The background of the slide is a photograph of a large, ornate colonial church with multiple towers and domes, situated in a city square. The image is slightly faded to allow the text to be the primary focus.

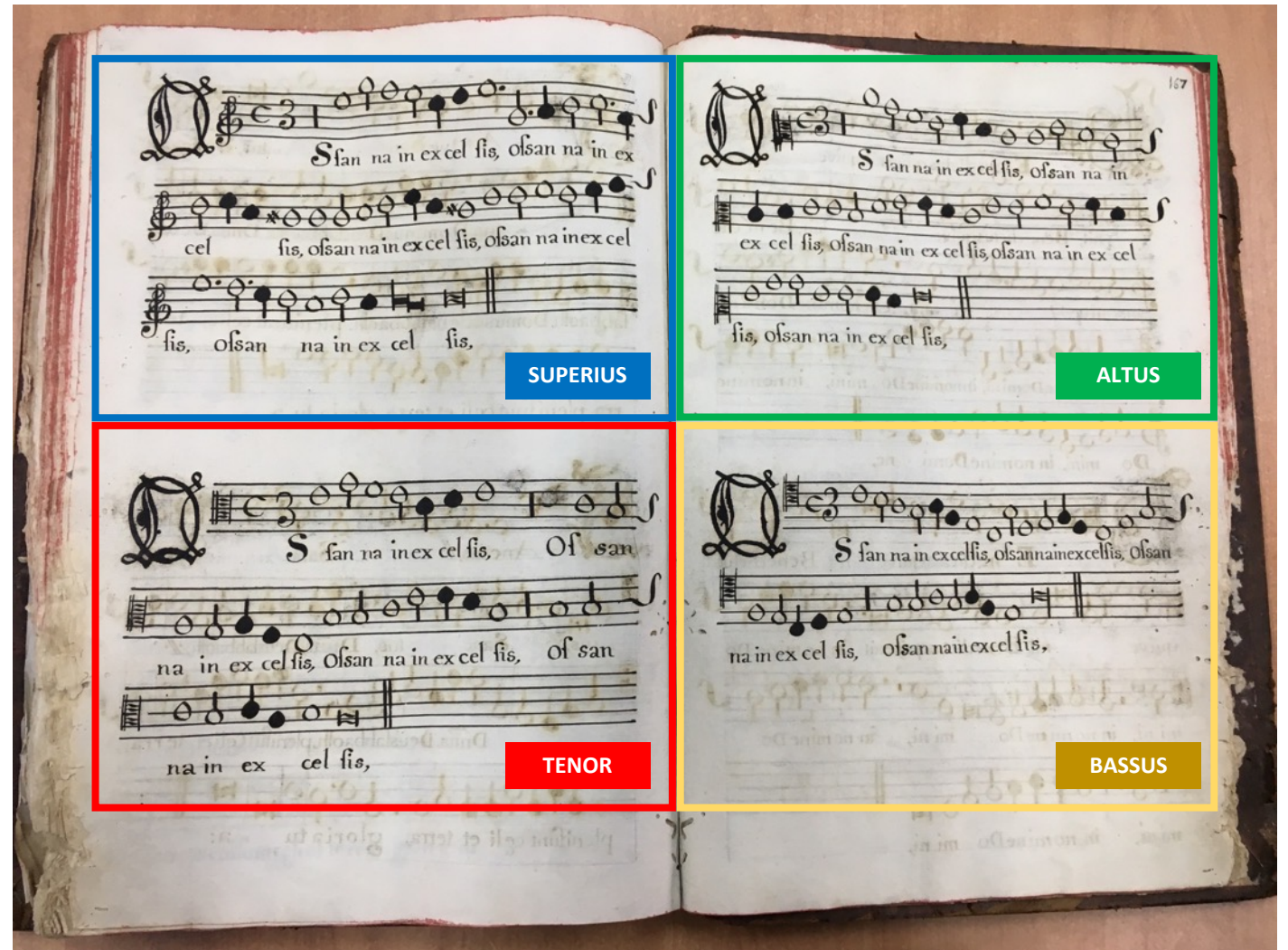
Taking Digital Humanities to Guatemala, A Case Study in the Preservation of Colonial Musical Heritage

