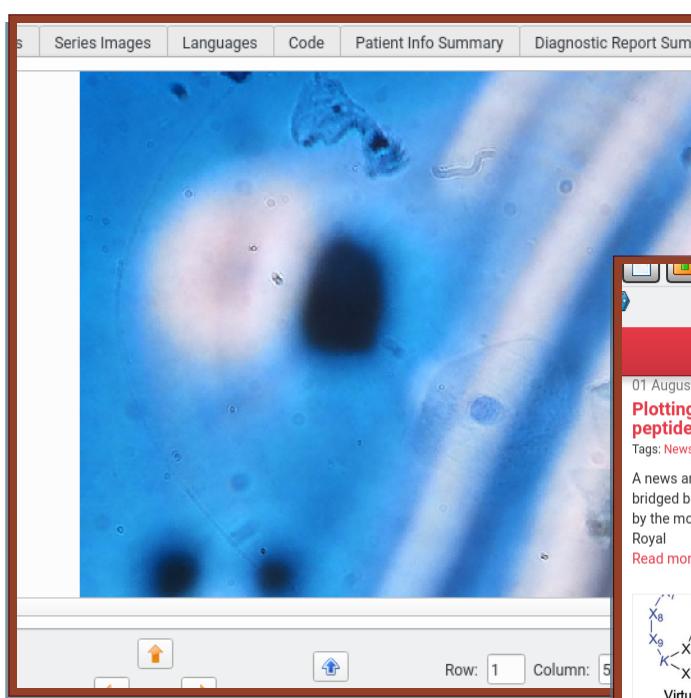


The NCN/A3R ("NA3")

Native Application Development Framework



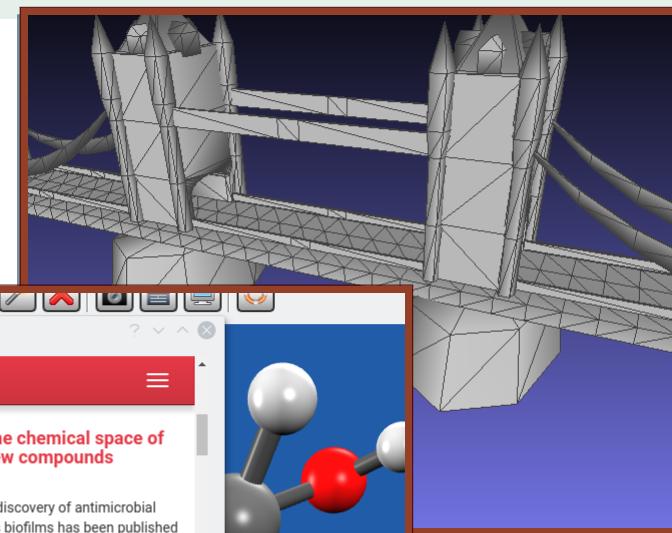
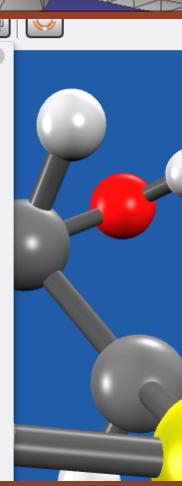
01 August 2017
Plotting a course to new antibiotics: Mapping out the chemical space of peptide antibiotics offers an efficient way to find new compounds
Tags: News

A news article on the groups recent paper Chemical space guided discovery of antimicrobial bridged bicyclic peptides against *Pseudomonas aeruginosa* and its biofilms has been published by the monthly chemistry news magazine Chemistry World, which in turn is published by the Royal Society of Chemistry.

[Read more...](#)

1) Chemical space analysis
Virtual library (243 M)

2) Synthesis and testing



Linguistic Technology Systems
Amy Neustein, Ph.D., Founder and CEO
amy.neustein@verizon.net
(917) 817-2184

Capital Raising for Round A, ROI, and Exit Plan

- ◆ New Jersey-based home-grown female-headed software development company launching “Round A” between \$1.5 and \$2 million .
- ◆ Conservative burn with 5 year exit plan.
- ◆ Company valuation at \$100 Million at exit. ¹
- ◆ Business model: customization, hosting, and licensing. ²

¹ See Slide 10 for development stages and exit strategy.

² See Slides 8 and 11 for details.

Team Members

Lead Software Architect

Nathaniel Christen, Doctoral Candidate, University of Ottawa. Specializations: C++, Programming Language Implementation, Cognitive and Computational Linguistics, Scientific Computing, Philosophy of Science, Digital Humanities.

Quality Assurance and User Acceptance Consultant

Ara Mehetarian, former head of Quality Assurance at Random House and AIG.

Medical Imaging and Data Communications Consultant

Alan H. Rowberg, M.D., formerly RIS/PACS Manager at Northwest Hospital; Co-Developer of DICOM protocol formerly Co-Chair of DICOM Standards Committee.

Company Founder and CEO

Amy Neustein, Ph.D., Editor-in-Chief of the *International Journal of Speech Technology*; Editor of De Gruyter Series in Text Mining in Medicine and Health Care; Editor of SpringerBriefs in Speech Technology; Author/Editor of 12 academic books on natural language processing, speech recognition, text mining, speech and automata, forensic speaker recognition, mobile speech, and cyber-physical systems and smart homes.

Our NCN (Native Cloud/Native) Protocol

NA3
Capital
Team
NCN
Qt
Business Strategy
NA3 Revenue
Comparability
Development Phases
Customization
Software Development Market
Potential NA3 Markets
Examples

Cloud/Native Components as Back-Ends for Native Software

- Our “Native Cloud/Native” protocol refers to native application front-ends paired with Cloud/Native (back-end) container instances.
- Code libraries and data representation may be shared across both endpoints.
- Common representation on both server- and client-side streamlines network communications (no need to marshal data between different formats).
- The NA3 technology can be ported to other application frameworks apart from Qt (wxWidgets, XCode, MFC, etc.).
 - Note: This presentation will focus on NA3’s default Qt implementation.

How Cloud Back-Ends Enhance Native Front Ends

- Cloud Backup ● Share Data between Users ● Collaborative Editing
- Maintain users’ application state across different computers (home/school/office)
- Upgrade running applications without needing to re-compile

How NCN Addresses Limitations of Qt in the Cloud

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 \$25 billion 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.

Our NA3 Business Strategy

NA3
Capital
Team
NCN
Qt
Business Strategy
NA3 Revenue
Comparability
Development Phases
Customization
Software Development Market
Potential NA3 Markets
Examples

The NA3 Protocols encapsulate new technical models for Qt development and address recognized gaps in the Qt ecosystem, particularly the lack of a standard Qt Cloud Services. The strategy for promoting NA3 is therefore oriented to establishing NA3 within the Qt community, using the NA3's Qt implementation as a foundation to document NA3's essential hypergraph and type-theoretic concepts. On this basis NA3 can then be promoted in other application-development contexts.

