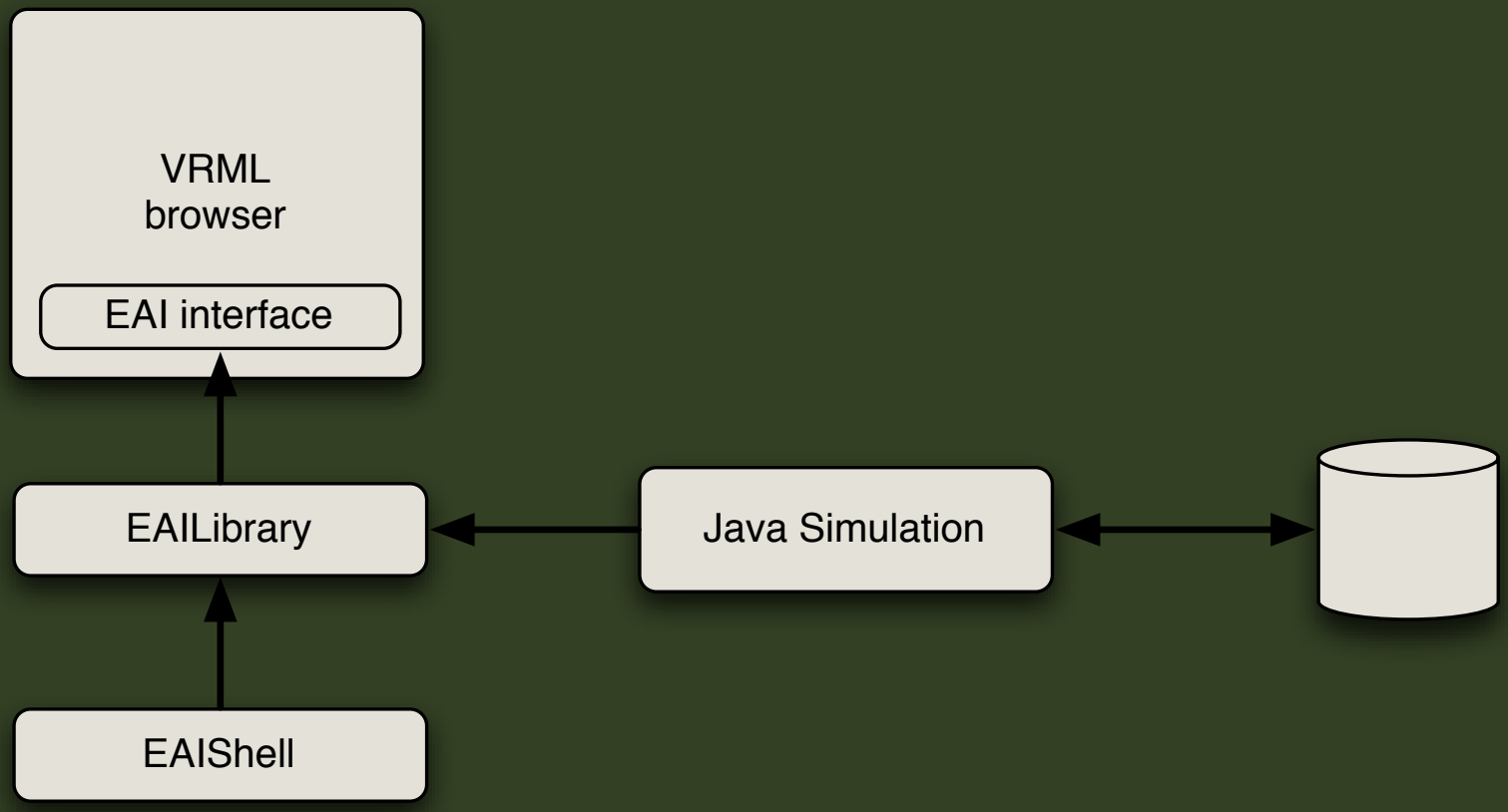


VE Implementation

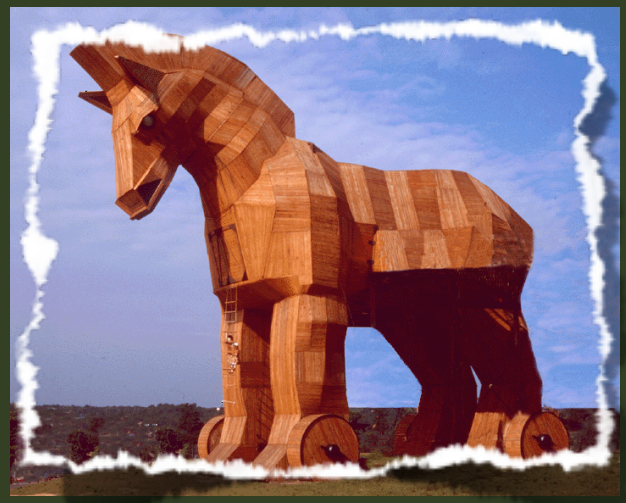
VE Implementation

- Dynamic Typing
- Flexible Syntax
