- **What software project you picked:**

    Name: Polyglot (reference to the word "polyglot", which means a person who can speak or write in multiple languages)

    Description: A software product that parses out the web page a user is currently on and highlights words above a certain complexity. The user chooses the complexity of words that they may not understand from several classes, say *elementary*, *intermediate*, and *advanced*. Based on the complexity class, a highlighted word on the page can be clicked and a summary of the word including its definition, **an image that describes the word**, its use in a sentence, and comparable words in the language of their choosing are displayed. Entire sentences can also be highlighted by the user and fed into the software so that multiple images of tricky words can be strewn together to give the user a visual representation of what the sentence might mean.

- **What underrepresented population you picked**

    People of low literacy, even in their native language.

- **A situation/use case your underrepresented population is in that makes clear why they would be using your software.**

    Consider a person from another country attempting to gain citizenship in the United States but has a low level of competency not only in English but also in their native tongue who visits a web page that describes the information the government needs from the person to process their citizenship application. The software highlights a phrase such as "family" in the page and provides the user with an image of a family, the definition of the word, and other information to aid them in their sentence processing.

- **What issues make your software a potentially poor fit for this population?**

    There are several possible issues we must address that could make our software a poor fit for our population. For one, we are expecting at least a certain small degree of literacy, so if that degree is not met, then the software will be a poor fit for that user. Second, if the user's native tongue is not English, we do not have a concrete way to guarantee that the image and or words from their native tongue we use to help them understand an English word will work. That is especially true considering the cultural differences between different countries and

peoples and thus the potential misunderstanding, which may make users abandon the use of the product. Third, due to the low vocabulary or literacy, the user may not be able to judge the accuracy of the explanation given by this product, and they may be more likely to use traditional and more authoritative tools such as dictionaries.

Finally, we do not want to include too much information with a word or sentence, because the target population is challenged by literacy so too much information may prompt an information overload that will cause them to get frustrated and refuse to use the application.

- **A situation/use case your mainstreamer is in that makes clear why they would be using your software**

  Use this one for your mainstreamer

  Consider a mainstreamer who is a college student who is perfectly fluent in English attempting to get into research at their university, but in order to read the abstracts of some influential papers, they must constantly search for explanations of sophisticated words. Our software bridges this intellectual gap by providing explanations to the user with immediacy and clarity.

  Suppose a mainstreamer is trying to learn a new language, our image based dictionary would provide a way to browse the web in that language and have an image explanation and/or an explanation in their native language of the complex words according to the level of fluency in that particular language.

  These two are also nice, but too much for just 1 term.

  Kids can also benefit from this application when starting to learn how to read and write. Our software can be integrated to any electronic book software and accurate images would show on top of highlighted complex world to help kids learn in a fun and intuitive way.

- **A justification why this is a good/interesting project from the standpoint of there being a reasonable amount of USABILITY work to think about**

  There are many websites out there that are underutilized simply because they don't accommodate for language barriers and different knowledge levels. This accommodation has the potential to open up those websites to not just the low literacy population but to many other populations as well. For example, this could even give children who don't have a huge vocabulary yet an opportunity to start learning about complex topics that interested them. This accommodation could also help bring older populations into the technological realm by making software easier for them to use.

  Also, low literacy users tend to consult a dictionary more frequently than a mainstream user would and the traditional dictionary tools usually interrupts the user's continuous reading process. Our product is seamlessly embedded in the reading experience which helps the user keep the context in mind and not get distracted.

  A study conducted by the US department of education and the national institute of literacy shows that 21% of adults in the US read below 5th grade level. That is an important portion of

the population that is not taken into consideration when it comes informational websites, internet services, online shopping etc…

- **Who your team members are**

    Team members names go here.

    I love this project, and love this proposal! Please proceed.

    Dr. B.