Within the Qt Market

- Promote NCN as a standard solution for Qt/Cloud Integration.
- Promote A3R tools for building custom scripting languages for Qt.
- Promote the A3R protocol as a standard model for inter-application networking, describing applications, and serializing application-specific data structures.
- On the basis of these enhancements to the Qt ecosystem, LTS hopes to join the **Qt partners** program, which would expose NA3's unique features to a worldwide developer community.

Outside of Qt (see slide 9)

- Generalize the NA3 C++ reflection model and hypergraph libraries to standard (non-Qt) C++.
- Implement the A3R Protocols for standard C++ and for other languages (C#, Java, etc.).
- Implement language-agnostic hypergraph serialization to allow A3R networking between applications written for different operating systems and/or programming languages.

NA3 Revenue Sources

LTS projects NA3-related revenue from four sources:

- ◆ **Customization** Custom-implemented applications using project-specific versions of NCN and/or A3R (see slide 11).
- ◆ **Licensing** Commercial licenses required for any deployment of NCN outside LTS-controlled servers and/or any commercial deployment of A3R applications.
- ◆ **Hosting** LTS anticipates running proprietary containers via a Cloud-Native service such as OpenShift, and then leasing access to this service to NA3 users. LTS can offer integrated hosting and consulting wherein LTS fully implements and maintains a back-end paired to any desktop/native client software. Because the expertise involved in building native desktop applications is very different from the techniques required to deploy a Cloud-Native container image, the option of delegating all backend responsibilities to LTS may appeal to Qt-oriented development teams.
- ◆ **Sponsorship** LTS anticipates running a data-sharing platform which would be a publicly-visible introduction to NCN. This “demo” container would host research data sets and would therefore be a resource in the public interest, allowing LTS to receive compensation from companies financially supporting the portal given its merits as a technology benefiting science or scholarship.

LTS Comparability in the Qt Market

Projections of LTS revenue can be grounded in the case-study of the Qt company and participants in the “Qt partners” program (see slide 6).

This slide considers sample Qt-based companies to establish a baseline for assessing the future growth of LTS.

- ◆ **The Qt Group Plc** *€45.6 Million annual revenue* (source: Qt) Financial records released by The Qt Group suggest that commercial “Developer” and “Distribution” licenses are Qt’s largest revenues source (targets released in 2018 indicate that Qt aims for 60% revenue from licenses, 20% from consulting, and 20% for “support and maintenance”; total net revenue across these sources from 2018, the most recent figures available, was US \$57 Million at 2018 rates).
- ◆ **ICS (Integrated Computer Solutions)** *US \$25-50 Million annual revenue* (source: Glassdoor) ICS specializes in custom software development for companies in the military, aeronautics, and biomedical sectors. ICS exemplifies a Qt company whose revenue derives mostly from customization and consultation.
- ◆ **Toradex** *US \$16.2 Million annual revenue* (source: owler.com) Toradex specializes in microprocessors and embedded systems, one of the largest of several Qt partners focusing on embedded systems with Qt front-ends for touchscreens and/or desktop consoles.

ROI and Development Phases

NA3
Capital
Team
NCN
Qt
Business Strategy
NA3 Revenue
Comparability
Development Phases
Customization
Software Development Market
Potential NA3 Markets
Examples

This slide divides a 5-year NCN development strategy into 5 phases, identifying how the market for NCN may be projected to expand correlatively.

- 1 (9-12 mos) Establish a hosting platform (projected to take the form of a RedHat Enterprise Service or Kamatera Partner affiliation) within which LTS can license individual cloud back-ends on a per-client basis, paired with clients' desktop front-ends; along with tools to help developers create applications that leverage NCN back-ends (including those hosted by LTS).
- 2 (1-2 yrs) LTS will prioritize marketing its development libraries and cloud service, with an emphasis on explaining to Qt-based companies that the LTS hosting option provides functionality similar to the discontinued Qt Cloud Services.
- 3 (2-3 yrs) Generalize NA3 to standard C++ (eliminating Qt dependencies); and implement NA3 in an Apple-specific version targeting XCode.
- 4 (3-4 yrs) Port NA3 to Java; and build a Windows-specific implementation via MFC.
- 5 (5 yr exit) With NA3 now realized in Qt, Windows, Mac, and Java versions, consolidate each of these implementations into canonical container prototypes, such as RedHat "Cartridges". This collection then becomes a comprehensive, multi-platform desktop/cloud integration technology valued in the \$50-\$100M range.

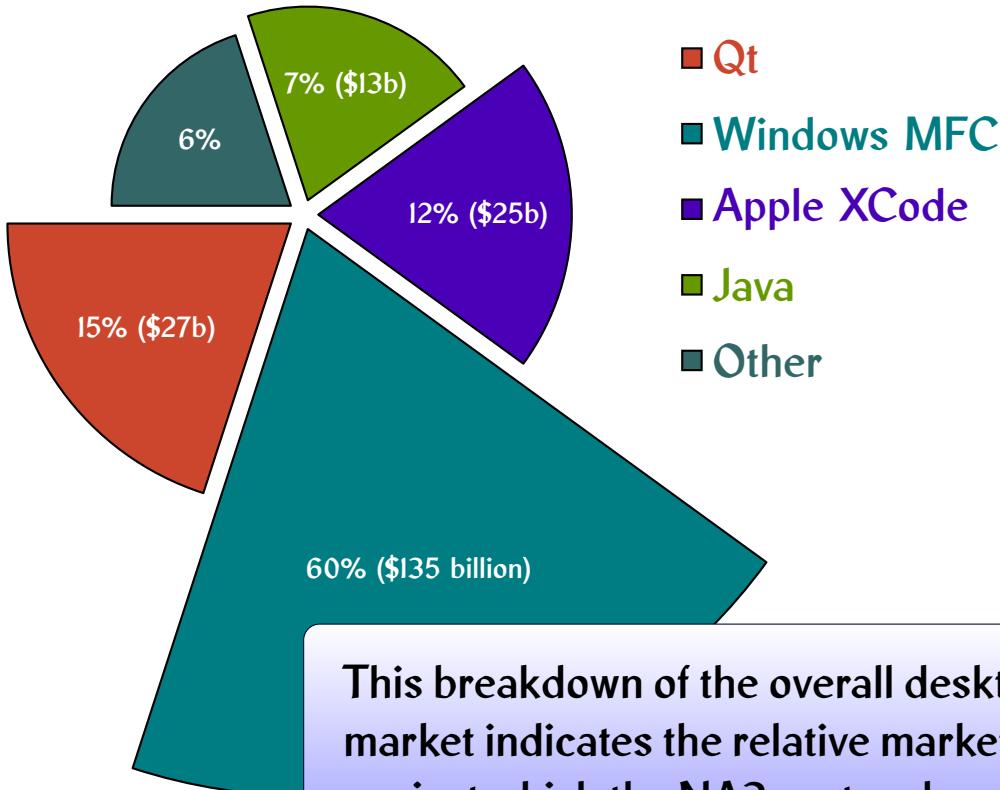
LTS Customization

This slide will identify how LTS may customize NA3 components for individual clients (dollar figures project average custom development and licensing fees)

