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data should be yours



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The most valuable commodity I know of is information.

Gordon Gekko, Wall Street (1987)



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The cry of “raw data now,” which I made people make in the auditorium, was heard around the world.

Tim Berner Lee (2009 Ted Talk)

http://www.ted.com/talks/tim_berners_lee_the_year_open_data_went_worldwide.html



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raw data now

- rendre disponible les données brutes
- partager les données
- libérer/ouvrir les données



Torture the data, and it will confess to anything

Ronald Coase, Economics, Nobel Prize Laureate



Torture the data

- analyser les données
- afficher les données
- partager les outils



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- plateforme de partage de données décentralisée
- opensource



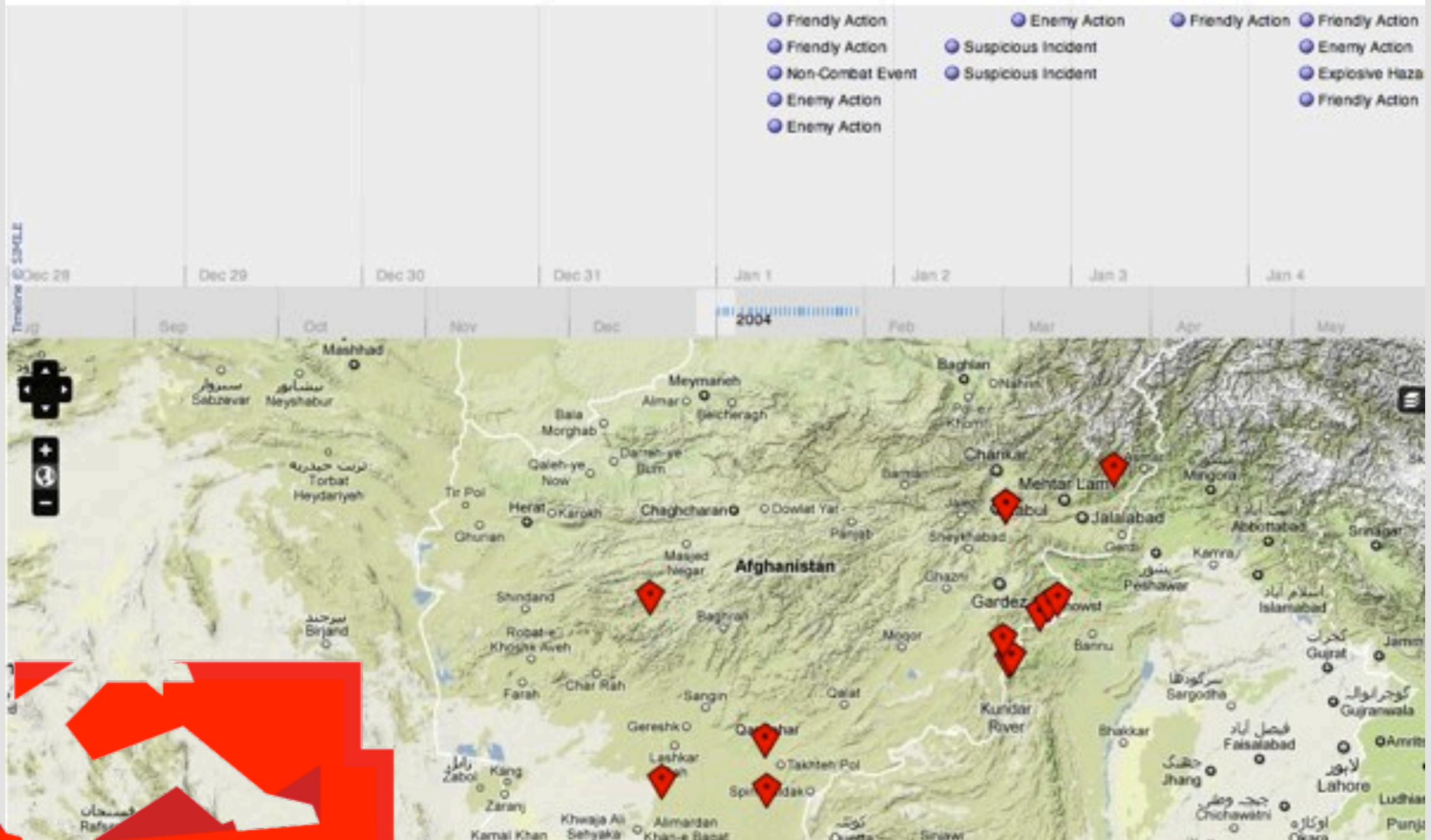
Quelques objectifs

- Collecter les données, les analyser, utiliser et partager... de manière décentralisée
- Créer un “internet des choses” ouvert et décentralisé
- Construire une plateforme de donnée résistante à toutes formes de censure



