~Layout with Sample Tools

Table User

Idx	Name	Data Type
* Pk	id	integer DEFAULT nextval('"User_id_seq"'::regclass)
* Unq	username	varchar(50)
* Unq	email	varchar(100)
*	password_hash	varchar(255)
*	registration_dt	timestamp
*	role	varchar(10)

Indexes

Type	Name	On
Pk	User_pkey	id
Unq	User_username_key	username
Unq	User_email_key	email

Constraints

Name	Definition
User_role_check	((role)::text = ANY ((ARRAY['student'::character varying, 'teacher'::character varying, 'admin'::character varying])::text[]))

Table exam

Idx	Name	Data Type
* Pk	id	serial
*	title	varchar(255)
*	creation_dt	timestamp
*	total_tasks	integer

Indexes

Type	Name	On
Pk	exam_pkey	id

Table examresult

Idx	Name	Data Type
* Pk	id	serial
	exam_id	integer
	user_id	integer
*	score	integer
*	completion_time	integer

Indexes

Type	Name	On
Pk	examresult_pkey	id

Foreign Keys

Type	Name	On
	examresult_exam_id_fkey (exam_id) ref exam (id)	
	examresult_user_id_fkey (user_id) ref User (id)	

Table feedback

Idx	Name	Data Type
* Pk	id	serial
	user_task_id	integer

Table feedback

Idx	Name	Data Type
	teacher_id	integer
*	feedback_text	text
*	feedback_dt	timestamp

Indexes

Type	Name	On
Pk	feedback_pkey	id

Foreign Keys

Type	Name	On
	feedback_user_task_id_fkey (user_task_id) ref usertask (id)	
	feedback_teacher_id_fkey (teacher_id) ref User (id)	

Table gamification

Idx	Name	Data Type
* Pk	id	serial
	user_id	integer
*	points	integer
	badges	varchar(255)

Indexes

Type	Name	On
Pk	gamification_pkey	id

Foreign Keys

Type	Name	On
	gamification_user_id_fkey (user_id) ref User (id)	

Table progress

Idx	Name	Data Type
* Pk	id	serial
	user_id	integer
	task_id	integer
*	status	varchar(20)

Indexes

Type	Name	On
Pk	progress_pkey	id

Foreign Keys

Type	Name	On
	progress_user_id_fkey (user_id) ref User (id)	
	progress_task_id_fkey (task_id) ref task (id)	

Constraints

Name	Definition
progress_status_check	((status)::text = ANY ((ARRAY['not_started'::character varying, 'in_progress'::character varying, 'completed'::character varying])::text[]))

Table recommendation

Idx	Name	Data Type
* Pk	id	serial
	user_id	integer
	task_id	integer
*	recommendation_dt	timestamp

Table recommendation

Indexes

Type	Name	On
Pk	recommendation_pkey	id

Foreign Keys

Type	Name	On
	recommendation_user_id_fkey (user_id) ref User (id)	
	recommendation_task_id_fkey (task_id) ref task (id)	

Table task

Idx	Name	Data Type
* Pk	id	serial
*	title	varchar(255)
*	description	text
*	difficulty	varchar(10)
	theory_id	integer

Indexes

Type	Name	On
Pk	task_pkey	id

Foreign Keys

Type	Name	On
	task_theory_id_fkey (theory_id) ref theory (id)	

Constraints

Name	Definition
task_difficulty_check	((difficulty)::text = ANY ((ARRAY['easy'::character varying, 'medium'::character varying, 'hard'::character varying])::text[]))

Table theory

Idx	Name	Data Type
* Pk	id	serial
*	title	varchar(255)
*	content	text
	video_url	varchar(255)

Indexes

Type	Name	On
Pk	theory_pkey	id

Table usertask

Idx	Name	Data Type
* Pk	id	serial
	user_id	integer
	task_id	integer
*	completion_dt	timestamp
	is_correct	boolean
	hints_used	integer

Indexes

Type	Name	On
Pk	usertask_pkey	id

Foreign Keys

Table usertask

Type	Name	On
	usertask_user_id_fkey (user_id) ref User (id)	
	usertask_task_id_fkey (task_id) ref task (id)	