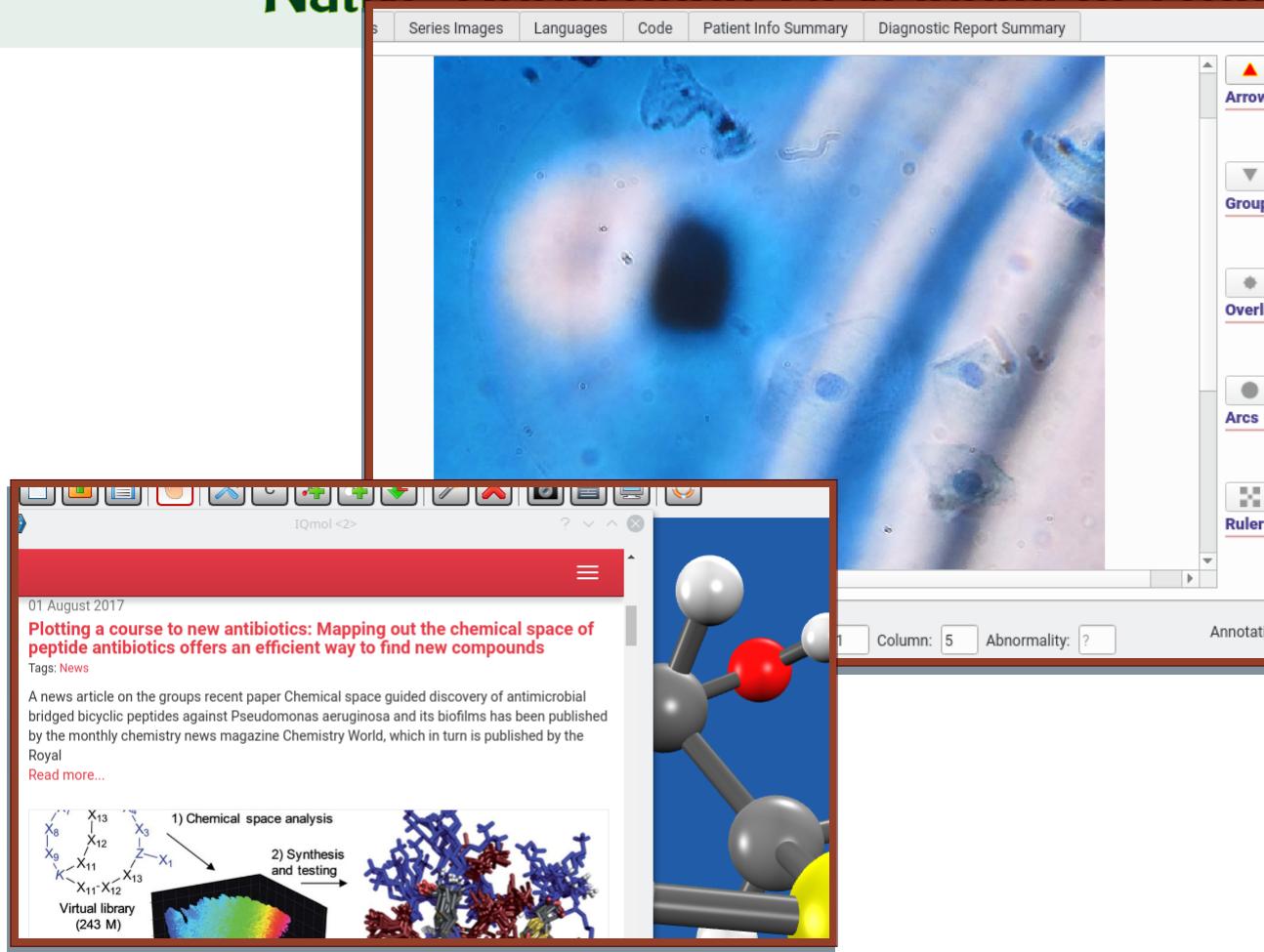


The NCN/A3R ("NA3")

Native Application Development Framework



Linguistic Technology Systems
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The NCN (Native Cloud/Native) Protocol

Cloud/Native Components as back-ends for native software

- “Native Cloud/Native” refers to native application front-ends paired with Cloud/Native container instances.
- Share code libraries and data representation across both endpoints.
- Common representation on both server- and client-side streamlines network communications (no need to marshal data between different formats).
- This presentation will focus on NA3’s default Qt implementation, though the technology can be ported to other application frameworks (wxWidgets, XCode, MFC, etc.).

How Cloud Back-Ends Enhance Native Front Ends

- Cloud Backup; Share data between users; Collaborative Editing
- Persist users’ application state across different computers (home/school/office)
- Upgrade running applications without re-compile

Application-As-A-Resource (A3R)

The A3R Application Model

- A3R Applications
- A3R Applications

A3R Developer Tools

- Hypergraph-based data modeling and serialization.
- Framework for building custom scripting, parsing, and data persistence engines.
- Enhanced support for applications specifically designed to access research data sets.

The Qt Ecosystem

Qt is the most popular native, cross-platform application-development framework.

- ◆ ~1 million active developers ◆ Over 5,000 client companies ◆ Worldwide “Qt Partners” Ecosystem ◆ ~US \$250 million overall market

However ... Limited Qt Cloud Integration Support

- “Qt Cloud Services” Discontinued in 2016.
- Currently there is no standard model for accessing Cloud services from Qt applications.
- Nor is there a standard Qt-based Cloud Native container architecture.

Example Use-Cases

Inter-Application Networking and Workflow Management

- Export data and instructions between Qt-based applications (slides e-e).
- Embed document or multi-media viewers inside scientific or dataset applications (slides e-e).

Responsive, desktop-style applications for enhanced UX

- Compelling front-ends for e-commerce, Real Estate, VR, etc. (slides e-e).
- Native applications offer superior User Experience, leveraging distinct interactive features of desktop GUIs: context menus, dialog boxes, tool tips, Multiple Window Display, dock windows, etc.
- For scientists and researchers, build innovative data-collection instruments as well as interactive Research Object applications (slides e-e).

