https://gemini.google.com/u/1/app/5b5f3092ace62463

Production-Ready Specification: public.article\_media Table

Version: 1.0 (Checklist REV 05-18-25-A Applied)

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1\. Purpose & Primary Use-Cases

Mission Statement: To link articles in public.articles with media items from public.media, enabling the inclusion of multiple images or other media within an article (e.g., for galleries or specific inline placements). Each link specifies the role of the media in the article context, its display order, and allows for overriding default captions or alt text. This table is part of Module 8 (Platform Content).

2\. Schema

| Column | Data Type | Constraints | Description |

| `id` | `BIGINT` | `PRIMARY KEY, GENERATED ALWAYS AS IDENTITY` | Unique identifier for the article-media link. |

| `article\_id` | `BIGINT` | `NOT NULL, REFERENCES public.articles(id) ON DELETE CASCADE ON UPDATE CASCADE` | Foreign key to `public.articles`. If article is deleted, this link is removed. |

| `media\_id` | `UUID` | `NOT NULL, REFERENCES public.media(id) ON DELETE RESTRICT ON UPDATE CASCADE` | Foreign key to `public.media`. Prevents media deletion if linked. |

| `media\_role\_code` | `TEXT` | `NOT NULL, REFERENCES public.media\_roles\_master(role\_code) ON DELETE RESTRICT ON UPDATE CASCADE` | Role of this media within the article context (e.g., `gallery\_image`, `inline\_image`), FK to `public.media\_roles\_master`. Prevents role deletion if used. |

| `display\_order` | `INTEGER` | `NOT NULL, DEFAULT 1, CHECK (display\_order > 0)` | Order of appearance for media items, typically within the same `article\_id` and `media\_role\_code`. |

| `caption\_override` | `TEXT` | `NULLABLE, CHECK (caption\_override IS NULL OR char\_length(caption\_override) <= 500)` | Optional override for the media's default caption, specific to this article context. Max 500 chars. (Translatable via `public.translations`) |

| `alt\_text\_override` | `TEXT` | `NULLABLE, CHECK (alt\_text\_override IS NULL OR char\_length(alt\_text\_override) <= 255)` | Optional override for the media's default alt text, specific to this article context. Max 255 chars. (Translatable via `public.translations`) |

| `created\_at` | `TIMESTAMPTZ` | `NOT NULL, DEFAULT now()` | Timestamp of when this link was created. |

| `updated\_at` | `TIMESTAMPTZ` | `NOT NULL, DEFAULT now()` | Timestamp of when this link was last updated (auto-updated). |

| `created\_by\_profile\_id` | `UUID` | `NULLABLE, REFERENCES public.profiles(id) ON DELETE SET NULL ON UPDATE NO ACTION` | Profile ID of the user who created this link. |

| `updated\_by\_profile\_id` | `UUID` | `NULLABLE, REFERENCES public.profiles(id) ON DELETE SET NULL ON UPDATE NO ACTION` | Profile ID of the user who last updated this link. |

