Database ER Diagram (dbdiagram.io)

users

Column	Type	
id	int	PK
email	varchar(255)	NN
username	varchar(50)	NN
password_hash	varchar(255)	NN
first_name	varchar(100)	
last_name	varchar(100)	
avatar_url	text	
level	user_level	E
current_streak	int	
longest_streak	int	
total_study_time	int	
total_words_learned	int	
created_at	timestamp	
updated_at	timestamp	
last_active	timestamp	

user_preferences

Column	Type	
id	int	PK
user_id	int	NN
language	varchar(10)	
timezone	varchar(50)	
daily_goal_minutes	int	
notifications_enabled	boolean	
created_at	timestamp	

course_categories

Column	Type	
id	int	
name	varchar(100)	NN
description	text	
icon	varchar(50)	
color	varchar(20)	
created_at	timestamp	

courses

Column	Type	
id	int	
title	varchar(200)	NN
description	text	
thumbnail_url	text	
level	course_level	E
duration_weeks	int	
estimated_hours	int	
price	decimal(10,2)	
is_free	boolean	
category_id	int	
instructor_id	int	
total_students	int	
average_rating	decimal(3,2)	
status	course_status	E
created_at	timestamp	
updated_at	timestamp	

course_modules

Column	Type	
id	int	
course_id	int	NN
title	varchar(200)	NN
description	text	
order_index	int	NN
duration_minutes	int	
is_locked	boolean	
created_at	timestamp	

user_course_enrollments

Column	Type	
id	int	
user_id	int	NN
course_id	int	NN
enrolled_at	timestamp	
completed_at	timestamp	
progress_percentage	decimal(5,2)	
current_module_id	int	
current_lesson_id	int	

user_lesson_progress

Column	Type	
id	int	
user_id	int	NN
lesson_id	int	NN
status	lesson_progress_status	E
progress_percentage	decimal(5,2)	
time_spent_minutes	int	
started_at	timestamp	
completed_at	timestamp	

flashcards

Column	Type	
id	int	
deck_id	int	NN
front_text	varchar(500)	NN
back_text	text	NN
phonetic	varchar(200)	
part_of_speech	varchar(50)	
example_sentence	text	
synonyms	json	
antonyms	json	
image_url	text	
audio_url	text	
difficulty_level	int	
created_at	timestamp	

lessons

Column	Type	
id	int	
module_id	int	NN
title	varchar(200)	NN
content	text	
lesson_type	lesson_type E	NN
order_index	int	NN
duration_minutes	int	
video_url	text	
is_completed	boolean	
created_at	timestamp	

youtube_videos

Column	Type	
id	int	
youtube_id	varchar(20)	NN
title	varchar(500)	NN
channel_name	varchar(200)	
duration_seconds	int	
thumbnail_url	text	
video_url	text	NN
difficulty	video_difficulty E	NN
category	varchar(100)	
has_subtitles	boolean	
subtitle_language	varchar(10)	
processing_status	video_processing_status	E
total_practices	int	
average_accuracy	decimal(5,2)	
created_at	timestamp	
updated_at	timestamp	

video_subtitles

Column	Type	
id	int	
video_id	int	NN
start_time	decimal(10,3)	NN
end_time	decimal(10,3)	NN
text	text	NN
segment_index	int	NN
word_count	int	
difficulty_score	decimal(3,2)	

flashcard_decks

Column	Type	
id	int	
title	varchar(200)	NN
description	text	
thumbnail_url	text	
category	flashcard_category E	NN
difficulty	flashcard_difficulty E	NN
is_public	boolean	
created_by	int	
total_cards	int	
total_studies	int	
average_rating	decimal(3,2)	
created_at	timestamp	
updated_at	timestamp	

user_segment_attempts

Column	Type	
id	int	
session_id	int	NN
subtitle_id	int	
attempt_number	int	
recording_url	text	
transcribed_text	text	
accuracy_score	decimal(5,2)	
pronunciation_score	decimal(5,2)	
timing_score	decimal(5,2)	
user_rating	user_rating	E
created_at	timestamp	

