Team Polyglots
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About Langleap

- FLash card maker for Language Learning

- A simple website that does not have silly/over the top activities

- Best used as a supplementary tool with other language learning activities/tools

- Lets you make quick translations by copy and pasting any paragraphs found online

- Allows you to learn the words you want to learn

- Targeting people who already have basic knowledge in the language

Tools

GitHub
★★★★★

Google Sheets
★★★★☆

localhost:3000

AGILE
★★★★☆

B
★★★★☆

Merriam-Webster
★★★★☆

HTML CSS
★★★★☆

PostgreSQL
★★★★★

node JS
★★★★☆

Express JS
★★★★☆

JS
★★★★★

Planning and tracking

- Started with JIra
- Disliked the clutter
- Consolidated to a simpler Gantt chart
- Tracked progress through color changes and communicated what areas needed to be completed before moving forward due to dependencies.

Task	Feature	Assignee	1 Feb 7	2 Feb 14	3 Feb 21	4 Feb 28	5 Mar 7	6 Mar 14	7 Mar 21	8 Mar 28	9 Apr 4	10 Apr 11	Notes
Database & FE foundation	User Accounts	MR, JR											
Fully implement ^^	User Accounts	MR, JR											
User/Password Hashing	User Accounts	JR, BH											
Login Screen/and new user	User Accounts	BH, HM, AD											
Flashcard UX	Make/study Lists	AD, HM											
Create Lists	Make/study Lists	JR, BH											Most other tasks depend on this
Request and study lists	Make/study Lists	MP, MR											Most other tasks depend on this
Randomize Words	Make/study Lists	MP, HM											Dropped, Scope reduction
Apply spaced repetition	Make/study Lists	BH, JR											Dropped, Scope reduction
Pull up list & Quiz	Quiz												Most other quiz tasks depend on this
Correctness Calculation	Quiz	MP, MR											
Word Targeting	Quiz	BH, MR											Dropped, Scope reduction
Progress Logging	Quiz	MR, JR											
Statistic Storing	Stats	JR, MP, AD											All stats activities depend on this
Stat Report UX	Stats	AD, HM											Not started
Stat Report Functionality	Stats												Not started
List sharing	Share	BH, AD, MR											Dropped, Scope reduction
List Generation	Make/study Lists	BH, JR											API call implemented, need db insert

Database layout

PostgreSQL   Google Sheets

User
- UserID [INT IDENTITY]
- Username [VARCHAR(45)]
- Email [VARCHAR(255)]
- Password [VARCHAR(255)]
- RegistrationDate [DATE]
- TotalCards [INT]
- TotalAttempts [INT]
- TotalCorrect [INT]
- TotalMistakes [INT]
- UserAccuracy [NUMERIC(3, 2)]
- TotalWords [INT]
- AverageWordsPerDay [NUMERIC(5, 2)]
- HighestStreak [INT]
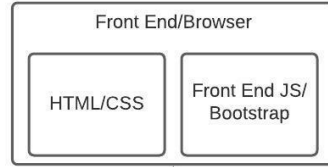- HighestRelativeImprovement [NUMERIC(3, 2)]

SavedList
- UserID [INT IDENTITY]
- List ID [INT IDENTITY]
- ListData [JSON]
- TotalCards [INT]
- DateCreated [DATE]
- IsPublic [BOOLEAN]
- TimesStudied [INT]
- ListMistakes [INT]
- ListAccuracy [NUMERIC(5, 2)]

PublicList
- ListID [INT IDENTITY]
- SharedBy [INT IDENTITY]
- DateShared [DATE]

WordAccuracy
- UserID [INT IDENTITY]
- Word [VARCHAR(45)]
- DateFirstAttempted [DATE]
- TotalAttempts [INT]
- TotalCorrect [INT]
- TotalMistakes [INT]
- WordAccuracy [NUMERIC(5, 2)]
- IsCommonlyMissed [BOOLEAN]