Interactive VR: Hyperlinked Tag Posts

Panorama-Photography-based VR engines, like Materport, allow “tag posts” with embedded hyperlinks, which in a native-application context become channels of communication between the VR renderer and the host application.

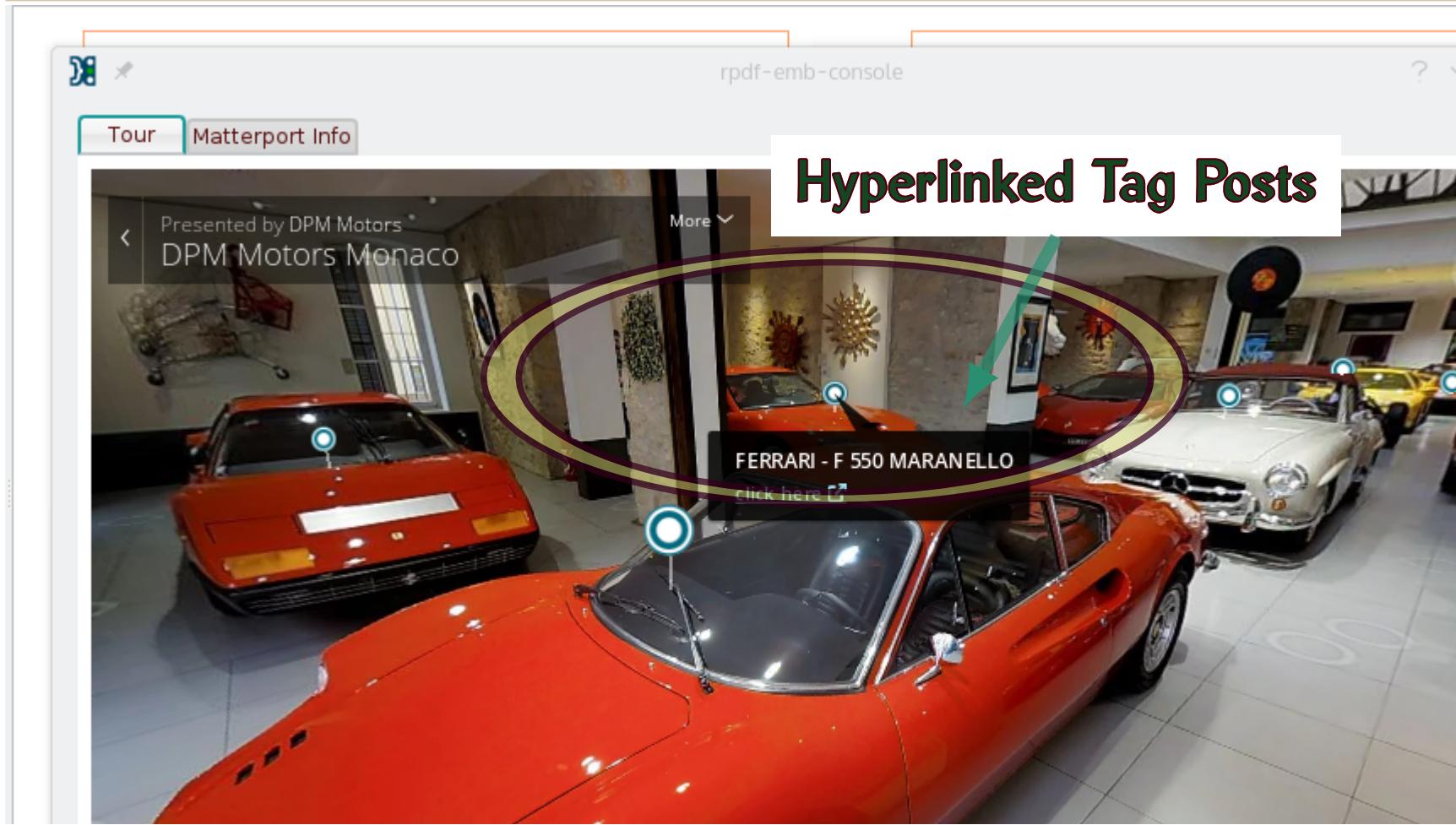


Photo Viewer Color Coding

The Photo Viewer would access embedded data structures which specify how photos are grouped into categories, such as different kinds of rooms (entrance/foyer/hall, kitchen/dining room, bedroom, etc.). Colors are assigned to each group, with color thumbnail used as visual cues marking each photo's classification. Realtors can modify the group names and their corresponding colors, according to their own preferences.

The screenshot shows a photo viewer interface titled "rpdf-emb-console". On the left, there is a grid of small thumbnail images representing various rooms. An arrow points from the "Entrance/Foyer/Hall" entry in the "Groupings" list below to the thumbnail of a hallway in the grid. The "Groupings" list contains the following entries:

- Entrance/Foyer/Hall
- Kitchen/Dining Room
- Living Room/Den
- Bath/Powder Room
- Bedroom/Closet
- Master Bedroom/Spa
- Basement/Game Room

The main right panel displays a large, detailed photograph of a bedroom. The room features a large wooden bed with a headboard, a matching wooden dresser, a chaise lounge, and a pool table. The walls are painted green, and there are windows with valances. A text overlay in the bottom left corner of the main panel says "Current Photo". At the bottom of the screen, there are navigation buttons (left and right arrows), an item counter (Item: 19), an image zoom slider, and two buttons labeled "OK" and "Cancel".

Photo Viewer Interactive Cues

Color insertions switch from horizontal to vertical indicating which photos have been viewed (enlarged). Separate and apart from that, the thumbnail of the current enlarged photo is marked with a thick colored border. This border will surround the thumbnail and the overlay both for photos being viewed for the first time (with a horizontal color-band) and for photos being viewed a second time (with a vertical color-band).

