

REQUEST FOR QUOTATION

Limba: A digital library for Victorian Aboriginal communities – software development

1. Summary

The Victorian Aboriginal Corporation for Languages (VACL) in partnership with Lirata Ltd are embarking on a new project: to develop a user-friendly online library and language learning system for Indigenous language programs. The software will be known as Limba.

Limba will be web-based software with advanced functionality for management, display and sharing of language and cultural materials as well as interactive content. It is preferred that the software be developed on a widely used, well supported CMS platform. To build on existing code, Drupal CMS is a leading option however other platforms may also be considered.

This Request for Quotation (RFQ) is for software development services, to design and build the software that will deliver this library to Victorian Aboriginal communities. The software developers will form part of a broader team of people from VACL, Lirata and participating Aboriginal communities, who will together create the library and engage community members in using it.

Software developers who have the capability to meet the project requirements are invited to submit proposals in line with the instructions at the end of this RFQ.

The closing date for proposals is Monday 12 June 2017 at 9.00am Australian Eastern Standard Time.

2. Context - Victorian Aboriginal Languages

Prior to colonisation there were approximately 250 Indigenous languages spoken in Australia (approximately 40 in Victoria). Some of these had several varieties, and there were altogether about 500 language varieties used across Australia.

Over the past two centuries, many Australian Indigenous languages have declined to a critical state. More than three-quarters of the original Australian languages have already been lost, and the survival of almost all of the remaining languages is extremely threatened.

In recent years there has been an upsurge of interest in the Aboriginal languages of the south-eastern corner of Australia. Communities throughout Victoria, supported by VACL, are reviving their languages through language camps, workshops, school programs, educational material for children, networking events, publications, music, digital resources, and dictionaries.

The Victorian Aboriginal Corporation for Languages supports these communities by:

- Providing and maintaining a central resource for Victorian Indigenous Languages for the benefit of the local Aboriginal Communities and individual Aboriginal people of Victorian Aboriginal descent.

- Supporting local Aboriginal community programs with research and retrieval by supporting the language workers with advice, training and assistance when needed.
- Researching and retrieving language materials from Victorian and interstate archives, so the material can be made available to local communities.
- Assisting local Communities with the writing of retrieval plans.

3. About the Victorian Aboriginal Corporation for Languages

VACL (<http://www.vaclang.org.au/>) was established in 1994 to address the issues of language loss. It is the peak body in Victoria for Victorian Aboriginal Languages and supports Aboriginal Community Language Programs throughout Victoria. The Corporation is focused on retrieving, recording and researching Aboriginal languages and providing a central resource on Victorian Aboriginal Languages with programs and educational tools to teach the Indigenous and wider community about language.

VACL is a small not-for-profit organisation with a staff of 6, mostly part time, plus volunteers. VACL's Board has strong representation from Aboriginal communities across Victoria and VACL focuses on the needs of these communities.

4. About the Limba project

Over a period of several years, VACL identified a need for Victorian Aboriginal communities to be more easily able to access and share language materials, including those held in VACL's collections.

In 2016 VACL received a funding grant from the Indigenous Languages and Arts program of the Australian Government's Department of Communications and the Arts, for the Limba project.

The project commenced in early 2017 and will be completed by the end of 2018. VACL is leading the project to develop Limba. Limba is a Gunai/Kurnai word meaning 'to preserve'. VACL is being assisted by Lirata (<http://www.lirata.com/>), a small not-for-profit organisation based in Melbourne which has expertise in project management and development of language software. Software development will be outsourced to a provider who can demonstrate that they have the right skills and approach to work well with VACL and Lirata to deliver high quality software to Aboriginal communities.

4.1. Project aims

The overall purpose of the Limba project is to strengthen Aboriginal languages within Victoria. Specific aims are:

- Deliver a highly functional online library and language learning system that can be used in Aboriginal language programs and other community language programs.
- Provide a safe storage place for language and cultural materials to help preserve them over time.
- Enable Aboriginal communities to access materials that might otherwise be difficult to find (for example the materials in VACL's internal collection), to help communities to research and strengthen their own languages.
- Support language learning and language teaching by presenting language materials in a sensible learning sequence, sharing materials to support classroom language learning, and providing interactive activities to help people practice speaking, listening and writing.
- Provide a place for sharing knowledge and materials and discussions so that people who are working to keep language and culture strong can support each other.

