

Project Charter

Project Name

Applied Language Research

Prepared by

Applied Language Team

Date

11 September 2020



1. Project Description & Problem

The Applied Language Team (ALT) plans to develop and implement a tool to aid in linguistic research of the Blackfoot language. This tool will be used by researchers, teachers, and language learners to upload and listen to audio recordings of Blackfoot words spoken. Fluent language speakers will use the tool to listen to and rate the audio recordings.

1.1 Background

Dr. Mizuki Miyashita is a linguistics researcher at the University of Montana. One aspect of her current research is second-language acquisition. Second-language acquisition research involves documenting those who are attempting to learn a second language and receiving assistance from native language speakers through analysis and critique of the learners' recorded pronunciations.

1.2 Problem

One of the issues that Dr. Miyashita currently has is the travel time spent on the collection and analysis of the Blackfoot language. She is seeking a way to conduct her research more efficiently. Timely language data processing would directly translate to faster analysis of second language acquisition in Blackfoot. A tool will be created to be used by Dr. Miyashita to increase the efficiency of language analysis and rating.

1.3 Desired Impact

This tool would be useful to linguists who specialize in second language acquisition research and language teachers who collaborate with the researchers. The use of this tool could be expanded in the future to accommodate teaching the Blackfoot language. There is also the possibility of researchers at other universities being able to use this tool to aid in other language research.

2. Stakeholders

STAKEHOLDER	Need/Problem Solved by Project
<i>Dr. Mizuki Miyashita / Researchers</i>	<i>A way to automate the existing process of gathering, organizing and analyzing data for second language acquisition research in Blackfoot.</i>
<i>Blackfoot Language Teachers</i>	<i>A way to process and analyze the scores of students' audio segments so they can provide feedback to help the students learn.</i>
<i>Blackfoot Language Speakers</i>	<i>An easy-to-use interface to judge the accuracy of spoken words by the language learners.</i>
<i>Blackfoot Language Learners</i>	<i>A medium in which they can share their spoken Blackfoot words and receive feedback on their pronunciation.</i>
<i>Dr. Yolanda Reimer</i>	<i>A method to evaluate the skills acquired by the team members throughout their time at the University of Montana, and impart a real-world experience to the students.</i>
<i>Applied Language Team</i>	<i>An opportunity to acquire new skills and receive feedback on their performance in a professional/real-world setting.</i>

3. Project Scope

This web-based project is being developed primarily to support the data gathering processes of Dr. Mizuki Miyashita and the learning of new Blackfoot Language speakers by connecting them with ratings and feedback from fluent speakers.

Below is a list of requirements that are inside the scope of the project that must be completed for the project to be considered successful:

- I. Users will be able to create an account
- II. Language learners will be able to upload audio
- III. Language learners will be able to view the feedback they have received
- IV. Teachers and fluent speakers will be able to provide feedback in the form of a number graded system per playable word
- V. Teachers will be able to see an organized display of an average collective rating for each word
- VI. The website will identify sound frequencies of the audio and split it up by word

Below is a list of deliverables outside of the project scope:

- I. Mobile view for the website or associated application
- II. Opening audio in the PRAAT audio editing software to be edited by the teacher and stored in the website's database
- III. Support for other languages

4. Project Schedule

Through the project's first segment, the group will keep to a predetermined schedule to ensure project success. This schedule is tentatively listed as follows and may change over the project's course due to changing requirements and information obtained from user feedback:

Major SE milestones	Date to be completed by
Project planning (Team Charter, Project Charter, First Client Meeting)	Week 4: 09/11/2020
User Interviews (Requirements Specification)	Week 6: 09/25/2020
Functional and Non-Functional Requirements (Requirements Specification)	Week 7: 10/02/2020
Code Assessment & Role Assignment	Week 8: 10/09/2020
Low-Fidelity Prototype	Week 9: 10/14/2020
User Feedback & Update Requirements Specification	Week 9: 10/16/2020
High-Fidelity Prototype	Week 12: 11/6/2020
User Feedback & Evaluation	Week 13: 11/18/2020
Early Implementation	Week 15: 11/25/2020
Design Portfolio (web)	Week 15: 11/25/2020

See Appendix B for a visual of the TeamGantt major milestone chart.