Already Viewed (vertical color band)

Not Yet Viewed (horizontal color band)

Current Photo (viewed for the second time)

/home/nlevisrael/

Groupings

- Entrance/Foyer/Hall
- Kitchen/Dining Room
- Living Room/Den
- Bath/Powder Room
- Bedroom/Closet
- Master Bedroom/Spa
- Basement/Game Room

Item: 10

Image Zoom:

Photo Viewer Alternative Interface

For realtors who prefer showing/hiding thumbnails (as opposed to using color-coding to differentiate groups), the Photo Viewer can also be implemented with this alternative design, or the two designs can be combined. In general, realtors will be afforded a lot of control over the layout and operational design of Re-PDF interactive windows.



Visible Groups

Groupings

- Entrance/Foyer/Hall
- Kitchen/Dining Room
- Living Room/Den
- Bath/Powder Room
- Bedroom/Closet
- Master Bedroom/Spa
- Basement/Game Room

Item: 3

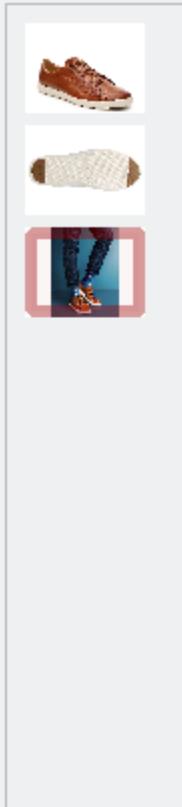
Image Zoom:

OK



Hidden Groups

ECI.



ECI

- Detach Image
- Detach Noteboook
- Detach Description
- [Detach Everything](#)
- Merge Windows
- Explore Color Matches ...
- View 3D Model ...
- Take Screenshot
- View Item List
- View Shopping Cart



Item: 3 Image Zoom:

Grand Cros

Sleek and s
Crosscourt
Haan is the
some tailor
your every

Actions:

- [Add to...](#)
- [Explore](#)



Overview Features Specs Reviews

- Leather upper

EC-2

EC2.



EC2

[Overview](#) [Features](#) [Specs](#) [Reviews](#)

Details

Colors: White, Cognac, Navy, Black

Item # 394637

UPC # 190595368293

[Detach Image](#)

[Detach Notebook](#)

[Detach Description](#)

[Detach Everything](#)

[Merge Windows](#)

[Explore Color Matches ...](#)

[View 3D Model ...](#)

[Take Screenshot](#)

[View Item List](#)

[View Shopping Cart](#)

Grand Crosscou

Sleek and simple, the Crosscourt II sneaker from Cole Haan is the perfect addition to add some tailoring to your everyday style.

Actions:

- [Add to Cart](#)
- [Explore Colors](#)



EC-3

EC3.

The image shows a product customization interface for a brown leather sneaker named "EC-3". The main view displays the shoe with three color swatches on the left. A "Select Color" dialog box is open in the foreground, allowing users to choose a color from a color wheel. The dialog also displays specific color values: Red (82), Green (42), Blue (38), and a Hex value of #522a26. To the right, there is a preview area with another color wheel and a hex color picker set to the same value. The interface includes tabs for Overview, Features, Specs, and Reviews at the bottom.

Product

Coordinate

Select Color

Hue

Sat

Value

Red

Green

Blue

Hex

#522a26

Reset

Pick

OK

Apply

Cancel

Overview

Features

Specs

Reviews

Details

EC-4

EC4.

File Email Events APIs Web Broadleaf

Page: 0

Search for:



Document: 100%



tecs-db-main <2>

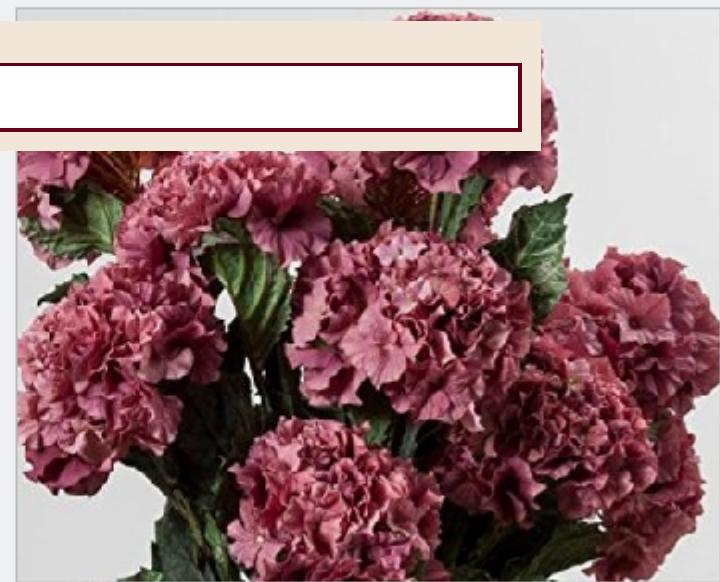
?