4.2. Scope

Limba will be open source software which means that many different language communities can use it and adapt it to their needs. The focus of the current project is twofold:

1. Develop a generic 'plain label' version of the software which will have all the underlying functionality present, and which can then be configured and customised to meet the requirements and preferences of particular communities.
2. Develop a fully configured, customised version of the software for VACL and Victorian Aboriginal communities. This version will be based on the generic version with appropriate configuration, design, custom content and library materials to meet the needs of VACL and the participating Aboriginal communities.

Four Aboriginal language communities have been invited to be part of the initial development of Limba, these are the Boonwurrung, Dhauwurd Wurrung, Taungurung and Wadi Wadi communities. It is expected that each of these communities will have their own set of users, their own materials within the library and their own set of configuration requirements which will need to be incorporated within the overall design of the customised version.

Once the initial software development is complete other language groups in Victoria will also be invited to join Limba, however bringing these communities on board is beyond the scope of this initial project.

5. Requirements

5.1. Intended users

The main focus in this initial project is on ensuring the software meets the needs of VACL and of Aboriginal community members. There will be three main groups of people within communities who will use the software:

- **Community members** who are interested in exploring their language and cultural heritage. Limba provides these people with stories, videos, photos, traditional knowledge and other materials that they can enjoy.
- **Language learners.** Limba provides these people with sequences of learning materials and interactive activities to help learn and practice language.
- **Community-based language workers and language teachers.** Limba provides these people with a large library of language and cultural materials, including archival and technical sources, that help them to research the language, access existing teaching resources and develop new materials for the community.

VACL staff will also use the library extensively, primarily as a means of sharing information and language materials with individual community members and with community-based language programs.

Aboriginal community members will range in age from young children to elderly people, will be located across Victoria and beyond, and will range from those who are highly educated and tech-savvy to some with limited literacy and computer knowledge. The software will need to be designed to be user-friendly and accessible across this range of users.

Communities can also choose to share some library items with the general public or with others such as academics if they wish, however these groups are not the primary focus of the software.

5.2. General design considerations

The following general considerations will strongly influence software design and development:

- Community controlled – communities decide what materials will be included and who may access them, under what conditions
- Focused on supporting language learning and language maintenance
- Attractive design so that users enjoy viewing the library and items within it
- User friendly, accommodating a wide range of levels of technical and language proficiency including people who rarely use computers, as well as language workers who are technically proficient and will use the library as a language research tool. This will mean that general users can easily find and view materials of interest to them, while advanced users can access advanced functionality
- Multi-platform and mobile device friendly – must work well across phones, tablets and large screen devices
- Fast to use – library materials and other content should be displayed quickly and be easy to navigate within
- Streamlined administration – the editing / administration functions need to be well organised and efficient to use and new materials should be able to be added efficiently and in bulk
- Ability to extract materials and metadata for use in other contexts – it should be easy for users to download and print items and for authorised users to bulk export items when required
- Secure – must be based on well tested and secured code to minimise risks of unauthorised access, hacking or data loss.

5.3. Core functionality

The core areas of functionality required in the software include:

a. User management

- Ability to add, edit, de-activate and delete users
- Ability for users to self-register with administrator approval
- Individual user profile (name, contact details, region / time zone, other fields TBC)
- User password reset
- Ability to bulk import user information e.g. from CSV file

b. User roles

- At least four levels of user roles will be required: public (i.e. unauthenticated), registered (VACL and Aboriginal community access plus other registered users), editor (content/materials management) and administrator (software management)
- Editors and administrators will need user management permissions – TBC exactly what permissions will be provided at each level

c. User groups and access controls

- The principal user groups to be managed will be the different language communities – each user can be assigned to zero or more language communities
- Library materials can also be assigned to one or multiple language communities and will then only be viewed by members of those communities
- Additional access controls will also be required to ensure that library materials are only viewed by people with the appropriate cultural permissions to do so. At a minimum the software needs to be able to handle gender-based access protocols

(i.e. men-only and women-only) and age-based access protocols (i.e. children and adults). Users should be able to be assigned to zero or more cultural protocols. Library materials can also be assigned to one or multiple cultural protocols and will then only be viewed by users who also have those protocols. Cultural access protocols need to be able to be configured on a per-community basis. Further details on access protocols will be provided during the project.