AFG War Diary Timeline

Go to year: 2004



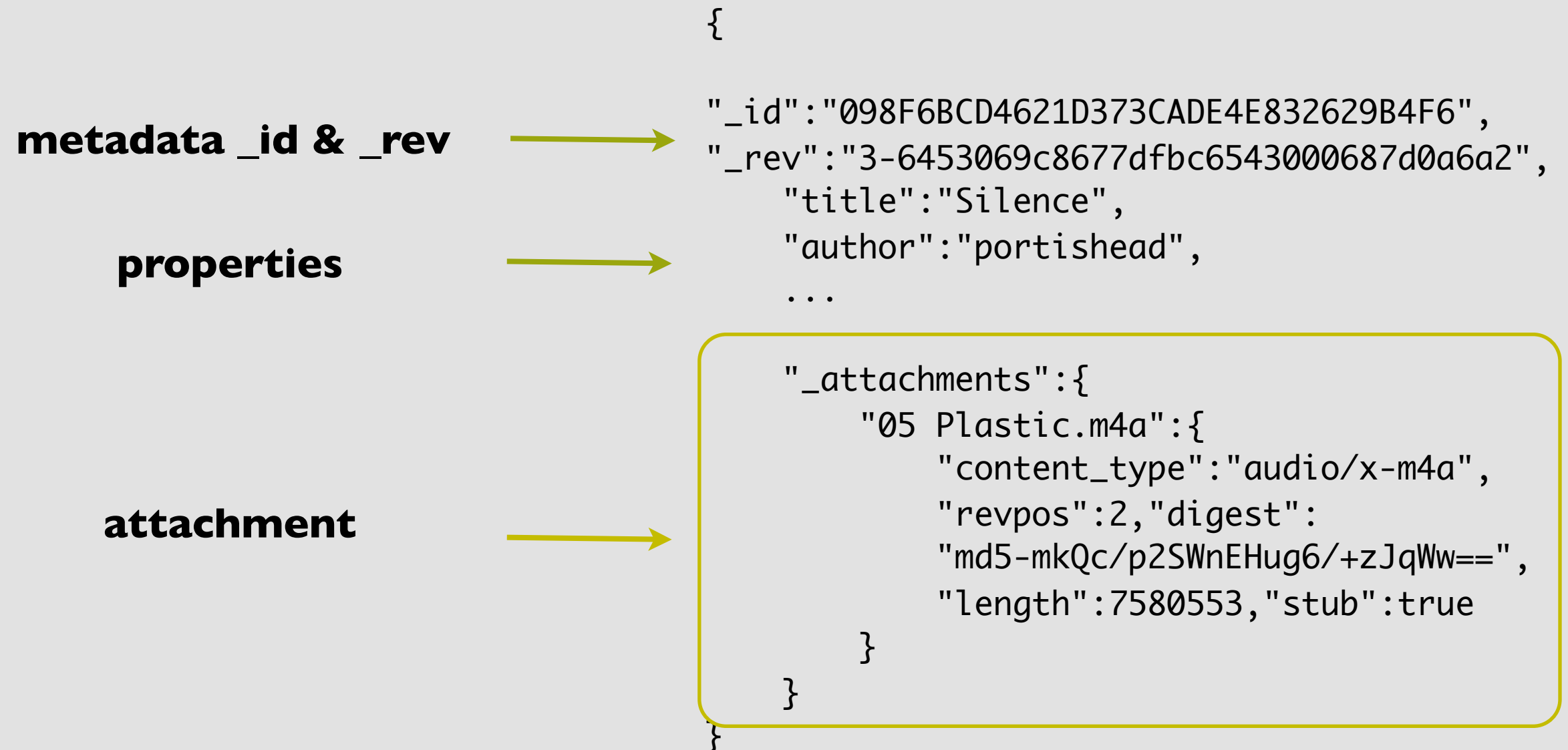
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apache couchdb

- Base de données orientées documents
- Map/Reduce
- API HTTP
- Réplication Master-Master



document json



API HTTP

dernière révision

```
$ curl -XPUT -d '{
  "_id": "i20110602",
  "_rev": "1-e30af3c8895165d153317ae5e98f88a4",
  "title": "Invoice D100",
  "tags": [ "invoice", "development" ],
  "description": "some description",
  "client": "client1",
  "type": "invoice",
  "date": "2011-06-02T09:01:12Z+01:00"
}' -H "Content-Type: application/json" localhost:5984/
coffre/20110602-1
```

nouvelle révision

```
{
  "ok": true,
  "id": "i20110602",
  "rev": "2-a1052d78554433927ee0a644e7d083c6"
}
```



API HTTP

```
$ curl -XGET localhost:5984/chest/20110602-1
```

```
{  
  "_id": "20110602-1",  
  "_rev": "1-e30af3c8895165d153317ae5e98f88a4",  
  "title": "Invoice D100",  
  "tags": [ "invoice", "development" ],  
  "description": "some description",  
  "client": "client1",  
  "type": "invoice",  
  "date": "2011-06-02T09:01:12Z+01:00"  
}
```



apache couchdb

- Base de donnée orientée documents
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M/R à la sauce couchdb

- Map (M) : collectionner une liste de valeurs associées à une clé de manière incrémentale
- Vue: retourne une liste de clé/valeurs
- Reduce(R): retourne une liste de valeurs
- Rerreduce: reduits les étapes intermediaires de la fonction reduce



Map

map function

```
1 function(doc) {  
2     emit(doc.type, doc);  
3 }
```

Create a document design

views object: all views functions are saved here

```
$ curl -XPUT -d '{  
  "views": {  
    "by_type": {  
      "map": "function(doc) { emit(doc.type, doc); }",  
    }  
  }  
' localhost:5984/chest/_design/main  
{ "ok": true, "id": "_design/main", "rev": "1-7da64646ac19f8d9d5da9d14a689f3ec" }
```

view name

map function

Map

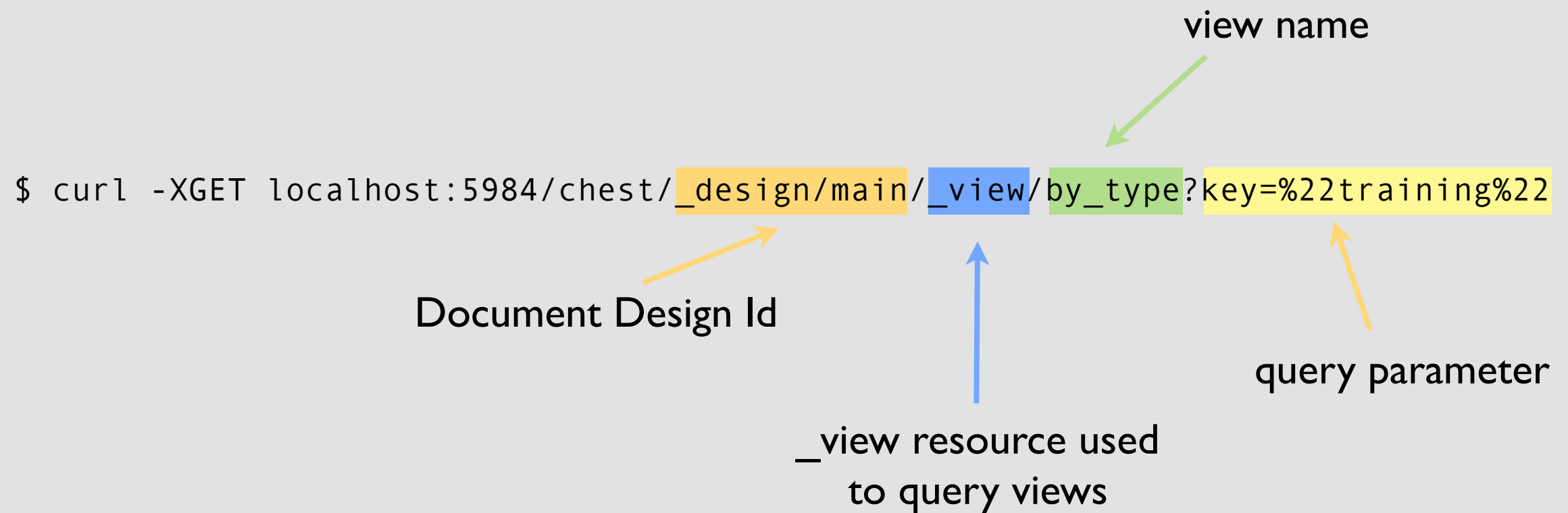
\$ curl -XGET localhost:5984/chest/_design/main/_view/by_type?key=%22training%22