- Powerful Language
- irb

VE Implementation

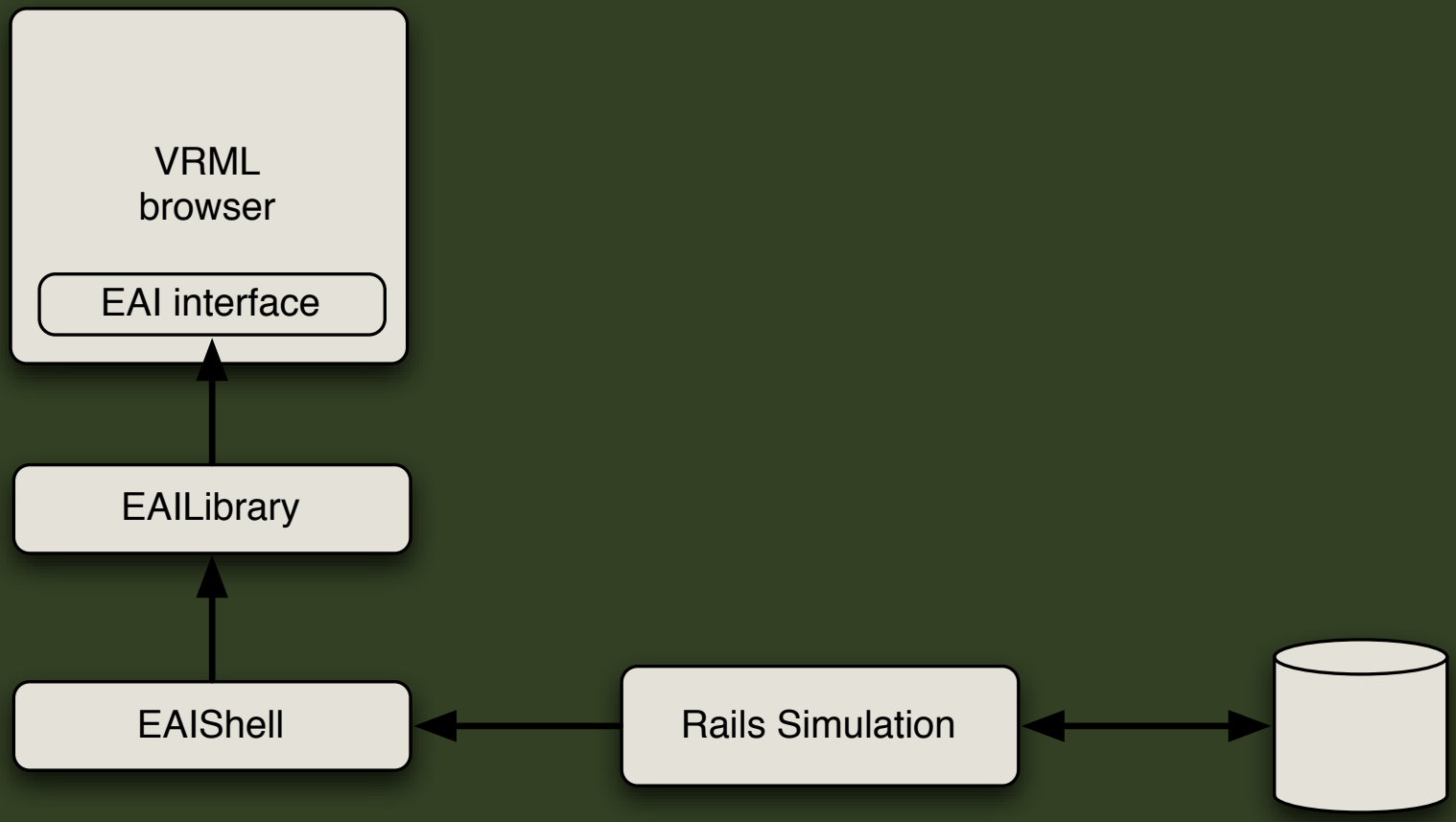
- Convention over Configuration
- DRY
- Testing
- irb (Rails Console)

Thank You!