- Anonymous users will see only materials designated for the general public.

d. Library materials management

- Ability to add, edit, and delete individual library material items
- Most library items will consist of a digital file with associated metadata fields
- A range of common digital file formats are to be supported including audio files, video files, images and documents (e.g. PDF, Word, Excel and others). Note that the library needs the ability to import, store and stream large video and audio files with file sizes of hundreds of MB to a few GB
- The full list of metadata fields is still to be determined, but for an example of the types of metadata fields that may be required see:
<http://www.ngukurrlc.org.au/help/digital-heritage-metadata>
- Ability to apply access levels, language communities and cultural protocols to library items
- Ability to group library materials into categories and to tag library materials with user-defined tags
- Ability for editors and administrators to view a catalogue of library materials and to apply bulk actions (e.g. recategorization or deletion) to multiple items
- Ability to link from library items to digital files and sites located elsewhere e.g. videos on YouTube, other websites etc.
- Ability to link library items to other related library items within Limba
- Ability to designate individual library items as 'highlighted items' to appear prominently within the library
- Ability to bulk import library items and associated metadata e.g. via CSV file
- Ability to export library items and associated metadata in bulk
- DESIRABLE: A library materials type within Limba that consists of an online multi-page story/publication with images, text and voiceover
- DESIRABLE: A library materials type within Limba that consists of a wordlist or phrase list with associated audio files and "click to hear" functionality
- DESIRABLE: Ability to maintain an audit/version trail of edits to library materials and to revert to previous versions

e. Library materials viewing

- Ability to browse across the full set of library items which a user is authorised to view
- Ability to browse library items within particular languages, categories or curated pages
- Ability to search for library items by keyword across multiple metadata fields (DESIRABLE: fuzzy search)
- Ability to filter library items by multiple metadata fields such as author, tags or file type
- Ability to sort the display of library items by selected metadata fields e.g. title, author, year of publication, file type

- Highlighting of recently added items
 - Display of individual library items in engaging, accessible format e.g. video and audio streaming in appropriate media player, display of PDFs in appropriate PDF viewer etc. (DESIRABLE: magazine-style PDF reader)
 - Ability for users to choose to view metadata
 - Ability to easily navigate from a library item to other related items, including other items by the same author, in the same category or with the same tag
 - Ability for users to download individual items and/or associated metadata
 - Ability for appropriately authorised users to edit metadata on-the-fly as they view library items
 - DESIRABLE: 'Click to hear' functionality for certain materials types e.g. wordlists or phrase lists
- f. Language learning materials**
- Ability to present library items relevant to language learning in a graduated sequence
 - Ability for authenticated users to track the sequence of learning materials they have already viewed, to be directed to the next materials in the sequence and to move forward or backward in the sequence
 - DESIRABLE: Ability to recognise user achievements e.g. completion of certain groups of materials
- g. Collections, favourites**
- Ability to group, edit and ungroup collections of library materials – e.g. a collection of materials from the same author or relating to a certain geographical area or event
 - Ability of authenticated users to add items to a collection of personal favourites
 - Authenticated users – “recently viewed” feature to be able to see a list of items most recently viewed and return to them
- h. Interactive functionality**
- Ability for users to be able to like/dislike or rate items and for items to be displayed by popularity
 - Ability for users to share library materials, dependent on access permissions, e.g.
 - Share to another Limba user
 - Email to own email address
 - Share to an external social media site e.g. Facebook
 - Ability for users to comment on particular library items (TBC whether this is available to anonymous users or only to authenticated users)
 - Ability for Editors / Administrators to moderate comments including viewing, editing, approving or deleting comments
 - DESIRABLE: Ability for Editors to create, edit and delete online quizzes/language practice activities with multiple question and answer types (e.g. multiple choice, complete the missing word, open text answer, place items in order, connect items in pairs, and/or other question types TBC). Quizzes/activities must include the ability to have images and audio cues as the 'questions' to which users respond.
 - DESIRABLE: Ability for users to complete online quizzes/practice activities and receive feedback on their responses e.g. be shown correct or alternate answers, explanations or further information