view name

Document Design Id

_view resource used to query views

query parameter

A diagram showing a REST API URL with four colored segments: orange for '_design/main', blue for '_view', green for 'by_type', and yellow for 'key=%22training%22'. Arrows point from descriptive labels to these segments: 'Document Design Id' points to the orange segment, '_view resource used to query views' points to the blue segment, 'view name' points to the green segment, and 'query parameter' points to the yellow segment.

Map

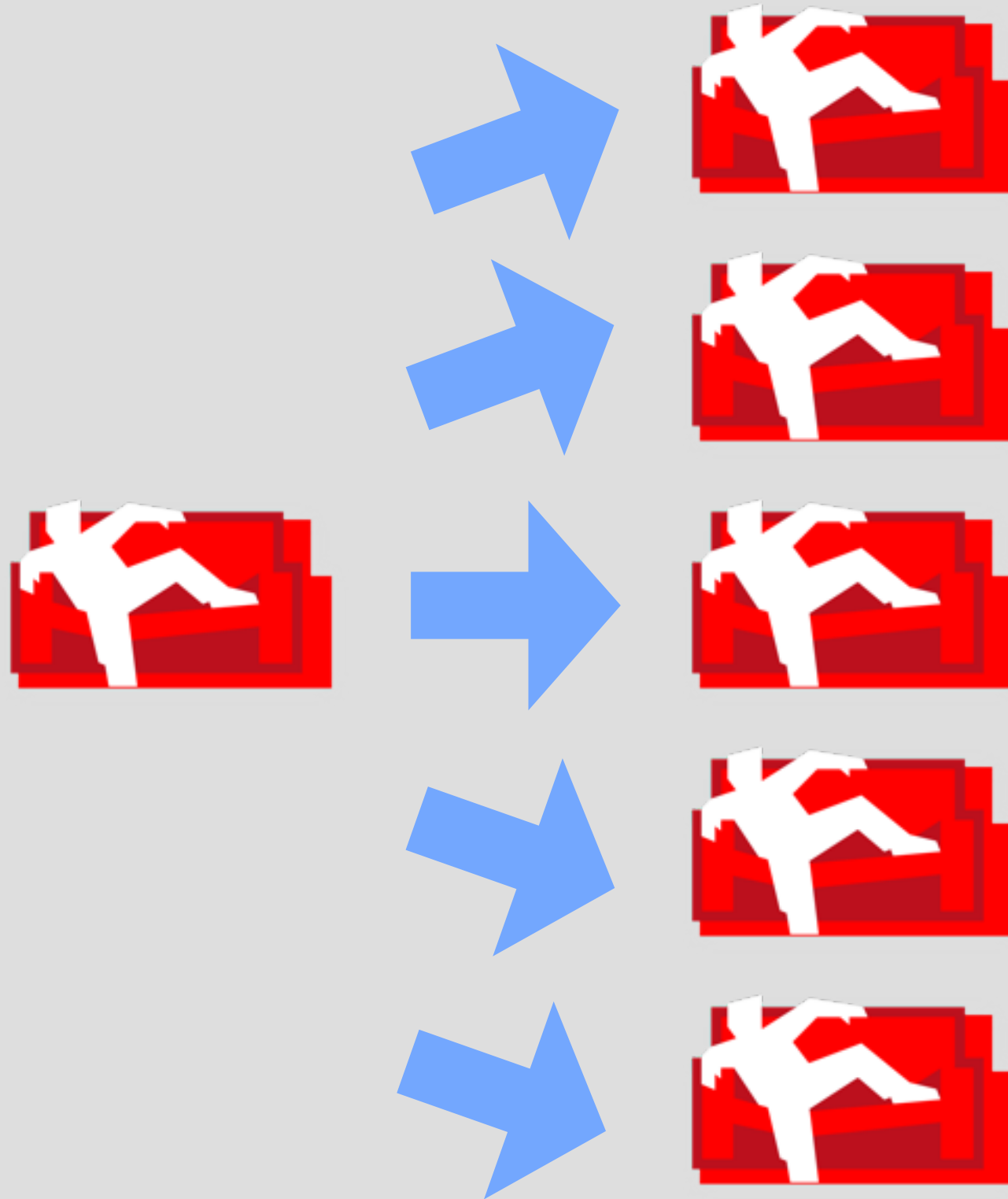
```
{
  "total_rows":4,
  "offset":2,
  "rows":[
    {"id":"t20110725-1","key":"training","value":
{"_id":"t20110725-1","_rev":"1-77724440b82c743ebae8d44482a184f1","title":"training CouchDB ES","tags":["training","couchdb"],"description":"some description","client":"clientXXXX","type":"training","date":"2011-07-25T00:00:00Z+01:00"}},
    {"id":"t20110912-1","key":"training","value":
{"_id":"t20110912-1","_rev":"1-77724440b82c743ebae8d44482a184f1","title":"training CouchDB ES","tags":["training","couchdb"],"description":"some description","client":"clientXXXX","type":"training","date":"2011-07-25T00:00:00Z+01:00"}}
  ]
}
```



