

Red Cloud Indian School

Executive Summary

Community Partner

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Student Consulting Team

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Background

Red Cloud Indian School is a catholic institution that has been taken care of by the Jesuits and Lakota people for over 125 years. Their goal is to “develop and grow as a vibrant Church” by promoting values that are “Lakota and Catholic”. The Red Cloud mission is “**to develop and grow as a vibrant Church, through an education of the mind and spirit that promotes Lakota and Catholic values.**”

The selected programs below showcase the capabilities of Red Cloud Highschool: counselling, farm-to-school, Lakota studies, pastoral ministry, spiritual formation, volunteer program.

Project Description

Project Opportunity

The school has been able to successfully immerse students in the Lakota language within classroom lessons, but since it is a minority language, it is barely represented in any of their technology. As a result, the students are not able to get a full immersion experience as most of the applications they use on their school-provided technology is in English. As we learned from experts, for the next generation to view it as a modern language, it *needs* to be represented in their modern technology.

Project Vision

Our vision for this engagement was to modernize Lakota by increasing its representation in technology. In order to do this, we explored many different avenues from open-source educational games, interactive storytelling platforms, and through Minecraft.

Project Outcomes

Language Research: We determined the ways in which a language can be successfully revitalized through technology. The client was able to determine his metrics for success.

Open-Source Educational Platforms: We determined that there are not enough open-source, educational games that fit architectural requirements to be localized. The client was able to determine this goal would be infeasible with his requirements.

Auto-translation Plug-in: We were able to determine that the auto-translation plugin tool could be a useful asset to Red Cloud in a future longer 6-month engagement.

Interactive Storytelling Platform (ARIS/TaleBlazer): The client explored custom games as a viable option for Red Cloud and decided that ARIS is not sustainable and TaleBlazers would be unrealistic to implement.

Lakota Minecraft: We compiled every string from Minecraft JAVA edition and formatted into a simple spreadsheet that can simultaneously be editable by all Red Cloud Staff. Furthermore, teachers are provided with instructions to incrementally update Minecraft language files, so that students have immediate access to partially translated files. We also created an initial contact with Mojang (Minecraft) to add Lakota as an official language for the game.

Project Deliverables

Feasibility Study that outlines the different avenues of solutions that we explored and what is feasible in the language and technology field.

Code Repository that documents how to convert the translation sheet into a workable language file that can be inputted into Minecraft.

Sustainability Plan that demonstrates last ditch efforts that can be used if the translation sheet is corrupted.

Final Report that outlines the scope of the project, the outcomes, and all steps we have taken.

Recommendations

There are five main steps that need to be taken. 1) The language translation sheet needs to be completed, 2) Convert spreadsheet and add to the Minecraft language folder, 3) Conduct training sessions, 4) Reach out to Mojang support, and 5) Hire an experienced machine learning professional to gauge scope of another long-term project.

Student Consulting Team

Vishesh Pagarani is the project manager and is studying Information Systems with minors in Architecture, Decision Science, and Human-Computer Interaction. He will be graduating spring 2023 and pursue a career in consultancy.

Neha Joshi is the client-relationship management lead and a senior in Information Systems from Boston MA. She will graduate this semester and pursue her master's at CMU in Information Systems Management with a concentration in Business Intelligence and Data Analytics.

Mikail Cheema is the co-tech lead and student from Carnegie Mellon University in Qatar. He studies Information Systems with a concentration in Applied Informatics. He looks forward in pursuing software development, data analytics and web-based development after college.