ListWordAccuracy
- UserID [INT IDENTITY]
- ListID [INT IDENTITY]
- Word [INT IDENTITY]
- DateFirstAttempted [DATE]
- TotalAttempts [INT]
- TotalCorrect [INT]
- TotalMistakes [INT]
- WordAccuracy [NUMERIC(5, 2)]
- IsCommonlyMissed [BOOLEAN]

Session
- UserID [INT IDENTITY]
- SessionID [INT IDENTITY]
- SessionDate [DATE]
- ListsViewed [INT ARRAY]
- TotalAttempts [INT]
- TotalCorrect [INT]
- TotalMistakes [INT]
- SessionAccuracy [NUMERIC(5, 2)]

ListImprovement
- UserID [INT IDENTITY]
- ListID [INT IDENTITY]
- SessionID [INT IDENTITY]
- AccuracyAdjustment [NUMERIC(5, 2)]

ListContents
- ListID [INT IDENTITY]
- ListName [VCHAR]
- Word [VCHAR]
- WordDefinition[TEXT]
- TranslatedWord [VCHAR]
- WordAccuracy [NUMERIC(5, 2)]
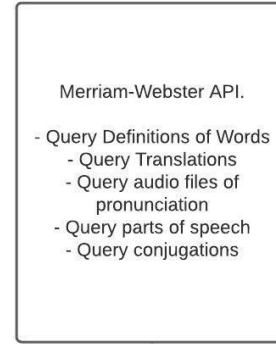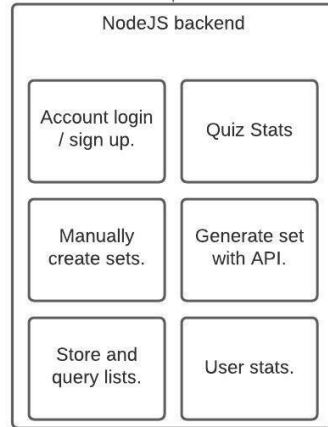
Merriam Webster English-Spanish API

- Users create a list of words to learn

- Words are sent to the API

- The API was used to return:
  - The word and it's translation
  - A sentence using the word in English and Spanish

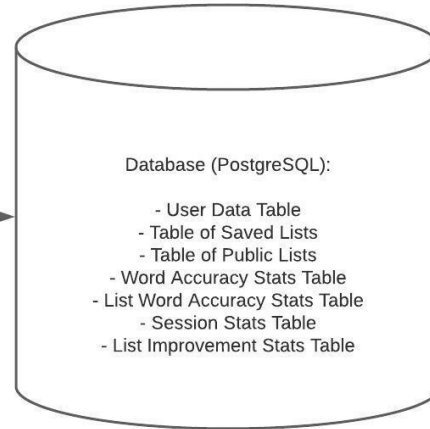- This would be used to generate our word lists

Architecture Diagram

HTML **CSS**

Front End/Browser

HTML/CSS	Front End JS/ Bootstrap

Express **JS**

node JS

NodeJS backend

Account login / sign up.	Quiz Stats
Manually create sets.	Generate set with API.
Store and query lists.	User stats.

REST API

Merriam-Webster API.

- Query Definitions of Words
  - Query Translations
  - Query audio files of pronunciation
  - Query parts of speech
  - Query conjugations

Merriam-Webster

pg-promise

Database (PostgreSQL):

- User Data Table
- Table of Saved Lists
- Table of Public Lists
- Word Accuracy Stats Table
- List Word Accuracy Stats Table
- Session Stats Table
- List Improvement Stats Table

Challenges

- Learning curves specifically with node/ejs
  - Worked through by helping each other debug … and a lot of googling
- Reducing scope of project was hard at first
  - Deciding what was worth it and what was not
- Dealing with Merge Conflicts
  - worked through them together
- Working with API took time but it's up an running!
- Database BUgs