

The National Library Board, Data, Customers

CDNL Annual Meeting 18th August 2015, Cape Town, South Africa

NLB's Vision and Mission







Vision

Readers for Life
Learning Communities
Knowledgeable Nation

Mission

We make
knowledge come alive,
spark imagination
and create possibilities

NLB oversees the Public Libraries, National Library and National Archives

Public Libraries



- Provide engaging public library services such as the promotion of reading for all ages.
- 26 Public Libraries, mostly in HDB heartlands
- Members of the public of all ages
- Children's collection, Young people's collection, Adults' collection (books, AV materials, magazines, newspapers)
- Promote reading for all ages
- Available for loan to members of the public of all ages
- 23.9 million yearly visitorship
- 34 million yearly loans

National Library



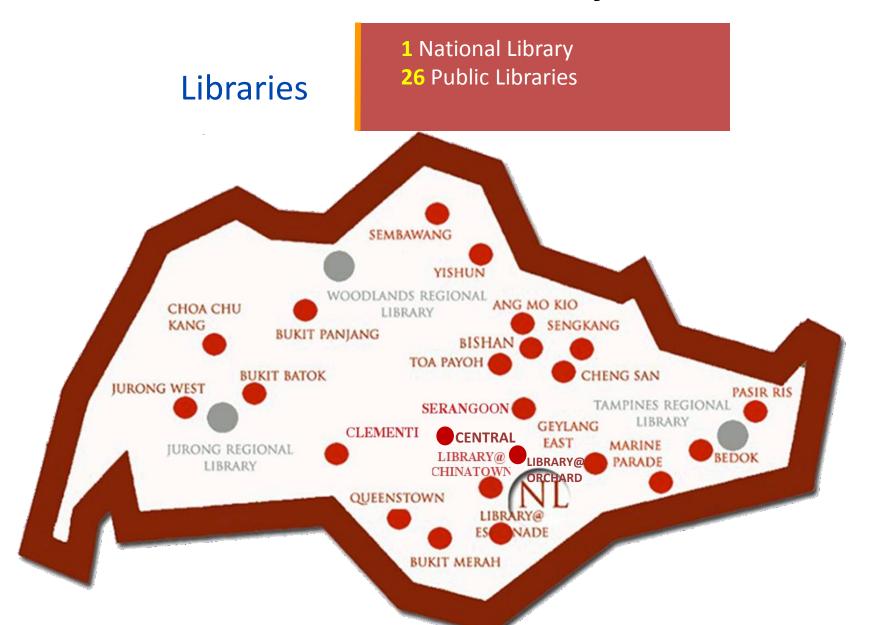
- Custodian of nation's published heritage;
- Maintains the largest reference library for the public, to support citizen research
- Performs statutory functions such as legal deposit and preservation.
- Access to materials provided via the Lee Kong Chian Reference Library (Levels 7 to 13 of NLB Building in Victoria Street)
- For reference purposes within the library only; not for loan.
- Researchers, students
- National Collection* (includes books, newspapers, posters, journals, photographs, rare maps & manuscripts)
- Reference Collection^
- 1.9 million yearly visitorship

National Archives



- The keeper of records of national or historical significance.
- Joins NLB in Nov 2012. Previously under NHB.
- Archives Reading Room at the National Archives Building, Memories at Old Ford Factory (WWII exhibition gallery)
- Researchers, students
- National Collection* (includes Government records, speeches, maps, photographs, posters, AV and oral history recordings.)
- Preserve and make available records of historical and national significance; support research
- For reference purposes within the Archives premises only
- >40,000 yearly visitorship

Quick Facts about National Library Board



Quick Facts

Libraries

1 National Library26 Public Libraries

Membership

Visits

More than 36m visits

More than 2m members

Loans

More than 33m loans

Collection

More than 1.5m titles
More than 8.5m items

Online Usage

Digital User Visits: > 8.1m

e-Retrievals: > 47.4m

Understanding Our Customers Better through Analytics

Enterprise-wide BA programme to exploit the power of data to enhance decision-making, service designs, business process designs & review, e.g. RTOB optimisation, loan analysis, library location analysis.



Analyse membership penetration and library catchment so as to plan effective library services to reach out to more Singaporeans