Martha E. Thomae, Julie E. Cumming, and Ichiro Fujinaga
Distributed Digital Music Archives and Libraries (DDMAL) Lab, McGill University

Digital Humanities Conference
Utrecht, July 10th, 2019

Guatemalan Choirbooks

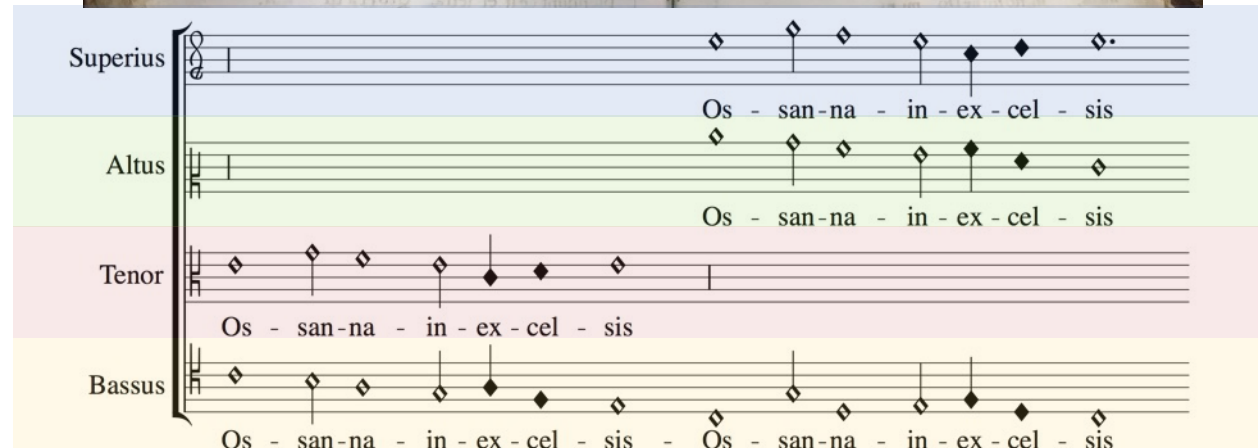
- 6 manuscripts copied between XVII - XVIII
- **Choirbook** format
- Written in **mensural notation**
 - Music notation system used in Europe throughout the Late Middle Ages and the Renaissance



- Lack of high-quality digital images
- Notation style (mensural notation)
- Layout (choirbook format)



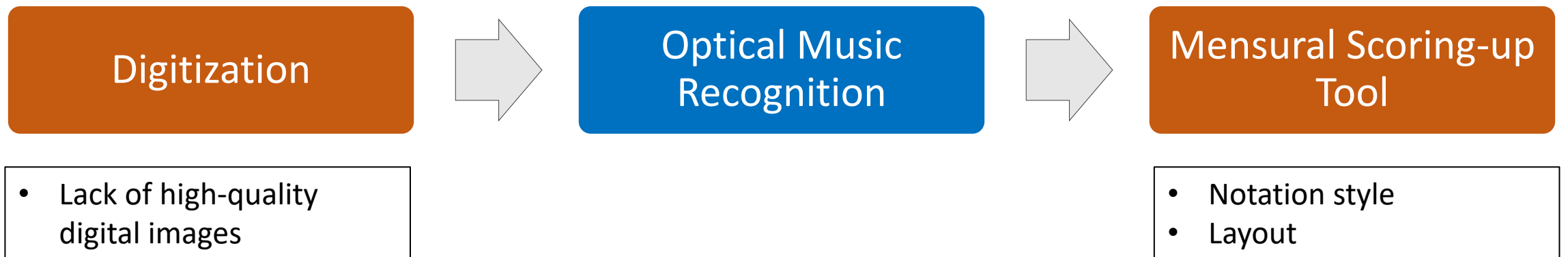
- Lack of high-quality digital images
- Notation style (mensural notation)
- Layout (choirbook format)



Process for Encoding the Music Content of the Choirbooks

Three stages:

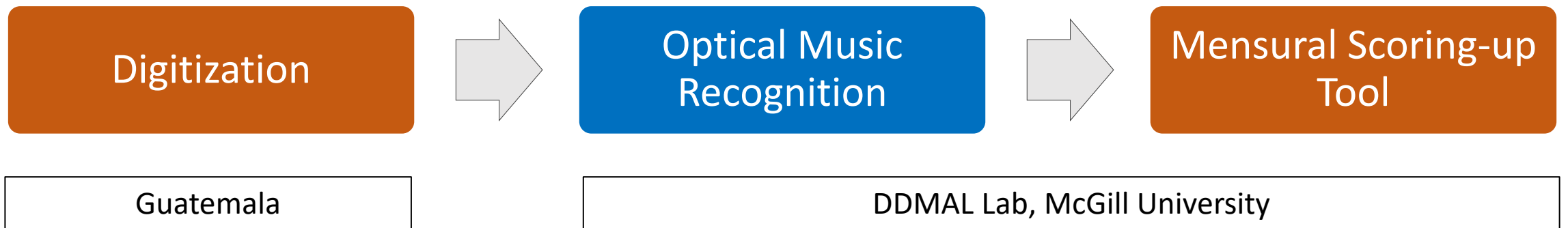
1. Digitization
2. OMR
 - Optical **M**usic Recognition (OMR) \approx Optical **C**haracter Recognition (OCR)
3. Tool designed for the music notation of these choirbooks

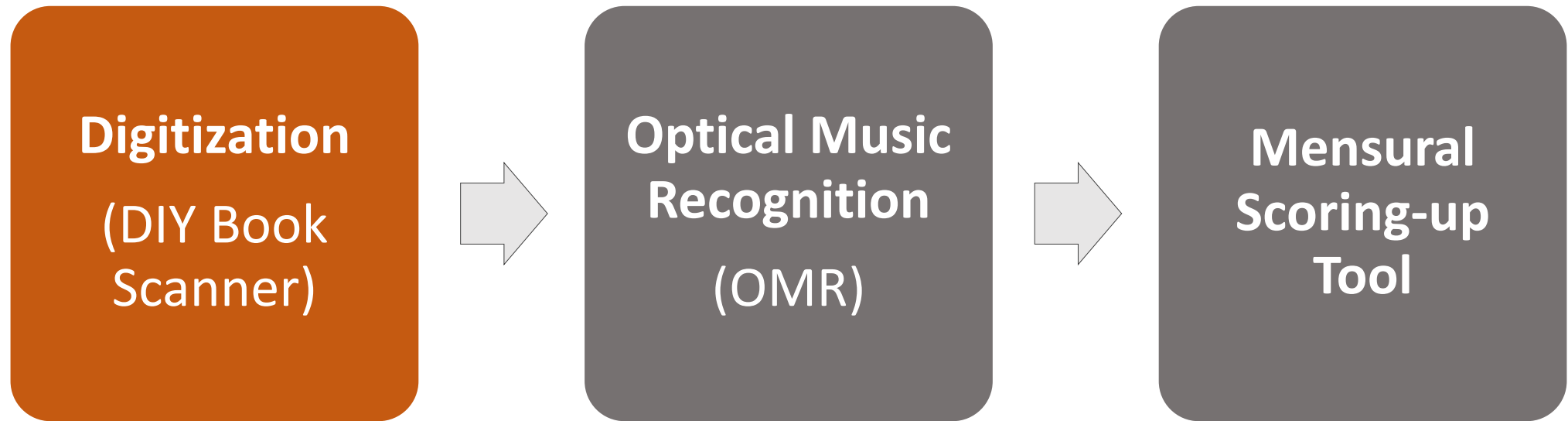


Process for Encoding the Music Content of the Choirbooks

Three stages:

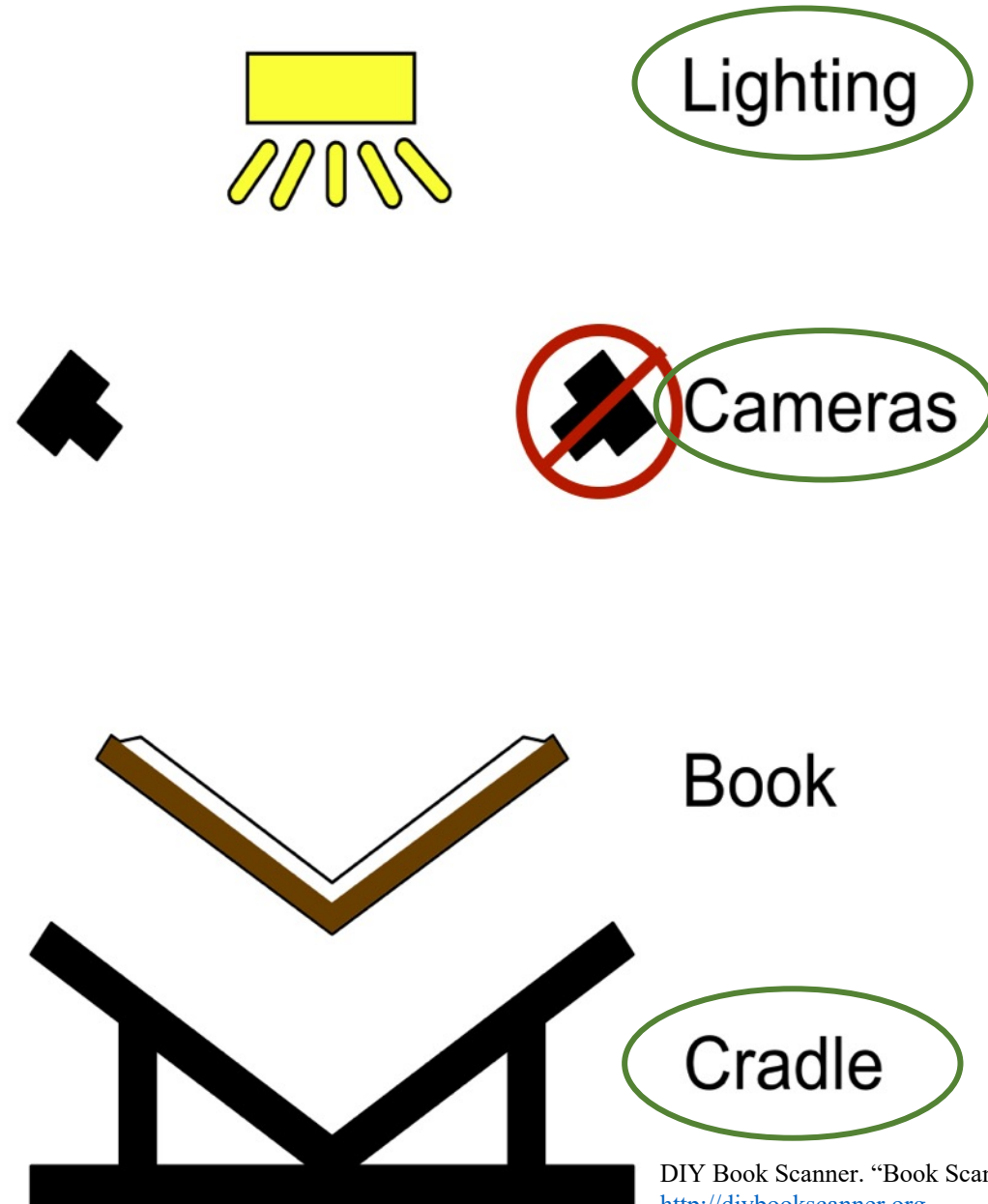
1. Digitization
2. OMR
 - Optical **M**usic Recognition (OMR) \approx Optical **C**haracter Recognition (OCR)
3. Tool designed for the music notation of these choirbooks





DIY Book Scanner

- V-shaped book cradle
 - Built
- Camera(s)
 - Borrowed from the McGill Music Library
 - Nikon D750 (24 Megapixels)
 - Images obtained have a 300 dpi resolution
- Lighting
 - Borrowed from DDMAL Lab, McGill University
 - Two natural-light LED panels



DIY Book Scanner. "Book Scanner Rigs."
<http://diybookscanner.org>

The V-Shaped Book Cradle (with copy stand)