tecs-db-main <3>

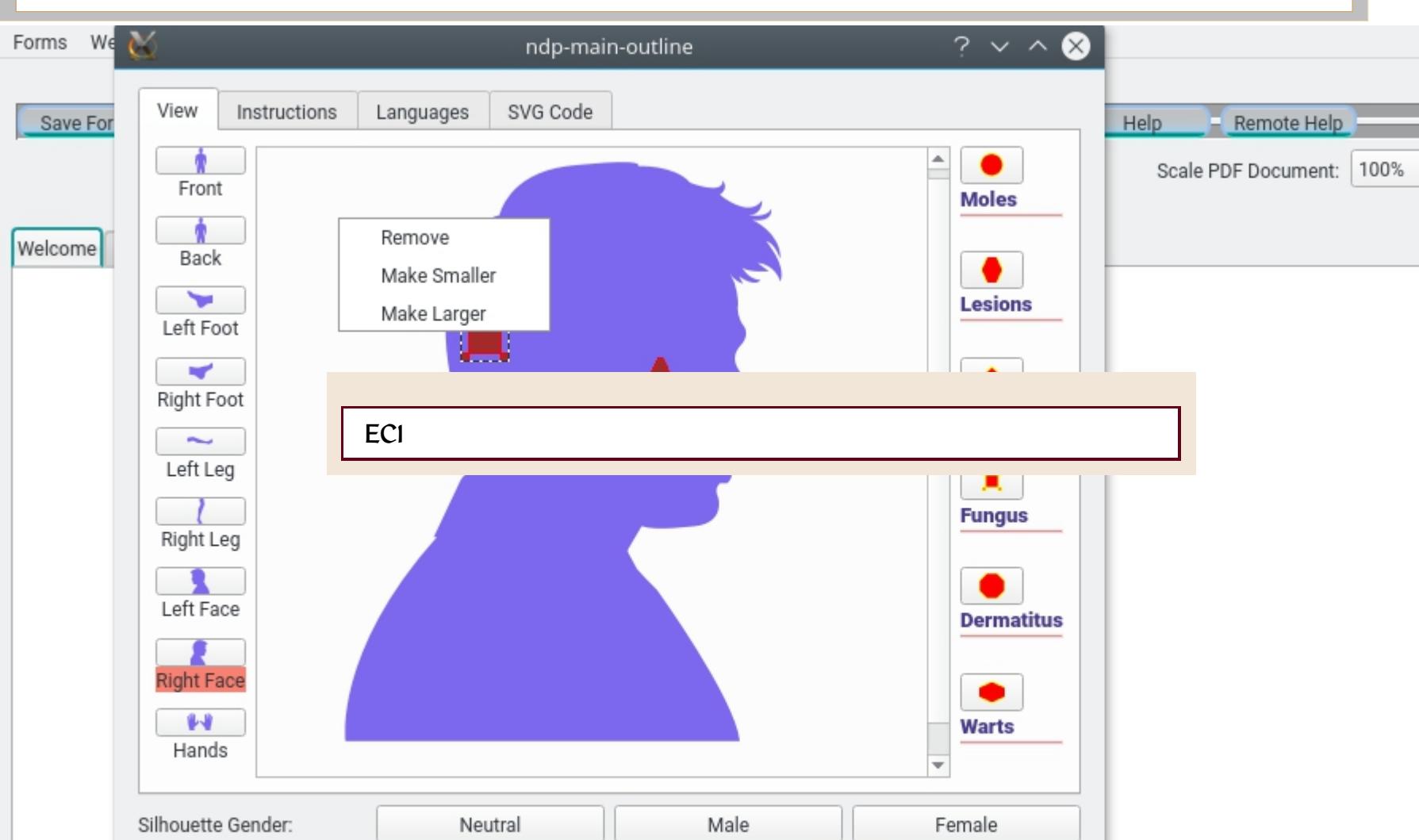
Lily Garden Silk
Peony Bouquet
Home Decoration,
Lilac, 18 Inches
High

EC4



EC-I

ECI.



EC-I

ECI.

Forms Web Language Help About

Save Form Open Form Cloud Save Cloud Open Submit Form Share Form Help Remote Help

Page: 0 Search for: Forwards Find Clear Scale PDF Document: 100%

Welcome Web

X ? ^ _ ×

Form Outline

Click on a subheading to continue

Patient Information

Chief Complaint

Review of Symptoms

Treatment History

Medical History

Current Medications

Family History

ECI

Chief Complaint (reason for your visit today) Edit

Does this pain radiate? If so where? Edit

Please list any additional areas of pain Edit

Open Diagram Diagram This opens a diagram so you can mark areas of pain Close

This screenshot shows a medical form interface. At the top, there's a navigation bar with links for 'Forms', 'Web', 'Language', 'Help', and 'About'. Below that is a toolbar with buttons for 'Save Form', 'Open Form', 'Cloud Save', 'Cloud Open', 'Submit Form', 'Share Form', 'Help', and 'Remote Help'. There are also controls for 'Page' (set to 0), 'Search for', 'Forwards', 'Find', 'Clear', and 'Scale PDF Document' (set to 100%). On the left, a sidebar has tabs for 'Welcome' (which is selected) and 'Web'. It also contains a 'Form Outline' section with the instruction 'Click on a subheading to continue' and a list of sections: 'Patient Information', 'Chief Complaint', 'Review of Symptoms', 'Treatment History', 'Medical History', 'Current Medications', and 'Family History'. A large central window is titled 'ECI'. It contains four text input fields with 'Edit' buttons: 'Chief Complaint (reason for your visit today)', 'Does this pain radiate? If so where?', 'Please list any additional areas of pain', and 'Open Diagram'. A 'Diagram' button is highlighted with a red border. A tooltip for 'Open Diagram' says 'This opens a diagram so you can mark areas of pain'. A 'Close' button is also present in the 'Open Diagram' area. The bottom right corner of the screen shows a set of small navigation icons.

EC-I

ECI.

