

**Digital Inclusion Forum** 

Monday 26 June 2017 – Auditorium 1, State Library of Queensland, 10:55am Community initiatives growing from Trove – Mel Hunt, Trove Data and Platform Innovator, National Library of Australia.

Good morning - today I'll be speaking about Trove, a service run from the National Library with help from thousands of libraries, museums, archives, universities and clubs around Australia.

In particular, I'll be highlighting for you three community-driven initiatives and projects which show how a service like Trove is being used by users and communities in the online space.



First I'll give a quick overview of Trove for those that might not know us.

Trove is a web service located at trove.nla.gov.au and we are primarily a *collection aggregator* bringing together collections from galleries, archives, museums, libraries and other community groups.

Trove groups these collections into zones – you can see them the minute you land on our homepage. Each zone is a group of similar types of content - from newspapers and government gazettes, to journals, books, pictures, music, maps, diaries, websites and people and organisations biographies –Trove has it all!

Trove is also a *Digital Collections Host* - we host all the National Library's digital collections including journals, photographs, sheet music, oral histories and maps as well as collections digitised by the NLA in partnership with others.

Trove is also a *Platform* – to research and build using tags, comments, lists and our API which allows people to create their own applications built from the collection data in Trove.

And last but not least, Trove is a *Community* of passionate users. Trove on its own is just descriptions of collections and data. It's the users who come in and connect those pieces together, to reveal and tell their stories and stories of Australia, who make Trove meaningful.



I'll take a minute to dive a little deeper into Trove so you can get a clearer picture of what's there.

We are most well-known for our digitised newspapers – from Australia's first newspaper printed in 1803 – the *Sydney Gazette and NSW Advertiser*...



http://nla.gov.au/nla.news-page19249949

To major metropolitan dailies like the Melbourne Age ...



http://trove.nla.gov.au/newspaper/page/24970088

As well as small and niche titles like the *Scout's Jamboree Daily* printed every day of the jamboree in 2007.

Generally, digitised newspaper content in Trove covers from that first newspaper title in 1803 up to 1954 when copyright comes into play. There are issues from over 1,000 newspaper titles – big & small.

Currently more than 21 million pages have been digitised and all are freely available to the public to view, search, download, print.



http://nla.gov.au/nla.news-page1157138

This means a lot of Australia's history, as told at the time, is available in Trove. From big events like this one - the opening of the Sydney Harbour Bridge in March 1932...



http://nla.gov.au/nla.news-article218717184

To tiny events like descriptions of weddings in country towns.

So why do we think this is important? Well - because it entices users to help build their digital literacy. It's interesting to learn about yourself, the street you lived in, the school you go to, what your grandmother wore to her wedding. People want to find out about themselves, and their own history, and their own interests and personal interest prompts learning and digital literacy.



One of the items that's available in Trove is fifty years of *The Australian Women's Weekly*... which leads to me to my first tale about a community initiative growing from Trove.

*The Weekly* has always contained patterns – knitting patterns, sewing patterns, crocheting, tatting, the list goes on. This is the cover from the issue dated Wednesday 25th November 1959.



On page 63 is a pattern for the 'Elegant Elephant'.

Ravelry.com is a site where knitters gather and share patterns. Users from Ravelry.com have gone through all these digitised issues, found the patterns, tagged and grouped them in Trove and reshared the old patterns on Ravelry.com.



Modern day patterns cost money and are in copyright so hard to share.

But the Ravelry users have taken this particular pattern and used it to knit their own elephants.



They share tips and advice amongst their own community on how best to make this item. Like which wool to use, or how to solve a quirk in the original pattern notes.



So that now, there are not one... not two...



but 54 quite spectacular elegant elephants in existence, made by Ravelry.com users.

Now this is an online craft community, they're interested in knitting. When they get online, when they go to Ravelry.com, they're looking for knitting patterns. Members of that community have found useful material in the old *Women's Weekly* issues, and enticed more of their members to come look. Now they are making stuffed toys for their families and friends... but they're also doing something more. They're helping their knitting community to learn about ways to investigate Australian history. How to learn a new skill – to correct the text in an old newspaper – so they can do what they're passionate about which is to share patterns & knit!

Typically it is historians, particularly family historians who are the biggest big users of Trove. Ravelry are not family historians. they're a completely different community, and they've found a way to use Trove for their own needs. And in doing so introduced new people to Trove and a way of finding out about Australian history. The elephant is only 1 of almost 100 knitting patterns this community have identified and remade.

So that's one example of a community-driven initiative using Trove's digitised magazines. Here's another...



ABC Rural reporter Caddie Brain had just moved to the NT and she had a problem. How could she contribute to more informed reporting, better storytelling and broader cultural literacy about the Territory?

Ms. Brain addressed these questions in a unique way - with the support of the NT Government she formed WikiclubNT. WikiclubNT is a monthly meet-up where likeminded Territorians come together to update and create new Wikipedia pages about Northern Territory people, places and histories. Editing Wikipedia can be a solitary task. But by building a social club around the goal, they have established a very close group of people, who love to meet, share stories and recent discoveries about Territory history.

These local stories are then shared with the world through Wikipedia. If you've ever edited Wikipedia yourself you'll know you have to include citations, to prove what you're saying is factually correct, and that's where Trove comes in. Trove enabled this community to track down references in old newspapers and relevant photographs and biographies held in various library collections -Trove allows you to find them in one convenient place. They have created more than 50 new pages about the Territory thus far – such as...