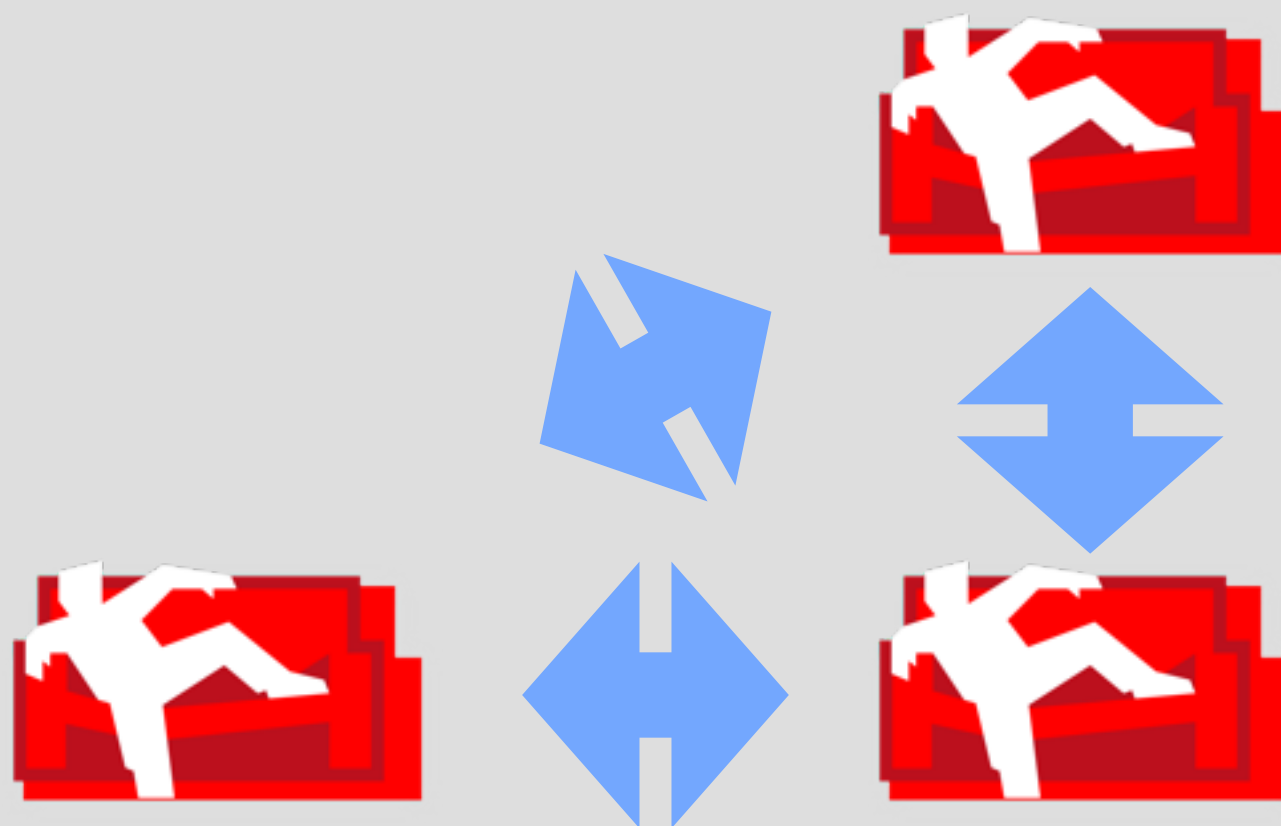
Réplication incrémentale

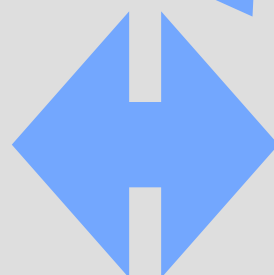
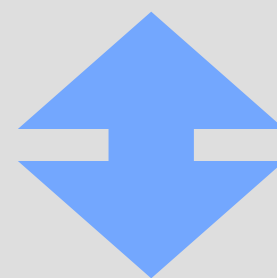
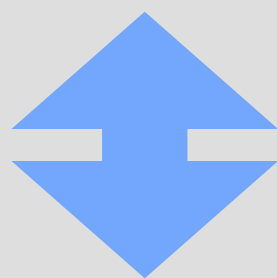


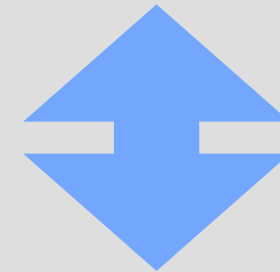
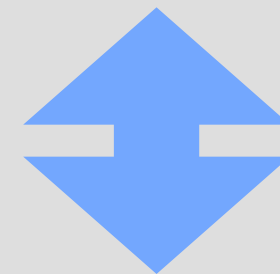
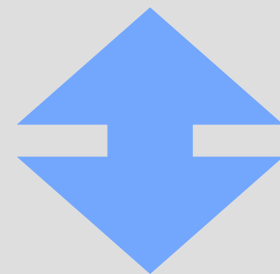
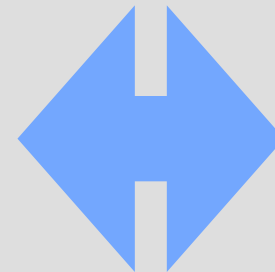
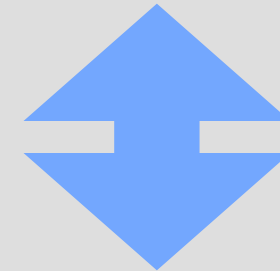