Patient Info Dialog

Diagnostic Report

Open Folder

Open Image

View

Instructions

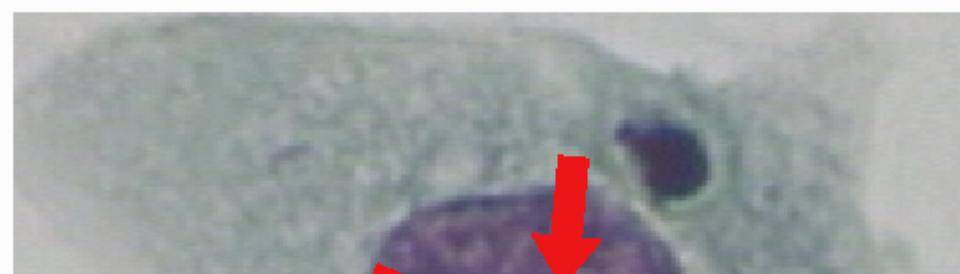
Series Images

Languages

Code

Patient Info Summary

Diagnostic Report Summary



RES-3



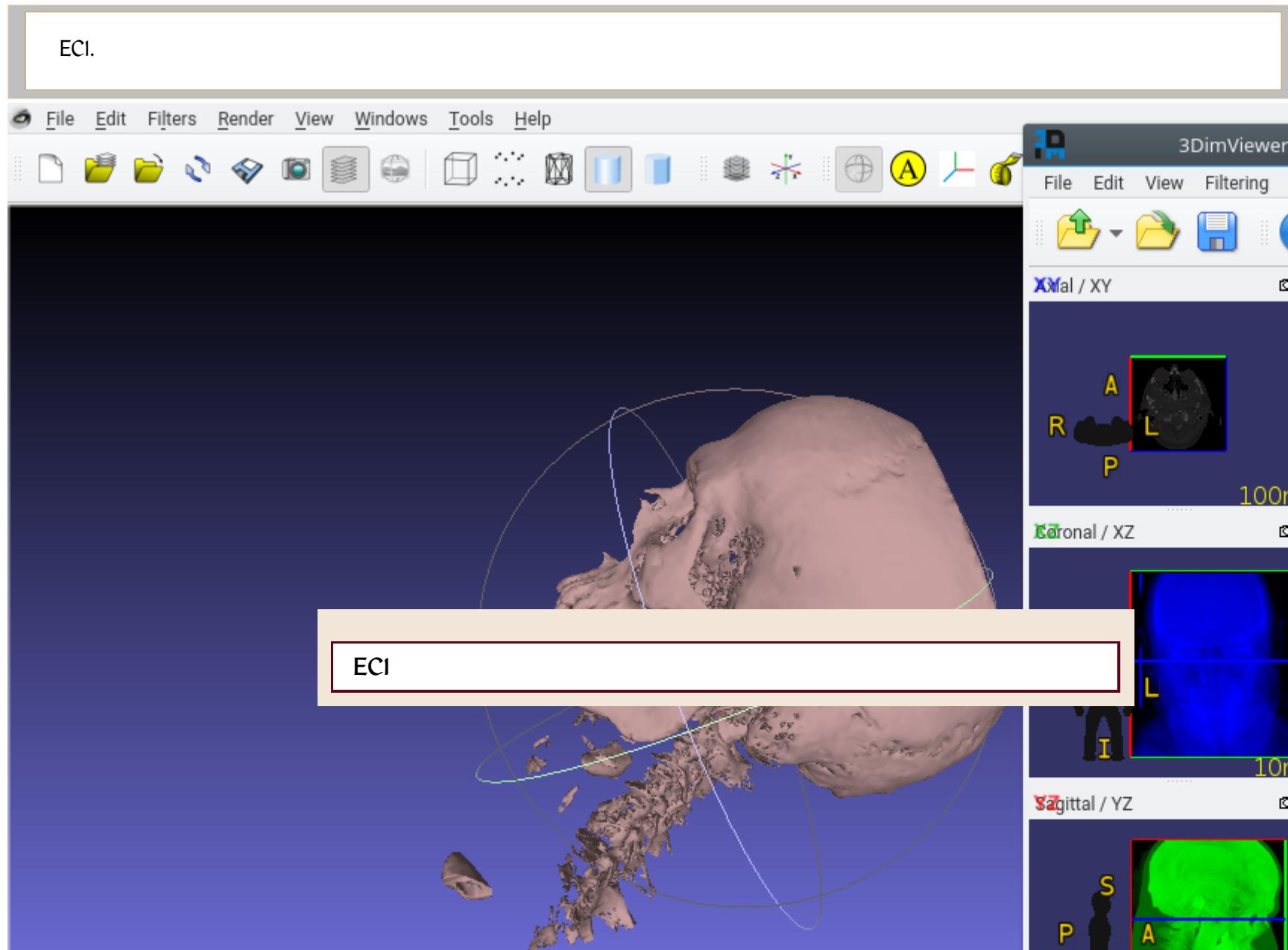
Silhouette Zoom:

< >

Image and Group Transforms ...

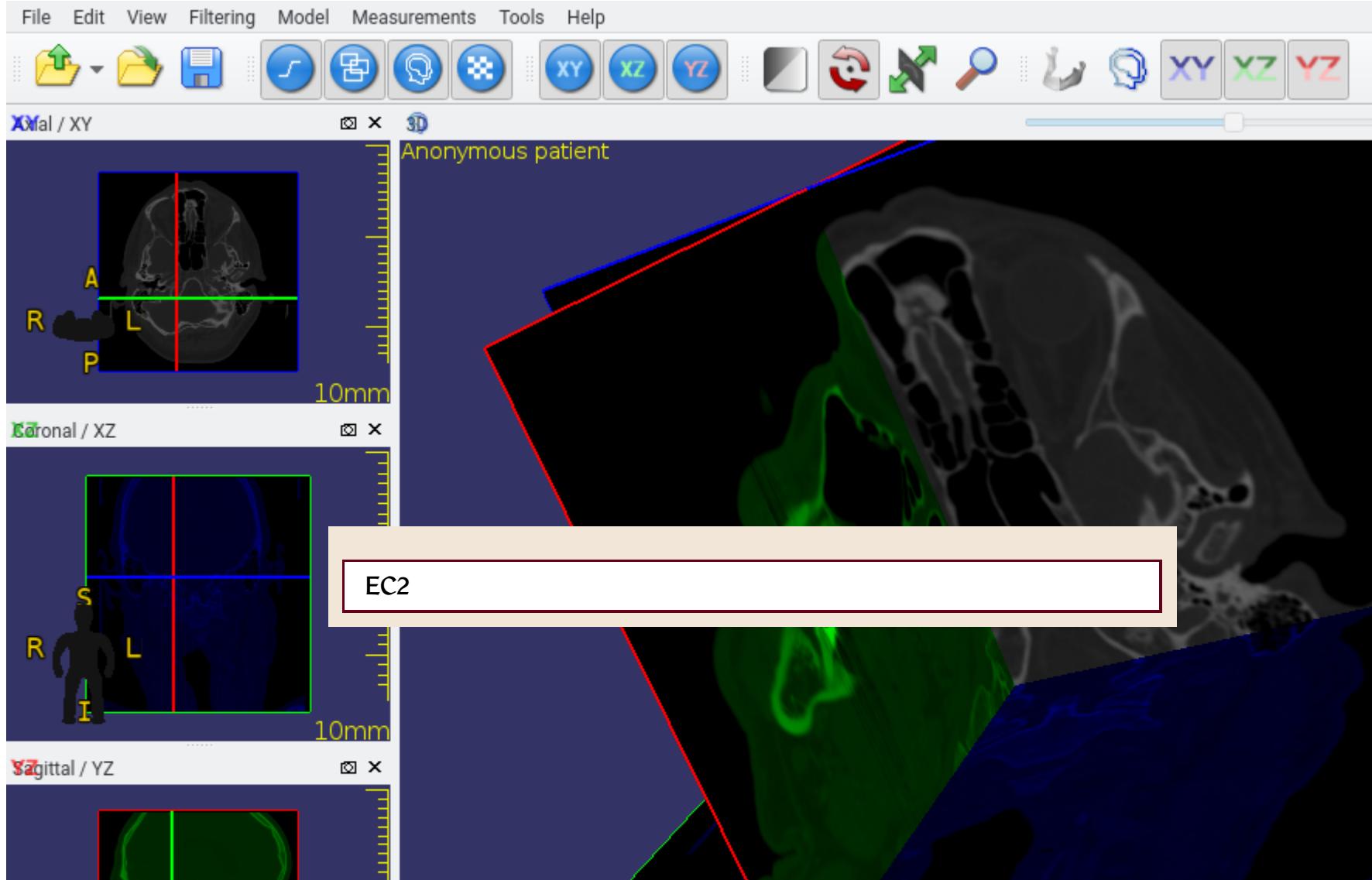
Single Annotation Transforms ...