i. Multi-lingual support

- Ability to support multiple interface languages e.g. for menus, static page content, help pages etc.
- Ability to support multiple orthographies

j. Administrative and help functions

- Administrative dashboard providing overview of numbers of library items, users etc.
- Administrative access to site configuration settings
- Administrative access to software usage statistics e.g. numbers of item views
- Automated backup of library materials and database
- Incorporation of context-dependent help information within the library

NOTE: This is not an exhaustive list of desired functionality and is subject to adjustment as software requirements are further clarified in consultation with VACL and participating Aboriginal communities.

5.4. Other potentially desirable functionality

The following areas of functionality are under consideration and may be prioritised for inclusion in Limba now or in future depending on community needs and available resources.

- The ability for each language community to have a ‘home page’ within the library with custom text, images or other content
- The ability for members of each language community to view lists and profiles of other Limba users within their community
- Discussion forums / conversations – either within specific language communities, or general across Limba
- Online dictionaries – either an editable dictionary with database backend or a dictionary exported as a set of HTML pages from an application and embedded within the site
- “Word of the day” feature
- Integration with mobile app to upload materials e.g. photos or videos captured with mobile device
- Simple online language games

5.5. Platform

Limba has been funded on the basis that it will be open source software, i.e. the code base will be made freely available to other community-based users to build on, modify or customise for their purposes. For this reason, Limba should not include proprietary code that is unable to be distributed under an open source licence.

The intention of the project partners is that the software will be web-based, i.e. should run in any modern browser including mobile browsers. This will allow the software to be easily maintainable and will minimise cross-platform issues. It is envisaged that the library materials and database will be located in a commercial data centre and the software will be hosted through a commercial web hosting provider. Further consideration is needed as to which data centre/web host would be most appropriate.

For efficiency of development and ease of maintainability the project partners have a strong preference that the software be built on one of the common web CMS or LMS platforms which have large developer communities. The project partners have a preference for Drupal as the base CMS,

given the potential to build on existing open source cultural library projects on that platform, but would consider other options if there were strong reasons for doing so.

5.6. Similar / previous systems

A variety of other projects and systems have developed functionality that is similar in some ways.

The closest direct predecessor project is the Ngukurr Language Centre Online Library (<http://www.ngukurrlc.org.au/laiberi>) which was developed by several people involved with the current project. That site includes the majority of the library functionality which is required in Limba but does not include most of the interactive/language learning functionality which is desired in Limba.

The Ngukurr Language Centre Online Library was developed from Mukurtu (<http://mukurtu.org/>), another Drupal-based open source project which provides a code base for management of digital libraries of cultural materials. This code base was extended in the Ngukurr project to provide language-specific functionality such as additional metadata fields, multi-lingual interface, online dictionary functionality and ability to filter library materials based on language. Mukurtu 2.0 was released subsequent to completion of the Ngukurr Language Centre Online Library. Examples of various projects based on Mukurtu are available at: <http://mukurtu.org/showcase/>

While Mukurtu 2.0 appears to offer a strong base for the current project, other options will also be considered.

A variety of other approaches have also been developed to online libraries and archives of cultural materials. Examples include:

- Living Archive of Aboriginal Languages <http://laal.cdu.edu.au/>
- Endangered Languages Archive <https://elar.soas.ac.uk/>
- Ara Irititja <http://www.irititja.com/>
- Rediscovering Indigenous Languages <https://indigenous.sl.nsw.gov.au/>

A variety of online language learning software is also available. Duolingo (<https://www.duolingo.com/>) is of interest because of its ease of use, highly interactive approach and structured way of presenting materials. LMSs such as Moodle (<https://moodle.org/>) or the Drupal-based Opigno (<https://www.opigno.org/en>) potentially provide a strong base for language learning, but may be over-engineered for the level of functionality required in Limba. Openwords (<http://www.openwords.com/>) provides an example of an open source platform for building language lessons.

