SharedCanvas: Collaborative Digital Facsimiles of Medieval Manuscripts

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http://www.shared-canvas.org/

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Overview

- Motivation
- Requirements from Manuscripts
- SharedCanvas Model by Example
- Further Modelling Issues
- Distributed Approach
Motivation

There are many repositories of digitized books, manuscripts and other culturally important objects.

And just as many home-grown page turning websites, apps and programs.

Plus at least as many formats for description.

Even for a quires or folios of a single manuscript, held at different physical locations!

Ms MurF: 10.5076/e-codices-kba-0003
Vision

A collaborative future:

• Rich landscape of interconnected repositories of images, texts, media
• Seamless user interfaces disconnected from those repositories
• Improved efficiency and usability through open, shared development

Requirements:

• Shared Data Model
• Shared services

BNF f.fr 113, folio 1 recto
Domain Requirements

Working at physical item level provides unique challenges!

1. Only parts of pages may be digitized
   - Only illuminations digitized
   - Fragments of pages
   - Multiple fragments per image

Cod. Sang. 1394: 10.5076/e-codices-csg-1394
Domain Requirements

2. Page may not be digitized at all
   - Not "interesting" enough
   - Digitization destructive
   - Page no longer exists
   - Page only hypothetical

Countless manuscripts, all around the world!
Domain Requirements

3. Non-rectangular objects

- Fashionable heart shaped manuscripts
- Fragments
- Pages with foldouts

Facsimile of BNF Rothschild 2973
http://www.omifacsimiles.com/brochures/montchen.html
Domain Requirements

4. Alignment of multiple images of same object
   - Multi-spectral imaging
   - Multiple resolutions
   - Image tiling
   - Microfilm vs photograph
   - Multiple digitizations

Archimedes Palimpsest Multi-Spectral Images
http://www.archimedespalimpsest.org/
Domain Requirements

5. Multiple page orders over time
   • Rebinding
   • Scholarly disagreement on reconstruction

6. Different pages of the manuscript held by different institutions

Cod Sang 730: 10.5706/e-codices-csg-0730a
Domain Requirements

7. Transcription of:
   • Text
   • Music
     • Musical Notation
     • Performance
   • Diagrams

Reusing existing resources, such as TEI, where possible but …

8. … Allowing new transcriptions to be both created and stored in a distributed way, with competing versions

_Parker CCC 008, f1r_
Naïve Approach: Transcribe Images Directly
Naïve Approach: Multiple Representations?

CCC 26 f. iiiR
Naïve Approach: Multiple Representations?

CCC 26 f. iiiR  
Fold A Open
Naïve Approach: Multiple Representations?

CCC 26 f. iiiR  Fold A Open  Fold A and B Open
Naïve Approach: Multiple Representations?

CCC 26 f. iiiR  Fold A Open  Fold A and B Open  f. iiiV
Naïve Approach: Multiple Representations?

Text spanning Fragments? Missing page with known text?
Canvas Paradigm

• A **Canvas** is an empty space in which to build up a display
Canvas Paradigm

• A Canvas is an empty space in which to build up a display
• A SharedCanvas's top left and bottom right corners correspond to the equivalent corners of a page
Canvas Paradigm: Implementation

Empty space is not hard to implement!
Painting the Canvas?

Requirements:

• Need to allow distributed association of resources with the Canvas, or part of the Canvas
• Any type of resource, or part of a resource, should be able to be painted
• Need to allow users to comment about the Canvas, or part of it, or any of the resources

Combined Solution:

• Associate resources using Open Annotations!
Annotations to Paint Images

Vanilla Open Annotation with single Target (Canvas) and Body (Image)
Annotations to Paint Images

Structured Body: A Choice with a default and 1 or more options for the image. The (other) Multiple Body problem!
Annotations to Paint Images: Implementation
Annotations to Paint Text

Specific Resource with Selector to define an area of the Canvas

Also need text Selectors to describe the appropriate part of the text...
Annotations to Paint Text

Canvas - M804/11r

SharedCanvas: Collaborative Manuscript Facsimiles
Open Annotation Collaboration, July 26-27, Chicago IL, USA
Annotations to Paint Text: Implementation

Ci commencent les croniques que fist maistre Frossart qui parlet des nouvelles guerres de France et d'Engleterre, d'Escoce et d'Espaigne, lesquelles sont devisees en quatre parties. Le prologue.

fin que honorables avenues et nobles aventures, fais d'armes par les guerres de France et d'Engleterre soient notablement registrez et miz en memoire perpetuel, par quoys les preux ayent toutes grosses rivières sont faiettes et rassemblees de divers lieux et plusieurs sorgons, aussi les sciences sont estraiet et compilees de plusieurs clerfs. Et ce que l'un ne scet l'autre scet. Non pourquant rien n'est qui ne soit sceu ou loing ou pres. Dong aussi pour atteindre et venir a la matiere que j'ay empris de commencer. Premiement de la grace de Dieu et de la benoite Vierge Marie dont tout confort et avancement viennent, je me vell fonder et ordonner sur les vrayes croniques jadis faictes et rassemblees par venerable homme et discret seigneur monseigneur Jehan le Bel, chanoine de Saint Lambert de Liege, qui grant cure et toute bonne diligence mist en ceste matiere et le continuat tout son vivant au plus justement qu'il pot, et moult lui cousta a l'acquerre et a l'avor mais quelz frais qu'il y eust ne feist riens, ne les plaingni car il estoit riche et puissant si les povoit bien porter et de soy meismes large, honororable et courtois et qui voulentiers veoir le sien despendre. Aussi il fut en son venir moult amis et secrez a tres noble et doubte seigneur monseigneur Jehan de
Image Segments
Image Segments: Implementation
[Scholarly] Commentary

Style of area?

Ci commencent les crônicas que fist maistre Froissart qui parlent des nouvelles guerres de France et d'Engleterre, d'Escoce et d'Espaigne, lesquelles sont devisees en quatre parties. Le prologue.
Musical Manuscripts
Musical Manuscripts: Implementation
Other Issues: Fragments
Other Issues: Missing Pages
Other Issues: Interactive Zones
Other Issues: Interactive Zones

SharedCanvas: Collaborative Manuscript Facsimiles
Open Annotation Collaboration, July 26-27, Chicago IL, USA
Other Issues: Interactive Zones
Non Medieval Use Cases

QUANTUM MECHANICS

by

P. A. M. Dirac
St. John's College.

A Dissertation for the Degree of Ph. D.
Non Medieval Use Cases
Summary

Model:
- Canvas paradigm provides a coherent solution to modeling the layout of medieval manuscripts
- ... or any other, collaboratively created resource

Implementation:
- Distribution across repositories for all resources
- PubSub enables customized views and avoids tool lock-in
- Encourages development by domain experts

SharedCanvas brings digitized works to the desktop in a powerful, extensible and interoperable fashion
Thank You

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Web:  http://www.shared-canvas.org/  
    http://arxiv.org/abs/1110.3687
Slides: http://slidesha.re/tv9QdE

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