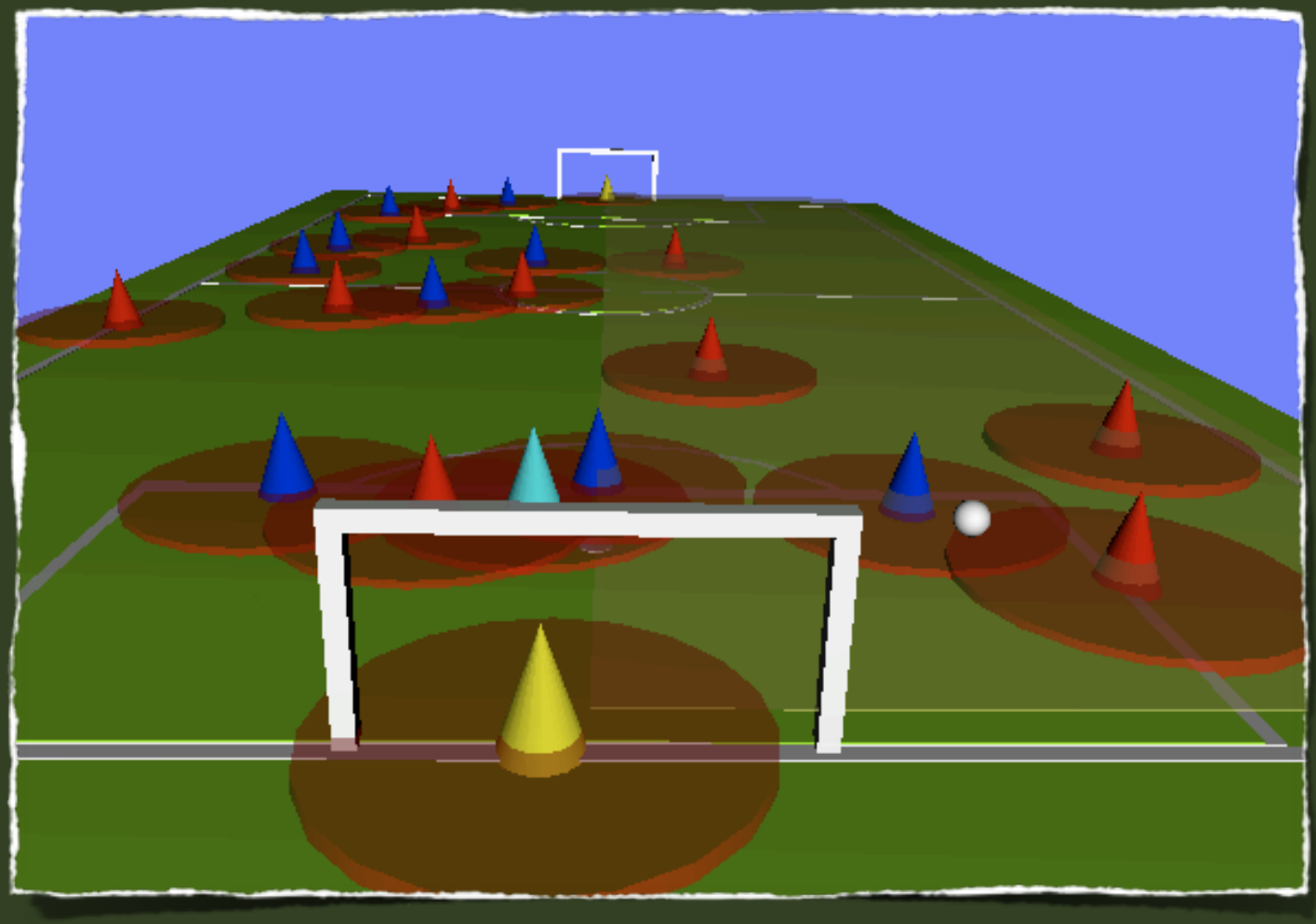


VE Implementation

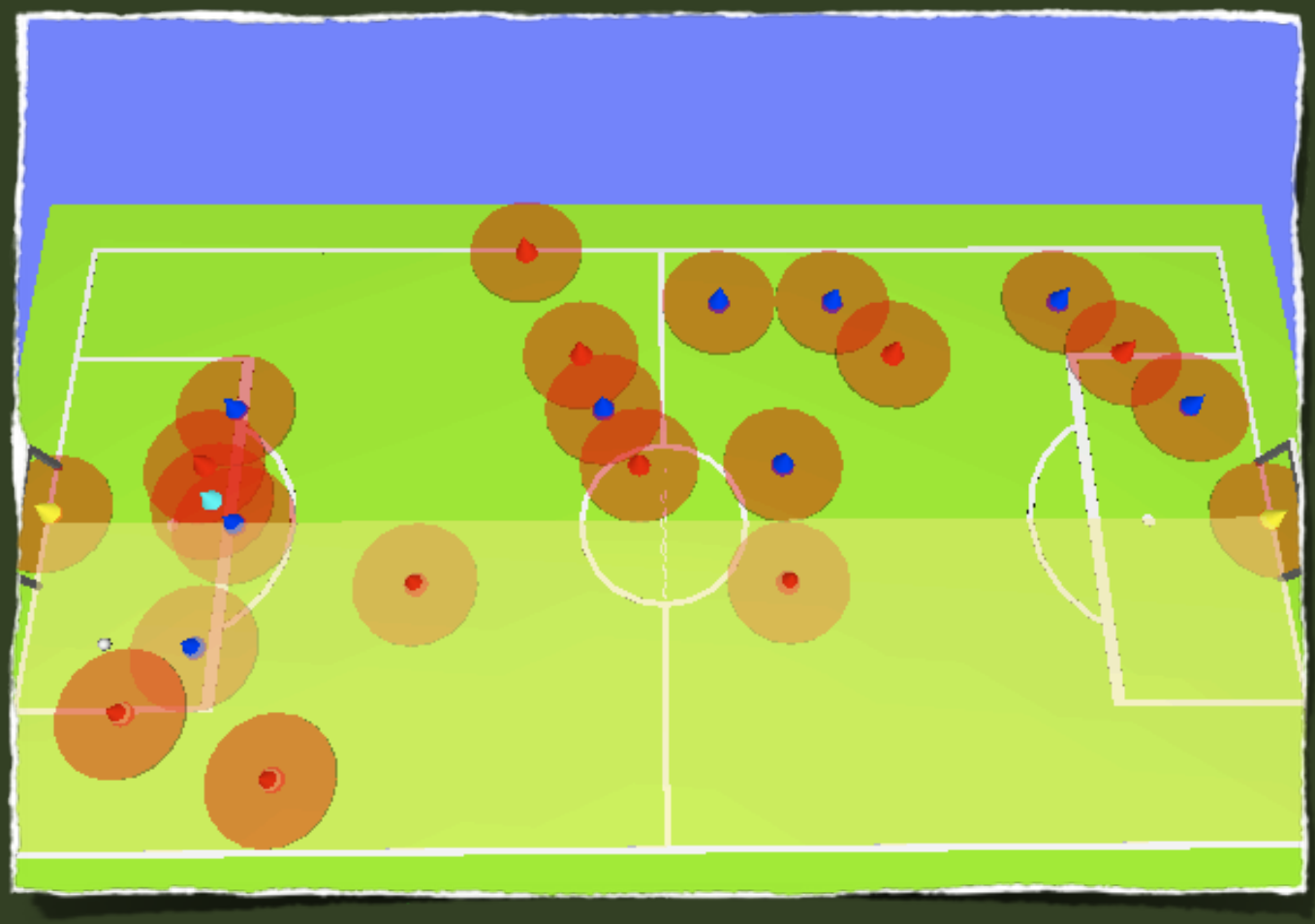
VE Implementation



VE Implementation



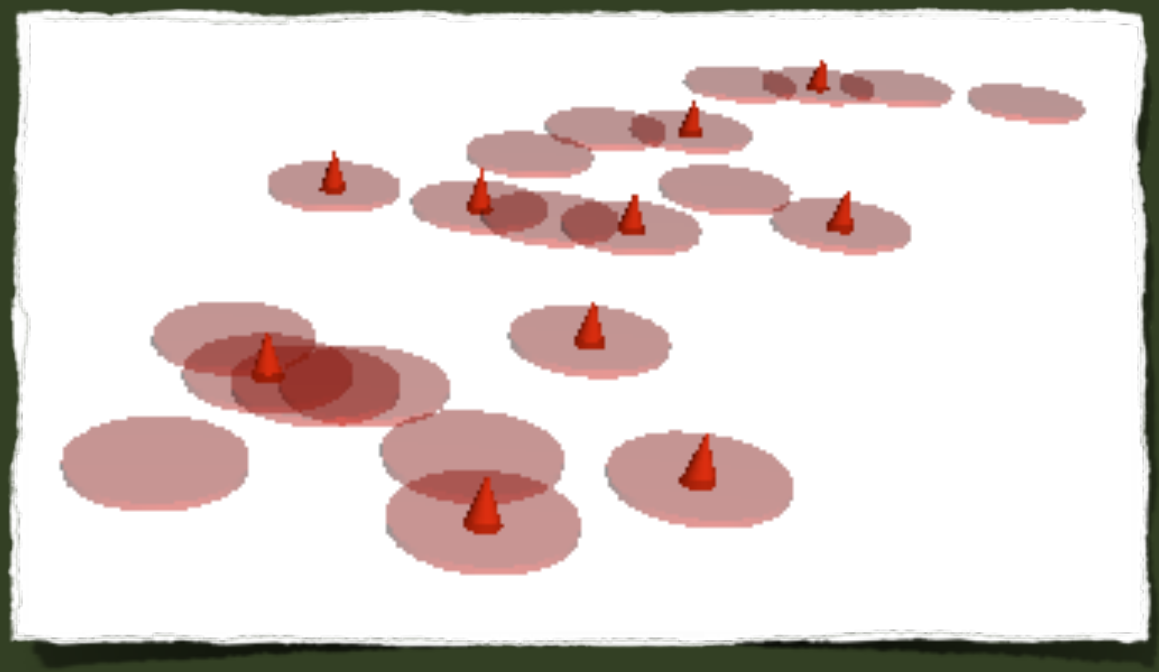
VE Implementation



VE Implementation

"I am interested in all artefacts that are red"

VE Implementation



VE Implementation

```
select * from artefacts
        where
(colour = 'red')
```

VE Implementation

"I am interested in all red players, whose aura overlaps the referee's aura and that are within the home penalty circle"

VE Implementation

```
select * from artefacts where (virtual = false
