

I. PROJECT TITLE:

Recalibrating Accents

II. PROJECT STATEMENT OF PURPOSE:

With the increased pace of globalization and migration accents are less of a rarity.

Regardless of who you think has an accent the truth is everyone has one. In linguistic terms this is called your idiolect, it is specific to you, everyone's is unique even twins.

Some people's accents are more distinct than others; occasionally they can hint at which social class, country, region, or even city you are from. However, this can be misleading as accents are non-formulaic. Despite this it is impossible to ignore the fact that some accents are treated differently than others. Accents are stigmatized and difficult to hide. Naturally produced, most people have little control over them. There is very little science to explain them, but just by walking into a language class it is obvious that students are developing their own accent independent of instruction. This project aims at exploring what is happening acoustically when you speak

English. Aside from some lexical differences English speakers are mutually intelligible even if they are from different places. This is because accents are merely filters on the standard pronunciation of the language. They change how others will perceive your speech and by extension you, but not the meaning. This project will use the international phonetic alphabet (IPA), an alphabet where each character has an assigned sound, to understand accents.

Through this project users will be exposed to more accents and understand that they are nothing more than different sounds and should not be grounds to judge others.

Word Count (250)

III. LITERATURE AND ART, PERSPECTIVES AND CONTEXTS:

Books:

Dawson, Hope, and Michael Phelan. *Language Files: Materials for an Introduction to Language and Linguistics*. 12th ed., The Ohio State University Press, 2016.

This is where I will draw the linguistic concepts from. The textbook is used for beginner linguistic courses and provides me with the facts needed to back up and explain these concepts to the user. I will have to consider the tone of the website and how much information and what terminology to use on the site to not overwhelm the user.

Moyer, Alene. *Foreign Accent: The Phenomenon of Non-Native Speech*. Cambridge University Press, 2015.

This book talked about accent positivity. It discussed what influences a person's accent as well as the burdens that come with having an accent. This book took a sociolinguistics standpoint, exploring how societal interactions and environment affect people's use of language. It was found that those with stronger accents were

less likely to seek out opportunities to speak with native speakers which resulted in slower improvement. Hopefully the project will allow people too shy to engage with native speakers learn the fundamental difference between what they are saying and the desired pronunciation. The book addresses the many reasons people are disadvantaged by their accents which is one of the motivations for this project. It was helpful in realizing what users who do not speak English natively might want to use this for and what I want native English speakers to understand about people with accents. An interesting phenomenon it brought up was that people can usually only maintain native pronunciation in one language at a time. Which would be another motivation for people to understand more varieties of English than to all speak with the same accent and lose their own native language.

Smojver V.J., Stanojević MM. (2013) Stratification of English as a Lingua Franca: Identity Constructions of Learners and Speakers. In: Waniek-Klimczak E., Shockey L. (eds) Teaching and Researching English Accents in Native and Non-native Speakers. Second Language Learning and Teaching. Springer, Berlin, Heidelberg

This study looked at how non-native speakers use English as a tool to communicate with other non-native speakers. Focusing on the comparison between those who are learning English in high school or university, and employees at international businesses in Croatia; the aim was to survey those who use English as a lingua franca in practice and those learning it in a controlled setting. It was discovered that people who believed that learning the standard pronunciation were mostly English majors

and that they held this stance towards all languages. The findings showed that the employees were more self-conscious about their accent when speaking English but also less willing to take lessons to correct it. However, they were more comfortable speaking to other non-native speakers. Meanwhile the students were less worried about their accents but did not find it as easy to understand other non-native speakers. The message of this study was that people should be taught to understand more variations of English than focusing on the correct pronunciation. This resonates with the goal of the project to expose people to more accents and demystify them as making the people fundamentally different. It is also valuable to native speakers since they need the tools to unpack another person's speech, because effective communication takes effort from both sides.

Vocalis, Ltd.. IPA Phonics : American English Pronunciation Guide, Vocalis, Limited, 2005. ProQuest Ebook Central, <https://ebookcentral-proquest-com.proxy.library.nyu.edu/lib/nyulibrary-ebooks/detail.action?docID=3572008>.