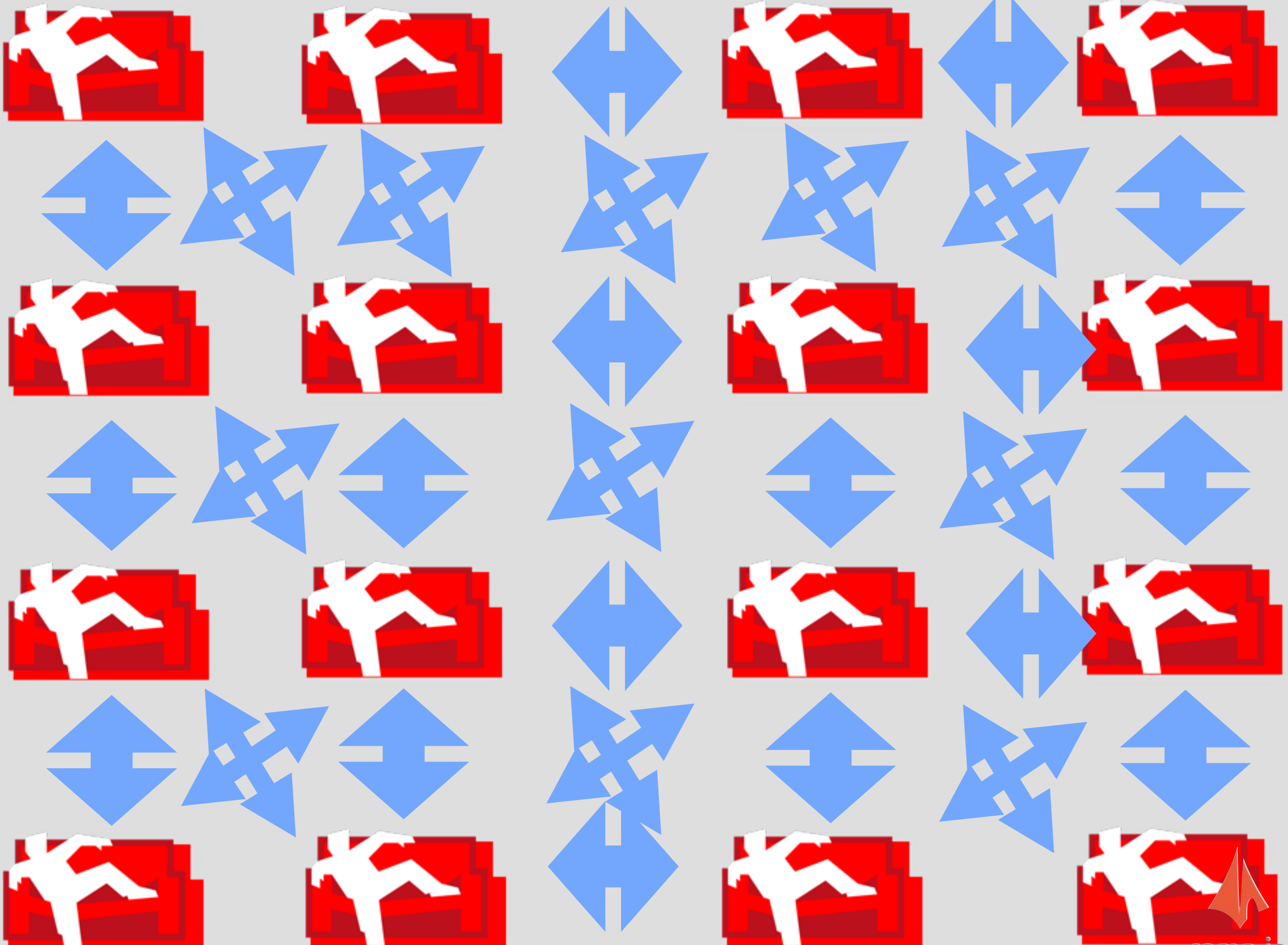








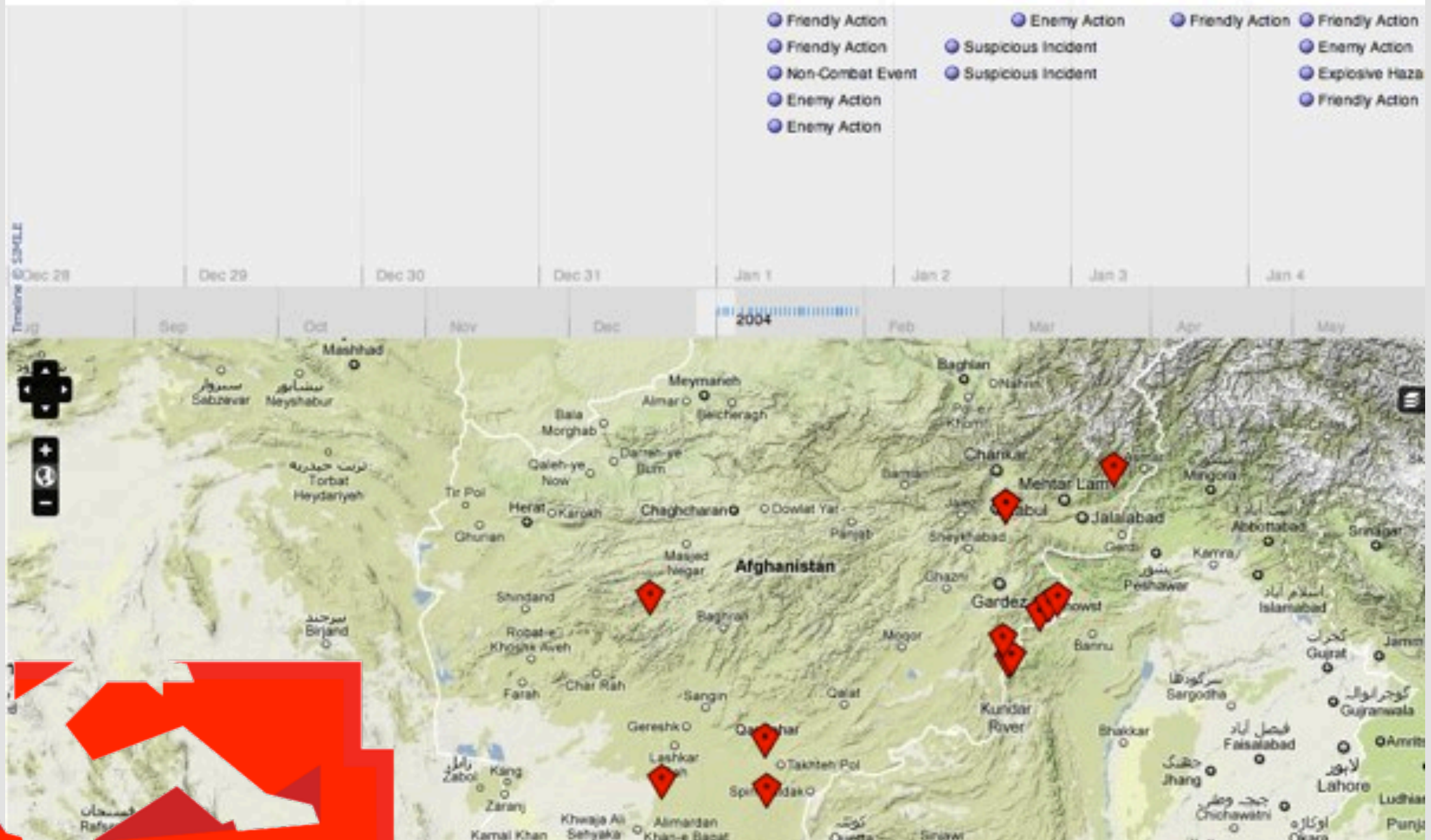
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AFG War Diary Timeline