EC-I



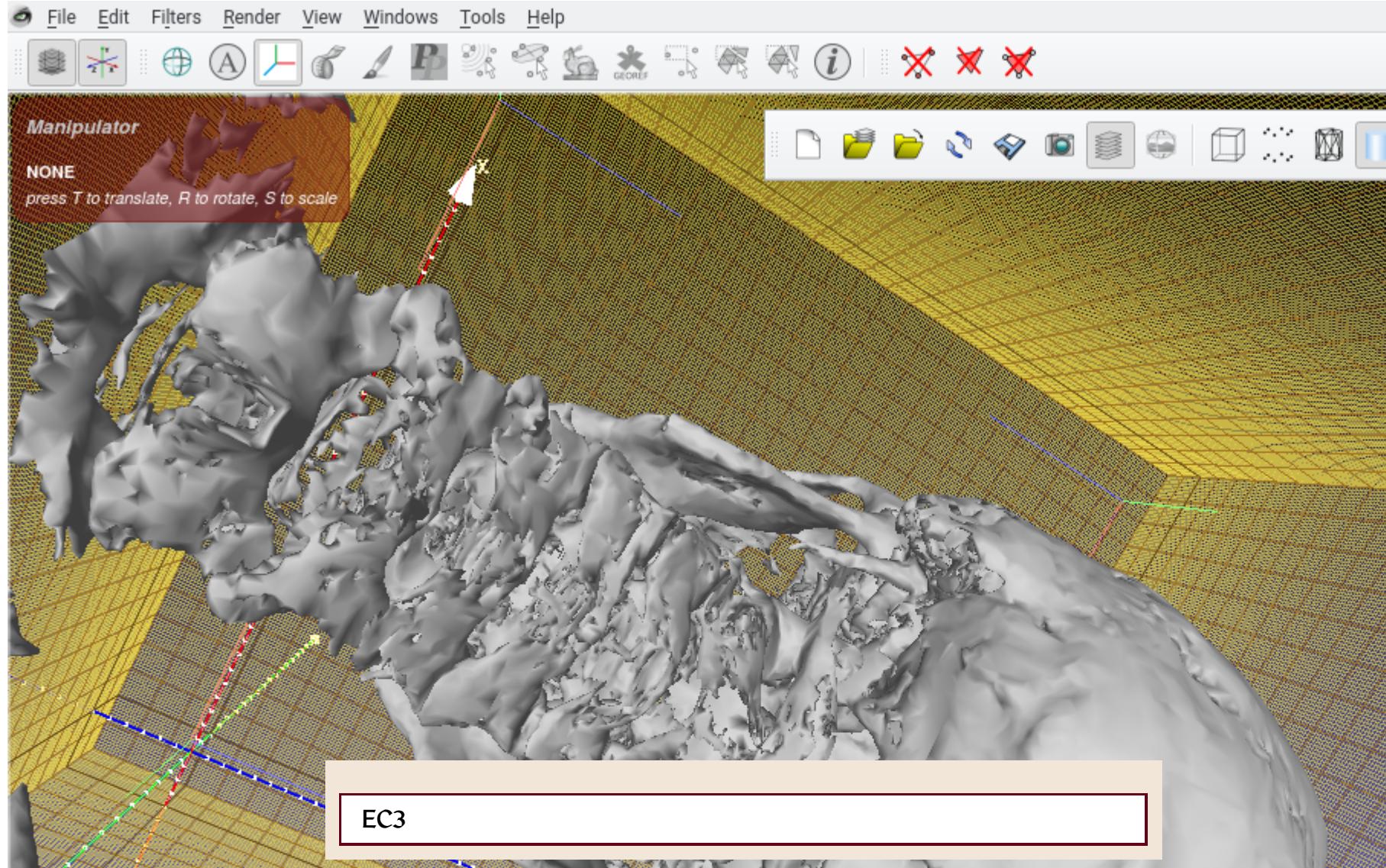
EC-2

EC2.



EC-3

EC3.



ECI.