user_flashcard_progress

Column	Type	
id	int	
user_id	int	NN
flashcard_id	int	NN
deck_id	int	NN
ease_factor	decimal(4,2)	
interval_days	int	
repetitions	int	
next_review_date	date	NN
total_reviews	int	
correct_reviews	int	
last_review_date	timestamp	
last_review_rating	int	
status	flashcard_status	E
created_at	timestamp	
updated_at	timestamp	

practice_exercises

Column	Type	
id	int	
title	varchar(200)	NN
description	text	
category_id	int	
exercise_type	exercise_type E	NN
difficulty	flashcard_difficulty E	NN
estimated_minutes	int	
content	json	
thumbnail_url	text	
is_active	boolean	
created_at	timestamp	

user_exercise_attempts

Column	Type	
id	int	
user_id	int	NN
exercise_id	int	NN
started_at	timestamp	
completed_at	timestamp	
score	decimal(5,2)	
time_spent_minutes	int	
answers	json	
feedback	json	
status	exercise_status	E

user_shadowing_sessions

Column	Type	
id	int	
user_id	int	NN
video_id	int	NN
started_at	timestamp	
ended_at	timestamp	
total_duration_minutes	int	
segments_completed	int	
total_segments	int	
overall_accuracy	decimal(5,2)	
pronunciation_score	decimal(5,2)	
rhythm_score	decimal(5,2)	
playback_speed	decimal(3,2)	
repeat_mode	boolean	
subtitles_enabled	boolean	
status	shadowing_session_status	E

community_comments

Column	Type	
id	int	
post_id	int	NN
user_id	int	NN
parent_comment_id	int	
content	text	NN
likes_count	int	
is_approved	boolean	
created_at	timestamp	
updated_at	timestamp	

user_achievements

Column	Type	
id	int	
user_id	int	NN
achievement_type_id	int	
earned_at	timestamp	
progress_value	int	
target_value	int	
is_completed	boolean	

practice_categories

Column	Type	
id	int	
name	varchar(100)	NN
description	text	
icon	varchar(50)	
color	varchar(20)	

achievement_types

Column	Type	
id	int	
name	varchar(100)	NN
description	text	
icon	varchar(50)	
category	achievement_category E	NN
badge_color	varchar(20)	
points_value	int	
created_at	timestamp	

community_posts

Column	Type	
id	int	
user_id	int	NN
title	varchar(200)	
content	text	NN
post_type	post_type	E
views_count	int	
likes_count	int	
comments_count	int	
is_pinned	boolean	
is_locked	boolean	
is_approved	boolean	
created_at	timestamp	
updated_at	timestamp	

user_settings

Column	Type	
id	int	
user_id	int	NN
preferred_study_time	time	
daily_reminder	boolean	
reminder_time	time	
cards_per_session	int	
auto_play_audio	boolean	
show_phonetics	boolean	
default_playback_speed	decimal(3,2)	
auto_repeat_segments	boolean	
recording_enabled	boolean	
created_at	timestamp	
updated_at	timestamp	

community_likes

Column	Type	
id	int	
user_id	int	NN
post_id	int	
comment_id	int	
created_at	timestamp	

daily_study_stats

Column	Type	
id	int	
user_id	int	NN
study_date	date	NN
total_minutes	int	
flashcard_minutes	int	
shadowing_minutes	int	
course_minutes	int	
practice_minutes	int	
flashcards_reviewed	int	
flashcards_learned	int	
lessons_completed	int	
exercises_completed	int	
shadowing_sessions	int	
average_accuracy	decimal(5,2)	
words_learned	int	
created_at	timestamp	

dbdiagram.io

Database ER Diagram

users

column	type	
id	int	PK
email	varchar(255)	NN
username	varchar(50)	NN
password_hash	varchar(255)	NN
first_name	varchar(100)	
last_name	varchar(100)	
avatar_url	text	
level	user_level E	
current_streak	int	
longest_streak	int	
total_study_time	int	
total_words_learned	int	
created_at	timestamp	
updated_at	timestamp	
last_active	timestamp	

user_preferences

column	type	
id	int	PK
user_id	int	NN
language	varchar(10)	
timezone	varchar(50)	
daily_goal_minutes	int	
notifications_enabled	boolean	
created_at	timestamp	