This book is interesting breaking down the international phonetic alphabet into pictures and sample sentences much like you would expect a kid to learn their ABCs. It is interesting to look at when thinking about how to engage people with the international phonetic alphabet in a way that is easy to understand, but this book also seemed to rely on people having an American accent which is what the IPA attempts to overcome.

Projects:

Aschmann, Rick. "North American English Dialects, Based on Pronunciation Patterns." Aschmann, 6 Oct. 2017, www.aschmann.net/AmEng/.

This site was compiled by one person. It does not have the best graphical interface and is static. However, it is very comprehensive and allows visitors to contribute as well. The focus is only on the United States but is extremely detailed. It is helpful to reference and see what type of data is possible, but for this project it sacrifices more data for interactivity.

"Cambridge App Maps Decline in Regional Diversity of English Dialects."

University of Cambridge, 26 May 2016, www.cam.ac.uk/research/news/cambridge-app-maps-decline-in-regional-diversity-of-english-dialects.

As a mobile app it caters to a different audience, but it still allows users to add their own data and see others as well. It is helpful in showing how they analyze people's dialects through a mix of written words and sound files. However, this project aims to cater to an audience larger than the English Isles, so there will be more variables. Therefore, the analysis will not be as concise.

"Dialects and Accents." IDEA International Dialects of English Archive, www.dialectsarchive.com/.

The International Dialects of English Archive (IDEA) website is very comprehensive in its data collection, they have recordings, transcripts in IPA and English of people from around the world, and their language background. It is a great example of a

database of different accents, but it is not very interesting unless you already have an aptitude for accents in the English language. The scale of the website is bigger than this project, but shows how much really affects one's accent, and does well at preserving all the details of the participants contextualizing their language experience. It makes you wonder about any trends they might have inadvertently found. For this project the goal will be to be more engaging to those without a linguistics background and more navigable.

Nativlang. "IPA for Language Learning - Basic Phonetics (Linguistics Lessons for Language Learners)." *Nativlang.com*, www.nativlang.com/linguistics/ipa-pronunciation-lessons.php.

This site teaches users the basics of phonetics and using the IPA. Other parts of the site deal with different linguistic concepts providing lessons and practice. Overall the site is very thorough and has good information for beginners. However, it is not interactive. If the user wanted, they can just skip to the answers. Looking at the website it is a good guide for how much information to have for a beginner and how to make it friendly for people who just happen across it on the internet.

Vaux, Bert, and Marius L Jøhndal. "The Cambridge Online Survey of World Englishes." The Text Laboratory, The Text Laboratory at the University of Oslo, www.tekstlab.uio.no/cambridge_survey/.

This is another country specific site. Unlike this project it focuses on lexical dialects. But it is a good example of a mix between linguistic concepts, data visualization, and

interactivity. The survey collects very detailed information, but the format is also very tiring for the user, it requires them to analyze their own dialect and click multiple checkboxes. This project aims at making it fun for the user in turn sacrificing its usefulness as a database.

Weinberger, Steven H. "Language/Speakers." *The Speech Accent Archive*, Creative Commons, accent.gmu.edu/browse_language.php.

This project has data for a broad range of English speakers. They used a set text for participants to read and recorded simple statistics for each participant. The most useful part of the data is the IPA transcriptions and phonological trends for that language. However, they did not make their transcriptions easily accessible. The interface is very simple and does not do much to engage visitors.

Decided Against:

Hinton M. (2013) An Aptitude for Speech: The Importance of Mimicry Ability in Foreign Language Pronunciation. In: Waniek-Klimczak E., Shockey L. (eds) *Teaching and Researching English Accents in Native and Non-native Speakers. Second Language Learning and Teaching*. Springer, Berlin, Heidelberg:

This study explored the correlation between being able to mimic new sounds and having an aptitude for foreign language pronunciation. It clarified what works when people are trying to learn a new accent. It was interesting that they were able to find a correlation between the two, however it pointed out that while the ability to mimic

sounds is a good start it is fundamentally different than when you take on the task of learning a new language. Their study was thorough, but it also had a very specific audience, and the goal for this project is not to have people change their accents but erase prejudices and understand how accents work.