Optimise content usage and provide dynamic and relevant collections to users



Understand patrons' interest better to push personalised recommendations

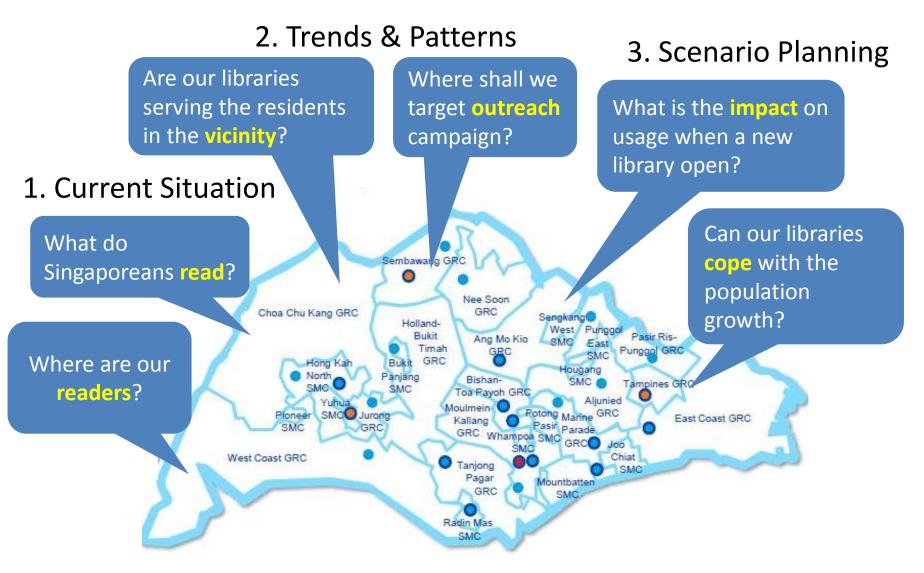


For search and discovery of text and non-textual content

Our journey so far... Demand Analysis tool has resulted in an improvement in accuracy when forecasting patron demands for new and existing titles.

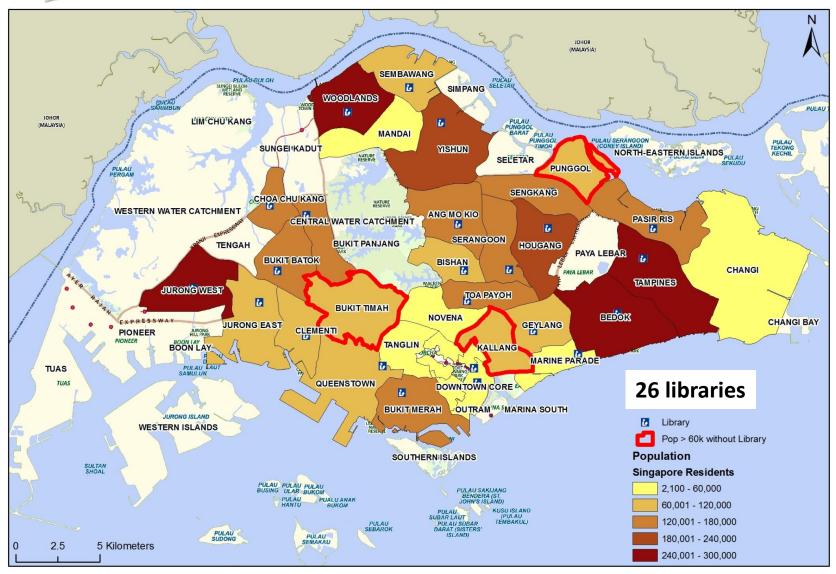
Technologies: geospatial analytics, content analytics, optimisation, predictive analysis

Scope of Analysis



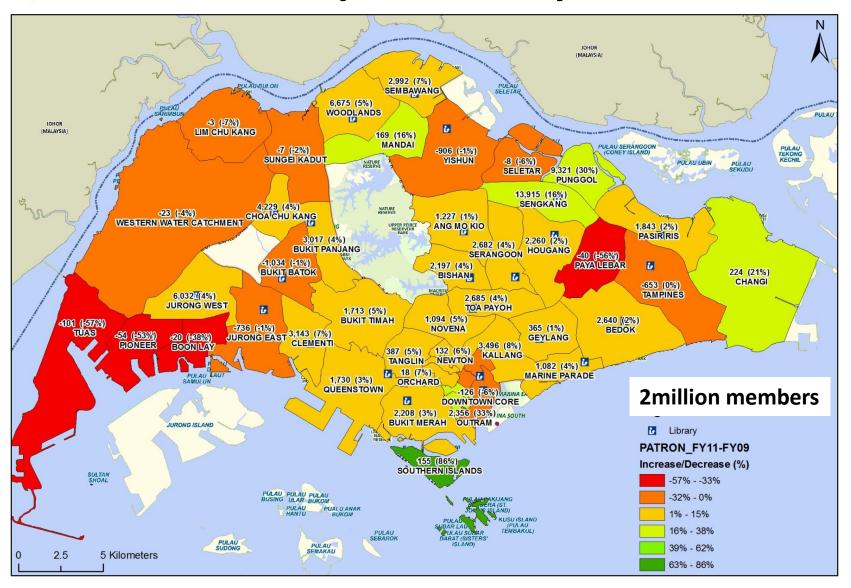


Where are the libraries located?