VACL and its community partners and other indigenous cultural organisations are also involved in a range of other language technology projects including development of apps (e.g. Aboriginal knowledge of birds in South West Victoria app; Kiwa storybook apps), lexical software (e.g. Miromaa - <http://www.miromaa.org.au/miromaa/miromaa-features.html>) and websites.

6. Project management

6.1. Roles and responsibilities

VACL

- Funds holder and project lead agency
- Overall project management
- Contract management

- Requirements holder
- Responsible for engagement of Aboriginal communities in the project and for facilitating community input and feedback
- Responsible for preparing and uploading the bulk of materials and metadata to the library
- Participate in project coordination structures and user feedback sessions

Lirata

- Technical advice
- Project management assistance including coordination of the software development RFQ
- Coordination of software development including development of specifications, monitoring of software development and providing technical direction to developers in conjunction with VACL
- Undertake functional, system and performance testing of Limba and coordinate usability and acceptance testing
- Development of help documentation
- Provision of training to VACL staff and others in use of the software
- Participate in project coordination structures and user feedback sessions

Software developers

- Contribute to clarification of software specifications, and create roadmap for software development
- Build and configure generic version of Limba and undertake unit and functional testing
- Configure VACL version of Limba (including layout and design and adding custom text, images or other content as provided by VACL) and undertake unit and functional testing
- Check help documentation and training materials for accuracy
- Participate in project coordination structures and user feedback sessions
- Provide general technical advice

The software developers will need to work under the direction of VACL and Lirata, and will need to consult closely and communicate well with all members of the Limba project team on all aspects of the software development process in order to ensure the software meets VACL's requirements.

The project budget provides a small amount for graphic design / artwork for the software. It has not yet been determined how this will be used. It is possible that external graphic designers will also be contracted to undertake some work on the design of VACL's configured version of Limba. If this is the case the software developers will need to work collaboratively with the graphic designers to ensure the site look and feel meets VACL's requirements.

6.2. Project coordination

Three levels of project coordination meetings have been established.

1. **Reference Group** – Key forum for input from representatives of participating Aboriginal communities. Meetings every 6 months. Software developers may be requested to attend some meetings.
2. **Steering Group** – The overall project coordination body including representatives of VACL and Lirata. Initially monthly meetings, 3-monthly later in the project. Software developers will be requested to attend some meetings.

3. **Technical Working Group** – The main forum for coordinating and monitoring software development. Monthly meetings. Software developers and Lirata’s technical advisor will be required to attend. Other project team members may be invited to attend as appropriate.

An overall project workplan has been established. A detailed software development workplan is to be established by the developers in consultation with Lirata and VACL. These workplans will be monitored through the above meetings. The developers will need to provide a written report on progress against the software development workplan at least monthly.

6.3. Intellectual property

The project will result in two main software outputs:

1. The generic Limba software which will be open source software. The generic version is expected to include some existing open source software, and the intellectual property in that existing software will remain with the original developers. The generic version will also incorporate some new code (e.g. custom modules) and design elements (e.g. metadata fields, webpage templates) and all intellectual property for the new code and design elements will be shared equally between Lirata & VACL. Note that because the software will be open source, the software developers will also be free to use and adapt the new code under the terms of the open source licence. The generic version will also include some generic help materials and the intellectual property for the generic help materials will be shared equally between Lirata & VACL.
2. A customised product based on the generic software which will be specifically VACL branded. All Intellectual Property of the customised product that are additional (i.e. text, layout and design, help files) to the original generic Limba Software shall be solely owned by VACL and is not to be used by the developers for other purposes.

A large set of cultural materials will be imported into the VACL-branded version of Limba. Intellectual property in all cultural materials will remain with the original authors/owners of these materials.

