**time-constrained-professional-schema**

erDiagram

%% Core Entities

professional\_profiles {

UUID profile\_id PK "User profile"

UUID user\_id "Links to external user"

VARCHAR full\_name "User's full name"

JSONB skill\_gap\_priorities "Skills needed for career advancement"

INTEGER preferred\_session\_duration "Micro-learning preference"

DECIMAL average\_session\_efficiency "Actual learning efficiency"

}

professional\_skills {

UUID skill\_id PK "Unique skill ID"

VARCHAR skill\_name "Name of the skill"

workplace\_domain workplace\_domain "Domain, e.g., 'data\_analysis'"

INTEGER career\_impact\_score "1-10 impact score"

}

professional\_ai\_avatars {

UUID avatar\_id PK "AI mentor ID"

VARCHAR avatar\_name "Avatar's display name"

professional\_avatar\_role primary\_role "e.g., 'efficiency\_coach'"

INTEGER communication\_efficiency "1-10 conciseness score"

}

%% Curriculum Structure

professional\_curricula {

UUID curriculum\_id PK "Main curriculum ID"

VARCHAR title "Curriculum title"

INTEGER total\_duration\_weeks "Accelerated program length"

DECIMAL workplace\_application\_rate "Target application rate"

}

professional\_modules {

UUID module\_id PK "Module ID"

UUID curriculum\_id FK "Parent curriculum"

VARCHAR title "Module title"

INTEGER module\_number "Order in curriculum"

JSONB workplace\_applications "Scenarios"

}

professional\_components {

UUID component\_id PK "Component ID"

UUID module\_id FK "Parent module"

VARCHAR title "Component title"

INTEGER estimated\_duration\_minutes "Micro-learning duration"

}

professional\_topics {

UUID topic\_id PK "Topic ID"

UUID component\_id FK "Parent component"

VARCHAR title "Topic title"

INTEGER estimated\_duration\_minutes "Bite-sized duration"

}

professional\_learning\_units {

UUID unit\_id PK "Learning unit ID"

UUID topic\_id FK "Parent topic"

VARCHAR title "Unit title"

UUID primary\_skill FK "Skill reinforced"

BOOLEAN offline\_capable "Offline mode support"

}

%% Content, Assessments, and Progress

professional\_content {

UUID content\_id PK "Content ID"

UUID unit\_id FK "Associated learning unit"

delivery\_format format "e.g., 'micro\_video'"

TEXT content\_html "Content for mobile display"

BOOLEAN mobile\_data\_friendly "Optimized for mobile"

}

professional\_assessments {

UUID assessment\_id PK "Assessment ID"

UUID unit\_id FK "Parent unit"

assessment\_format assessment\_type "e.g., 'quick\_quiz'"

INTEGER estimated\_duration\_minutes "Short duration"

}

workplace\_projects {

UUID project\_id PK "Project ID"

UUID user\_id FK "User who completed it"

UUID[] skills\_applied FK "Skills used in project"

workplace\_domain workplace\_domain "Project domain"

}

professional\_progress {

UUID progress\_id PK "Progress tracking ID"

UUID user\_id FK "Associated user"

UUID unit\_id FK "Associated unit"

professional\_progress status "e.g., 'applying\_at\_work'"

DECIMAL efficiency\_score "Efficiency metric"

}

professional\_skill\_development {

UUID development\_id PK "Skill development ID"

UUID user\_id FK "Associated user"

UUID skill\_id FK "Skill being developed"

proficiency\_level current\_proficiency "e.g., 'proficient'"

}

learning\_sessions {

UUID session\_id PK "Session ID"

UUID user\_id FK "User who attended"

TIMESTAMPTZ started\_at "Session start time"

INTEGER actual\_duration\_minutes "Actual duration"

INTEGER interruptions\_count "Number of interruptions"

}

workplace\_applications {

UUID application\_id PK "Application ID"

UUID user\_id FK "User who applied it"

UUID[] skills\_used "Skills applied at work"

DECIMAL productivity\_gain\_percentage "Measured impact"

}

%% Analytics & Intelligence

professional\_content\_embeddings {

UUID embedding\_id PK "Embedding ID"

UUID content\_id FK "Content source"

vector content\_vector "Vector for search"

vector workplace\_context\_vector "Workplace context vector"

}

professional\_learning\_analytics {

UUID analytics\_id PK "Analytics entry"

UUID user\_id FK "Associated user"

DATE analysis\_date "Date of analysis"

DECIMAL learning\_efficiency\_rate "Efficiency metric"

}

professional\_development\_roi {

UUID roi\_id PK "ROI entry"

UUID user\_id FK "Associated user"

DECIMAL net\_roi\_percentage "Net ROI percentage"

}

%% Defining relationships

professional\_profiles ||--o{ learning\_sessions : attends

professional\_profiles ||--o{ professional\_progress : tracks\_progress\_in

professional\_profiles ||--o{ professional\_skill\_development : develops

professional\_profiles ||--o{ workplace\_applications : applies\_skills\_in

professional\_curricula ||--o{ professional\_modules : contains

professional\_modules ||--o{ professional\_components : contains

professional\_components ||--o{ professional\_topics : contains

professional\_topics ||--o{ professional\_learning\_units : contains

professional\_learning\_units ||--o{ professional\_content : has

professional\_learning\_units ||--o{ professional\_assessments : tests

professional\_learning\_units }|--o{ professional\_progress : is\_tracked\_in

professional\_skills ||--o{ professional\_learning\_units : reinforces

professional\_skills ||--o{ professional\_skill\_development : is\_developed\_by

professional\_skills ||--o{ workplace\_applications : is\_used\_in

professional\_content ||--o{ professional\_content\_embeddings : is\_embedded\_for

professional\_ai\_avatars ||--o{ professional\_content : provides\_guidance\_on

professional\_assessments ||--o{ workplace\_projects : results\_in

professional\_learning\_analytics ||--o{ professional\_profiles : analyzes

professional\_development\_roi ||--o{ professional\_profiles : calculates\_for