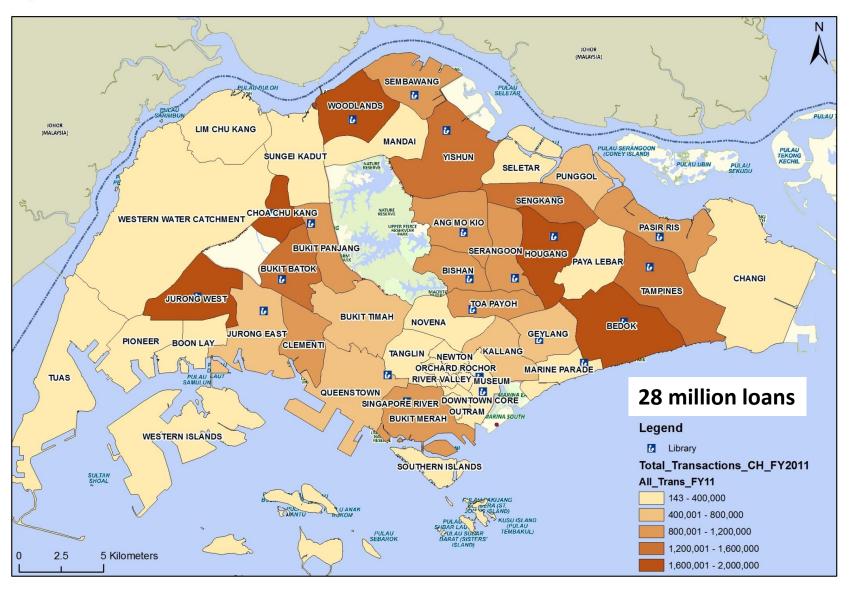


Trend Analysis on library members



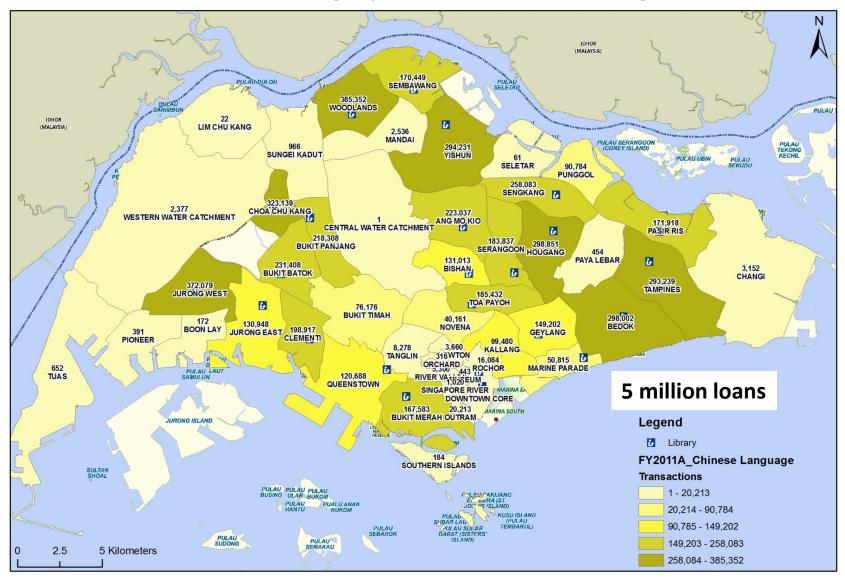


Where are our readers?



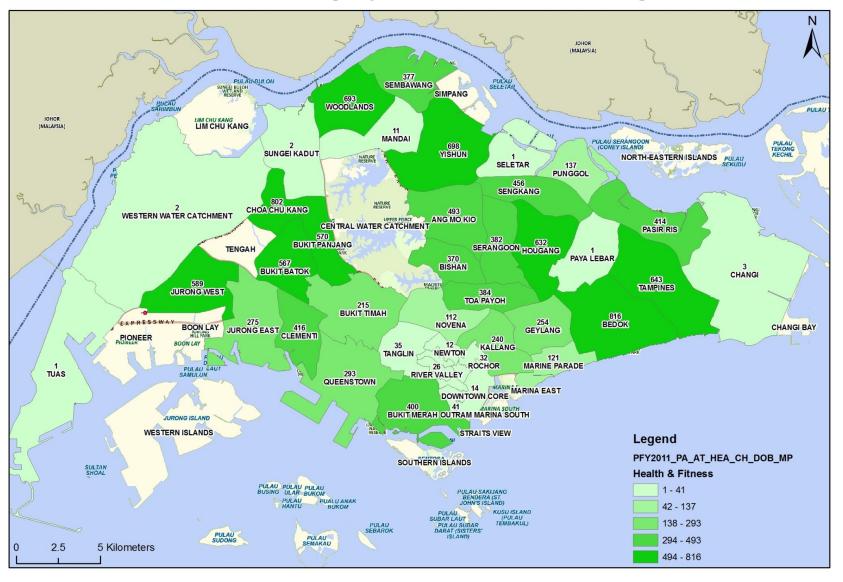


What are Singaporeans reading? (Chinese)



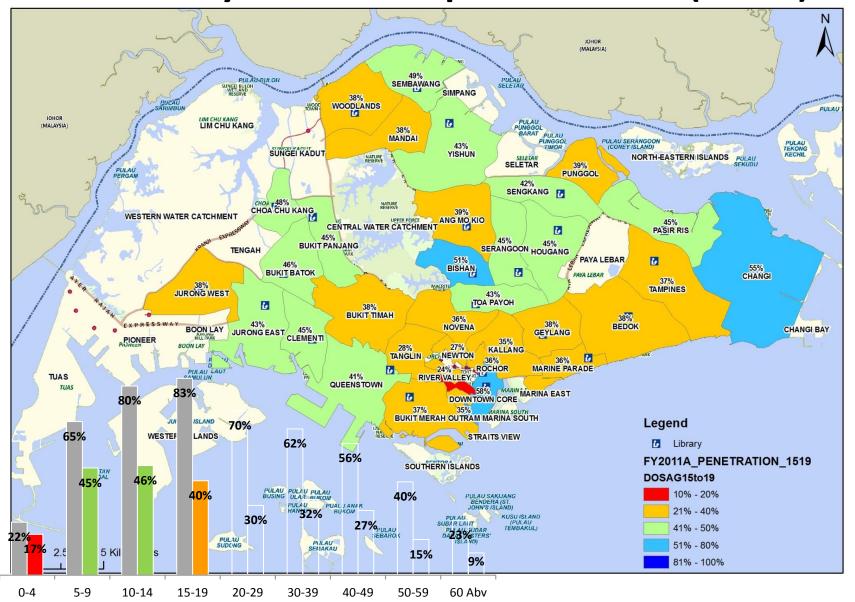


What are Singaporeans reading? (Health)





Library Membership Penetration (Teens)



PROFILING OF OUR PATRONS?

