# CoreObject & EtoileUI

## Swansea 2009

# Étoilé

A desktop environment built around:

- Pervasive Data Sharing & Versioning
- Composite Document
- Collaboration
- Document-oriented

# Raskin's First Law

A computer shall not harm your work or, through inaction, allow your work to come to harm.

# Versioning

Makes the user more at ease with:

- No save
- Document History
- Undo/Redo on all persistent data
- Versioning that scales to video, image, etc.

# Raskin's Second Law

- A computer shall not waste your time or require you to do more work than is strictly necessary

# ~~Import/Export/Convert~~

- No document or content export/import necessary within Étoilé
- Import/export for communicating with the outside world is built in

# Data Sharing

Eliminates name service mulplication.

Shared content access is about NewtonSoup-like properties or attaching metadatas.

- We need something like a filesystem but with:
  - real semantic
  - fine-grained structure access
  - multiple views or organization levels

# CoreObject Protocol

The protocol role is twofold:

- organize objects and documents
- expose internal document structure or object content

# CoreObject

EtoileUI backend exposes composite document structure in term of CO interfaces.

| Core Object Protocol | | | |
|---|---|---|---|
| Native Backend | EtoileUI Backend | FUSE Backend | FS Backend |
| EtoileSerialize | EtoileUI | FUSE | Filesystem |

Object Store

# Object Store

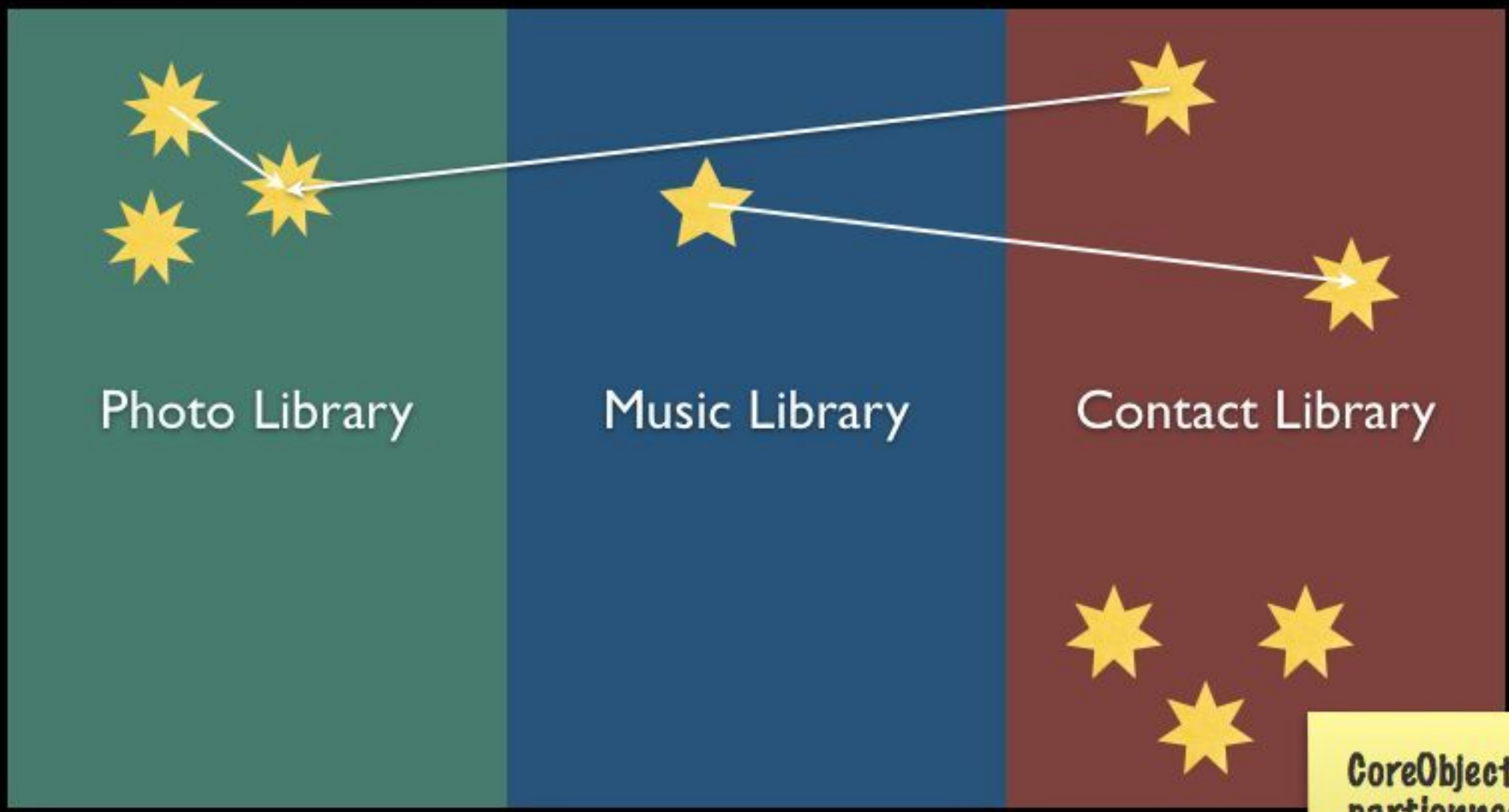
Follows prevalence model.

- No Object-Relational-Mapping
- Stores changes as logical operations with:
  - serialized messages
  - snapshots
- Inspired by NewtonSoup
- Uses a SQL database as metadata server

# Multi-level Versioning

- Fine-grained versionning with various levels:
  - Global (private)
  - Context
  - Persistent Root

# Object Contexts




CoreObjectGraph partionned into object contexts

⟶ Relationships between persistent roots

# Example

```
COGroup *library = [[COGroup alloc] init];

ETMusicTrack *track = [[ETMusicTrack alloc] init];

[track setValue: @"More Flowers" forProperty:
kETAlbumName];

[group addMember: track];


COGroup *playlist = [[COGroup alloc] init];

[library addMember: playlist];
```