5. Resources, Assumptions, and Risks

The project is being developed using several different resources, which inherently bear risks that the team will need to manage and potentially overcome. These resources, assumptions, and risks are outlined as follows:

- The ALT assumes that the University of Montana will provide a fast and reliable database and web server services for the hosting of this web-based project. These resources will need to be stress-tested to ensure they are ready to support multiple simultaneous users without issue.
- Since this project is a continuation of previous work, the existing implementation is available as a resource. However, this resource is untested by the ALT and will require additional time to learn and test in order to ensure that the existing components created by the previous team are functional.
- Fluent Blackfoot speakers, in particular, may have technological limitations in terms of what forms of devices they have available to them. To address this, the ALT will need to put consideration into mobile device compatibility during design and implementation.
- Bearing in mind the limitations on interpersonal interactions brought on by COVID-19, it may prove more challenging to obtain extensive feedback from large numbers of fluent speakers given the combination of technological limitations and access to the potential user base.

6. Acceptance and Approval

The team members hereby indicate by their signatures below that they have read and agreed with the specifications of this document.



11 SEP 2020

Team Member / Date



11 SEP 2020

Team Member / Date



11 SEP 2020

Team Member / Date



11 SEP 2020

Team Member / Date


Client

Appendix A

Project Overview

1. *What is the background for the project?*

Dr. Miyashita is a linguistics researcher focusing on secondary learners of the Blackfoot language. She spends a lot of time traveling to collect data, manually recording, trimming, and uploading audio for analysis, and analyzing the data. She wants the process automated to increase efficiency.

2. *What are her goals for the project? What problems will the project solve?*

She desires an easy to use system to organize segmented recordings to match with words, i.e., type Blackfoot, and the software will match it to an English word. She also wants fluent speakers to be able to rate learners' pronunciation by listening to the recording and then rating 1-7 with a radio button selection. Furthermore, she would also like researchers and possibly teachers to be able to access the acquired data in a readable format, such as Excel.

3. *What is the impact of the project?*

The project will save time for researchers in collecting and analyzing language data. It can be expanded to be used by teachers and students as well as incorporate other languages for researchers.

4. *Who will be using this software? What is the intended way for them to use it?*

The software will be utilized at a minimum by Dr. Mizuki Miyashita, Blackfoot Language Learners, and native speakers. She would also like the software to be usable by Language Teachers and other Researchers.

a. *Should helpers have the option to give audio feedback?*

The primary focus is just on having a radio button rating system. Expanding on that would be nice but isn't a top priority.

5. *What will our specific responsibilities be, and how can we best integrate with her existing process (i.e., PRAAT)?*

Right now, she has to edit audio clips herself and travel between the various learners and native speakers, which can be located outside of the country (Canada). In an ideal world, she would like us to be able to integrate with the output files from PRAAT, slice audio as necessary to create individual words, and then make these slices accessible to native speakers online. Finally, she would like the ability to run reports on the data gathered by this process.

Technical Questions

1. *What features are already implemented, and what features would you like to see implemented?*

She desires an easy to use system to organize segmented recordings to match with words, i.e., type Blackfoot, and the software will match it to an English word. She also wants fluent speakers to be able to rate learners' pronunciation by listening to the recording and then rating 1-7 with a radio button selection. Furthermore, she would also like researchers and possibly teachers to be able to access the acquired data in a readable format, such as Excel.

2. *What issues does the current software have that need to be addressed?*

She is not sure exactly, but she thinks that ease-of-use could be improved from its current iteration.

3. *What is the priority for a mobile implementation vs. a desktop implementation?*

A lot of the users use social media, but we should prioritize desktop first.

4. *How many people can we expect to be on the site at once?*

Right now, just Mizuki. At most, 20-30 if and when it is used in the classroom by teachers.

Wrap-up Administrative Questions

1. *How often would you like to meet with us? In-person/remote?*

A mixture of remote and in-person meetings is fine. The format will vary on a case-by-case basis.

2. *How would you prefer to be contacted if we encounter an issue that needs your input? If it's an urgent issue?*

Prefers contact via email and says if she does not respond within a short time frame, we may feel free to send her reminders. We may also send her emails to her Gmail: mia4ta@gmail.com.

Appendix B

teamgantt
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