Enhanced Services through Personalised and Customised Services

What is Video Analytics?

- Converts images into quantifiable data such as identifying traffic and crowd density
- Understand patrons better through analysis of video footages.
- Reduce time and manpower of gathering information manually
- Gain deeper insights for better decision making











What video analytics can do for NLB



- How many people are going into the library?
- Who are these people?
- What do they do after they enter the library?

Possible data to be collected...



People Counting

- People In & Out



Face Indexing

- Face Time & Duration



Audience Profiling

- Age Group, Gender & Emotions



Human Traffic Flow

- Path of travel



Crowd Density

- Areas (& Products) of Interest





Taking a typical library floor we could

- People Counting at the entrance
 - Count no. of visitors entering library on level 8
- Audience profiling looking at the entrance
 - Identify age group, gender and emotions of visitors
- Human Traffic Flow above the entrance
 - Determine percentage of visitors going to the left and right (Arts vs. Social Science)
- Crowd Density overlooking area behind the information counter
 - Determine which area has the highest level of activity

Pushing the Right Books,

To the Right Person



Push of Personalised Content

We will use Patron Analytics to recommend the Right Books to the Right Person in the library.

Example. The Smart Display at the lifestyle section will showcase a book on healthy eating when it detects a senior. Upon detecting a young adult, it will change its display to showcase a celebrity cook's biography.

Our journey so far...

Smart Displays (Book Tree) piloted at library@Orchard in Nov 2014

Libraries Anywhere Books on the Move



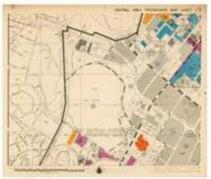
Our journey so far... Digital Book Display at a Smart Bus Stop in Jurong East by Jun 2015 — a collaboration with IDA. The 109 MRT stations and PA's 107 community clubs are potential new locations for reaching out to non-library goers.

Contextural discovery of content









Master Plan for Singapore -Central Area (1958)

The Cenotaph, located at Esplanade Park along Connaught Drive, is a war memorial which commemorates the sacrifice of the men who perished during World War I and World War II. It was unveiled on 31 March 1922 by the Prince of Wales. On 28 December 2010, it was gazetted as a national monument together with two other structures in Esplanade Park, the Lim Bo Seng Memorial and the Tan Kim Seng Fountain...

Lim Bo Seng (Article)

Major-General Lim Bo Seng (b. 27 April 1909, Nan Ann, Fujian, China - d. 29 June 1944, Perak, Malaya) was a prominent ...

Dalhousie Obelisk (Article)

Dalhousie Obelisk, landmark, located at Empress Place in the Central Region. The tall 'needlelike' monument...

Gwee Peng Kwee (Oral History)

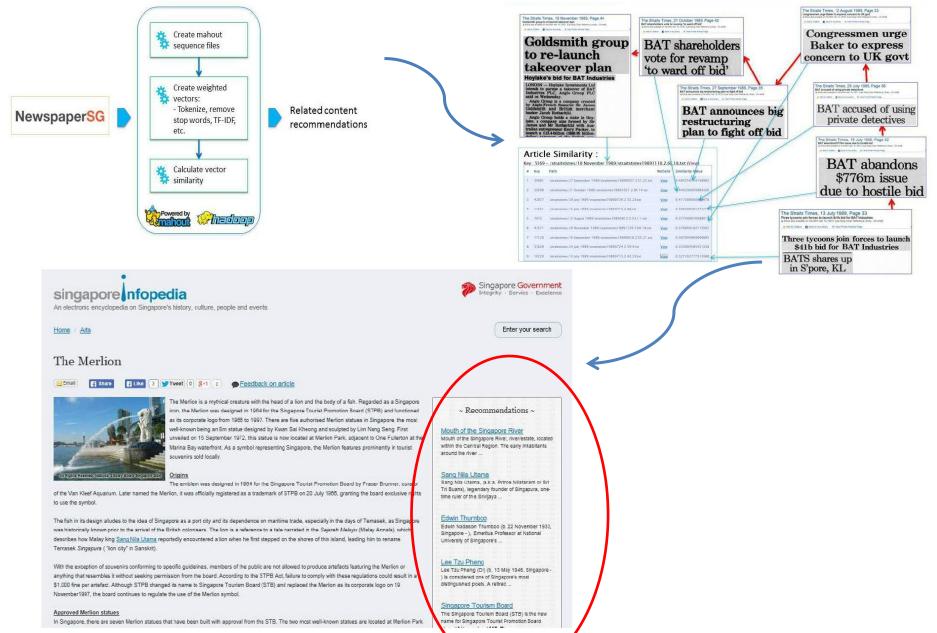
His daily routine school... Laying of foundation stone and unveiling of Cenotaph...