6.4. Budget and payment arrangements

A budget in the range of AUD\$70,000 to \$90,000 + GST has been allowed for software development. This is expected to cover all expenses incurred by the developers within the project including developer time, on-costs, incidental costs e.g. travel and accommodation, and any materials or equipment required.

A contract and suitable payment schedule will be negotiated with the successful provider. Payments will be linked to achievement of project milestones rather than to hours worked. Release of payments will be dependent on successful testing results indicating that the software is performing in accordance with agreed specifications and has met user requirements, and that the developers are working according to project timelines and positively and consultatively with VACL and Lirata as expected.

6.5. Timeline

It is expected that development will commence in July 2017. The VACL version of Limba must be fully configured and ready to use by the end of June 2018. It is expected that the generic version will be substantially complete earlier than this, e.g. early 2018, however this is subject to negotiation via the software development workplan.

7. Evaluation of proposals

7.1. Criteria

The following key selection criteria will be used in evaluation of proposals.

Mandatory

1. Demonstrated track record in successful development of complex web-based applications
2. Demonstrated track record in successful management of substantial software development projects within agreed timelines and budget
3. Expert knowledge of selected CMS/LMS for use in this project
4. Capability to work respectfully and sensitively with Aboriginal stakeholders
5. Demonstrated consultative and user-focused approach to software development with strong communication skills and responsiveness to user feedback
6. Ability to complete the work within the required timeline

Desirable

7. Experience in development of online content sharing and/or educational/learning software
8. Demonstrated track record of successfully completing projects involving Aboriginal communities and/or maintenance of language and culture

The selection committee will consider overall value for money offered by each proposal, including the amount of functionality that can be delivered successfully within the budget.

7.2. Process

All proposals will be assessed by a selection committee comprising representatives of VACL and Lirata. Proposals will be ranked based on the key selection criteria. VACL or Lirata may contact those who have submitted proposals to seek further information.

Proposals will be shortlisted and interviews arranged with shortlisted providers. A final decision will be made by VACL and Lirata on the basis of all the information gathered in relation to each proposal. VACL and Lirata may select a single provider, multiple providers or may select no provider.

7.3. Timeline for selection

Request For Quotation issued	22 May 2017
Closing date for proposals	Monday 12 June 2017, 9.00am Australian Eastern Standard Time
Interviews completed	13 July 2017
Successful provider(s) contracted, all applicants advised of outcome	31 July 2017 or earlier

NOTE: VACL and Lirata may vary the above timelines if required in response to emerging issues.

8. How to respond

Please provide a written proposal covering the following information:

- a. Business name, business structure and contact details.
- b. The main areas of operation of your business or organisation, and length of experience in software development.
- c. Names, qualifications and experience of personnel who will be contributing to the project, and indicate the role they will play in the software development.
- d. A summary of your understanding of the project requirements.
- e. A project delivery plan outlining:
 - o Your proposed platform(s) and plan for meeting the technical requirements of the software
 - o Your software development approach, including your approach to engaging with stakeholders
 - o The testing and quality assurance mechanisms you will use
 - o The project management processes you will use and the way you will manage key risks.
- f. Your response to the key selection criteria listed in section 7.
- g. An itemised budget indicating total fee inclusive of all aspects of software development.
- h. Names and contact details of three referees who can speak to how you meet the key selection criteria for this project.

Please also attach:

- i. A CV for each person listed as personnel within your proposal.
- j. A list of relevant completed and/or current projects.

Expected length of proposals is between 6 and 10 pages, excluding CVs and list of previous projects.

Please **email** your proposal and attachments to Mark Planigale at contactus@lirata.com.

It is your responsibility to ensure the proposal reaches Mark by 9.00am (Australian Eastern Standard Time), Monday 12 June 2017. We will provide an email confirmation that we have received your proposal within 24 hours of it arriving in Mark's inbox.

9. More information

For further information and enquiries:

- See the attached Limba FAQ document
- Contact Mark Planigale (Lirata technical advisor) on contactus@lirata.com / +61 (0)429 136 596 by 9 June 2017.