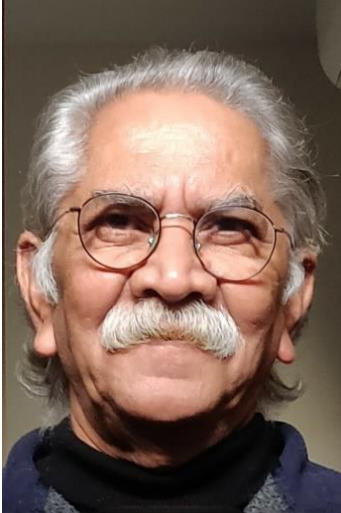




Arch Jatin Davis

Jatin earned his Bachelor's degree in Architecture from Guru Gobind Singh Indraprastha University in 2019, followed by a Master of Design from Jamia Millia Islamia. With 1.5 years of experience in the field of architecture, he transitioned to a role as a UX designer at Maruti Suzuki after completing his master's degree. Jatin is driven by a passion for digital technology and games, with a particular interest in the technical aspects of product development.



Prof Jatin Bhatt

Professor Jatin Bhatt, 1977 Industrial Design graduate from NID, is a Design educator and practitioner with experience in design consultancy, entrepreneurship, Social Design and academic leadership. He has been founding Chair of Accessory Design Department NIFT and founding Dean of School of Design, Ambedkar University Delhi from where he superannuated in 2020 as Pro Vice Chancellor. He is an independent design academic and practitioner. He has designed consumer goods, machine tools, watches, footwear, toys, packaging, engineering products and exhibitions. He has conceived and led initiatives in industry clusters of toys, jewellery, carpets, wool, footwear, leather goods and Handicrafts in capacity building, entrepreneurship, technology development, market strategies, design & product development, artisans' rehabilitation and training. He has been involved with CLRI Chennai, Pearl Academy, CDI Kashmir, NID, NIFT, SPA New Delhi, MIT Pune, Khyati School of Design Ahmedabad, IICD and IIGJ Jaipur, Department of Design & Innovation JMI University, Ecole Intuit Lab and IICD IIT Delhi. He has been on the Academic Council of the JK Lakshmi Pat University Jaipur from 2019 to 2022. He is currently on the Board of Studies MIT Pune and RGNIYD, Faculty Committee JMI, Advisory Boards of JS Institute of Design

***New Delhi, Dastkar as well as Governing Council of Sangraha VCD
Foundation Lucknow.***

AI Digital Product to Improve English Communication

Jatin Davis, Jatin Bhatt

Abstract

This study aims at using the power of AI to address a need. One such need is English communication. A survey was shared to understand the areas in English language where people lack and where they feel the need to improve. This insight was used to create the feature set for the digital product. Recent development in AI and release of large language models (LLM) have shown that these models can be used to teach. As they have been trained on huge amount of text data, these models are good at natural language conversations and can be used to improve English communication. Open AI, the company behind chatGpt has released APIS which can be used to power our products and build our own digital product. After brainstorming session the ideas surfaced , moved into designing the interface and create iterations. To bring this product to life so that people can use in, i used different technologies and tools to design and build it. This was followed by buying a domain name and putting the product on the internet. The domain name 'fluentman.com' was chosen for this.

Product link - <https://fluentman.com/>

Keywords - *Artificial intelligence, English communication, Natural language, Design.*

Introduction

Language is important for communication. Good command over a language helps us to communicate and convey our ideas to others in a better way. Fluency in writing and speaking the English language is admired in India. English is also important in our professional careers and social circle. Job Interviewers also test our language skills and candidates with better English language command are given preference in India. Good communication skills are important to move up in our professional life. English is a language predominantly used in the corporate world in India. Fluency in English can portray a person as cool, smart, and educated. On the other hand, a smart, intelligent person who isn't proficient in English can be perceived as uneducated. Command over English governs our social circle in India. A person lacking fluency in the English language will find it hard to adapt and enter a social circle that predominantly converses in English. Since communication is a vast topic, I intend to focus on verbal English communication that includes speaking and vocabulary as these are important subsets of verbal english that play an important role in our day-to-day communication. For this, I will design and build a digital product to improve speaking and vocabulary. In 2023, the world saw a massive emergence of AI tools in various industries. These AI tools have the potential to change the way businesses operate, from automating repetitive tasks to providing insights that were previously impossible to uncover. One of the most buzzed-about AI tools in the market is ChatGPT, developed by OpenAI. ChatGPT is an AI-powered Chatbot that utilizes the GPT-3.5 architecture to generate natural language responses to user input. It is capable of engaging in natural conversations with users and can provide information, support, or entertainment. ChatGPT has been hailed as a breakthrough in natural language

conversations with users and can provide information, support, or entertainment. ChatGPT has been hailed as a breakthrough in natural language processing, and its potential applications are virtually limitless. One of the most exciting features of ChatGPT is its ability to learn from previous conversations. This means that the more users interact with the chatbot, the more intelligent and personalized its responses become. ChatGPT can also be trained to recognize different languages, dialects, and accents, making it an ideal tool for companies with a global presence. This means that AI can be used for learning languages. Since AI is significantly good at natural language and is a large language model it can be used for improving english communication.