Newspaper articles

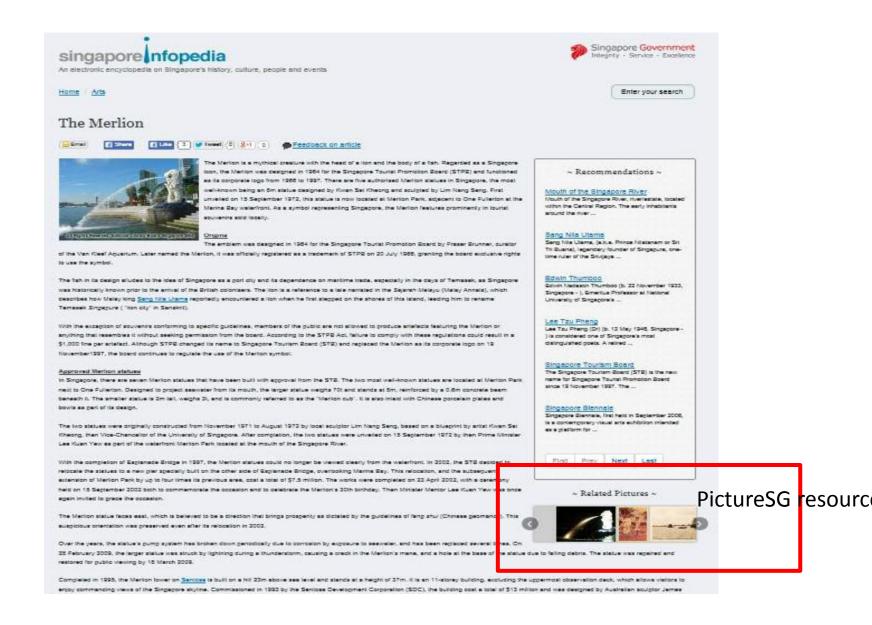
Singapore's War Memorial to the Glorious Dead (11 Nov 1920) Singapore's War Memorial (21 Sep 1921)

Arrival of the Prince (31 Mar 1922) Lest we forget (8 Nov 1953) Singapore students learn to care about history (13 Jul 1997)

Text analytics & content identification



Cross Collection Recommendations



Outcome of trials

Month	Total referrals	# from Infopedia	%	Page views	Page views per visit
Apr-13 to	-	-	-	37,841	3.64
Aug-13				(average)	(average)
Sep-13	58,376	84	0.14	65,036	4.00
Oct-13	21,088	93	0.44	41,969	3.34
Nov-13	30,684	1,421	4.63	62,018	5.27
Dec-13	27,628	1,554	5.62	55,605	5.07
Jan-14	28,149	2,424	8.61	70,313	5.73
Feb-14	29,871	3,181	10.65	84,341	6.41
Mar-14	31,832	3,560	11.18	96,626	6.53

Within 4 months -> 10% traffic to Picture SG site via Infopedia

Continuing initiatives to improve content discovery



Knowledge Organisation Systems

Improve Search & Discovery



Build knowledge base about Singapore *People*, *Organisations*, & *Places*

Link authority data to library, museum and archival records for access



Enable increased connectivity to shared resources for discovery + Co-creation of authority data (vocabularies) with key partners (NHB)



- Interfacing of NHB system with NLB 's KOS system by Sep 2016
- Roll out query expansion by Sep 2016
- 4000 authority records on People, Organisations, Places created with estimated 60,000 attributes by March 2017
- 200 MARC authority records for local publications created and registered on Library of Congress Name Authority File by March 2017
- Publish 4,000 records at international registries (LCNA, VIAF, GeoNames) by March 2017

Who

Lead Division: RDM

Support: TNI, NAS & NL (content)

Infobox

About 457,000 results (0.23 seconds)

Elizabeth Choy - Wikipedia, the free encyclopedia en.wikipedia.org/wiki/Elizabeth Choy -

Google uses structured content from DBPedia (e.g. attributes of Person) for knowledge extraction (Infobox)



6 Portrayal in media

7 Bibliography

Download as PDF

Printable version













Elizabeth Choy

Elizabeth Choy, birth name Yong Su-Moi, OBE, was a Singaporean educator and councillor who is regarded as a war heroine in Singapore. Wikipedia