- ◆ **Custom NCN Servers** In this scenario LTS builds special versions of NCN which natively recognize client's application-specific data types, preferred serialization formats, and client/server interface definitions. (dev: \$75K; licensing: \$10K/month)
Note: all development and licensing figures quoted are per-client
- ◆ **Custom Markup and Scripting Languages** LTS can build scripting and/or markup languages customized for clients' unique data and interface requirements. These custom languages may be used for data serialization, testing, prototyping, and runtime fine-tuning of application behavior. (dev: \$250K; licensing: \$10K/month)
- ◆ **Custom GUI Components** In this scenario LTS builds GUI classes on client's behalf, which natively support NCN integration. (dev: \$50K; licensing: \$5K/month)
- ◆ **Workflow Management** LTS can customize networking protocols so that multiple applications may be unified into distributed workflows. (dev: \$50K; licensing: \$15K/month, for workflows using cloud services to enable remote networking)

Overview of the Software Development Market

This slide offers a rough breakdown of the software development market, (estimated at \$350 Billion), restricted to desktop software (roughly one-half the total market), including both cross-platform and single-platform solutions.



Taking the Qt implementations of the NCN and A3R protocols as a prototype, analogous versions may be built targeting other popular software-development platforms (see next slide for a more detailed outline).

This breakdown of the overall desktop application-development market indicates the relative market share of different platforms against which the NA3 protocols may be implemented.

NA3 In Different Software Ecosystems

NA3
Capital
Team
NCN
Qt
Business Strategy
NA3 Revenue
Comparability
Development Phases
Customization
Software Development Market
Potential NA Markets
Examples

Potential NA3 Markets (see previous slide for overview)

Windows MFC (~\$135b market size) A3R can be implemented in C++/CLI, building off of a generic-C++ version using the C++ Standard Library in place of Qt-specific data structures.

Apple XCode (~\$25b market size) Apple Operating Systems are based on Linux, so a Linux-oriented A3R implementation can form the basis of an XCode version. This XCode implementation would also be built around the C++ Standard Library.

JavaFX (~\$12.5b market size) The Java programming language provides the most widely used cross-platform application development framework outside of Qt. It is feasible to port C++ A3R implementations to Java. The core of this re-implementation would involve designing a Java Hypergraph Library compatible with the A3R serialization and Interface Definition protocol.

Workflow Management (~\$10b market size – source: MarketsandMarkets) A3R plugins can be added to new or existing applications to support inter-application networking, unifying multiple applications into workflow-management systems.

Example Use-Cases

Inter-Application Networking and Workflow Management

- Export data and instructions between Qt-based applications (slides 15-16).
- Embed document or multi-media viewers inside scientific or dataset applications (slides 27-30).

Responsive desktop-style applications for enhanced UX

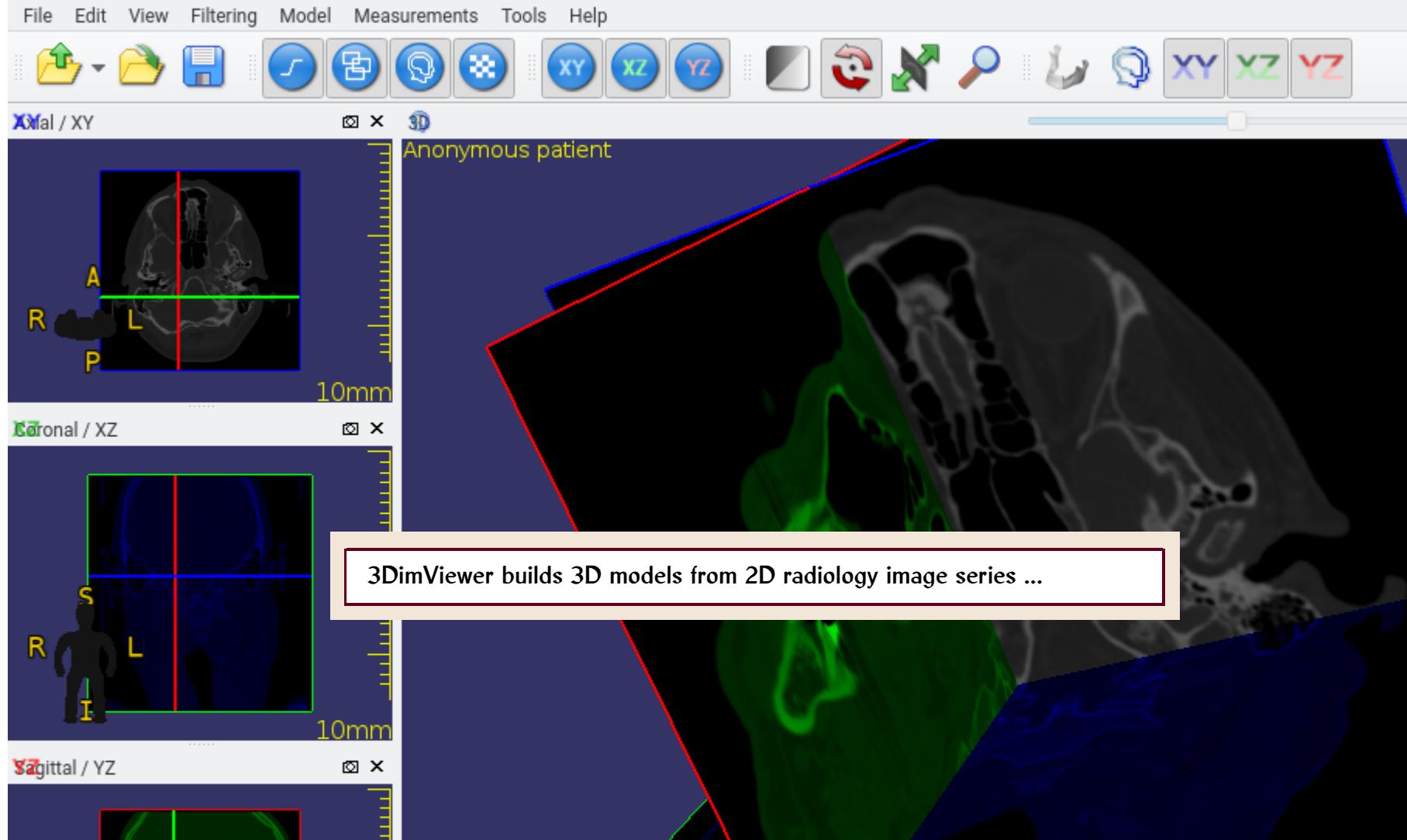
Native applications offer superior User Experience, leveraging distinct interactive features of desktop GUIs: context menus, dialog boxes, tool tips, Multiple Window Display, dock windows, and so on:

- Compelling front-ends for e-commerce (Note: “46% of global online retail orders happen on desktop”, source: leftronic.com), Real Estate, VR, etc. (slides 20-26).
- For scientists and researchers, build innovative data-collection instruments as well as interactive Research Object applications (slides 17-19).

