# University Magazine Database Documentation

## Database Overview

This database manages student contributions to a university magazine system with role-based access control. The system tracks submissions across faculties, user roles, comments, and system settings.

## Tables

### Users

|  |  |  |
| --- | --- | --- |
| **Column** | **Type** | **Description** |
| user\_id | serial | Primary key |
| first\_name | character varying(50) | User's first name |
| last\_name | character varying(50) | User's last name |
| email | character varying(100) | User's unique email address |
| password | character varying(255) | Hashed password |
| role\_id | integer | Reference to role (FK) |
| faculty\_id | character varying(10) | Reference to faculty (FK) |
| created\_at | timestamp | Account creation timestamp |
| last\_login | timestamp | Last login timestamp |

### Roles

|  |  |  |
| --- | --- | --- |
| **Column** | **Type** | **Description** |
| role\_id | serial | Primary key |
| role\_name | character varying(100) | Name of the role |
| description | text | Role description |

### Faculties

|  |  |  |
| --- | --- | --- |
| **Column** | **Type** | **Description** |
| faculty\_id | character varying(10) | Primary key (e.g., 'ARTS&HUM') |
| faculty\_name | character varying(100) | Display name of the faculty |
| description | text | Faculty description |

### Submissions

|  |  |  |
| --- | --- | --- |
| **Column** | **Type** | **Description** |
| submission\_id | serial | Primary key |
| user\_id | integer | Student who submitted (FK) |
| title | character varying(200) | Submission title |
| description | text | Submission description |
| file\_path | character varying(255) | Path to uploaded file |
| submitted\_at | timestamp | Submission timestamp |
| status | character varying(20) | Status (Submitted, Rejected) |
| terms\_accepted | boolean | Terms acceptance flag |
| academic\_year | character varying(10) | Academic year (e.g., "2024-2025") |
| selected | boolean | Selection status |
| faculty\_id | character varying(10) | Faculty ID |

### Comments

|  |  |  |
| --- | --- | --- |
| **Column** | **Type** | **Description** |
| comment\_id | serial | Primary key |
| submission\_id | integer | Related submission (FK) |
| user\_id | integer | Comment author (FK) |
| comment\_text | text | Comment content |
| comment\_at | timestamp | Comment timestamp |
| is\_read | boolean | Read status flag |

### Logs

|  |  |  |
| --- | --- | --- |
| **Column** | **Type** | **Description** |
| log\_id | serial | Primary key |
| user\_id | integer | User who triggered action (FK) |
| action\_type | character varying(50) | Action performed |
| log\_timestamp | timestamp | When action occurred |

### AcademicSettings

|  |  |  |
| --- | --- | --- |
| **Column** | **Type** | **Description** |
| setting\_id | serial | Primary key |
| academic\_year | character varying(10) | Academic year |
| submission\_deadline | date | Deadline for submissions |
| final\_edit\_deadline | date | Deadline for final edits |

### PageStatistics

|  |  |  |
| --- | --- | --- |
| **Column** | **Type** | **Description** |
| stat\_id | serial | Primary key |
| page\_name | character varying(100) | Page name/URL |
| view\_count | integer | Number of views |
| last\_viewed | timestamp | Last view timestamp |

### ActivityLogs

|  |  |  |
| --- | --- | --- |
| **Column** | **Type** | **Description** |
| log\_id | serial | Primary key |
| user\_id | integer | User ID (FK) |
| action\_type | character varying(50) | Action performed |
| action\_details | text | Action details |
| timestamp | timestamp | When action occurred |

## Key Relationships

* Users belong to Roles and Faculties (many-to-one)
* Submissions are created by Users (many-to-one)
* Comments are made on Submissions by Users (many-to-one)
* Logs track User actions (many-to-one)

## Row-Level Security Policies

* **student\_submission\_policy**: Limits student access to their own submissions
* **faculty\_coordinator\_policy**: Allows faculty coordinators to view submissions from their faculty

## Special Functions

* **current\_user\_id()**: Returns the current user's ID for policy enforcement
* **current\_user\_faculty\_id()**: Returns the current user's faculty ID for policy enforcement

## Access Control

* Administrators (role\_id=1): Full system access
* Marketing Managers (role\_id=2): University-wide submission overview
* Marketing Coordinators (role\_id=3): Faculty-specific submission management
* Students (role\_id=4): Can submit and view their own contributions

# University Magazine Portal Database Documentation

## Overview

This database supports the University Magazine Portal system, providing role-based access control for collecting, reviewing, and publishing student contributions to the annual university magazine.