and ((colour = 'red') and (category = 'player'
and
((virtual = false and (category = 'player' and
(name in (select name from artefacts where
(((5.0 + radius > sqrt(pow((x_coord - 27.0),
2) + pow((y_coord - 13.0), 2))) and (category
= 'aura')))))))
and ((9.5 > sqrt(pow((x_coord - 25.0), 2) +
pow((y_coord - 10.0), 2)))))))))
```

Domain Specific Languages

Succinctness

Domain Specific Languages

$$x = \frac{-b + \sqrt{b^2 - 4ac}}{2a}$$

Domain Specific Languages

Readability

Domain Specific Languages

```
MULTIPLY B BY B GIVING B-SQUARED.
MULTIPLY 4 BY A GIVING FOUR-A.
MULTIPLY FOUR-A BY C GIVING FOUR-A-C.
SUBTRACT FOUR-A-C FROM B-SQUARED GIVING
RESULT-1.
COMPUTE RESULT-2 = RESULT-1 ** .5.
SUBTRACT B FROM RESULT-2 GIVING NUMERATOR.
MULTIPLY 2 BY A GIVING DENOMINATOR.
DIVIDE NUMERATOR BY DENOMINATOR GIVING X.
```

Domain Specific Languages

Expressiveness

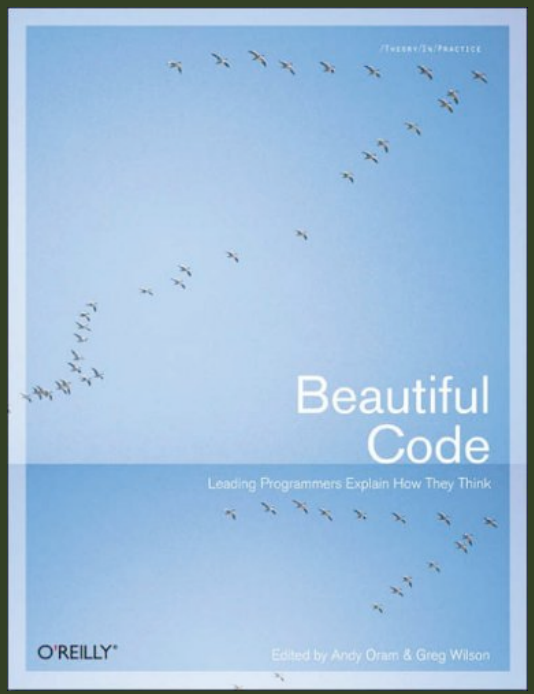
- Domain Specific Languages
  - Interest Conditions
  - Combinations
  - Grouping
  - Abstraction
  - Scoping

Wish

Wish

Wish

"Treating Code as an Essay"



Yukihiro Matsumoto

- Wish
  - One statement per line
  - No AND and OR keywords
  - Implicit parenthesis
  - Subwishes
  - Smart Quoting

Thanks

http://sam.aaron.name