Project Pitch

<TEAM 112>

Team

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Overview

The system is designed to be intuitive, flexible, and highly customizable, catering to the unique needs of each user. Whether for self-study or classroom use, the system's features are geared towards maximizing learning efficiency, motivation, and accessibility. By bridging traditional learning methods with innovative technological solutions, we aim to create a dynamic and engaging language learning environment for all users.

The system ignites people's passion by using flashcards and give badges while learning. Using our system to learn will make you feel that mastering a new language is an enjoyable and exciting adventure.

Main types of users

Our innovative language learning system is meticulously designed to cater to the diverse needs of two primary user groups: self-learners and language educators.

Self-Learners:

Use the system to learn language and record learning progress, get badges while learning. The system provides them with entry-level flashcards to help build a foundational language framework and vocabulary.

Language Educators:

Use the system to teach students, create and manage different levels of flashcards, record students' result and give feedback. The system helps educators to teach students efficiently.

Project Track

Main function:

Flashcard Management

Level Management

Persistence

GUI

Intelligent Learning function:

Semi-Automatic Flashcard Generation

Learning Mode

Sound Module Integration

Achievement and Progress Tracking:

Achievement Badges

Printable Learning Results Document

Inputting Material Document

Feature 1

Name: Flashcard Management

Description:

Users can create,delete, update flashcards by providing the front and back sides of the card.

Upon creation, users can optionally assign tags to the flashcard.

The created flashcards are stored in the system for later use in learning modes.

Allowing the user to rearrange the ordered the flashcards in the levels

Champion: Jing Chen

Feature 2

Name: Level Management

Description:

Users can manage levels by creating, updating, and deleting them.

Each level consists of an ordered set of flashcards.

Users can rearrange flashcards, and can add or remove flashcards from any level at any time.

Champion: Menghan

Feature 3

Name: Persistence

Description:
levels and flashcards are persisted as JSON files,
> For levels, each file includes the level's name, difficulties, description, and an array of flashcards.
> Flashcard files contain fields for words and their translations.
and can be imported/exported from/into a predefined folder
> Users have the ability to import external JSON files to add new levels uniformly.

Champion: Yitong

Feature 4

Name: Learning Mode

Description:

In learning mode, users progress across flashcards on a step-by-step basis.

Users can start a level and interact with flashcards, flipping between front and back sides.

1. **Translation and learn the meaning:** On the front side of the card, the word is displayed in the language being learned (e.g., Dutch); clicking the card edge reveals the familiar language translation (e.g., English).
2. **Mastered:** If users feel confident after viewing a word, they can mark it as "mastered," preventing it from appearing again.
3. **Pronunciation part:** users can check the sound record for the word, also can record and review their sound. This part will explained in detailed in the coming function

Gamification elements are included to motivate users.

1. Different levels of word sets are pre-established, and users can unlock the next level if they recognize over 100% of the words in the current level. Achievements related to levels can be printed or updated in the user's personal profile

Champion: Yitong

Feature 5

Name: Achievement Badges

Description:

The system provides an overview of achievement badges based on users' learning activities.

Badges are awarded for completing levels, mastering certain numbers of flashcards, or achieving specific learning milestones.

1.   The flashcards and levels are depends on the mastered card that the users have
2.   The user can design their own rule for specific learning milestones, for example, learning for 100 days and so on.

Users can view their badges as a visual representation of their progress and accomplishments.

Champion: Sree

Feature 6

Name: Semi-Automatic Flashcard Generation

Description:

An engine is integrated into the system for the semi-automatic generation of new flashcards for a given language.

1. There will be a hidden language list in the database, with pre designed levels, the users can check the word list at their level to check whether they want to add the word into the learning level they are in. if they choose the word in the wordlist, the word will add into the list

The engine leverages language learning resources and algorithms to suggest new flashcards based on the user's proficiency level and learning goals.

Users can review and approve suggested flashcards before adding them to their learning trajectory.

Champion: Sree

Feature 7

Name: Sound Module Integration

Description:

In Learning mode, a sound module is integrated into the system to allow users to train their listening and speaking skills.

Users can listen to pronunciation of words or phrases associated with flashcards.

Additionally, users can record and playback their own voice to practice pronunciation and speaking exercises.

1.   Our team will use sound API module to get the audio, and also to record the users voice.

Champion: Jing Chen

Feature 8

Name: Printable Learning Results Document

Description:

The system generates a printable document containing all the results obtained by the user while learning a certain language.

The document includes statistics such as the number of flashcards mastered, levels completed, and overall progress.

Users can print this document for personal reference or to share their learning achievements with others.

The format that is used for document printing is JSON first, and then we can use external framework to change it into strings.

Champion: Menghan

Feature 9

Name: Inputting Material Document

Description:

Inputting words list: Users can import the letters they want to learn collectively by uploading files.

By this function, users can also share the learned words with their classmates.

1. Before import the data, the system will check whether the import data meet json format, ant it also need to contain the word, the translation, and the level number

Champion:Jing,Yitong,Sree,Menghan

Feature 10

Name: GUI (Graphical User Interface)

Description:

Using JavaFX provides an interactive visual platform for users to interact with the application.

We designed several pages for our application:

- Home Page: introduction to the application's functions and features; a menu for all features
- Level Management Page: display all available levels; options to add, edit, delete levels; clicking on a level shows its associated flashcards and allows for editing
- Flashcard Management Page: options to add, edit, and delete flashcards
- Learning Mode Page: display the current flashcard; options for navigating to the next and previous flashcards; display user progress
- Import/Export Page: allow the user to import levels and flashcards from a predefined folder; allow the user to export levels and flashcards to a predefined folder
- Achievements Page: display the achievement badges earned by the user based on learning activities

Champion: Jing,Sree,Menghan,Yitong

Time log

Team number		15		
Member	**Activity**		**Week number**	**Hours**
Jing Chen	Define functional features		1	2
Jing Chen	Intellij setup		1	2
Jing Chen	Work on code		1	2
Yitong Tang	Define functional features		1	1
Yitong Tang	Intellij setup		1	2
Yitong Tang	Work on code		1	2
Menghan Zhang	Define functional features		1	1
Menghan Zhang	Intellij setup		1	2
Menghan Zhang	Work on code		1	2
Kota Sree Pragnya	Define functional features		1	1
Kota Sree Pragnya	Intellij setup		1	2
Kota Sree Pragnya	Work on code		1	2
Jing Chen	function modeling		2	2
Jing Chen	Work on code		2	2
Yitong Tang	function modeling		2	2
Yitong Tang	Work on code		2	2
Menghan Zhang	function modeling		2	2
Menghan Zhang	Work on code		2	2
Kota Sree Pragnya	function modeling		2	2
Kota Sree Pragnya	Work on code		2	2
			TOTAL	37

Signed contract

<Here is the link of our [Team Contract](#) in PDF>

Link:
https://drive.google.com/file/d/1bPc3MuyZHqgp6lYMIkFvvZyphzmirNsx/view?usp=sharing