## Database Tables

### Users

--------------------- ---------------- ---------- -------- ---------- ---------------------------------------------

Field Name Description Data Type Length Required Example

--------------------- ---------------- ---------- -------- ---------- ---------------------------------------------

user\_id Unique SERIAL - Yes (PK) 145623

identifier for

each user

first\_name User's first VARCHAR 50 Yes "Forest"

name

last\_name User's last VARCHAR 50 Yes "Gump"

name

email User's email VARCHAR 100 Yes (UQ) "forest@university.edu"

address (unique)

password Hashed password VARCHAR 255 Yes "47\*42/67fg19919"

for

authentication

role\_id User's role in VARCHAR 10 Yes (FK) "ADMIN", "MNGR", "COORD", "STUDT"

the system

faculty\_id User's associated VARCHAR 10 No (FK) "ARTS&HUM", "BUS", "COMPSCI"

faculty

created\_at Account creation TIMESTAMP - Yes "2025-06-11 02:58:35"

timestamp

last\_login Last login TIMESTAMP - No "2025-06-23 14:25:47"

timestamp

### Roles

--------------------- ---------------- ---------- -------- ---------- ---------------------------------------------

Field Name Description Data Type Length Required Example

--------------------- ---------------- ---------- -------- ---------- ---------------------------------------------

role\_id Unique role VARCHAR 10 Yes (PK) "ADMIN", "MNGR", "COORD", "STUDT"

identifier

role\_name Name of the VARCHAR 100 Yes "Administrator", "Marketing Manager"

role

description Description of TEXT - Yes "System administrator with full access"

role

### Faculties

--------------------- ---------------- ---------- -------- ---------- ---------------------------------------------

Field Name Description Data Type Length Required Example

--------------------- ---------------- ---------- -------- ---------- ---------------------------------------------

faculty\_id Unique faculty VARCHAR 10 Yes (PK) "ARTS&HUM", "BUS", "COMPSCI"

identifier

faculty\_name Name of the VARCHAR 100 Yes "Arts & Humanities", "Business"

faculty

description Faculty TEXT - No "Faculty of Arts and Humanities"

description

### Submissions

--------------------- ---------------- ---------- -------- ---------- ---------------------------------------------

Field Name Description Data Type Length Required Example

--------------------- ---------------- ---------- -------- ---------- ---------------------------------------------

submission\_id Unique SERIAL - Yes (PK) 4568

submission

identifier

user\_id Student who INTEGER - Yes (FK) 145693

submitted

title Title of the VARCHAR 200 Yes "Ethical Studies In IT"

submission

description Brief summary of TEXT - No "A study on Ethics in Information Technology"

the submission

file\_path Path to file VARCHAR 255 Yes "/documents/research\_papers/it\_ethics.docx"

submitted\_at Timestamp of TIMESTAMP - Yes "2025-06-11 02:58:35"

submission

status Current status VARCHAR 20 Yes "Submitted", "Rejected"

of submission

terms\_accepted Whether terms BOOLEAN - Yes TRUE

were accepted

academic\_year Academic year of VARCHAR 10 Yes "2024-2025"

submission

selected Whether the BOOLEAN - Yes FALSE

submission was

selected

### Comments

--------------------- ---------------- ---------- -------- ---------- ---------------------------------------------

Field Name Description Data Type Length Required Example

--------------------- ---------------- ---------- -------- ---------- ---------------------------------------------

comment\_id Unique comment SERIAL - Yes (PK) 3757

identifier

submission\_id Linked INTEGER - Yes (FK) 9265

submission

user\_id Commenter's INTEGER - Yes (FK) 1053

identifier

comment\_text Text in comment TEXT - Yes "That was an unexpected approach to the topic"

comment\_at Timestamp of TIMESTAMP - Yes "2026-03-21 12:59:21"

comment

is\_read Whether comment BOOLEAN - No TRUE

has been read

### Logs

--------------------- ---------------- ---------- -------- ---------- ---------------------------------------------

Field Name Description Data Type Length Required Example

--------------------- ---------------- ---------- -------- ---------- ---------------------------------------------

log\_id Unique log SERIAL - Yes (PK) 4782

identifier

user\_id User who INTEGER - Yes (FK) 146236

triggered the

action

action\_type Type of action VARCHAR 50 Yes "Submitted", "Commented"

performed

log\_timestamp When the action TIMESTAMP - Yes "2025-07-16 16:25:47"

occurred

### AcademicSettings

--------------------- ---------------- ---------- -------- ---------- ---------------------------------------------

Field Name Description Data Type Length Required Example

--------------------- ---------------- ---------- -------- ---------- ---------------------------------------------

setting\_id Unique settings SERIAL - Yes (PK) 1

identifier

academic\_year Academic year VARCHAR 10 Yes "2025-2026"

submission\_deadline Deadline for DATE - Yes "2025-05-25"

submission

final\_edit\_deadline Deadline for DATE - Yes "2025-06-23"

final edits

### Admissions

--------------------- ---------------- ---------- -------- ---------- ---------------------------------------------

Field Name Description Data Type Length Required Example

--------------------- ---------------- ---------- -------- ---------- ---------------------------------------------

admission\_id Unique admission SERIAL - Yes (PK) 1546

record identifier

user\_id User who made INTEGER - Yes (FK) 486213

admission

admission\_status Current status VARCHAR 20 Yes "Pending", "Approved"

of application

admission\_date Date when the DATE - Yes "2025-06-23"

application was

submitted

### PageStatistics

--------------------- ---------------- ---------- -------- ---------- ---------------------------------------------