Cradle & Camera



Lighting



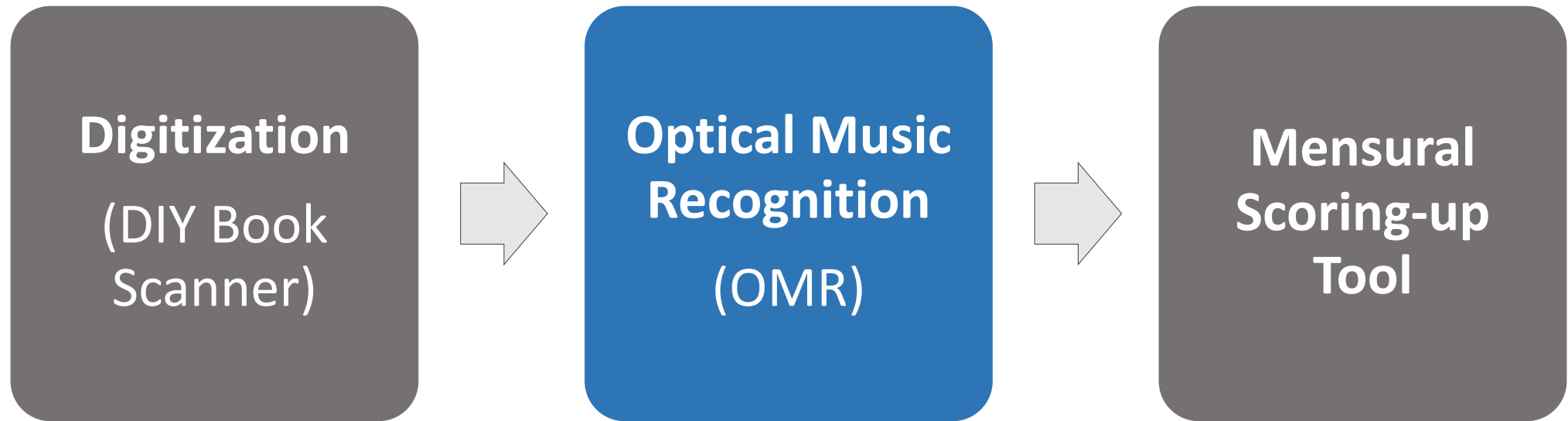
DIY Book Scanner

Advice from:

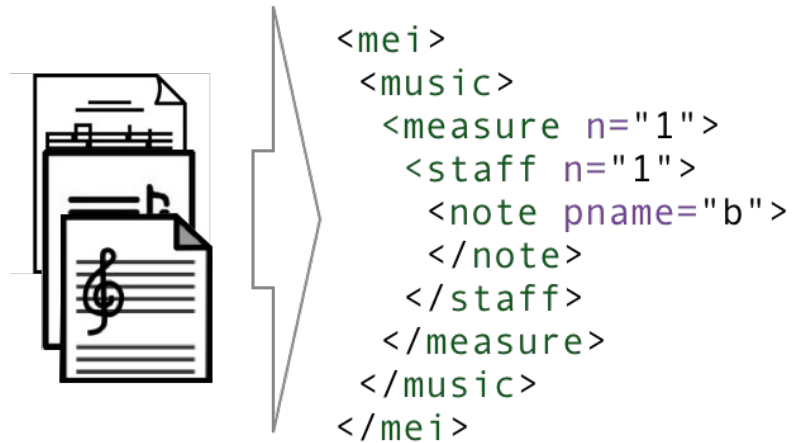
- Digital Image Archive of Medieval Music (DIAMM)
- Bibliothèque et Archives Nationales du Québec (BAnQ)
- McGill Library