An Example of Inter-Application Networking

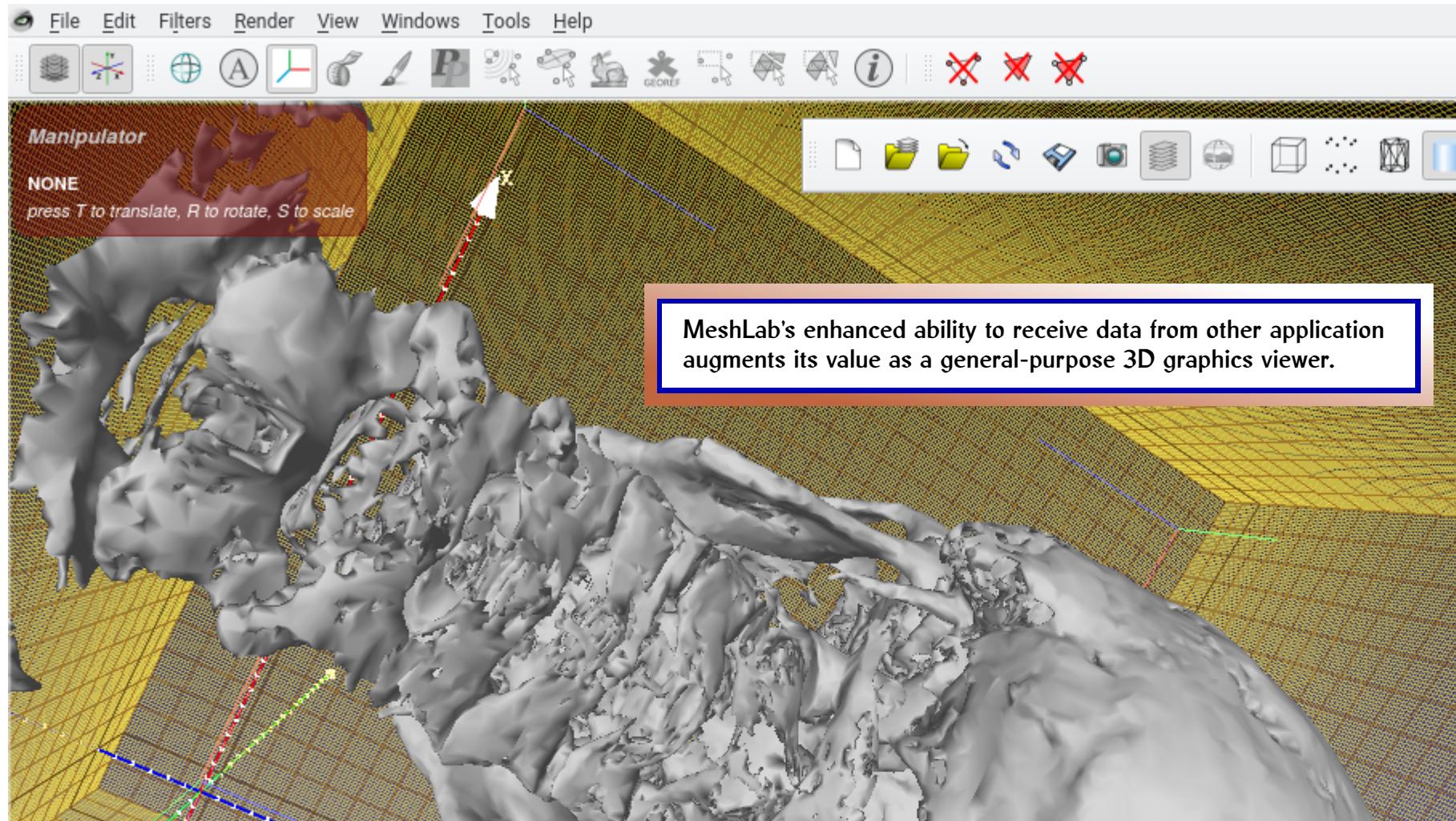
Research S
Research Slide 2
Research Slide 3
Research Slide 4
Research Slide 5

This slide and the next demonstrate a case-study where inter-application data sharing enhances the capabilities of two applications: 3DimViewer (a radiology tool) and MeshLab (a 3D graphics engine).



3D Graphics Sent to MeshLab

... Once the 3D tissue sample is constructed by 3DimViewer's algorithms, an A3R inter-application networking protocol (implemented as an extension to both applications) allows 3DimViewer to export the model to MeshLab so that it may be studied in a more comprehensive 3D viewing environment.



A3R Applications as Data Collection Instruments

Research S
Research Side 2
Research S
Research Side 4
Research Side 5

Forms Web Language Help About

Save Form Open Form Cloud Save Cloud Open Submit Form

Page: 0 Search for: Forwards

Welcome Web

X ? ^ X Form Outline

Click on a subheading to continue

Patient Information

Chief Complaint

Review of Symptoms

Treatment History

Medical History

Current Medications

Family History

ndp-main-outline <5> ? ^ X

Referring Doctor: Dr. New Test

Referred By (Choose One): Clinical Specialist

Date of Visit: 1/9/16

Please List your Previous Stays

1	Test 2	Sun	Mon	January	Sat
		31	1	February	6
		7	8	March	13
		14	15	April	20
2	Test 1	21	22	May	27
		28	29	June	3
		4	5	July	10