course_categories

column	type	
id	int	PK
name	varchar(100)	NN
description	text	
icon	varchar(50)	
color	varchar(20)	
created_at	timestamp	

courses

column	type	
id	int	PK
title	varchar(200)	NN
description	text	
thumbnail_url	text	
level	course_level E	NN
duration_weeks	int	
estimated_hours	int	
price	decimal(10,2)	
is_free	boolean	
category_id	int	
instructor_id	int	
total_students	int	
average_rating	decimal(3,2)	
status	course_status E	
created_at	timestamp	
updated_at	timestamp	

course_modules

column	type	
id	int	PK
course_id	int	NN
title	varchar(200)	NN
description	text	
order_index	int	
duration_minutes	int	
is_locked	boolean	
created_at	timestamp	

user_course_enrollments

column	type	
id	int	PK
user_id	int	NN
course_id	int	NN
enrolled_at	timestamp	
completed_at	timestamp	
progress_percentage	decimal(5,2)	
current_module_id	int	
current_lesson_id	int	

user_lesson_progress

column	type	
id	int	PK
user_id	int	NN
lesson_id	int	NN
status	lesson_progress_status E	
progress_percentage	decimal(5,2)	
time_spent_minutes	int	
started_at	timestamp	
completed_at	timestamp	

flashcards

column	type	
id	int	PK
deck_id	int	NN
front_text	varchar(500)	NN
back_text	text	NN
phonetic	varchar(200)	
part_of_speech	varchar(50)	
example_sentence	text	
synonyms	json	
antonyms	json	
image_url	text	
audio_url	text	
difficulty_level	int	
created_at	timestamp	

lessons

column	type	
id	int	PK
module_id	int	NN
title	varchar(200)	NN
content	text	
lesson_type	lesson_type E	NN
order_index	int	NN
duration_minutes	int	
video_url	text	
is_completed	boolean	
created_at	timestamp	

youtube_videos

column	type	
id	int	PK
youtube_id	varchar(20)	NN
title	varchar(500)	NN
channel_name	varchar(200)	
duration_seconds	int	
thumbnail_url	text	
video_url	text	NN
difficulty	video_difficulty E	NN
category	varchar(100)	
has_subtitles	boolean	
subtitle_language	varchar(10)	
processing_status	video_processing_status E	
total_practices	int	
average_accuracy	decimal(5,2)	
created_at	timestamp	
updated_at	timestamp	

video_subtitles

column	type	
id	int	PK
video_id	int	NN
start_time	decimal(10,3)	NN
end_time	decimal(10,3)	NN
text	text	NN
segment_index	int	NN
word_count	int	
difficulty_score	decimal(3,2)	

flashcard_decks

column	type	
id	int	PK
title	varchar(200)	NN
description	text	
thumbnail_url	text	
category	flashcard_category E	NN
difficulty	flashcard_difficulty E	NN
is_public	boolean	
created_by	int	
total_cards	int	
total_studies	int	
average_rating	decimal(3,2)	
created_at	timestamp	
updated_at	timestamp	

user_flashcard_progress

column	type	
id	int	PK
user_id	int	NN
flashcard_id	int	NN
deck_id	int	NN
ease_factor	decimal(4,2)	
interval_days	int	
repetitions	int	
next_review_date	date	NN
total_reviews	int	
correct_reviews	int	
last_review_date	timestamp	
last_review_rating	int	
status	flashcard_status E	
created_at	timestamp	
updated_at	timestamp	

practice_exercises

column	type	
id	int	PK
title	varchar(200)	NN
description	text	
category_id	int	
exercise_type	exercise_type E	NN
difficulty	flashcard_difficulty E	NN
estimated_minutes	int	
content	json	
thumbnail_url	text	
is_active	boolean	
created_at	timestamp	

user_exercise_attempts

column	type	
id	int	PK
user_id	int	NN
exercise_id	int	NN
started_at	timestamp	
completed_at	timestamp	
score	decimal(5,2)	
time_spent_minutes	int	
answers	json	
feedback	json	
status	exercise_status E	