Born: November 29, 1910, Kudat, Malaysia

Qied: September 14, 2006, Singapore

Spouse: Khun Heng

People also search for



Lim Bo Sena



Toh Chin Chve



Adnan Saidi



Dora Gordine



View 15+ mo

Mamoru Shinozaki



Elizabeth Choy-Yong Su-Mo

Traditional Chinese

November

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h. North Borneo

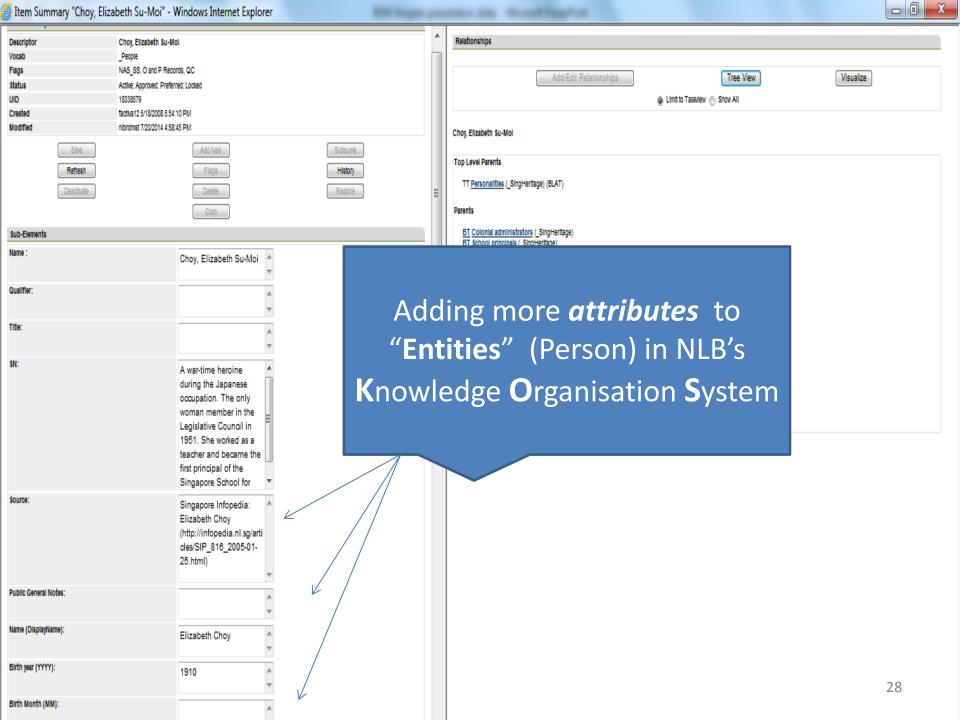
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Feedba

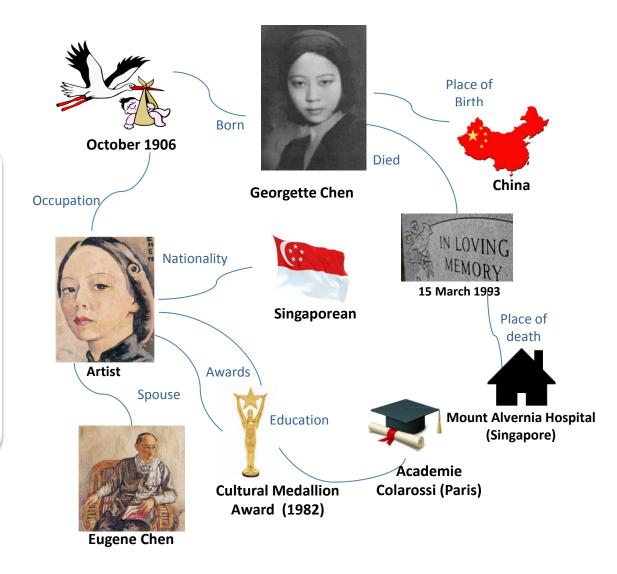




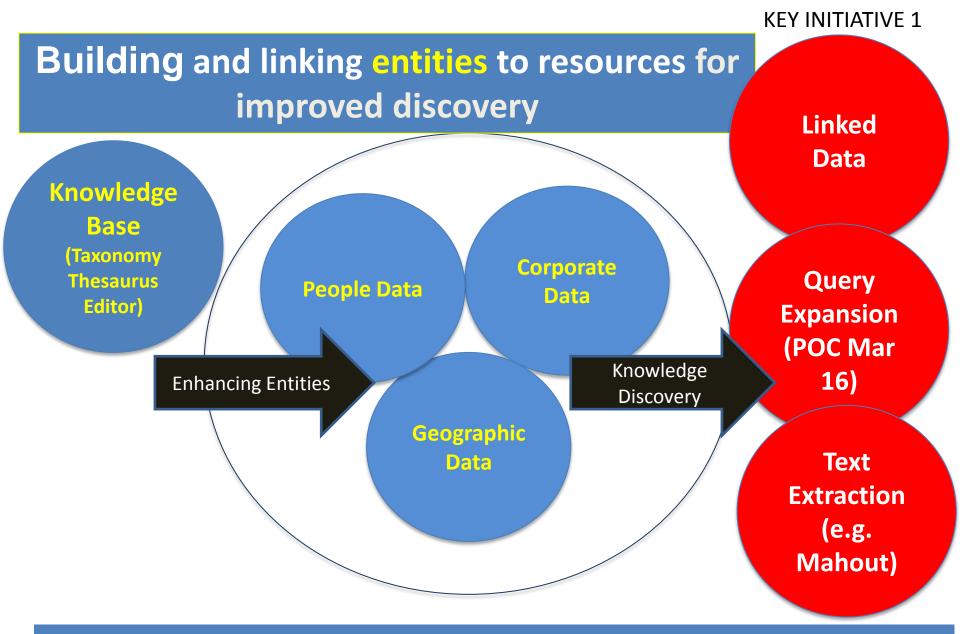
What KOS can do



- Enhances authority data on People, Organizations, Places
- Users are navigated to NLB, NAS & NHB resources seamlessly
- Original search query is expanded or reformulated to other documents



Building and linking entities to resources for improved discovery



From 2,000 entities (FY15) to 4,000 entities (FY16)



Linked Data

Improve Search & Discovery

What

Identify NLB, NAS, & NHB datasets

How

For Transformation as Linked Data to enable diverse content to be connected contextually across diverse sources, languages and formats on the Web

NL & NAS content are connected to related data from external institutions *globally* and semantically

Why

- Contribute to the 17% increase of e-transactions or digital referrals as highlighted in the **Digital Strategy**
- Support NL-NAS Masterplan to increase awareness and appreciation of Singapore history

When

- Pilot sample set of *NLB resources for publishing* on the Linked Data Cloud by Sept 2016 700,000 resources transformed as Linked Data by March 2017
- Pilot on linking NLB dataset with British Library by December 2016