OK Print

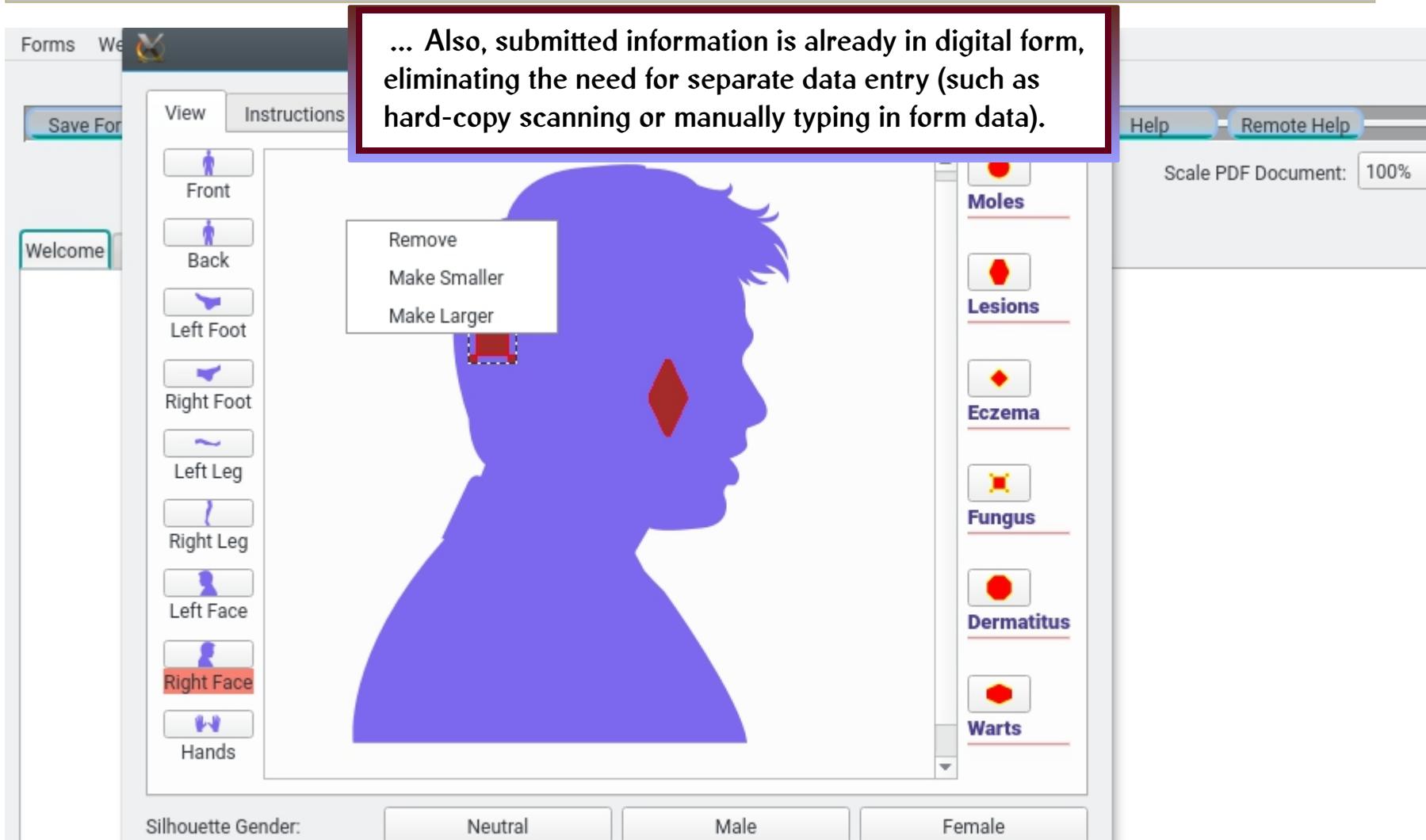
The screenshot shows a software application window titled 'ndp-main-outline <5>'. The main area contains fields for 'Referring Doctor' (Dr. New Test) and 'Referred By (Choose One)' (Clinical Specialist). Below these is a date picker set to '1/9/16'. A modal dialog box is open, prompting the user to 'Please List your Previous Stays' and displays a grid of dates from January to October. Two entries are visible in the grid: '1 Test 2' in January and '2 Test 1' in February. The application has a navigation bar at the top with links for 'Forms', 'Web', 'Language', 'Help', and 'About'. On the left, there's a sidebar with tabs for 'Patient Information', 'Chief Complaint', 'Review of Symptoms', 'Treatment History', 'Medical History', 'Current Medications', and 'Family History'. A message 'Click on a subheading to continue' is displayed above the sidebar.

In medicine and social science, “data collection instruments” (DCIs) refer to surveys, questionnaires, and other tools to obtain human feedback.

Qt-Based Interactive Forms

Research S
Research Side 2
Research Slide 3
Research S
Research Side 5

Data Collection Instruments implemented as native desktop applications can have easily navigable, interactive forms that make it simpler for people to provide information ...



A3R Applications as Research Objects

Complementary to A3R components which facilitate *obtaining* research or experimental data, A3R “Data-Set Applications” are also powerful tools for visualizing and analyzing research findings.

Data-Set Applications are “Research Object Bundles” — combinations of code and data, providing access to data sets without the need for external software dependencies.

The interface shows a central image of a cell with a red arrow pointing to its nucleus. To the left is a vertical stack of small thumbnail images. To the right are toolbars for annotations: Arrows, Comments, Lists, Arcs, and Rulers. At the bottom are controls for Silhouette Zoom, Image Transforms, Annotations Transforms, and various navigation buttons like Pan, Zoom, and Rotate.

Native Applications as Interactive Catalogs

E-Commerce
Slide 1

E-Commerce
Slide 2

E-Commerce
Slide 3

E-Commerce
Slide 4

E-Commerce
Slide 5

E-Commerce
Slide 6

E-Commerce
Slide 7

As a case-study in enhanced User Experience afforded by native applications, consider how static PDF catalogs and brochures can be turbo-charged into engaging, interactive software-based presentations.

The screenshot shows a user interface for a shoe catalog. In the center is a large image of two brown leather sneakers with white soles. A context menu is open over the right shoe, listing options: Detach Image, Detach Noteboook, Detach Description, **Detach Everything** (which is highlighted), Merge Windows, Explore Color Matches ..., View 3D Model ..., Take Screenshot, View Item List, and View Shopping Cart. To the left of the main image is a sidebar containing three smaller thumbnail images of shoes. At the bottom of the screen, there are navigation buttons for item selection (up and down arrows), image zoom (a slider with plus and minus signs), and a reviews section with tabs for Overview, Features, Specs, and Reviews. Below the reviews tab, there is a bulleted list: • Leather upper, • Lace-up, • Round toe. On the right side of the screen, there is a detailed product description for the "Grand Crosscourt II Sneaker", which reads: "Sleek and simple, the Grand Crosscourt II sneaker from Cole Haan is the perfect way to add some tailored casual style to your every day look!" Below the description is a section titled "Actions:" with two items: • [Add to Cart](#) and • [Explore Colors](#). There are also two small color swatches shown.

Interactive Shopping Carts

Instead of static lists, shopping carts can be made into multi-dimensional, multiple-window interactive displays.

