Building Digital Tools for Endangered Languages

I propose to work for 10 weeks in the Laboratory for Endangered Languages Research and Documentation with Professor David Harrison and laboratory instructor Jeremy Fahringer. The laboratory hosts a suite of 100+ talking dictionaries from language communities all over the globe. The dictionaries are used both by researches to make scientific discoveries about grammar and by indigenous communities to revitalize their languages. They contain lexical, cultural, botanical, geographical, zoological, astronomical, and many other areas of traditional knowledge, organized into semantic categories. My role as a programmer/linguist will be to enhance the user experience and meet the needs of communities using these talking dictionaries. Secondly, I will make needed framework and back-end upgrades. I will be working on a collaborative digital repository of project code. Another area of exploration will be data recording, acquisition, archivability, portability and longevity. I will also be working on a large, new dataset from Vanuatu in the South Pacific containing plant names, scientific taxa, photographs, and exploring ways to integrate the botanical and linguistic data into a single dataset.

This work will have positive social impact for marginalized linguistic groups around the world. It will also help me to discover how as someone with a background in mathematics and computer science, I can create positive social change. I will also get a first-hand view of the complexity of linguistic data as it is collected in the field, rather than cleaned-up versions presented in textbooks.

I've completed or am currently enrolled in three computer science courses, four linguistics courses, and four mathematics courses. I have a longstanding interest in linguistics: as a high school student I successfully audited my first linguistics course here at Swarthmore. I have programming experience with Python, C++, C, and Stata. I'll be improving my skills with MySQL, PHP, and full-stack web development. I have met with Professor Harrison and Jeremy Fahringer, and we have agreed on a 10-week work plan for which I am requesting the full $4,500 budget.

Thank you for considering my application.