Go to year: 2004



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benoitc/afgwardiary

GitHub, Inc. [US] <https://github.com/benoitc/afgwardiary>

CodeBox — Code Snippets — Xiki — Engineers build Rasp — Apple — Flower Links — Google Maps — YouTube — Wikipedia — Other Bookmarks

PUBLIC benoitc / afgwardiary Pull Request Unwatch 14 Fork 0

Code Network Pull Requests 0 Issues 0 Wiki Graphs Admin

Edit couchapp to render afgwardiary data from wikileaks — [Read more](#)
http://pollen.nymphormation.org/afgwar/_design/afgwardiary/index.html

Clone in Mac ZIP HTTP SSH Git Read-Only Read+Write access

branch: master Files Commits Branches 1 Tags Downloads

afgwardiary / 27 commits

fix

benoitc authored 2 years ago latest commit 74ef6d9584

_attachments	2 years ago	changes for warlogs. next version will be based on d. [benoitc]
lib	2 years ago	changes for warlogs. next version will be based on d. [benoitc]
lists	2 years ago	fix an error in timeline. Don't publish object without coordinates for [benoitc]
shows	2 years ago	changes for warlogs. next version will be based on d. [benoitc]
spatial	2 years ago	add geocouch support [benoitc]
templates	2 years ago	changes for warlogs. next version will be based on d. [benoitc]



couch applications

- applications embarqués dans couch
- web apps
- mais aussi fonctions exécutées côté serveur (lists, shows ...)



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- démarré autour de couchdb
- projet rcouch: fork (amical) de couchdb
- cutting edge



couchdb, aujourd'hui

- autotools + librairies partagées (icu, spidermonkey)
- fichier ini + script shell
- application construite autour d'Erlang
- pas OTP

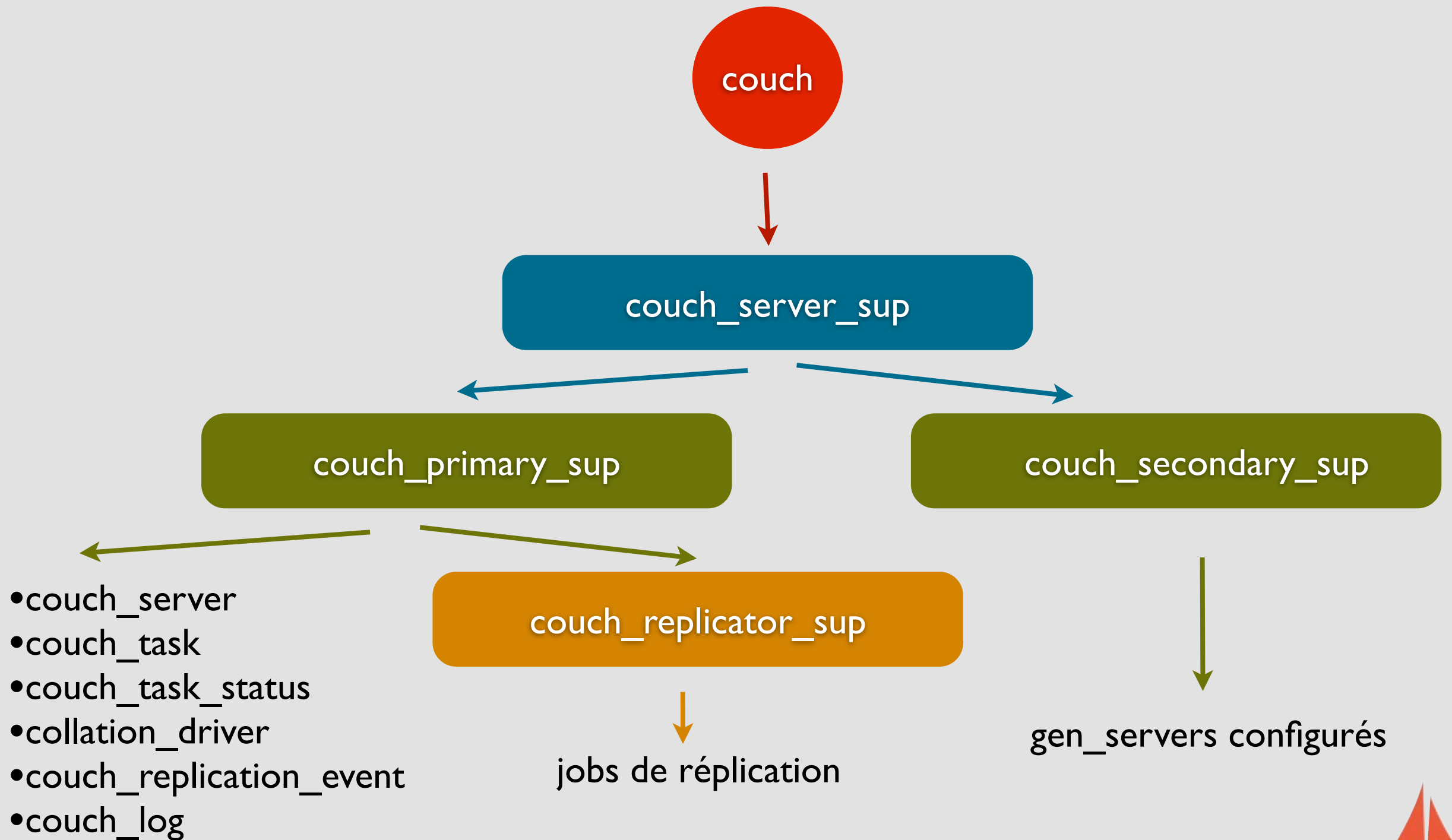


couchdb, aujourd'hui

- pas de redemarrage à chaud
- let it crash



supervision



rcouch

- démarré autour de couchdb
- projet rcouch: fork (amical) de couchdb
- cutting edge