Literature review

The three components of fluency, accuracy, and pronunciation are essential for the development of oral communication skills. Fluency allows students to speak spontaneously and eloquently without hesitation, while accuracy ensures that their speech is grammatically correct and coherent. Pronunciation is also crucial as it helps listeners understand what the speaker is saying. Al-Tamimi, Nasser Omer M., and Rais Ahmed Attamimi. "Effectiveness of cooperative learning in enhancing speaking skills and attitudes towards learning English." *International Journal of Linguistics* 6, no. 4 (2014): 27.

English in Thailand is taught as a foreign language, and exposure to the English language is somewhat limited. As such, English instruction is located in an area where English is not a primary language. Moreover, the majority of English teachers are Thai in all levels of education—and are largely unqualified as teachers (Yunibandhu, 2004). Khamkhien, A., 2010. *Teaching English Speaking and English Speaking Tests in the Thai Context: A*

Reflection from Thai Perspective. English language teaching, 3(1), pp.184-190.

EFL students face significant challenges due to their limited use of the English language, as they may only use it for specific purposes or occasions. This can result in greater difficulties in learning English compared to ESL students who use the language on a daily basis. To overcome these challenges, some EFL students may choose to study abroad as a learning strategy. Hibatullah, O.F., 2019. The Challenges of international EFL students to learn English in a non-English speaking country. Journal of Foreign Language Teaching & Learning, 4(2), pp.88-105

The process of learning vocabulary involves four stages: discrimination, understanding meaning, remembering, and consolidation/extension of meaning. Discrimination involves distinguishing sounds and letters, while understanding meaning involves grasping the concept of the word. Remembering new words is crucial, and consolidation and extension of meaning occur over time as words become fully integrated into a learner's personal stock of words. Achieving lexical command is a slow process, with pronunciation and spelling acquired first, followed by control over morphological forms and syntactic links, and full semantic knowledge acquired last. Identifying difficulties in vocabulary is crucial for successful teaching. Factors that make some words more difficult to learn include pronunciation, spelling, length and complexity, grammar, meaning, range, connotation, and idiomaticity. Difficulties with pronunciation or spelling can contribute to a word's difficulty, as can irregularities in English spelling. Grammar and meaning can also pose challenges, as can words with multiple overlapping meanings or idiomatic expressions. Shorter, high-frequency words with a wider range of contexts tend to be perceived as easier to learn. Rohmatillah, R.,

2014. A STUDY ON STUDENTS'DIFFICULTIES IN LEARNING VOCABULARY. English Education: jurnal tadaris bahasa Inggris, 6(1), pp.75-93. 9

Students face several difficulties in learning and using English vocabulary. These difficulties include: Short-term memory: Students have difficulty remembering words due to their lack of practice and failure to associate words with real-life objects. Lack of knowledge of words: Students rely on bilingual dictionaries and often do not understand the different meanings of words in different contexts. They may only remember a few meanings of a word, which negatively impacts their academic performance. Spelling errors and pronunciation problems: Students often make spelling mistakes because they do not break words down into parts, and may have trouble pronouncing words they have not encountered before. They may also be unaware that the alphabetic letters do not always provide an exact sound. Inability to encounter lengthy words: Students frequently encounter lengthy words in English vocabulary but may lack appropriate techniques to learn them. Inability to use words correctly: Students may have difficulty using English words correctly, as they are learning a second language and may have trouble expressing their intended meanings. Lack of regular practice of vocabulary: Students may remember words but do not practice them daily, which is necessary to improve second language learning. Shah, S.H.R., Abbasi, I.A. and Ali, A., 2022. Difficulties in Learning English Vocabulary Faced by College Students of Pakistan. Pakistan Languages and Humanities Review, 6(2), pp.422-431.

Competitive Research

Applications focusing on improving vocabulary and language.

Duolingo (Figure 1) - Duolingo is a language learning application that offers users the ability to learn a new language in an interactive and engaging way. The app is available on both iOS and Android platforms and offers over 30 languages to choose from. The app uses a combination of reading, writing, listening and speaking exercises to help users learn new vocabulary, grammar, and sentence structure.

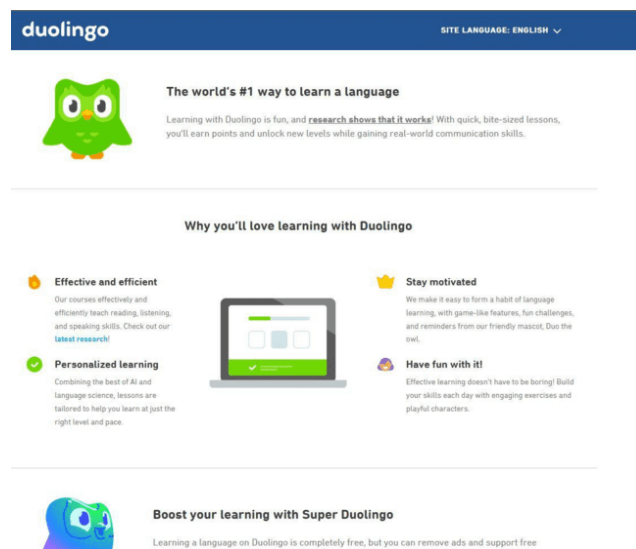


Figure 1: Duolingo

Josh Skill Application - Josh Talks English Speaking app helps overcome the fear of speaking in English with real students as practice partners to practice English without hesitation with students from anywhere in India Improving English conversation skills by English Speaking with practice partners Interactive video lessons by English teacher help you practice English speaking, reading, listening, grammar, writing to improve your vocabulary and pronunciation of the English language.