A profile on Australia's first female Lord Mayor, Ella Stack who was mayor of Darwin during Cyclone Tracy...



Entries about unique places in the Northern Territory...



and the story of Australia's first (and now feral) camels.

WikiclubNT is a great example of a community using Trove to tell their own stories. They've told us that without Trove, progress would be debilitatingly slow, near impossible. They would be dependent on old physical newspapers and microfilm and wouldn't have access to the range of materials they've discovered.

It also allowed them to reference more direct sources, helping people discover source materials for themselves, rather than merely being referred to books which they may not actually be able to see online. Having a service like Trove has enriched their research and storytelling immeasurably. It's allowed people of the Territory to tell their own stories and make their stories known to the world. And along the way they are learning new skills, to be able to tell their stories online in big global service like Wikipedia. WikiclubNT has now taken their success on the road, with workshops in Alice Springs, Tennant Creek and Katherine.



http://trove.nla.gov.au/version/208892762

My third and final example relates to Corporal Coles prosthetic hand. It's held by the Health Museum of South Australia, who've put a record describing it into Trove. In Adelaide, 1842, Corporal John Coles was preparing to fire a cannon - the gunpowder exploded and he lost the fingers of his right hand.



Two years later a Surgeon Dentist named Robert Hasting Norman arrived in Adelaide to establish the colony's first dental practice. Norman was particularly interested in carving and the practical applications of it. The Governor of South Australia sponsored the dentist to construct a prosthetic hand for Corporal Coles and Corporal Coles used the hand for 42 years until his death in 1886.



Fast forward and more than a century later a special effects artist and engineer named Ivan Owen, is working away in his garage building a mechanical hand for a monster costume. He creates a YouTube video of the hand that

catches the eye of a carpenter in South Africa. That carpenter lost fingers from one of his hands in an accident and has been working to rig up artificial fingers. The Carpenter suggests they work together to build a mechanical prosthetic based on Ivan's design.

With some crowd-funding and support from a 3D printing company they begin work, long distance across continents. Their project soon comes to the attention of a South African woman whose son Liam had been born without fingers on his right hand. At this stage I should mention that prosthetic devices are expensive to make and not often made for children, as their rapid growth means the prosthetic would need to be regularly re-made. The American special effects designer and South African carpenter are struck by an idea. Could cheap prosthetics be made using the work they've been doing with modern technologies like 3D printers? Could they help Liam?

Ivan searched Google for historic examples of body-powered hand designs. His research lead him to the Health Museum of South Australia's story of the Coles Hand. This story, while useful, lacked the detail he needed to complete the design. Further searching ensued and he found the record in Trove, which included crucial details about the materials used and how the mechanism worked – 'Catgut pullies and whalebone fingers crafted at just the right angle'. Particularly useful was the description that the hand was 'beautiful in its mechanism and accurate in its working that Corporal Coles could pick up a button or a sixpence with pleasing facility'. Ivan and the Carpenter succeeded in building a prototype hand, based on their own work and refined by the descriptions of the Corporal Coles hand. It's body powered. Strap it on, twist your wrist in one way and the fingers contract. Twist another way and they release. They shared their work on an open source platform called Thingiverse.



This means anyone can download the pattern for this hand and if they have access to a 3D printer, create the parts for their own prosthetic hand. A number of parents of children in need of prosthetics have done just that. Instead of paying tens of thousands of dollars for a prosthetic the child will quickly grow out of. They pay less than a dollar for the plastic to 3D print the parts, buy some hat elastic and Velcro, screws and fishing line and voila – a prosthetic.

It's an activity that the parent and the child can do together – to fine tune the design to just that child's size, to change the colours, to learn how to use a 3D printer, to create and build their own hand, they often get done in amazing colours to look like Superman, or Captain America, or Ella from 'Frozen'. The fabulous team at Questacon in Canberra have a 3D printer and printed off the parts for the Trove team. Which we then assembled...



Into Trove's very own 3D printed Raptor hand. We spent an afternoon building our own Raptor Hand – it was very easy and much like putting together Lego. The designers intentionally made the plans public domain with the hope that not only could the hands be made at very low cost, but that others would enhance the design. This is exactly what happened.



A community called Enabling the Future has grown around the design with a view to using 3D printing to literally give the world a helping hand. They get later primary school kids involved in building the hands, which involves downloading the plans, tweaking them to the right size for someone who needs one, finding the accompanying YouTube video and printing out the parts and assembling them. So that, 168 years after Corporal Coles first used his prosthetic hand, Liam in South Africa and hundreds of other children are able to pick up coins with their body-powered three dimensional hand.

They've even used the existence of the 1840s Corporal Coles hand to defeat a patent challenge in the US. Its existence proved that the design was historical and therefore couldn't be patented. Meaning the publicly available design could remain open source, for anyone to download and use.

Did Trove set out to establish a platform that would allow 3D printing designers to create prosthetics for children? No. But by making information available and findable, you never know what people will do with it. It sparks creativity and empowers communities to pursue their own interests.

So - in summary - that's three initiatives driven by communities growing from Trove...



Ravelry – who want to be able to do more of the craft they love...



WikiclubNT - who are documenting and sharing their local stories with the world...



and the Raptor Hand – from people who are innovating and creating to enable others to pick up a coin.

These are just three groups who are using parts of Trove for their very different needs. A platform like Trove helps to enable digital literacy and learning. It is a shared space where users and communities can meet to find and share resources, to pursue their own interests in the way they want to, to build a community of interest, to learn, educate and innovate and build digital literacy and inclusion along the way.