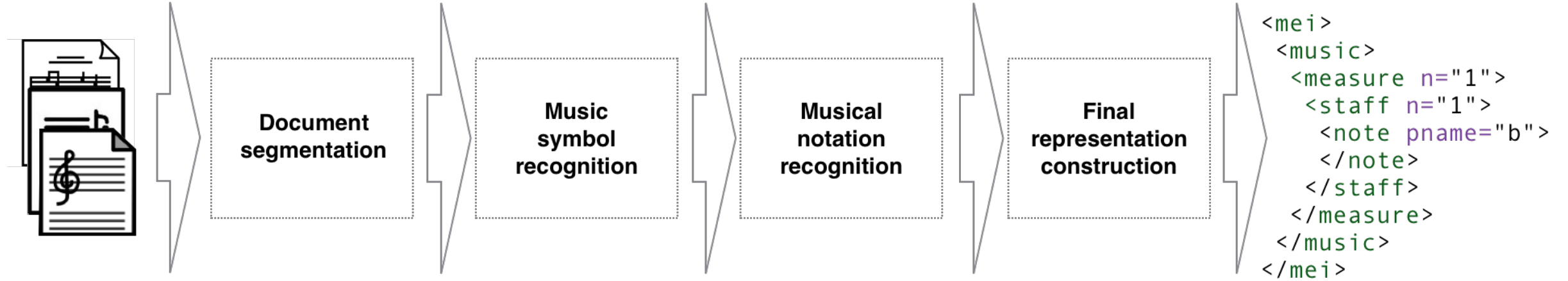


OMR Workflow



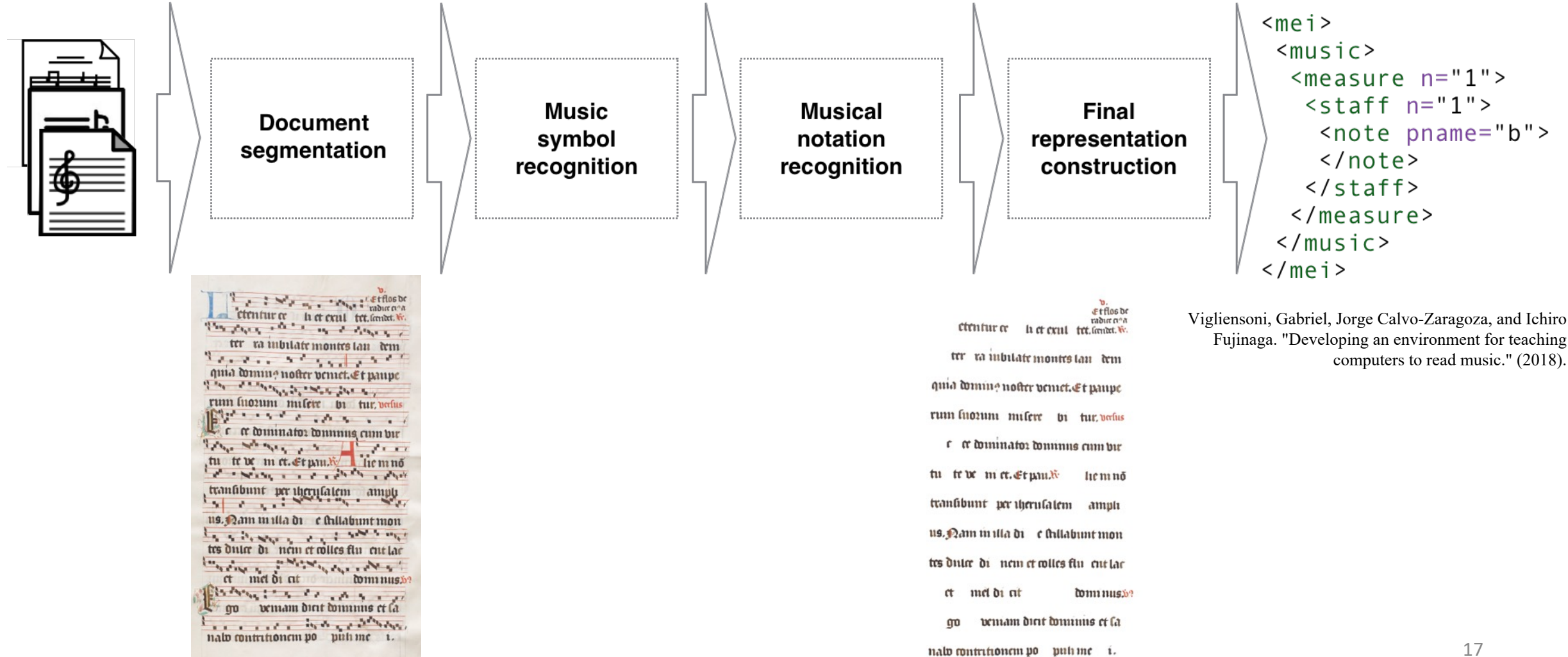
Vigliensoni, Gabriel, Jorge Calvo-Zaragoza, and Ichiro Fujinaga. "Developing an environment for teaching computers to read music." (2018).