File Edit Display Build Calculation SONIC Help



Model View

▶ Global

▶ L-cysteine

Configure

Select All

Reperceive Bonds

Duplicate Geometry

Atomic Charges

Remove

SONIC

SONIC Reader

Springer Keyword Search: Cysteine

Springer Web Search Home



Refine Search

Show...

CONTENT
TYPE

Book 157

TOPICS

Biochemi
stry 37

Book

Cysteine Proteases of Pathogenic Organisms

Robinson, M. W. (Ed), Dalton, J. P. (Ed) (2011)

Cysteine proteases expressed by pathogenic organisms play key roles in virulence including host



EC-2

EC2.



Open Book Book Info Preferences Library Reading

PDF **HTML** NAV HTML Source Lisp CSS XML

Go to old article view

PDF  

ANTHROPOLOGY AND HUMANISM

Articles

EC2

The Ethnographer as Apprentice: Embodying Sociomusical Knowledge in South India

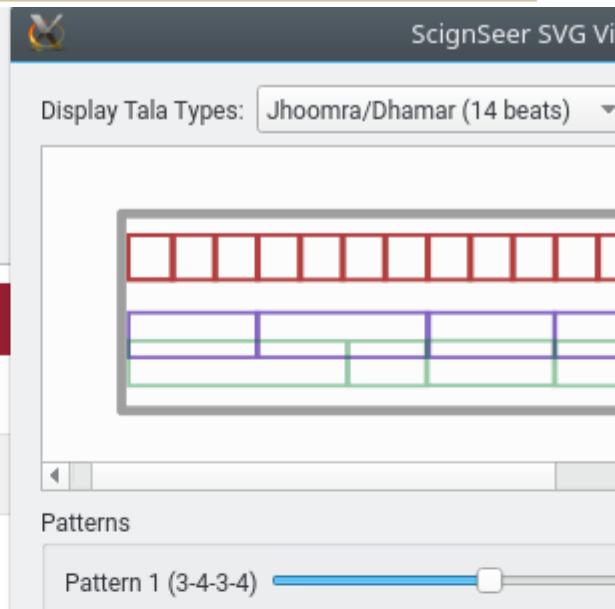
Amanda Weidman

First published: 26 December 2012 Full publication history

DOI: 10.1111/j.1548-1409.2012.01131.x View/Download citation

ScignSeer SVG View

Display Tala Types: Jhoomra/Dhamar (14 beats)



Patterns

Pattern 1 (3-4-3-4)

File /extension/ScignSeer/articles/svg/tala.svg

Volume 3
December
Pages 2

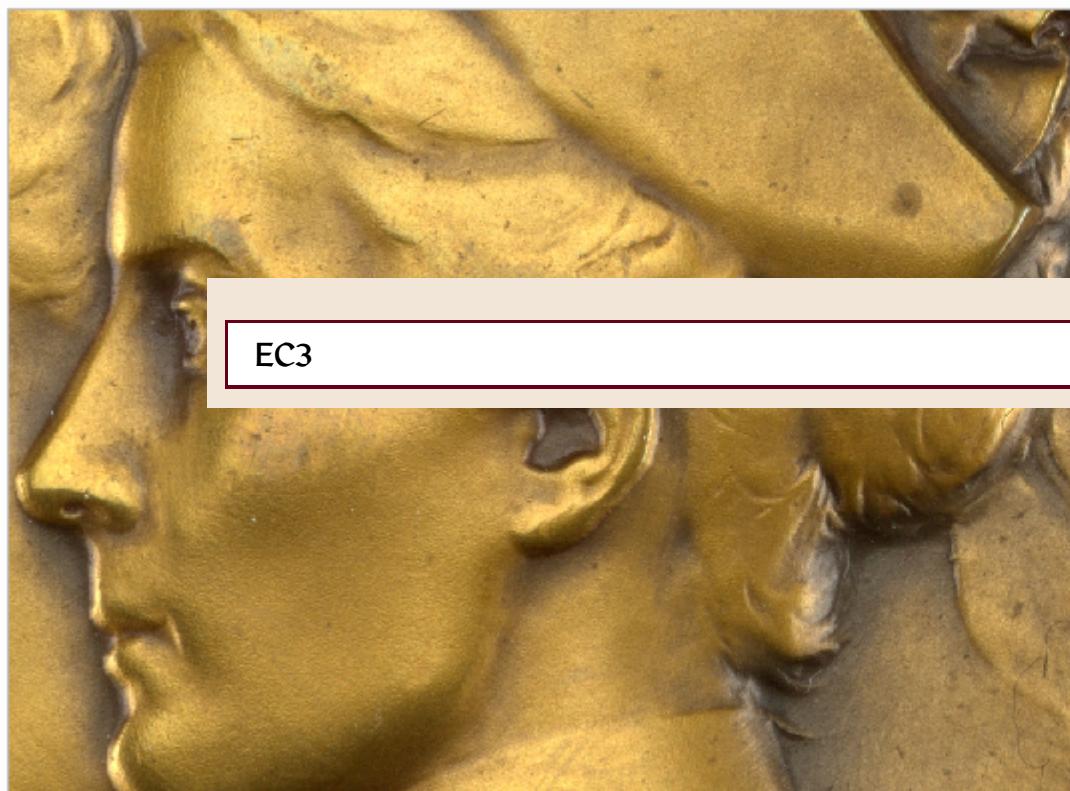
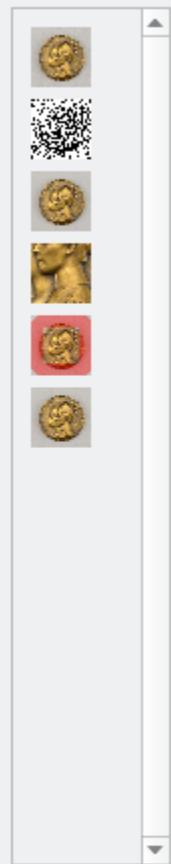


February 1, 2020

21 / 25

EC-3

EC3.



View Instructions

EC3



Row:

0

Column:

0

MEDAL

 Click the icon to save

This is a **Medal**. We acquired

of the **Product D**
department.

