

# BHASHA

**a vocabulary learning app using Google SDK**

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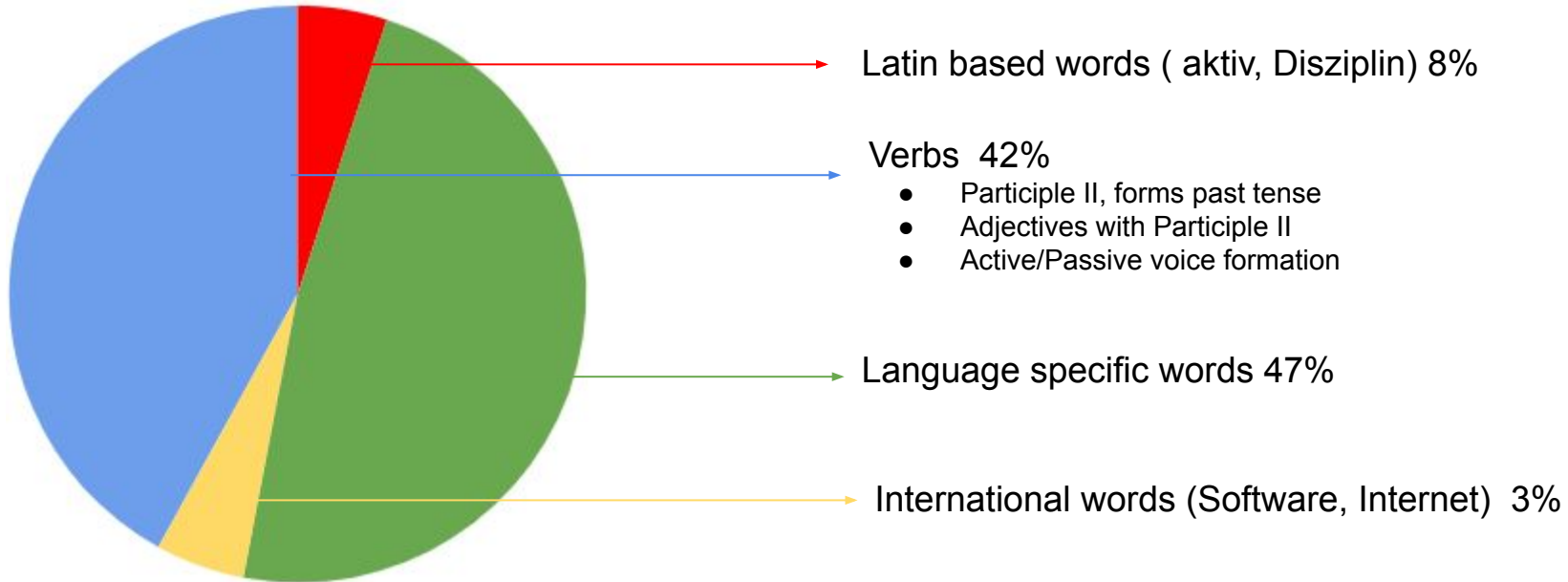
# 0. Agenda

1. Case Study Details
2. Data Collected
3. Solution
4. Demo
5. Result
6. Future Scope

# 1. Case Study Details

- My brother failed Goethe B2 Level German Language exam
- Passed Writing module but failed Reading, Listening and Speaking modules.  
***Major problem was with vocabulary (Memorization) and processing of spoken words by native speaker (Listening)***
- COVID-19 Measures, expensive and not affordable courses
- Full-time job and less time to prepare for language
- Vocabulary applications are not customizable and no additional language support

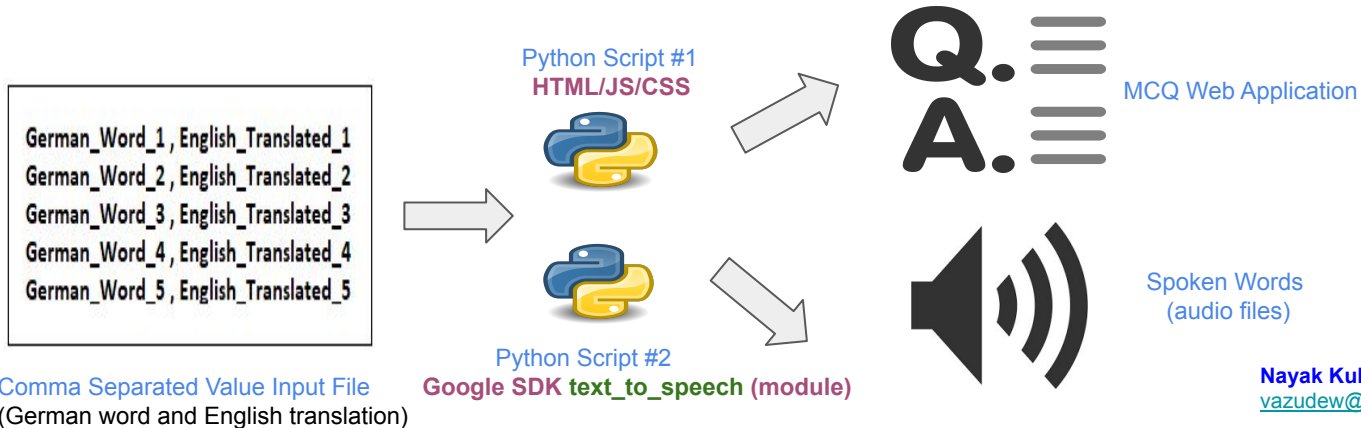
## 2. Data Collected



B2 German Language exam Vocabulary Distribution (3000 - 4500 words)

