

cache_store	
cache_key $\phi$	varchar(255)
cache_value	jsonb NN
cache_type	varchar(50) NN
expiration_time	timestamp NN
created_at	timestamp
last_accessed	timestamp
access_count	integer

cache_statistics	
stat_id $\phi$	integer
cache_type	varchar(50) NN
hit_count	integer
miss_count	integer
total_requests	integer
avg_response_time_ms	decimal(10,2)
date	date
created_at	timestamp

users	
user_id $\phi$	integer
username	varchar(255) NN
email	varchar(255) NN
password_hash	varchar(255) NN
registration_date	timestamp
last_login	timestamp
points	integer
level	integer
experience_points	integer
streak	integer
badges	jsonb
profile_picture	varchar(255)
voice_enabled	boolean
preferred_voice	varchar(50)
created_at	timestamp
updated_at	timestamp

challenges	
challenge_id $\phi$	integer
title	varchar(255) NN
description	text NN
problem_statement	text NN
solution_template	text
difficulty	varchar(50) NN
category	varchar(100) NN
points_reward	integer NN
input_example	text
expected_output	text
hints	text
tags	text
created_at	timestamp
updated_at	timestamp

badges	
badge_id $\phi$	integer
name	varchar(255) NN
description	text
icon_url	varchar(255)
criteria	text
points_reward	integer
badge_type	varchar(50)
created_at	timestamp

programming_concepts	
concept_id $\phi$	integer
name	varchar(255) NN
title	varchar(500) NN
content	text NN
category	varchar(100) NN
difficulty	varchar(50) NN
estimated_time	integer
prerequisites	text
related_concepts	text
roadmap_url	varchar(500)
tools	jsonb
timeline	jsonb
resources	jsonb
tags	text
search_index	tsvector
created_at	timestamp
updated_at	timestamp

rag_search_history	
search_id $\phi$	integer
user_id $\phi$	integer
query_text	text NN
search_results	jsonb
response_text	text
confidence_score	decimal(3,2)
llm_model	varchar(100)
source_documents	jsonb
execution_time_ms	integer
created_at	timestamp

voice_ai_sessions	
session_id $\phi$	varchar(255)
user_id $\phi$	integer
start_time	timestamp
end_time	timestamp
total_interactions	integer
session_context	jsonb
created_at	timestamp

leaderboard	
leaderboard_id $\phi$	integer
user_id $\phi$	integer NN
rank	integer
total_points	integer
weekly_points	integer
monthly_points	integer
all_time_points	integer
last_updated	timestamp
created_at	timestamp

user_progress	
progress_id $\phi$	integer
user_id $\phi$	integer NN
level	integer
experience_points	integer
points_to_next_level	integer
total_lessons_completed	integer
total_challenges_completed	integer
longest_streak	integer
current_streak	integer
last_activity_date	date
created_at	timestamp
updated_at	timestamp

user_feedback	
feedback_id $\phi$	integer
user_id $\phi$	integer
feedback_type	varchar(50)
rating	integer
feedback_text	text
technical_details	jsonb
user_agent	text
page_url	varchar(500)
created_at	timestamp

daily_challenge_assignments	
assignment_id $\phi$	integer
user_id $\phi$	integer NN
challenge_id $\phi$	integer NN
assignment_date	date NN
completed	boolean
completed_at	timestamp
user_answer	text
points_earned	integer
repetition_count	integer
last_shown_date	date
created_at	timestamp
updated_at	timestamp

user_badges	
user_badge_id $\phi$	integer
user_id $\phi$	integer NN
badge_id $\phi$	integer NN
earned_at	timestamp
context	jsonb

courses	
course_id $\phi$	integer
title	varchar(255) NN
description	text
difficulty	varchar(50)
thumbnail_url	varchar(255)
concept_id $\phi$	integer
created_at	timestamp
updated_at	timestamp

voice_interactions	
interaction_id $\phi$	integer
user_id $\phi$	integer
session_id $\phi$	varchar(255)
voice_command	text
audio_file_url	varchar(500)
language_detected	varchar(10)
confidence_score	decimal(3,2)
response_text	text
response_audio_url	varchar(500)
intent_detected	varchar(100)
entities_extracted	jsonb
processing_time_ms	integer
llm_model_used	varchar(100)
tokens_used	integer
timestamp	timestamp
created_at	timestamp

lessons	
lesson_id $\phi$	integer
course_id $\phi$	integer NN
title	varchar(255) NN
content	text
order	integer NN
resources	jsonb
created_at	timestamp
updated_at	timestamp

user_courses	
user_course_id $\phi$	integer
user_id $\phi$	integer NN
course_id $\phi$	integer NN
enrollment_date	timestamp
progress	float
last_accessed	timestamp
completed_at	timestamp
created_at	timestamp
updated_at	timestamp

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created_at	timestamp

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experience_points	integer
points_to_next_level	integer
total_lessons_completed	integer
total_challenges_completed	integer
longest_streak	integer
current_streak	integer
last_activity_date	date
created_at	timestamp
updated_at	timestamp

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repetition_count	integer
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updated_at	timestamp

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user_id $\phi$	integer NN
badge_id $\phi$	integer NN
earned_at	timestamp
context	jsonb

courses	
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description	text
difficulty	varchar(50)
thumbnail_url	varchar(255)
concept_id $\phi$	integer
created_at	timestamp
updated_at	timestamp

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user_id $\phi$	integer
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llm_model_used	varchar(100)
tokens_used	integer
timestamp	timestamp
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updated_at	timestamp

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user_id $\phi$	integer NN
course_id $\phi$	integer NN
enrollment_date	timestamp
progress	float
last_accessed	timestamp
completed_at	timestamp
created_at	timestamp
updated_at	timestamp