Kazmierski, Kamil. Vowel-Shifting in the English Language. An Evolutionary Account. Berlin, Boston: De Gruyter Mouton, 2015. Web. Retrieved 4 Feb. 2018, from <https://www-degruyter-com.proxy.library.nyu.edu/view/product/431064>

Originally the project was going to focus more on native speakers of English and the direction English is taking but analyzing accents of people who learned English seemed more intriguing and was much better documented. This article is very technical and did not lend itself well to an interactive project for general users. It also seems less relevant as linguists continue to worry about the emergence of a monolingual world, there is a push for people to learn certain languages and reach native pronunciation, one of those being English. The ratio of English speakers who have learned English as something other than a primary language is much higher than those that speak it natively, and even within native speakers there are many accents, but it made more sense to just focus more on how accents affect speech.

Word Count (1286)

IV. PROJECT DESCRIPTION:

This project will allow users to explore and understand accents as filters on standard American English pronunciation. The idea of a standard pronunciation is controversial, but it is the accent that sounds the most neutral, for American English this is usually the Midland region of the United States (Language Files 1748). The project will allow the user to compare their speech with the American standard accent.

The English alphabet succeeds in conveying lexical meaning but incapable of communicating accents. Romanizations of foreign languages are often difficult to pronounce even for native speakers because is hardly phonetic. The international phonetic alphabet (IPA) was invented to solve these problems. The IPA is a set of characters, each character represents a phoneme, the smallest unit of distinguishable speech sounds. For example, in IPA “th” is one character. This alphabet is helpful when talking about accents since it is often just a small alteration of a phoneme. The comparison between their speech and the standard will be apparent when looking at the IPA spellings. Beyond just sounds, the IPA symbols represent different places you put your tongue when you say a phoneme. Each character has a specific sound. For example, in English “though” and “rough” have the same ending, “-ough”, but sound different; however, if you were to use the IPA, it would be written as “ðou” and “ɹʌf” respectively. This can also be used to show the difference in accents; for example, aunt in a standard American accent is written “ænt”, while in the standard British accent it is “ɑ:nt”. The difference between the vowels in aunt, “æ” and “ɑ:” is that in the American version it is closer to the front of your mouth and your tongue is higher.

The reason I am using English for this project as it is easier to pinpoint the difference in accents and is best documented. Aside from that it's relevant to today's society as English is becoming a common language. The medium will be a website because the project is meant to be something that people can just explore by themselves and enjoy a personalized experience as accents themselves are very personal. The idea of filters is that accents are filters on speech, because a filter is just something that distorts the image rather than the meaning. The way the data will be used to approximate how words would sound in a different accent will be like any editing process, a feature of the speech will be picked, like phonemes pronounced at the front of the mouth then shifted down. While it is not the most accurate it makes it more dynamic. The Speech Archive has tagged different dialects as having certain tendencies that will be used as phonetic rules to alter the IPA spellings.

The IPA is not widely used outside of dictionaries, so an integral part of the project is to familiarize users with the IPA. I will create a keyboard to help users understand how it works and match the sounds with the characters. While the user is not expected to master the IPA, its uses can be extended beyond this project, it can be applied to learning other languages as well.

I designed this product to not have an analysis result is because language is constantly shifting. Even the way you talk is constantly shifting. When changing environments people constantly change the manner they speak and their slang. It also means people can continue visiting the site and exploring new accents, they can have a new

experience each time. The website can also potentially be expanded to include more dialects and languages.

