

Instructions

InternetNZ is proud to have supported your initiative. The questions below are to help us understand the triumphs and challenges you have faced.

We want to celebrate your successes and understand the obstacles you have encountered so far. This will help us all to learn what we could do better in the future.

This report form will be placed on our website for transparency.

Please complete and submit this form no later than the date stipulated in your funding agreement. Should you be unable to meet the deadline, contact us to arrange an alternative date, by emailing funding@internetnz.net.nz. You may not be eligible to apply for further grants from InternetNZ if this is not submitted. The completion of this form should be overseen by someone with an intimate knowledge of the funded initiative.

Final project report

*** indicates a required field**

For your convenience, you will find some information for this section has prepopulated from previous forms you have completed.

Please amend any details as needed to ensure we have the most accurate information.

Initiative title *

Improved data analytics for library

Provide a short summary of the work that was completed as part of this initiative.

This project aimed to improve both the data collection capabilities and the user experience of our Alexa Smart Speaker app. Over the last 18 months we have started collecting new data points we are now able to collect the number of books borrowed/finished, magazines borrowed/finished, newspapers read, whether titles are accessed via the table of contents or the recommendation system, unique users, the ability to look up the number of times each title has been borrowed, app enablement's, and app crashes.

To improve the usability of the smart speakers two new features have been added;

- A 'newly added' category. This counts the books added to the collection over the last 30 days and lists them 10 at a time, reading the title, author, and synopsis then gives the client an option to start reading the book or skip to the next. Demonstration here <https://youtu.be/rzqoz1yCASw>

- A 'recommended' category powered by an AWS algorithm. The recommendation model is trained using machine learning when all the new books and new users are also added into consideration. There is a small update on the model every 2 hours automatically done by Personalize Engine (for individualised recommendations) which does not consider the new books, and new users so the change isn't very noticeable over a short period of time. Impressions are implemented such that the items that aren't picked will have a reduced score for future recommendations. For example: if you pick an item that is 5th on the list, it considers the first 4 items to be seen by the user but not picked. Which eventually will reduce their position. As with most machine learning the exact process, it uses to pick titles is a bit of a mystery however we feed these data points into the system. Genre,

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synopsis, number of likes, date added, content filters such as contains violence, sex, strong language, and narrator information such as male narrator, female narrator, and accented narrator. We removed the title and author from the data schema as recommended by AWS. Demonstration here <https://youtu.be/JTF9AwEFv1s>

Describe the "who, what, where and when" of your initiative.

Is this initiative complete? *

Yes No

If your initiative is still in progress, select "no."

Start Date

01/05/2021

Must be a date.

Finish Date

10/08/2022

Must be a date.

When do you anticipate that your initiative will be completed?

Must be a date.

Leave blank if this is an ongoing initiative or if the finish date is unknown.

Are there any areas where you need further support to complete this initiative?

This will be an ongoing project. The recommendation algorithm is new and will take time to improve its accuracy, a process that will be gradual and reliant on our readers' input. As part of this, we will continue to work with AWS, our app developers, and our readers to ensure the program works as intended and improve the user experience wherever possible.

What are the outcomes of this initiative? *

The personalization engine will enable us to create a tailored experience for each user. This is important as many of our users are older and less technologically adept therefore if we can make it simpler for them to access the content they want the higher likelihood they have of engaging with it.

BLVNZ's goal with the Alexa app is to create a seamless and natural experience for the users regardless of the complexity going on behind the scenes. The greater number of data points we are able to collect the more evidence-based decisions we will be able to make in future design choices. This is exactly what the recommended and new arrivals sections are designed to do. By making it easier for readers to find more relevant content, in our collection of 35,000+ titles, we expect to see higher rates of usage and a higher rate of books being finished.

Access to literature helps to provide mental stimulation, a creative outlet, an opportunity to empathize with a diverse range of perspectives, and a way to connect with friends or social groups over shared experiences. By creating systems that simplify the process of finding a book that aligns with an individual's interests we will be able to get more engagement from readers and retain them for longer. This means people will be reading more books and with the recommendation algorithm some they otherwise would not have discovered.

Based on a recent survey conducted by Blind Low Vision NZ we found that users of the Alexa app, in general, find it a positive experience. Key takeaways from the survey include 72% of respondents using the device daily, 68% "very satisfied" with the Alexa, a further

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20% “somewhat satisfied”, 58% finding it “very easy” to use, and 85% saying they would recommend the Alexa to another person with sight loss. A few positive responses included;

- “LOVE my Alexa. I don't know what I would do without her. She has brightened up my life considerably. And sweetly enough when I tell her how much I love her, she responds back.”
- “Alexa is great company and friendlier now that she uses my name for the News. She has a good voice a range of all sorts of songs and a real valued part of the family - us two! We enjoy her responses often.”

Library usage has been consistent over the last year with an average monthly unique user count of over 770. The number of books borrowed on the Alexa app has also increased over the last 12 months with May and June hitting 5290 and 5197 respectively, the highest number of loans since we moved to the digital platform.

Consider the changes resulting from your initiative or describe major achievements in terms of benefits for participants and/or others.

Who did you work with to make this initiative happen? *

This was a collaborative effort between internal departments and external contractors. Internally our IT and library teams worked together to design and implement the changes based on feedback from users collected by our service delivery team and contact centre. This was done with a survey of Alexa users and looking for reoccurring themes within the feedback. We will continue to take feedback on the changes we make to the user experience of the Alexa app as part of the continued effort to make it better for our clients.

The programming work was done by a contractor, Sonnar, who have experience developing accessible software and also built the BLVNZ Booklink app for iOS and Android.

For example, staff, volunteers, other organisations or support that has helped make this happen.

