Subject: Cherokee Language Learning Tool Capstone Project

Start Date: January 15 2021   Finish Date: April 23 2021

Team member: Derek Fine

Project Sponsor: Dr. Bekkering

Users: Cherokee language learners

Inspiration

As a student in the Elementary Cherokee I course a frequently mentioned obstacle to the learning process was a lack of options to study the language, other than just reading the notes taken during class. Most students did not have another speaker of the Cherokee language in the home. This led to some students struggling with practice between classes.

The year 2021 marks the bicentennial of the introduction of Sequoyah's syllabary to the Cherokee people. As a descendant of Sequoyah this led to further inspiration to create something based in the same spirit.

Purpose

This application will serve the purpose of providing a tool for studying the Cherokee language in an interactive computer-based format. The options will allow a focus on either Syllabary to phonetic or phonetic to English. Preservation of the Cherokee language is a major focus of the Cherokee Nation, so the goal of this project is to aid that effort.

Goals and Objectives

- Progressively increase familiarity with the Cherokee language.
- Memorization of the printed symbols used in the Cherokee Syllabary.

Schedule Information

- Internal Proposal due – January 16
- Requirements Analysis – January 22
- Modeling – February 12
- Initial Form Design – February 19
- Software Prototyping – February 26
  - Phonetic Practice - implemented
  - Phonetic Assessment - implemented
  - Syllabary Practice Form - implemented
  - Syllabary Assessment Form – implemented
- Spring Break – March 15-19
- Form Design Refinement – March 26
- Test Plan Drafting – March 31

- Software Functionality Refinement – April 10
  - Phonetic Practice
  - Phonetic Assessment
  - Syllabary Practice
  - Syllabary Assessment
- Test Plan Refinement – April 10
- Testing – April 16
- Modeling Refinement – April 16
- Submit Project Documentation – April 23
- Capstone Presentation - April 28

Financial Information

Resources	Costs
Document storage	$0.00, using existing Google One subscription
Personal computer	$0.00, already owned
Adobe Creative Cloud	$0.00, using existing subscription

Approach

The language tool will be created with Windows Forms using the Visual C# language. Evolutionary prototypes of software modules will be built to demonstrate functionality. The working modules will be implemented into the final application.

Constraints

- Work schedule conflicts
- Time available to implement features

Assumptions

- The user will have access to a computer running Microsoft Windows.
- The user will have Windows Media Player installed to play the audio files in the Phonetic Practice form.
- The user has internet access to retrieve audio files from the Cherokee Language website.
- The user has a basic understanding of the Cherokee language or is in the process of learning.

Success Criteria

- Displaying Syllabary characters and allowing selection or text input of the matching phonetic syllable.
- Displaying Cherokee words in phonetic form and allowing selection or text input of the matching English word.
- Tracking user performance through a scoring system.
- Implementing helpful instructions for using the application.

Scope

The primary elements included in the Cherokee Language Learning Tool will be learning modules for translating English to Cherokee phonetic, and Cherokee phonetic to syllabary. The learning module for English to Cherokee phonetic will incorporate common word lists containing similar things such as greetings, weather, numbers, colors, etc. and ask the user to match each word to the proper translation of that word. The syllabary learning module will load images of each character and present options to match to the phonetic representation.

Risks and Obstacles to Success

- Loss of project data.
- Introduction of bugs during coding process.

Risk Management Plan

- To mitigate issues that might arise from data loss, all project data will be stored using Google Drive cloud storage.
- Source code version control will be implemented using git and stored in a GitHub repository.