### 3. Solution #1

- **Memorization** : Multiple Choice Questions (German to English, English to German)
  - Randomized Questions and answers
  - Timer to stimulate fast thinking
- **Spoken Words** from a native speaker : audio file for each word, for improved listening skills

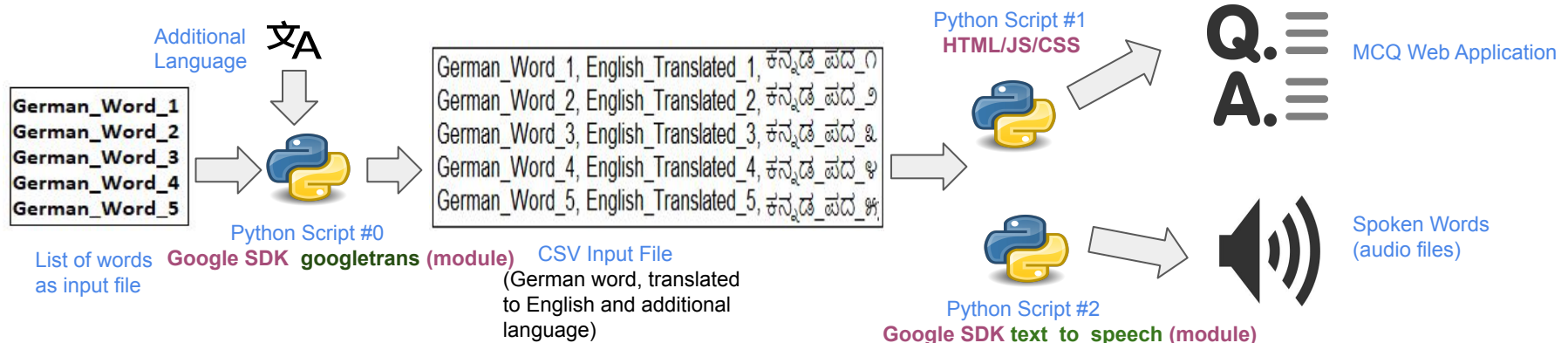


### 3. Solution #2 (improvements over Solution #1)

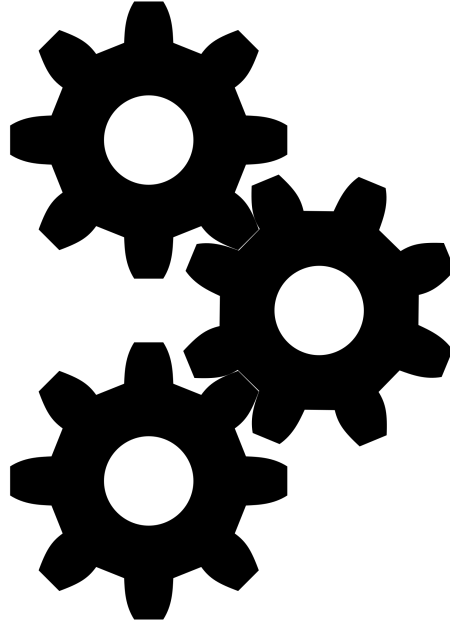
#### Solution #1 Drawbacks

- **CSV File to be created for translated words for 4.5K words (tedious)**
- **Translation with English may not be always effective !**  
( necessity of additional language for clarity)
  - ❖ retten - save (a life)
  - ❖ sparen - save (money, time)
  - ❖ speichern - save (a file)

#### Solution #2



## 4. Demo



## 5. Result

- Improved Vocabulary within short span of time
- Better formulation and articulation of ideas for Speaking module
- Faster procession of information, text and spoken words ( Reading, Listening Modules)
- In-house, customizable and free software solution for vocabulary
- My Brother passed B2 Exam (March 2022) and now preparing for C1



## 6. Future Scope

- Maintain the application using Google Cloud Platform
  - **Bucket** for storing all word input files
  - **Cloud Function** to trigger and translate uploaded file /words
  - **Firestore** Database for storing the words, translated words
  - **App Engine** to host web application
  - **Containerize** web application (for scalability and faster deployment)
  - Audio files can be stored in **Bucket**
  - **BigQuery, Machine Learning** for further analysis of words, frequency etc
- Add further features
  - support additional exercise such as fill in the blanks, matching words etc.
  - analyse Speaking module ( like **google Warmup** product)
- Support learning of Languages
  - learn rare languages (Latin, Sanskrit)

## References / Contributions

- Images for the slides are from internet (google Slides)
- Word files list [Ajeya Nayak](#)
- Demo Front End source code [CodingNepalBlog](#)
- Concepts, end-to-end Development [Nayak Kukkundoor, Vasudeva](#) (author)

THANK YOU !