File Email Events APIs Web Broadleaf

Page: 0 Search for: Document: 100%

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

Frosted Hydrangea, Mauve, 32 Inches High, 12 Floral Sprays

tecs-db-main <2>

tecs-db-main <3>

Overview Specs Reviews Q & A

OK Cancel

OK Cancel

Explore Products with Native Software

E-Commerce
Slide 1

E-Commerce
Slide 2

E-Commerce
Slide 3

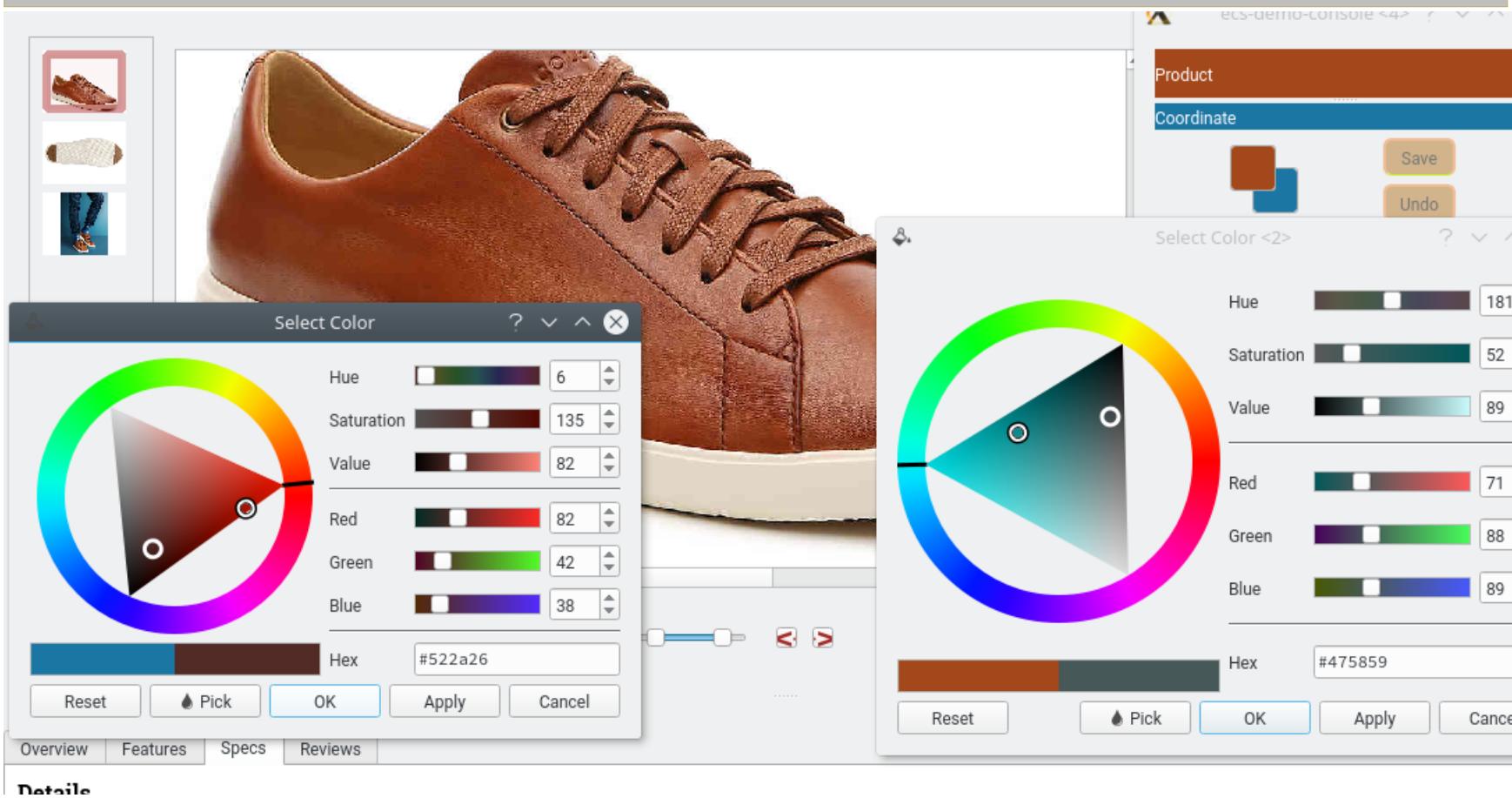
E-Commerce
Slide 4

E-Commerce
Slide 5

E-Commerce
Slide 6

E-Commerce
Slide 7

Interactive catalogs allow designers to incorporate many unique features and capabilities of desktop applications, such as using HSV color-wheel controls to explore color coordination while shopping.



Interactive Real Estate

E-Commerce
Slide 1
E-Commerce
Slide 2
E-Commerce
Slide 3
E-Commerce
Slide 4
E-Commerce
Slide 5
E-Commerce
Slide 6
E-Commerce
Slide 7

A3R programming can also bring enhanced UX to Real Estate presentations: instead of just groups of photos, properties can be displayed via interactive, multi-dimensionally organized, color-coded photo viewers.

The screenshot shows a software interface for viewing real estate photos. On the left, a grid of thumbnail images represents different property types. A specific thumbnail in the bottom row is highlighted with a red border and has an arrow pointing to a larger, detailed view of a bedroom on the right. The bedroom has green walls, a large wooden bed, and a chaise lounge. A white callout box with a dark border contains the text "Current Photo". On the far left, a vertical panel titled "Groupings" lists categories with corresponding colored bars: Entrance/Foyer/Hall (teal), Kitchen/Dining Room (yellow-green), Living Room/Den (purple), Bath/Powder Room (blue-gray), Bedroom/Closet (teal), Master Bedroom/Spa (light green), and Basement/Game Room (gray). Arrows point from the "Color-Coded Groups" text below the main image to both the "Groupings" panel and the highlighted thumbnail.

rpdf-emb-console

Groupings

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

Current Photo

Color-Coded Groups

Item: 19

Image Zoom:

OK Cancel

Photo Viewer Interactive Cues

These slides demonstrate visual cues aiding photo navigation, such as color bands (overlays) that switch from horizontal to vertical indicating which photos have been viewed so far; and the thumbnail of the current viewed photo marked with a thick colored border (surrounding the thumbnail photo and its overlays).

The screenshot shows a photo viewer interface with a grid of thumbnails on the left and a large preview image on the right.

- Already Viewed (vertical color band):** A callout points to a thumbnail in the second row, third column, which has a thick vertical purple border.
- Not Yet Viewed (horizontal color band):** A callout points to a thumbnail in the fourth row, fifth column, which has a thin horizontal purple border.
- Current Photo (viewed for the second time):** A callout points to a thumbnail in the second row, first column, which has a thick horizontal purple border.

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:

Filtering Photos

Another feature which may be conveniently implemented in A3R-style photo viewers is a filtering option, which — given a collection of pictures classified into several groups — allows users to show or hide photos based on the group they belong to (note the check-box buttons on the group listing).

The screenshot shows a photo viewer interface with a sidebar of thumbnail images and a main view showing a living room. The sidebar includes a 'Groupings' section with several filter options.

Visible Groups: Entrance/Foyer/Hall (checked), Living Room/Den (checked), Bedroom/Closet (checked), Master Bedroom/Spa (checked). These are highlighted with a green oval.