What did you or your team/organisation learn as a result of doing this initiative? *

As part of a recent survey on the Alexa usage consisting of 443 respondents (a 12% response rate), we found that 37% of people use the Blind Low Vision NZ skill and 15% also use third-party audiobook platforms like Audible. This has shown us we still have a lot of room to grow our Alexa app both in terms of client usage and client awareness of our Alexa app. In the future we would like to use the app to help distribute organisational updates to clients but for the Alexa to become a major tool like this we need the usage to be higher.

During this process, our digital team had to learn a lot about the variations in AI technology available on the market. As an emerging field AI is not a commonplace tool in the Not for Profit sector, though it will undoubtedly become one, this has meant coming in fresh and finding a solution that best fits our needs. As a result, we looked at multiple consumer AI options taking into account factors such as cost, integration with our existing technology, and features provided to determine which product would have the greatest benefit.

As part of our evaluation of the Alexa and libraries' overall service delivery the survey was framed as “How can we improve this service?” with 443 responses there was plenty of useful feedback that will be taken into account when developing the roadmap for the next 12 months. We will continue to make improvements both internally and with our external partners Sonnar and Amazon.

Describe what made this initiative work well and/or what was challenging, think about what would be useful to others working towards similar goals.

How will you share the outcomes and lessons from this initiative? *

We have a variety of methods we communicate with clients. Our Sound and Touch magazine is a quarterly publication that goes out to library users with updates on the library including new books and relevant organisation updates like the recommendation engine and how to make the best use of it. We use various digital methods including social media, updating our website, and a regular newsletter that goes out to all clients called Korero. Frontline staff

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and volunteers play a big role in sharing this information with people too, often helping set up devices and training clients on how to use them.

What channels/mediums will be used so that this initiative can inform future projects.

Which population group/s were affected by this project or program? *

Health > People with disabilities > People with vision impairments

Please choose only the group/s that were at the very core of this project/program.

Share any supporting documents you feel appropriate, that will help us to better understand your initiative.

For example your evaluation plan, theory of change, survey results or feedback, annual report, summary to the board or any visual or audio representations of your work.

Upload files:

Filename: Monthly users stats.PNG

File size: 31.0 kB

Upload files:

Filename: BLVNZ Alexa recommendation engine research result.docx

File size: 147.8 kB

Upload files:

No files have been uploaded

Provide additional details:

We would prefer if the word document is kept confidential. There isn't anything sensitive in it but it is an internal working doc I've added it to help illustrate the decision-making process.

Let us know if anything you have shared is confidential or can be used to promote this work.

Remember this report form will be placed on our website for transparency.

What (if anything) have you changed in your approach and practices? Explain why this was necessary?

Other than delays to the completion of this project it has gone relatively straightforward.

The initial scope of the project was to implement more accurate data tracking which we have done and build in the recommendation algorithm which has also been completed. In choosing the recommendation algorithm we looked at the 3 best options, looking at what they had to offer and which would be more suited to our circumstances. We looked at Recommendations AI, Amazon Personalize, and Azure Machine Learning. Ultimately we went with Amazon Personalize. Each of these services offered similar features sets however, we decided to use Amazon as our Alexa app is run via AWS meaning there was a shorter setup time and simpler integration. Amazon personalize also provided more customization options for the recommendation algorithm including an "Adventure factor" which will add more variety to the user recommendations.

Reflect on who and how you set out to help, and whether this shifted. We may use this information to help inform others undertaking similar work.

Financial report

* indicates a required field

Project income and expenditure

Please provide details of any project income (funds received) and project expenditure (funds spent) to date.

Use the 'Notes' column to provide any additional information you think we should be aware of.

Income Description	Income type	Confirmed funding?	Income amount (\$)	Notes
Grant from Inter-netNZ	Philanthropic grants	Confirmed *	\$50,000.00	

Expenditure description	Expenditure type	Expenditure amount (\$)	Notes
Sonnar -Solutions re-search for recom-mendation engine	Project and production	\$828.00	
Sonnar - Implement-ing a 'What's New' feature	Project and production	\$1,518.00	
Sonnar - Initial rec-ommendation engine setup	Project and production	\$16,560.00	
Sonnar - Develop-ment for analytics	Project and production	\$5,520.00	
Library and Digital department heads support and supervi-sion.	Salaries and wages	\$20,000.00	Staff responsible for designing and direct-ing the implantation of features.
Research and In-sights Manager	Salaries and wages	\$5,000.00	Responsible for inte-grating and maintain-ing new systems. Col-lating and analyzing data.
Overheads	Overheads	\$3,000.00	
		\$	

Income and Expenditure Totals

Total income amount	Total expenditure amount	Income - expenditure
\$50,000.00	\$52,426.00	-\$2,426.00
This number/amount is calculated.	This number/amount is calculated.	This number/amount is calculated.

Have you experienced any issues with your intended project budget to date? If so, please explain reasons for any major variances or for providing incomplete information:

Feedback

You are almost at the end of your final report. Before submitting, please take a few moments to provide some feedback.

Please indicate how you found the acquittal process:

Very easy Easy Neutral Difficult Very Difficult

How many minutes in total did it take you to complete this form?

Estimate in minutes (i.e. 1 hour = 60 minutes)

Provide us with any feedback you have from learning about evaluation.

I think this is a great example of an accountability/evaluation document. It's clear about what is needed, the questions don't overlap, and there is room for project-specific information.

We'd love to hear how you found the input provided by Standard of Proof ie. whether the evaluation toolkit was useful, how this learning impacted your organisation/initiative delivery.

InternetNZ is a membership organisation. Would you be interested in hearing more about becoming a member?

Yes please No thanks I am already a member