Research Methodology

- *Research Objective*
- *Identify Target demographics.*
- *Conduct Research.*
- *Gather insights and determine action items.*

Research Objective –

- 1. To understand people's thought processes about vocabulary and language skills.*
- 2. To understand if there is an actual need for the product.*
- 3. To understand if the problem which I am trying to solve with a digital product has potential and if it will provide value to the users.*

Target Demographic - The target demographic is 18 to 26 years old. The product aims to cater to college students and working professionals. This product will be used for aiding in language-related tasks.

Analysis and Findings of Questionnaire based User Study

People do need assistance in English communication as found out in user study. Many people do not use English as their first language. This explains why people struggle in English communication. They have less exposure in English speaking and this results in less time devoted to English communication. They constantly switch between their native language and English depending on the need. Since English is used only at work, this means that their English usage is limited. English communication can be broken down into subsets. To improve overall in English,

one has to focus on all these subsets equally. These subsets include vocabulary, pronunciation, fluency etc. This will overall improve the English communication. One of the major areas which people want to improve include vocabulary. This is followed by English speaking fluency. Both, these areas depend on the exposure we have in English. The more we speak and practice the better we become. Using English on daily basis is necessary for constant development. Figure 2 depicts persona of users.



Figure 2: User Persona

Design and Build

After going through the research phase i came to conclusion that exposure in English is needed for improving English communication. The best way to achieve that was creating a AI powered assistant (Figure 3-4).

Design & Build ▾

- Experimented with different designs and was inspired by metal type



Metal type



Design element to represent metal type.

Structure

Landing page



Sign up



Application page

- AI search
- Video tutorials
- Talk to AI
- Pronunciation search
- Word of the day
- Community Feed.

Figure 3-4: AI powered assistant

According to my understanding, exposure to English is the key to improving English communication. So the idea taken was a conversational assistant for the product. I tried to focus on ideas which were buildable and possible with my skills. I used various technologies to build the product. From initial design to development. The application was made responsive so that it could be used on various screen sizes. OpenAI API was connected and used for powering the application. Domain name was selected which represented the application and was used for deploying it. **Figure 5 App Design.**

Product goal

- **To improve English communication by focusing on**
- **Vocabulary**
- **Fluency**

- **Pronunciation**

Product Features

- **AI search.**
- **Video tutorials.**
- **Community Feed.**
- **Word of the day with examples.**
- **pronunciation search.**
- **Voice based conversational AI chatbot.**

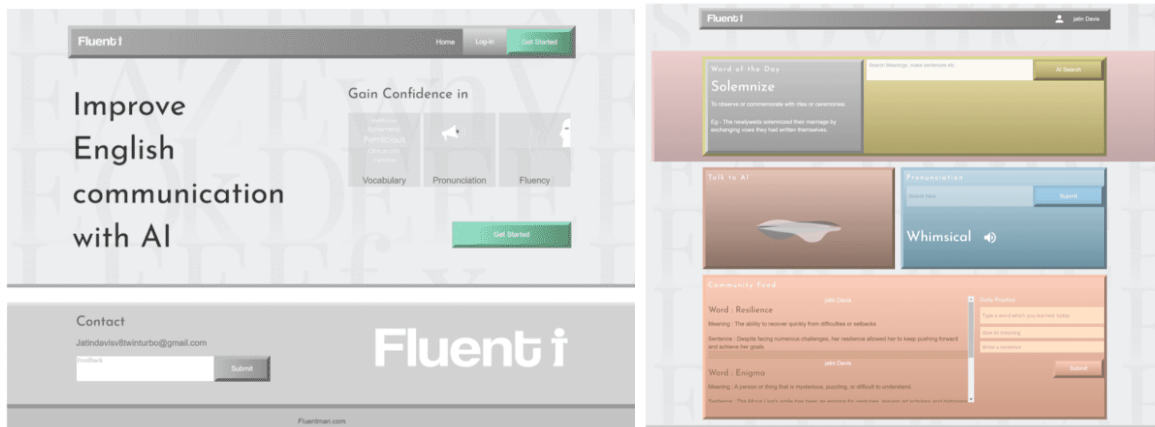


Figure 5: Application Design - <https://fluentman.com/>

Conclusion

In conclusion, I was able to design and develop a digital product which was powered by Artificial intelligence. However, some features were difficult to implement and were not buildable considering my skills, resources and time available.

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