(Word Count 601)

V. PROJECT SIGNIFICANCE:

It is meant to be educational, but only in a broad sense that it reminds users that everyone has an accent and help them decode others accents. This project is meant for anyone but would probably appeal to people who are interested in changing their accents. For example, people who find British accents interesting and want to learn to imitate them, or people who are learning English as a second language and would like to improve their pronunciation. However ideally this would be something that would appeal to everyone as the stigma around having an accent is societal. There have been cases of linguistic profiling, which can occur during job interviews, some colored people have been more successful interviewing over phone than in person (Moyer 126). Migrant children are also affected as they are often ashamed of their parents accents which can lead to them not trying to learn their family's language. It is found that the average person can assign a perceived race to a person after just hearing them speak for 20 seconds without visuals (Moyer 127). These things shouldn't happen though, accents are merely a difference in phonology, unlike a dialect which includes lexical differences; accents have no effect on the meaning of words. The project will focus on English as it is well documented and accents in English usually affect vowels instead of the consonants which makes them easier to visualize. English has also

become a lingua franca, meaning more and more non-native speakers are using it to communicate when their own native languages are not mutually intelligible (Smojver 192). Consequently, the question of how English should be taught has been brought to light. One aspect of this is what is the end goal of learning English? Most assume it to be to reach native level, but there is some disconnect between whether this means a native vocabulary or native sounding, meaning having a more neutral accent (Moyer 2). Vocabulary can be achieved through studying, but many people regardless of effort cannot change their accent. Therefore, more teachers are agreeing that it is not about perfecting the target languages standard pronunciation but being exposed to a variety of accents, so interactions in English can be more efficient (Moyer 200).

The project will give a short analysis of the user's accent based on basic interactions and is meant to be peak visitors interest in the science around accents. It is not meant to teach the user the international phonetic alphabet so that they are proficient enough to transcribe everything, but to have a working understanding of how to use it. It is meant to be a starting point that can engage people to think more about accents, how they work, and familiarize themselves with how different ones' sound. The engaging part is when people get to explore their own accent and test out others as well.

Most other projects surrounding using the IPA to understand English pronunciation are databases and are not very user friendly or engaging. Some allow users to contribute their own accent, and even transcribe their words into the IPA, but do not do well in explaining what they are doing and why. The goal of this project is to get

people that aren't thinking about how speech affects their daily lives to start thinking about how they may interact with people who sound different than them and what it means. It is especially relevant now, when a lot of people are speaking languages other than their native language. An expansion of this project would be to include other languages, or focus on dialects, and lexical differences, but by focusing on accents in English it is easier to gather the data and introduce linguistic concepts at a comfortable pace.

Word Count (622)

VI. PROJECT DESIGN & PRODUCTION:

The goal is for the project to be a customized experience. A website has been chosen as the medium, so it will be accessible to more people and can be discovered while browsing the internet. To get the full experience it is best if the user has access to a keyboard, internet, and microphone. For the prototype, a keyboard will be designed so users can type the IPA more naturally, but it will not be essential for the user to have this. The keyboard will be built using an Arduino and grid keypad sensors. Each pad will be assigned a character from the IPA and will allow users to type and hear the sound represented by that character. I brainstormed many ideas to present the concept of accents to users because one of the most difficult aspects about accents, especially for those who are native speakers of the language is that they are difficult to detect. The difference in sounds are so slight that it is difficult to distinguish between them especially since you are used to your own pronunciations. This project must therefore

be able to show the user that they do have an accent, in a way that is natural to them.

The website will have a feature that analyzes the user's speech and return the data in a digestible form. Because most accent-based research is done in person, it will not be very accurate and therefore the site will not be meant for data purposes, but it should be able to give the user a good idea of their accent. It will not guess where they grew up, but instead point their pronunciation patterns.

The data will be compiled from a site combining data on non-native English speakers, and generalize from that, as there are no translating dictionaries between accents.

Speech is just sound, which means it has a waveform. The waveform can be used to determine which vowel you are saying. Using the Fourier transformation function in p5.js a rough estimate of the vowel being used in the word can be given while simultaneously using speech recognition to match it with the word it thinks you are saying. The word can then be translated into IPA and compared with the vowel you used. This difference in pronunciation can then be visually seen on where the vowel sound is being articulated in your mouth. For exploring other accents data from the Speech Accent Archive can be used to filter the IPA transcription of the word providing a rough estimate of how a speaker of that language might say the word. By hearing many different accents, they will be able to start understanding how pronunciations are usually altered and help them unpack other people's accents faster.

Word Count (458)