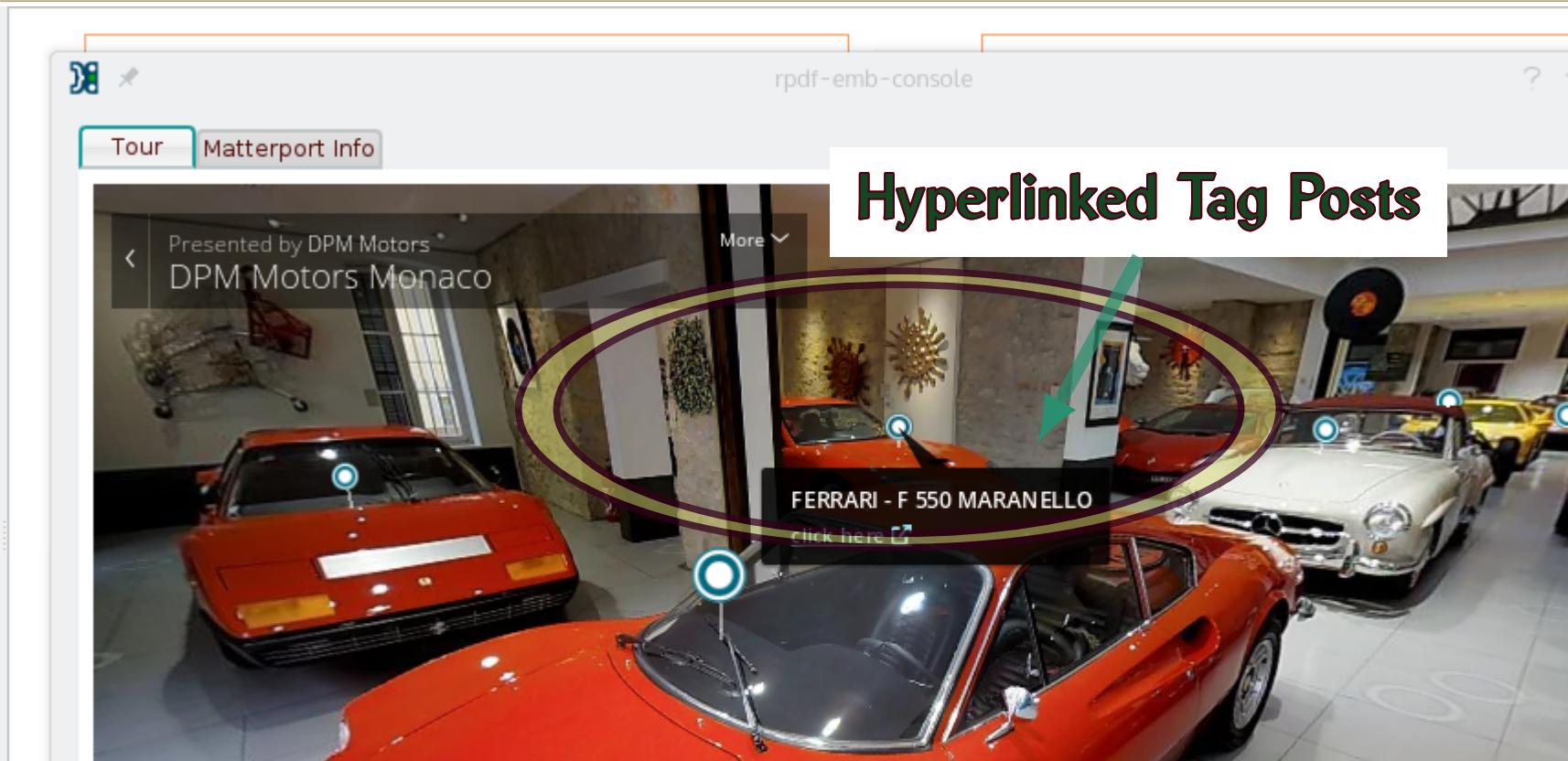
Check Boxes: Kitchen/Dining Room, Bath/Powder Room, Basement/Game Room. The 'Bath/Powder Room' checkbox has a red arrow pointing to it, and the 'Basement/Game Room' checkbox is circled in red.

Hidden Groups: The 'Kitchen/Dining Room' and 'Bath/Powder Room' checkboxes are shown in a greyed-out state, indicating they are currently hidden.

Below the sidebar, there are navigation arrows, an 'Item: 3' indicator, an 'Image Zoom:' slider, and 'OK' and 'Cancel' buttons.

Interactive VR: Hyperlinked Tag Posts

Another emerging technology, relevant to both e-Commerce and Real Estate, is the use of Panoramic Photography to create immersive Virtual Reality scenes. Panorama-Photography-based VR engines, like Matterport, allow “tag posts” with embedded hyperlinks, which in a native-application context become channels of communication between the VR renderer and the host application. The full capabilities of this interactive modality — combining VR with clickable links and text “bubbles” — can only be fully realized via Virtual Reality engines (such as WebGL) embedded in native software.



A3R Document Viewers

Publishing
1
Publishing Slide
2
Publishing Slide
3
Publishing Slide
4

A3R applications may embed viewers for document formats such as e-Pub, HTML, and PDF; then supplement conventional publications with special components customized for individual manuscripts: e.g. (as in this case), a widget allowing readers to visually explore patterns in classical Indian music.

The screenshot shows a digital journal interface. At the top, there are three icons: a gear, a book, and a person reading. Below them are links for 'References', 'Library', and 'Reading'. A navigation bar at the bottom includes 'HTML Source', 'Lisp', 'CSS', and 'XML'. The main content area features the journal's title, 'ANTHROPOLOGY AND HUMANISM', and a link 'Explore this journal >'. Below the title is an article summary: 'Ethnographer as Apprentice: Embodying musical Knowledge in South India' by 'Laura Weidman' published on '26 December 2012' with a link to 'Full publication history'.

The screenshot shows a specialized A3R viewer for exploring Tala patterns. The top bar displays 'Display Tala Types: Jhoomra/Dhamar (14 beats)'. The central part of the viewer shows a grid of colored rectangles representing the pattern. Below the grid, a slider is labeled 'Patterns' with 'Pattern 1 (3-4-3-4)' on the left and 'Pattern 2 ()' on the right. A file path 'File /extension/ScignSeer/articles/svg/tala.svg' is shown below the slider. At the bottom right, there is a 'Proceed' button.

ANTHROPOLOGY AND HUMANISM
Ethnographer as Apprentice: Embodying musical Knowledge in South India
Laura Weidman
Published: 26 December 2012 Full publication history

Volume 37, Issue 2
December 2012
Pages 214-235



A3R Document Viewers as Embedded Components

Publishing 1
Publishing 2
Publishing Slide 3
Publishing Slide 4

Document Viewers may also be embedded in host applications which provide domain-specific visualization capabilities. For example, chemistry papers might be viewed within IQmol (a Qt-based program for molecular visualization and physical/chemical analysis) via an A3R document-viewer plugin.

The image shows a software application window with a menu bar (Display, Build, Calculation, SONIC, Help) and a toolbar with various icons. A context menu is open over a 3D ball-and-stick model of a molecule, showing options like 'Configure', 'Select All', 'Reperceive Bonds', 'Duplicate Geometry', 'Atomic Charges', and 'Remove'. Below the toolbar, a 'SONIC' search interface is visible, displaying a 'Springer Keyword Search: Cysteine' results page with links to 'Springer Web Search Home' and 'Search Saved Articles'. The main content area features a large 3D molecular model of cysteine (a thiol group attached to an alpha-carbon). At the bottom left, there's a search results summary for 'Cysteine Proteases of Pathogenic Organisms' by M.W. Robinson and J.P. Dalton, published in 2011, with 157 results found. The URL 'www.springer.com/gp/search?query=cysteine&submit=Submit' is shown at the bottom.