Cite this object as

Medal; bronze; 1920-3

EC-4

EC4.

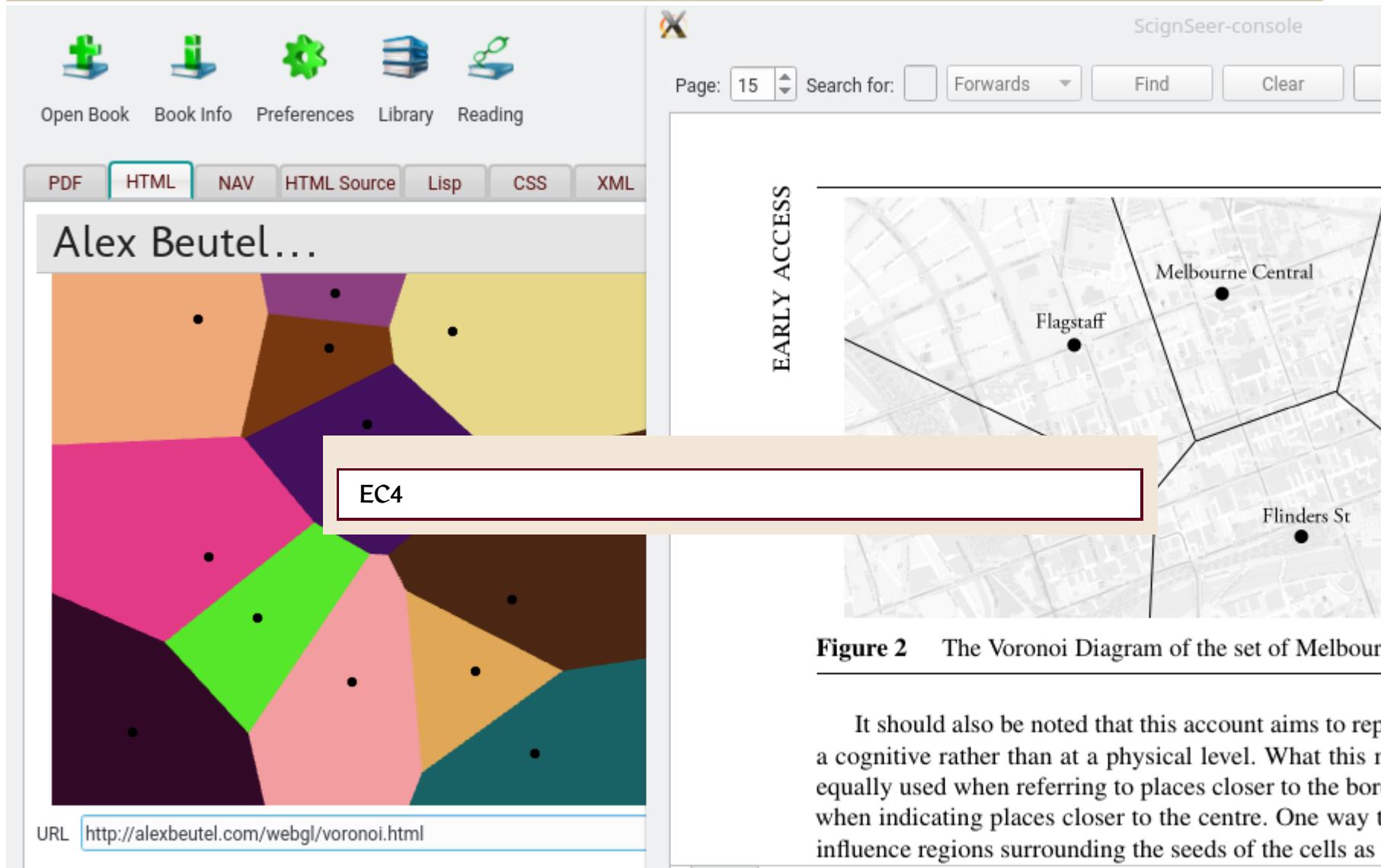


Figure 2 The Voronoi Diagram of the set of Melbourne

It should also be noted that this account aims to represent a cognitive rather than at a physical level. What this means is that the term "nearby" can be equally used when referring to places closer to the borders of a cell than to its center, and when indicating places closer to the center. One way to do this is to influence regions surrounding the seeds of the cells as follows:

EC-4

EC4.



Open Book



Book Info



Preferences



Library



Reading

PDF

HTML

NAV

HTML Source

Lisp

CSS

XML



**RED PANDA
NETWORK**

Ailurus fulgens styani (also known as *a. f. refulgens*): Only found in China (in the Hengduan Mountains in Sichuan and the East Nujiang River of Yunnan Province) and northern Myanmar.

WHAT WE DO

RED PANDA

GET INVOLVED

CONTRIBUT

Mountains in Sichuan and the East Nujiang River of Yunnan Province) and northern Myanmar.

The head and body length of red pandas averages 56 to 63 cm (22 to 25 in), and their tails about 37 to 47 cm (15 to 19 in).

Behaviors

Red p

EC4

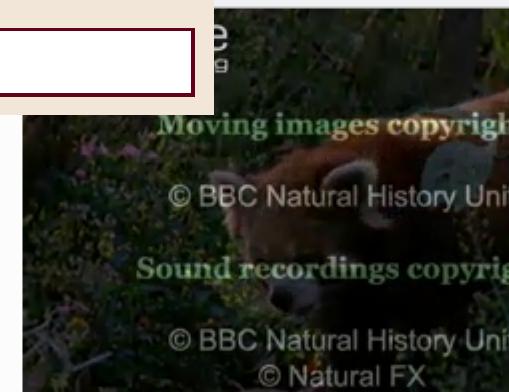
develop extended associations with their mothers that last through the breeding season.



In terms of t
tend to have
other. This n



ScignSeer Video Player



Thanks!

Please contact Linguistic Technology Systems for more information about NA3 or other Software Language Engineering solutions.