Who

Lead Division: RDM Supported Division: TNI

NLB Linked Data Initiatives

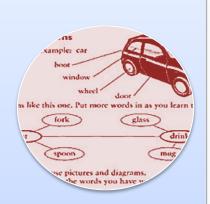


Setup Infrastructure

LDMS (Linked Data Management System) Platform with URI Registry

Dec 13 - Jul 14

completed

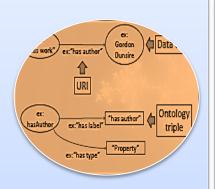


Develop Ontology

Ontology + Extended Service Vocabulary 101 classes + 136 properties

Feb 14 - Jan 15

completed



Transform Data

256,000
Vocabularies,
Structured &
Unstructured Data

Aug 14 – May 15

completed



Launch Web Service

Linked Data Widget & Web Feature

Feb 14 – end Jun 15

in progress

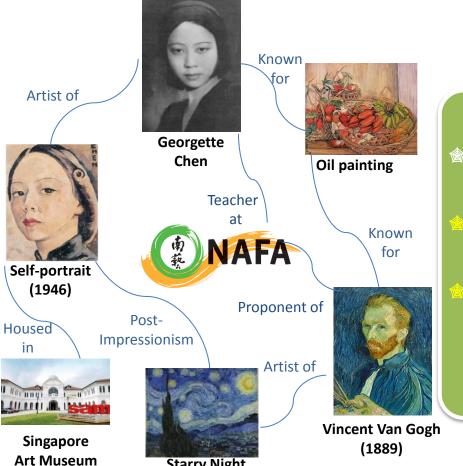
Dec 2013 - Jun 2015

What Linked Data can do



NLB

- Increases visibility of NLB's resources
- Enriches NLB's data with linkages to other linked data
- Allows multiple services to be offered through a one-time effort (i.e. data integration is done at the source, instead of at application level)



Users

- Provides access to diverse but contextually related information
- Makes possible serendipitous discovery of people, places, concepts
- Facilitates development of new mobile and web apps through mash-ups and repurposed linked data

Enhances discovery & access of resources through linking

Starry Night (1889)

SINGAPORE SEPARATES FROM Malaysia and becomes INDEPENDENT













On 9 August 1965, Singapore separated from Malaysia to become an independent and sovereign state. [1] The separation was the result of deep political and economic differences between the ruling parties of Singapore and Malaysia. [2] which created communal tensions that resulted in racial riots in July and September 1964. [3] At a press conference announcing the separation, then Singapore Prime Minister Lee Kuan Yew was overcome by emotions and broke down. Singapore's union with Malaysia had lasted for less than 23 months [4]

Singapore in Malaysia

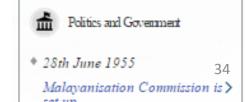
Prime Minister Lee Kuan Yew signed the Malaysia Agreement in London on 9 July 1963. [5] The agreement spelt out the terms for the formation of the Federation of Malaysia, comprising Singapore, Malaya, Sarawak and North Borneo (Sabah), which was to take place on 31 August 1963.[6] The terms for Singapore's entry into Malaysia, which were agreed upon by both the Singapore and federal governments, were published in a White Paper in November 1961.[7] This White Paper documented the outcome of talks between Lee and then Malayan Prime Minister Tunku Abdul Rahman on Singapore's inclusion into Malaysia. The terms included the margins of Singapore's autonomy, Singapore's political representation in the federal government, the status of Singapore citizens and Singapore's revenue contribution to the federal government [8] Prior to the signing of the Malaysia Agreement in London, there was a week of "arduous and grueiling negotiations" over the more thorny issues of a common market between Singapore and Malaya, and the portion of Singapore's revenue and taxes that would go to the federal government. [9] With these issues settled, Singapore began its Journey as part of Malaysia.