user_shadowing_sessions

column	type	
id	int	PK
user_id	int	NN
video_id	int	NN
started_at	timestamp	
ended_at	timestamp	
total_duration_minutes	int	
segments_completed	int	
total_segments	int	
overall_accuracy	decimal(5,2)	
pronunciation_score	decimal(5,2)	
rhythm_score	decimal(5,2)	
playback_speed	decimal(3,2)	
repeat_mode	boolean	
subtitles_enabled	boolean	
status	shadowing_session_status E	

user_segment_attempts

column	type	
id	int	PK
session_id	int	NN
subtitle_id	int	
attempt_number	int	
recording_url	text	
transcribed_text	text	
accuracy_score	decimal(5,2)	
pronunciation_score	decimal(5,2)	
timing_score	decimal(5,2)	
user_rating	user_rating E	
created_at	timestamp	

practice_categories

column	type	
id	int	PK
name	varchar(100)	NN
description	text	
icon	varchar(50)	
color	varchar(20)	

user_achievements

column	type	
id	int	PK
user_id	int	NN
achievement_type_id	int	
earned_at	timestamp	
progress_value	int	
target_value	int	
is_completed	boolean	

achievement_types

column	type	
id	int	PK
name	varchar(100)	NN
description	text	
icon	varchar(50)	
category	achievement_category E	NN
badge_color	varchar(20)	
points_value	int	
created_at	timestamp	

community_comments

column	type	
id	int	PK
post_id	int	NN
user_id	int	NN
parent_comment_id	int	
content	text	NN
likes_count	int	
is_approved	boolean	
created_at	timestamp	
updated_at	timestamp	

community_posts

column	type	
id	int	PK
user_id	int	NN
title	varchar(200)	
content	text	NN
post_type	post_type E	
views_count	int	
likes_count	int	
comments_count	int	
is_pinned	boolean	
is_locked	boolean	
is_approved	boolean	
created_at	timestamp	
updated_at	timestamp	

community_likes

column	type	
id	int	PK
user_id	int	NN
post_id	int	
comment_id	int	
created_at	timestamp	

user_settings

column	type	
id	int	PK
user_id	int	NN
preferred_study_time	time	
daily_reminder	boolean	
reminder_time	time	
cards_per_session	int	
auto_play_audio	boolean	
show_phonetics	boolean	
default_playback_speed	decimal(3,2)	
auto_repeat_segments	boolean	
recording_enabled	boolean	
created_at	timestamp	
updated_at	timestamp	

daily_study_stats

column	type	
id	int	PK
user_id	int	NN
study_date	date	NN
total_minutes	int	
flashcard_minutes	int	
shadowing_minutes	int	
course_minutes	int	
practice_minutes	int	
flashcards_reviewed	int	
flashcards_learned	int	
lessons_completed	int	
exercises_completed	int	
shadowing_sessions	int	
average_accuracy	decimal(5,2)	
words_learned	int	
created_at	timestamp	

```
Enum user_level {
    Beginner
    Intermediate
    Advanced
}

Enum course_level {
    Beginner
    Intermediate
    Advanced
    AllLevel
}

Enum course_status {
    draft
    published
    archived
}

Enum lesson_type {
    video
    text
    quiz
    exercise
    flashcards
}

Enum lesson_progress_status {
    not_started
    in_progress
    completed
}

Enum flashcard_category {
    Vocabulary
    Grammar
    Phrases
    Business
    IELTS
    TOEFL
    Custom
}

Enum flashcard_difficulty {
    Beginner
    Intermediate
    Advanced
}

Enum flashcard_status {
    new
    learning
    review
    mastered
}

Enum video_difficulty {
    Beginner
    Intermediate
    Advanced
}

Enum video_processing_status {
    pending
    processing
    completed
    failed
}

Enum shadowing_session_status {
    active
    paused
    completed
}

Enum user_rating {
    easy
    good
    hard
}

Enum exercise_type {
    grammar
    vocabulary
    listening
    speaking
    writing
    reading
}

Enum exercise_status {
    in_progress
    completed
    abandoned
}

Enum post_type {
    question
    discussion
    achievement
    tip
}

Enum achievement_category {
    streak
    progress
    social
    mastery
    time
}
```