OMR Workflow



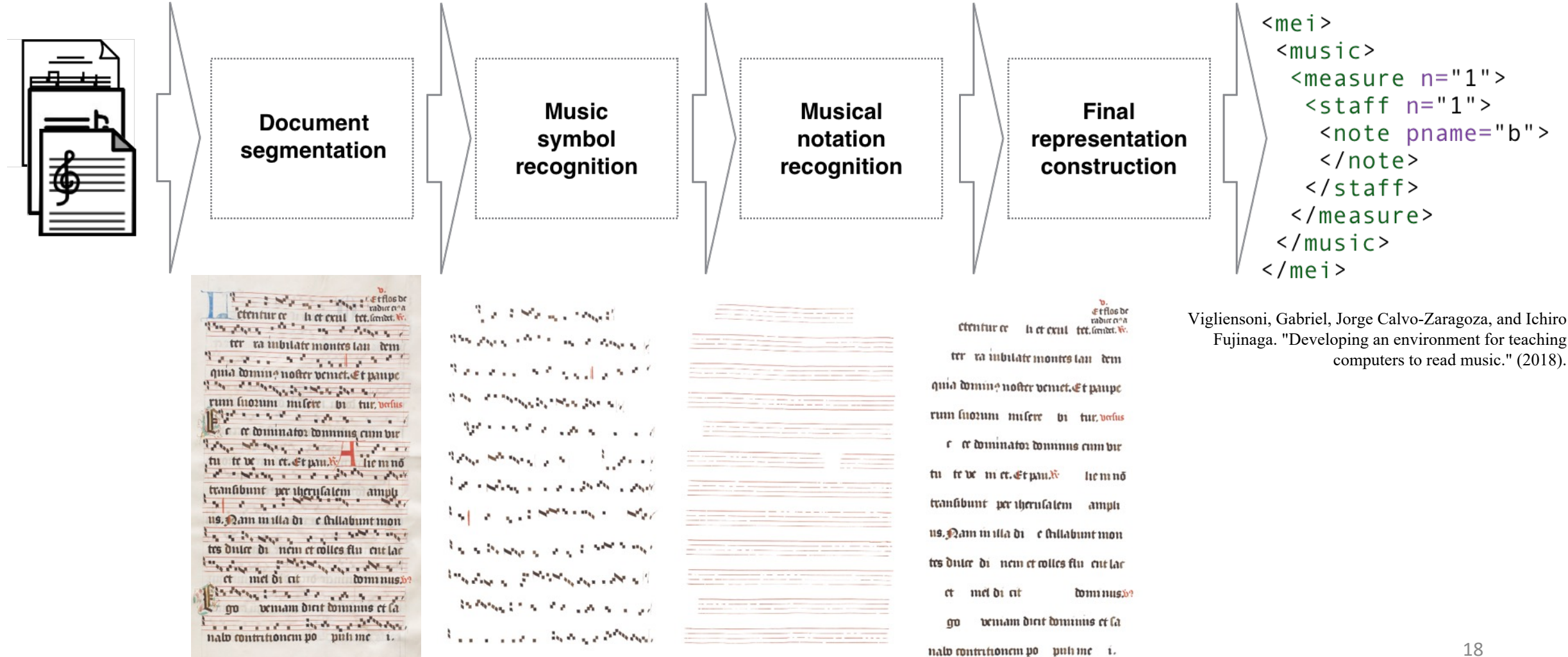
Vigliensoni, Gabriel, Jorge Calvo-Zaragoza, and Ichiro Fujinaga. "Developing an environment for teaching computers to read music." (2018).