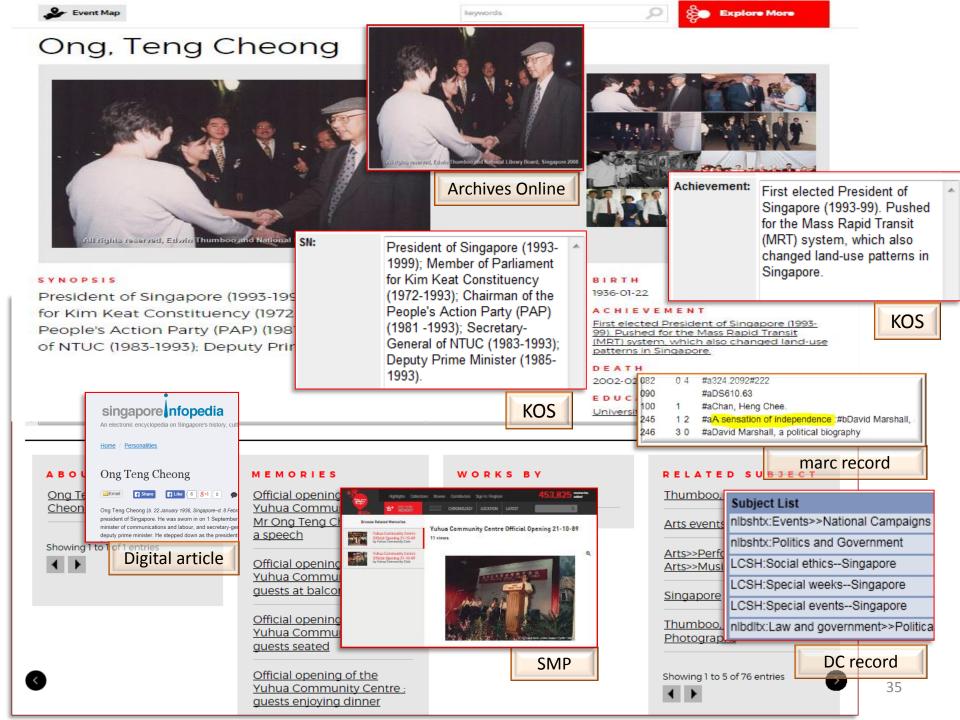
A Difficult Union

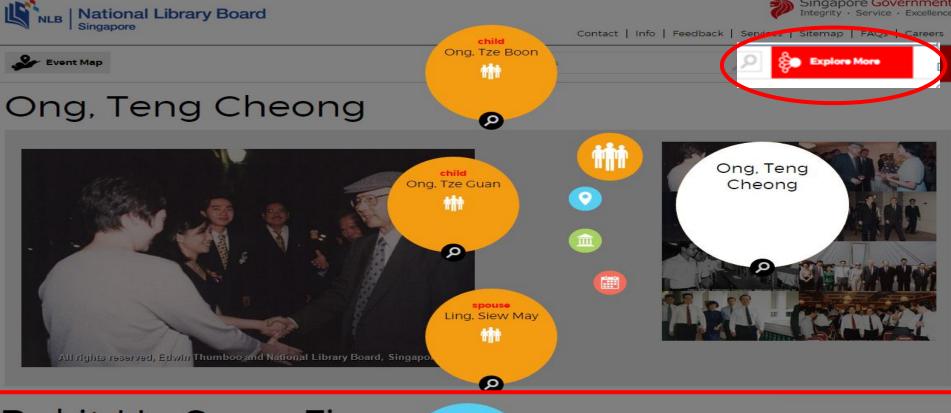
Even before the proclamation of the formation of the Federation of Malaysia on 16 September 1963, Singapore and Malayan leaders were mindful that the differences in the political approach and economic conditions between the two countries "cannot be wiped out



Related Articles in

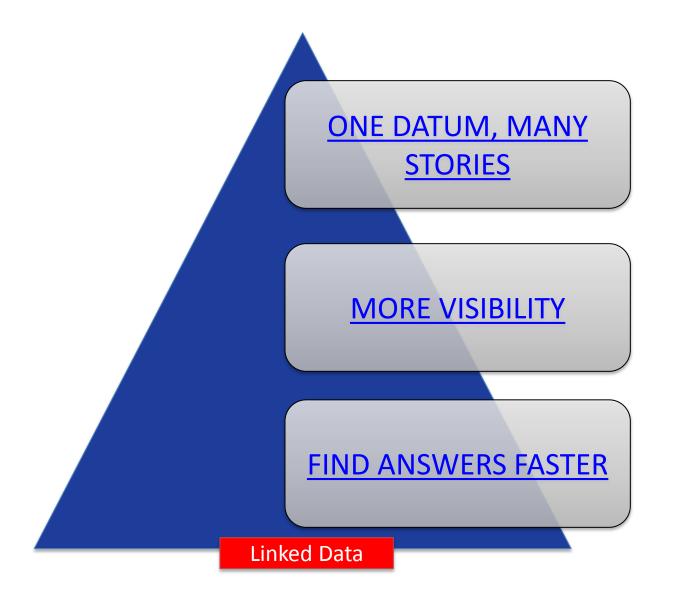








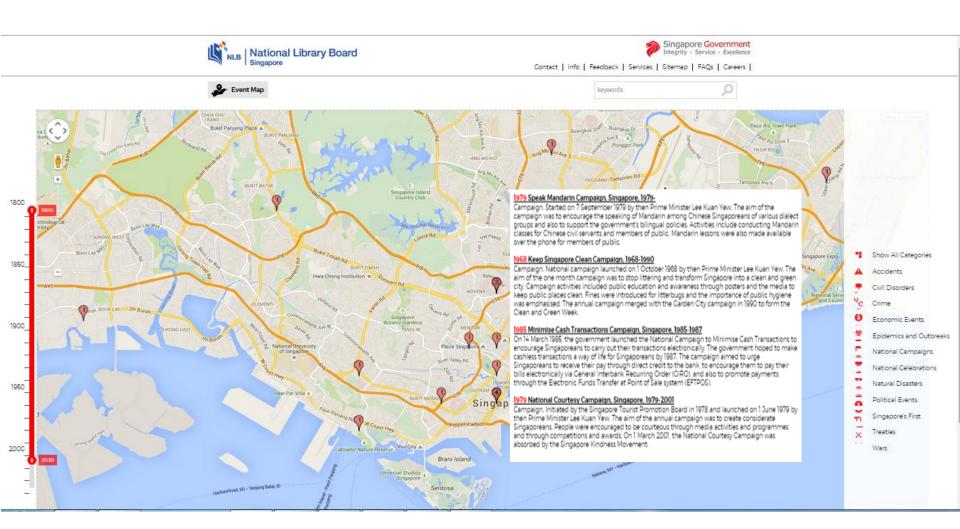
Benefits





keywords





Thank You