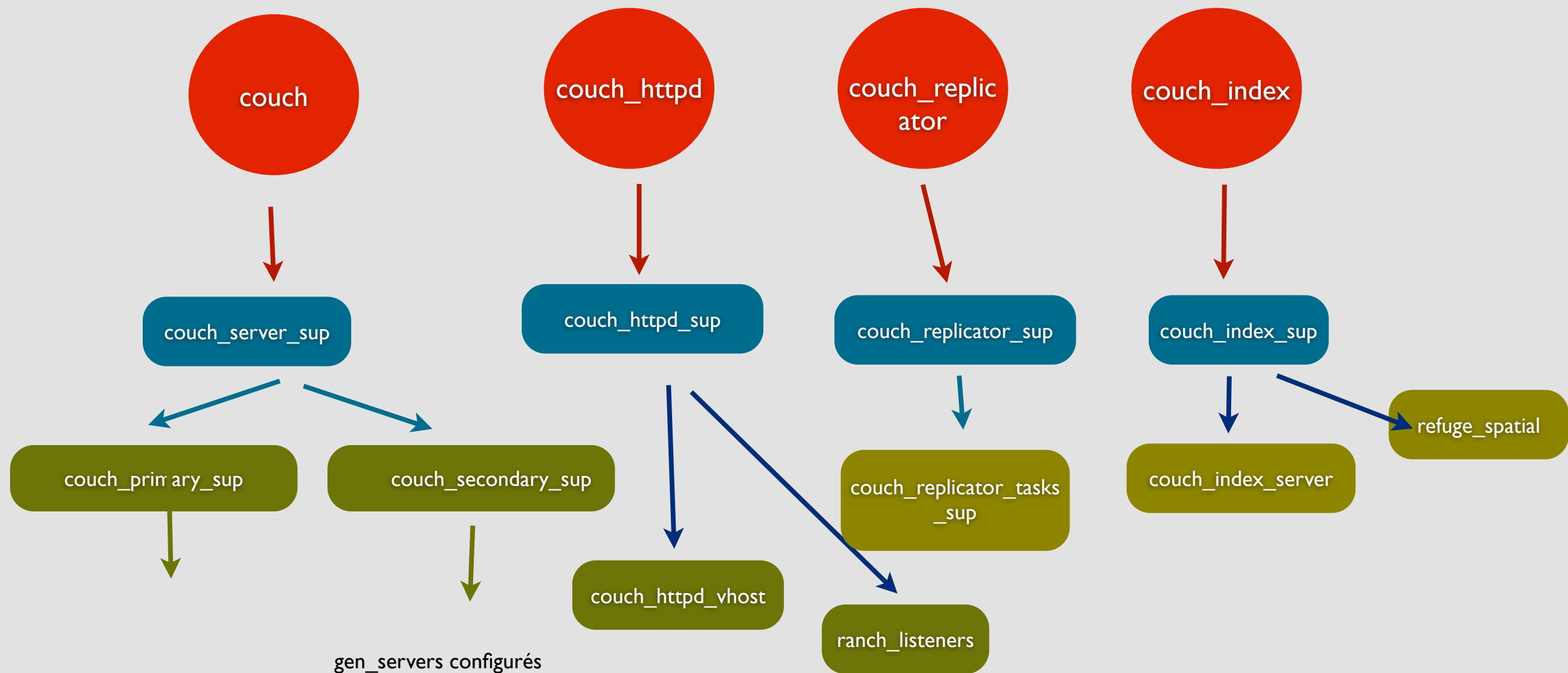


rcouch

- splitté couchdb en 5 applications
- simple Makefile + rebar
- OTP release
- librairies compilées en statiques
- can be embedded in your erlang app



supervision



- `couch_server`
- `couch_task`
- `couch_task_status`
- `collation_driver`
- `couch_replication_event`
- `couch_log`

couch++

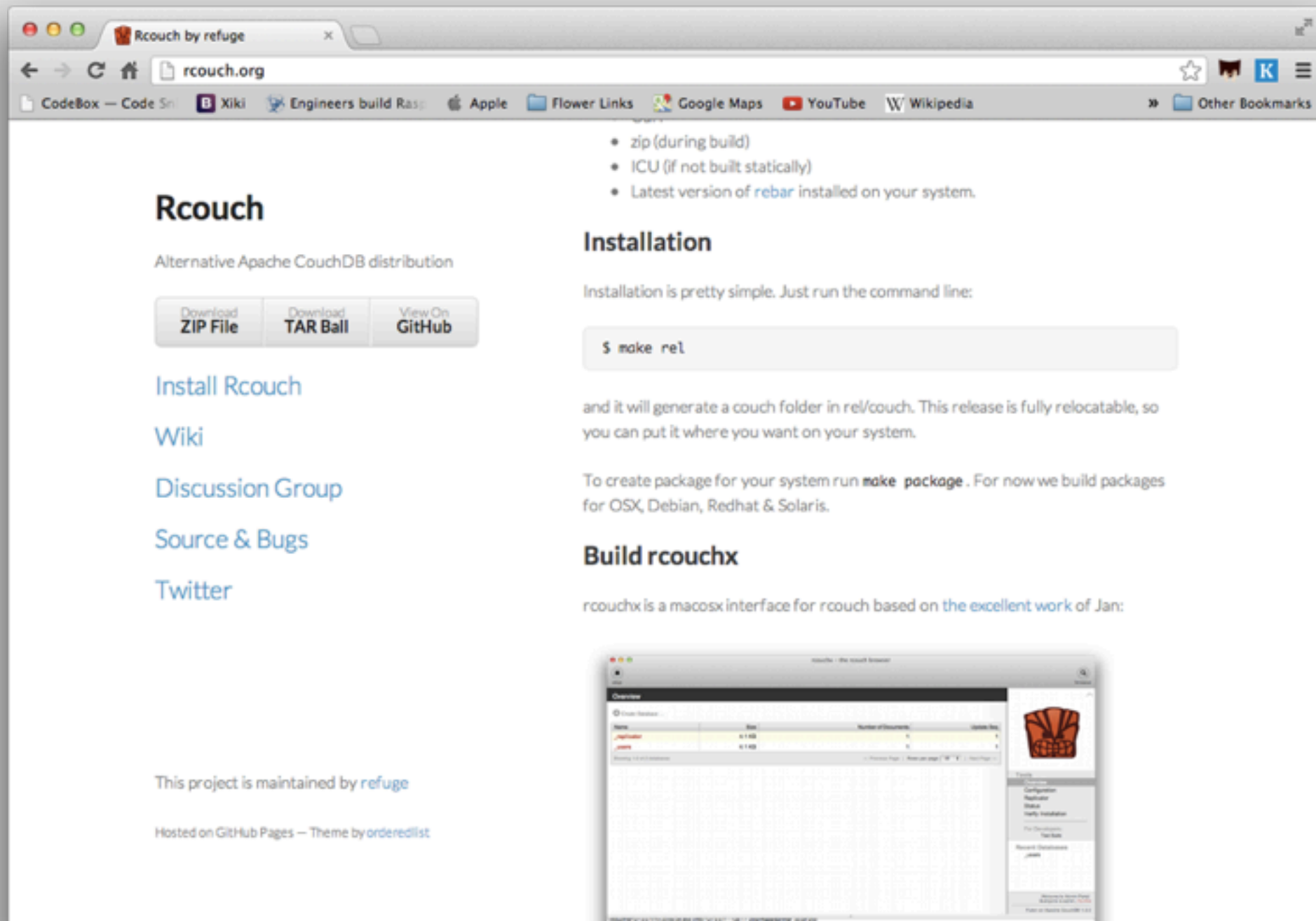
- index updates notifications & changes
- replicate using a view index
- random doc
- global changes