OMR Workflow

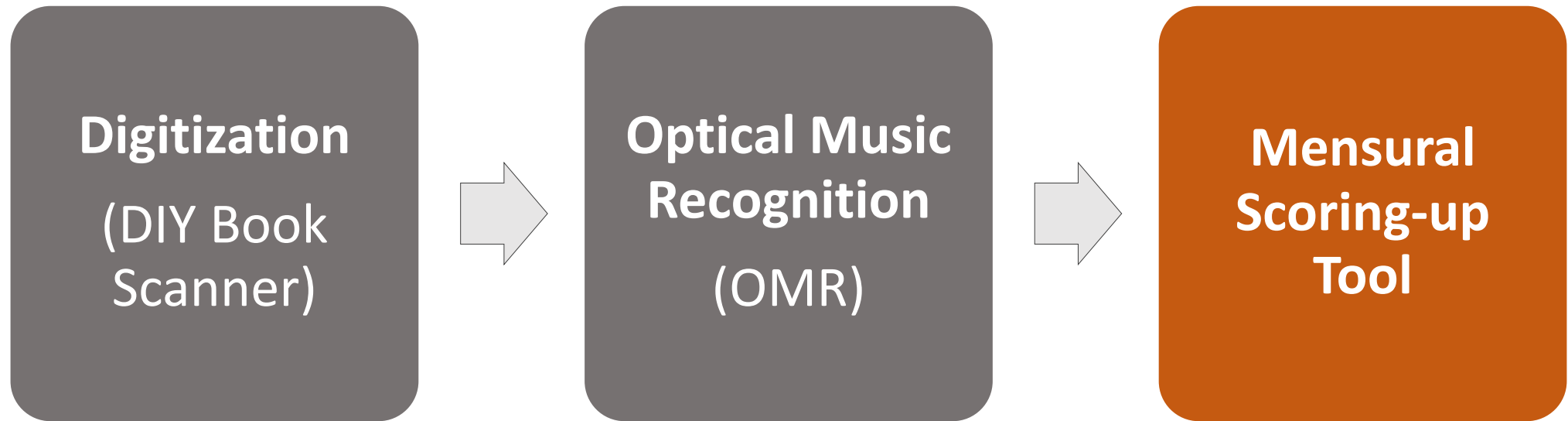


Vigliensoni, Gabriel, Jorge Calvo-Zaragoza, and Ichiro Fujinaga. "Developing an environment for teaching computers to read music." (2018).

OMR Workflow



Vigliensoni, Gabriel, Jorge Calvo-Zaragoza, and Ichiro Fujinaga. "Developing an environment for teaching computers to read music." (2018).



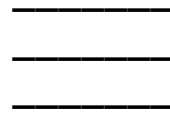
- Pitch
- Note shape



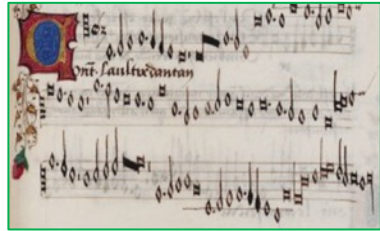
OMR



File 1



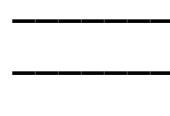
Superius part



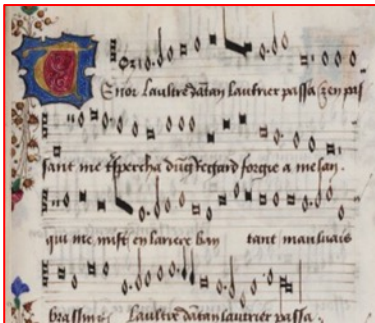
OMR



File 2



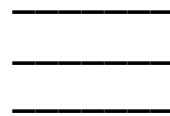
Contratenor part



OMR



File 3

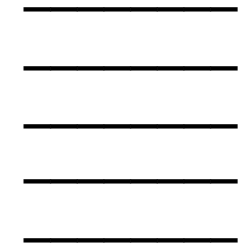


Tenor part

Scoring-up Tool

1. Duration based on context
2. Merge all files together

Output File



SCORE



Expected Results



- Digitization and encoding of the repertoire as musical scores in a machine-readable file format
- Facilitate its preservation, dissemination, study by musicologists, and appreciation by the general public
- We expect this research to be used as a model for the digitization of the mensural repertoire of other countries that were once part of the colonial past

Thank you!

martha.thomaeelias@mail.mcgill.ca

Special thanks to: DIAMM, BAnQ, McGill Music Library