Document Viewers Augmented With APIs

Publishing
1
Publishing Slide
2
Publishing
3
Publishing Slide
4

Another strategy for interactive publications is linking documents with APIs maintained by publishers, or by cultural or educational institutions.

View Instructions

As an example, documents mentioning artifacts held in a museum can provide features to view more information about those museum-pieces through the host institution's API.



MEDAL

 Click the icon to save

This is a **Medal**. We acquired it in 1920. It is a part of the **Product Development** department.

Cite this object as

Medal; bronze; 1920-3

Row:

0

Column:

0

Embedded Multimedia

Publishing
1
Publishing Slide
2
Publishing Slide
3
Publishing
4

Custom-built A3R document viewers can provide convenient access to multimedia content embedded in or linked to texts — including audio files, videos, and 3D graphics scenes or models.

Ailurus fulgens styani (also known as *a. f. fulgens*): Only found in China (in the Hengduan

Mo
My
The
ab

In this case a video player is launched in a dialog box, floating above the article text. For those reading digital books or articles, videos and other multimedia content can be presented through secondary windows launched via context menus; text and multimedia may thereby be viewed side-by-side.

Behavior

Red pandas are generally solitary, but there are a couple of cases where they develop extended associations with their mothers that last throughout the breeding season.



ark.org/red_panda/about-the-red-panda/

In terms of their social behavior, red pandas tend to have a very limited interaction with other. This is particularly true during the breeding season, when females may be territorial and chase away intruders.

ARKIVE
www.arkive.org

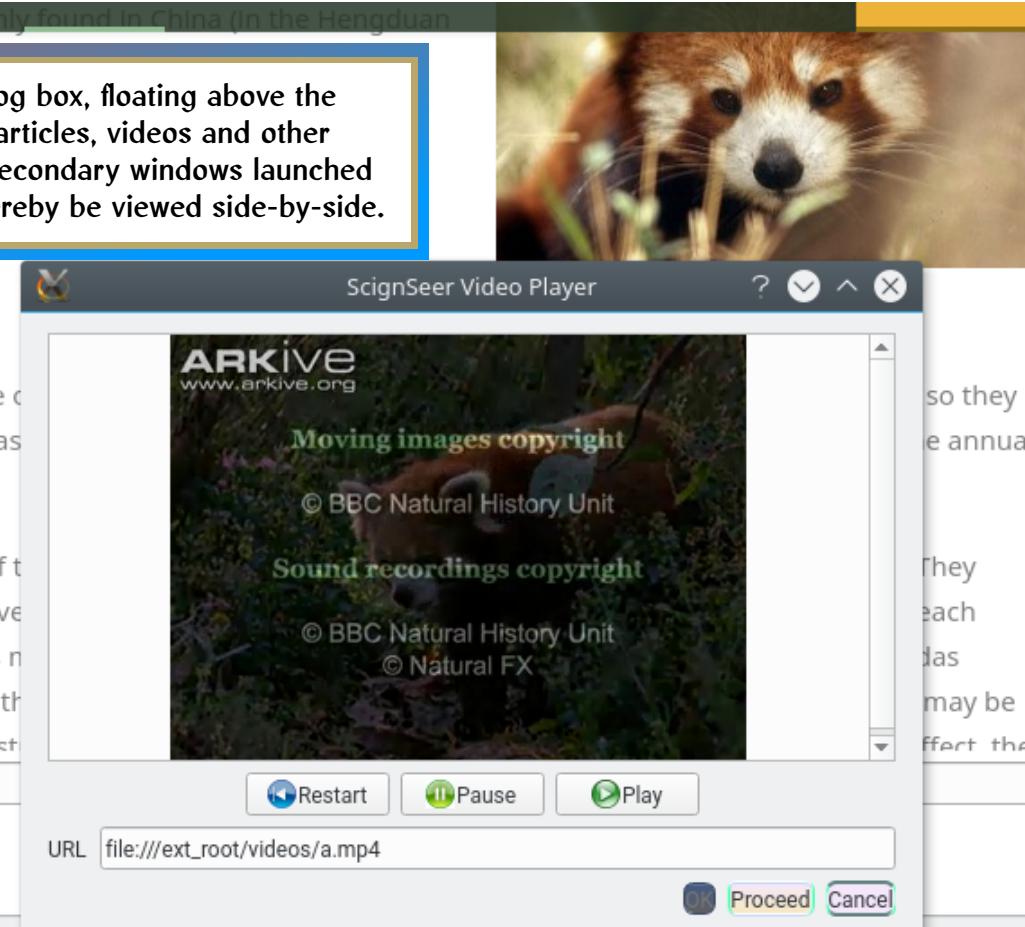
Moving images copyright
© BBC Natural History Unit

Sound recordings copyright
© BBC Natural History Unit
© Natural FX

Restart Pause Play

URL file:///ext_root/videos/a.mp4

OK Proceed Cancel



Thank You!

Thanks

Please contact Linguistic Technology Systems for more information about NA3 and/or other Software Development and Software Language Engineering Solutions: (917) 817-2184.

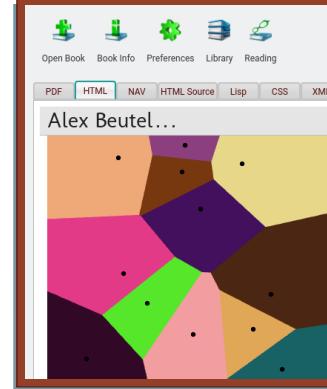
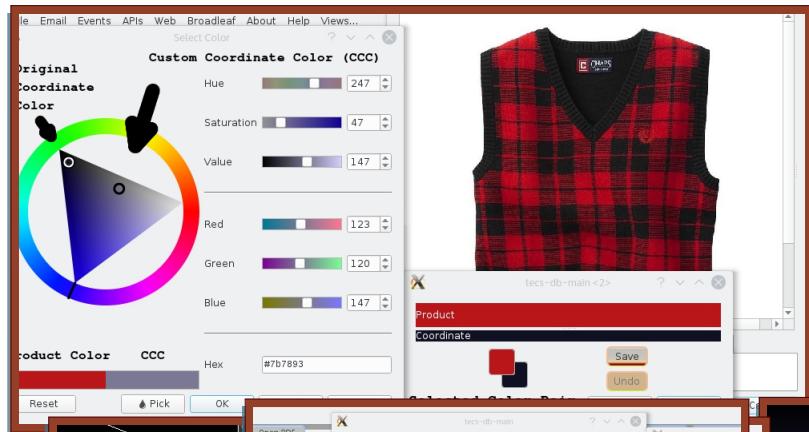


Figure 2 The Voronoi Diagram of the set of Melbourne's inner city train stations

It should also be noted that this account aims to represent space partitioning at a cognitive rather than at a physical level. What this means is that *at* will not be