couch++

- `refuge_spatial`: geo search
- cowboy via mochicow
- can work on embedded devices: arm supported , ios & android soon to be public





<http://rcouch.org>

refuge_pre

- rcouch
- dnssd (<http://github.com/andrewtj/erlang-dnssd>)
- upnp (<http://github.com/benoitc/upnp>)
- ssl



refuge.

- plateforme generique de hosting
- 2 apis: couchdb & refuge (remotestorage++)
- compatible unhosted
- accepter n'importe quel type de données
- choisir comment l'indexer

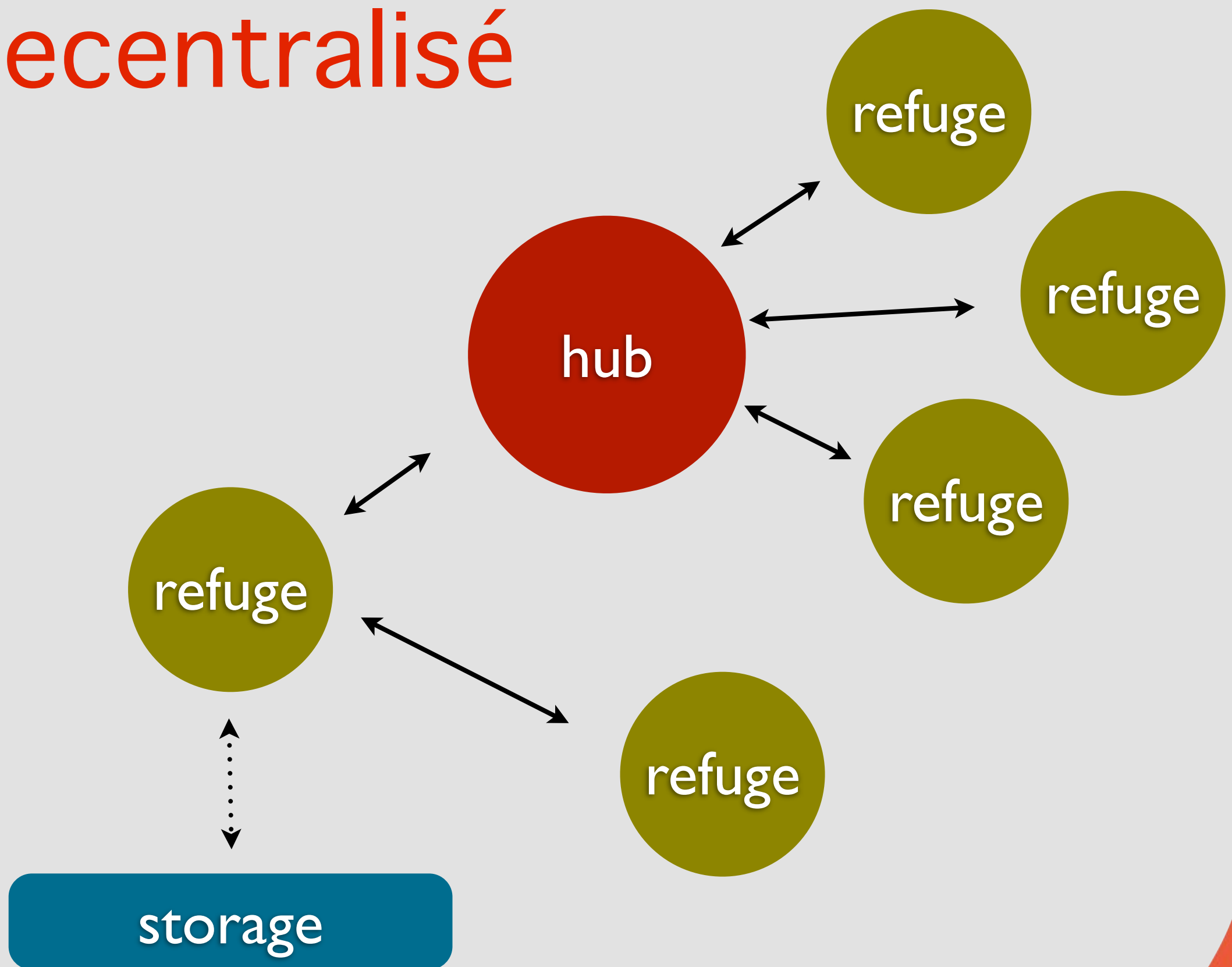


orienté resource



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decentralisé



decentralisé

- cercles de données
- requête distribuées, sur un cercle de données
- webfinger, oauth + ssl, pairing over dnssd...



Erlang?.

- adapté au réseau
- supervision
- gestion de process simplifiée





contact: @benoitc
<http://refuge.io>