Field Name Description Data Type Length Required Example

--------------------- ---------------- ---------- -------- ---------- ---------------------------------------------

stat\_id Unique statistic SERIAL - Yes (PK) 1

identifier

page\_name Name of the page VARCHAR 100 Yes "/dashboard", "/submissions"

or URL path

view\_count Number of views INTEGER - Yes 1245

for the page

last\_viewed Last view TIMESTAMP - Yes "2025-07-16 16:25:47"

timestamp

### UserBrowserStats

--------------------- ---------------- ---------- -------- ---------- ---------------------------------------------

Field Name Description Data Type Length Required Example

--------------------- ---------------- ---------- -------- ---------- ---------------------------------------------

stat\_id Unique statistic SERIAL - Yes (PK) 1

identifier

browser\_name Name of browser VARCHAR 50 Yes "Chrome", "Firefox"

used

browser\_version Version of VARCHAR 50 No "100.0.4896.75"

browser

user\_count Count of users INTEGER - Yes 1245

using browser

last\_updated Last update TIMESTAMP - Yes "2025-07-16 16:25:47"

timestamp

## Row-Level Security Policies

### student\_submission\_policy

- \*\*Table\*\*: submissions

- \*\*Effect\*\*: Restricts students to viewing only their own submissions

- \*\*Condition\*\*: `user\_id = current\_user\_id()`

### faculty\_coordinator\_policy

- \*\*Table\*\*: submissions

- \*\*Effect\*\*: Restricts faculty coordinators to viewing submissions from their faculty

- \*\*Condition\*\*: `faculty\_id = current\_user\_faculty\_id()`

### admin\_role\_policy

- \*\*Table\*\*: submissions

- \*\*Effect\*\*: Provides administrators with access to all submissions

- \*\*Condition\*\*: `current\_user\_role\_id() = 'ADMIN'`

## Key Functions

### current\_user\_id()

- \*\*Return Type\*\*: INTEGER

- \*\*Description\*\*: Returns the ID of the currently authenticated user

- \*\*Usage\*\*: Used in row-level security policies to enforce user-specific access

### current\_user\_faculty\_id()

- \*\*Return Type\*\*: VARCHAR(10)

- \*\*Description\*\*: Returns the faculty ID of the currently authenticated user

- \*\*Usage\*\*: Used in row-level security policies to enforce faculty-specific access

### current\_user\_role\_id()

- \*\*Return Type\*\*: VARCHAR(10)

- \*\*Description\*\*: Returns the role ID of the currently authenticated user

- \*\*Usage\*\*: Used in row-level security policies to enforce role-based access

## Key Relationships

- Users belong to Roles (Many-to-One)

- Users belong to Faculties (Many-to-One)

- Submissions are created by Users (Many-to-One)

- Comments are linked to Submissions (Many-to-One)

- Comments are created by Users (Many-to-One)

- Logs are generated by Users (Many-to-One)

## Role-Based Access

1. \*\*Administrator\*\* (role\_id = "ADMIN")

- Full system access

- Manage users, roles, and system settings

- Access all submissions and analytics

2. \*\*Marketing Manager\*\* (role\_id = "MNGR")

- View all selected submissions

- Download submissions for publication

- View statistics and analytics

- Cannot edit submissions

3. \*\*Marketing Coordinator\*\* (role\_id = "COORD")

- Access submissions from their faculty only

- Review, comment on, and select submissions

- Interact with students in their faculty

4. \*\*Student\*\* (role\_id = "STUDT")

- Submit articles and images

- View and edit their own submissions

- Must agree to terms and conditions

## Database Views

### vw\_submissions\_detail

- Provides detailed submission information with author and faculty details

- Includes role information and comment count per submission

### vw\_faculty\_statistics

- Provides aggregate statistics for each faculty

- Includes student count, submission count, and selection rate

## Indexes

- Primary key indexes on all tables

- Foreign key indexes for user\_id, faculty\_id, submission\_id, role\_id

- Index on email column in Users table for faster lookups

## Constraints

- Primary key constraint on role\_id in Roles table

- Foreign key constraint on role\_id in Users table (references Roles)

- Foreign key constraint on faculty\_id in Users table (references Faculties)

- Unique constraint on email in Users table

- Check constraint on status in Submissions table (must be 'Submitted' or 'Rejected')

## Role and Faculty Mappings

### Role ID Mappings

- 'ADMIN' = Administrator

- 'MNGR' = Marketing Manager

- 'COORD' = Marketing Coordinator

- 'STUDT' = Student

### Faculty ID Mappings

- 'ARTS&HUM' = Arts & Humanities

- 'BUS' = Business

- 'COMPSCI' = Computer Science

- 'EDU' = Education

- 'ENG' = Engineering

- 'HEALTHSCI' = Health Sciences

- 'LAW' = Law

- 'SCI' = Science

- 'SOCSCI' = Social Sciences