3\. PostgreSQL DDL

SQL

```

CREATE TABLE public.article\_media (

id BIGINT PRIMARY KEY GENERATED ALWAYS AS IDENTITY,

article\_id BIGINT NOT NULL REFERENCES public.articles(id) ON DELETE CASCADE ON UPDATE CASCADE,

media\_id UUID NOT NULL REFERENCES public.media(id) ON DELETE RESTRICT ON UPDATE CASCADE,

media\_role\_code TEXT NOT NULL REFERENCES public.media\_roles\_master(role\_code) ON DELETE RESTRICT ON UPDATE CASCADE,

display\_order INTEGER NOT NULL DEFAULT 1,

caption\_override TEXT NULL,

alt\_text\_override TEXT NULL,

created\_at TIMESTAMPTZ NOT NULL DEFAULT now(),

updated\_at TIMESTAMPTZ NOT NULL DEFAULT now(),

created\_by\_profile\_id UUID NULL REFERENCES public.profiles(id) ON DELETE SET NULL ON UPDATE NO ACTION,

updated\_by\_profile\_id UUID NULL REFERENCES public.profiles(id) ON DELETE SET NULL ON UPDATE NO ACTION,

CONSTRAINT check\_article\_media\_display\_order\_positive CHECK (display\_order > 0),

CONSTRAINT check\_article\_media\_caption\_override\_length CHECK (caption\_override IS NULL OR char\_length(caption\_override) <= 500),

CONSTRAINT check\_article\_media\_alt\_text\_override\_length CHECK (alt\_text\_override IS NULL OR char\_length(alt\_text\_override) <= 255),

CONSTRAINT uq\_article\_media\_link UNIQUE (article\_id, media\_id, media\_role\_code) -- Prevents linking the same media in the same role multiple times for one article.

-- Consider UNIQUE (article\_id, media\_role\_code, display\_order) if order must be unique per role. App logic often handles order.

);

-- Indexes

CREATE INDEX idx\_article\_media\_article\_id ON public.article\_media (article\_id);

CREATE INDEX idx\_article\_media\_media\_id ON public.article\_media (media\_id);

CREATE INDEX idx\_article\_media\_media\_role\_code ON public.article\_media (media\_role\_code);

CREATE INDEX idx\_article\_media\_article\_role\_order ON public.article\_media (article\_id, media\_role\_code, display\_order);

CREATE INDEX idx\_article\_media\_created\_by\_profile\_id ON public.article\_media (created\_by\_profile\_id) WHERE created\_by\_profile\_id IS NOT NULL;

CREATE INDEX idx\_article\_media\_updated\_by\_profile\_id ON public.article\_media (updated\_by\_profile\_id) WHERE updated\_by\_profile\_id IS NOT NULL;

-- Comments

COMMENT ON TABLE public.article\_media IS 'Links articles to media items, defining the role, order, and providing translatable text overrides. Module 8. Version 1.0.';

COMMENT ON COLUMN public.article\_media.id IS 'PK. Unique identifier for the article-media link.';

COMMENT ON COLUMN public.article\_media.article\_id IS 'FK to public.articles.id. Identifies the article. ON DELETE CASCADE.';

COMMENT ON COLUMN public.article\_media.media\_id IS 'FK to public.media.id. Identifies the media item. ON DELETE RESTRICT.';

COMMENT ON COLUMN public.article\_media.media\_role\_code IS 'FK to public.media\_roles\_master.role\_code. Role of this media within the article. ON DELETE RESTRICT.';

COMMENT ON COLUMN public.article\_media.display\_order IS 'Order of appearance for media items, typically within the same article\_id and media\_role\_code. Default 1.';

COMMENT ON COLUMN public.article\_media.caption\_override IS 'Optional override for the media''s default caption, specific to this article context. Max 500 chars. (Translatable via public.translations)';

COMMENT ON COLUMN public.article\_media.alt\_text\_override IS 'Optional override for the media''s default alt text, specific to this article context. Max 255 chars. (Translatable via public.translations)';

COMMENT ON COLUMN public.article\_media.created\_at IS 'Timestamp of when this link was created.';

COMMENT ON COLUMN public.article\_media.updated\_at IS 'Timestamp of when this link was last updated (auto-updated by trigger).';

COMMENT ON COLUMN public.article\_media.created\_by\_profile\_id IS 'Profile ID of the user who created this link. FK to profiles.id. ON DELETE SET NULL, ON UPDATE NO ACTION.';

COMMENT ON COLUMN public.article\_media.updated\_by\_profile\_id IS 'Profile ID of the user who last updated this link. FK to profiles.id. ON DELETE SET NULL, ON UPDATE NO ACTION.';

COMMENT ON CONSTRAINT uq\_article\_media\_link ON public.article\_media IS 'Ensures a specific media item is not linked with the same role multiple times to the same article.';

```

4\. Triggers/Functions

SQL

```

-- Trigger for general updated\_at timestamp

CREATE TRIGGER handle\_article\_media\_updated\_at

BEFORE UPDATE ON public.article\_media

FOR EACH ROW

EXECUTE FUNCTION extensions.moddatetime('updated\_at');

COMMENT ON TRIGGER handle\_article\_media\_updated\_at ON public.article\_media IS 'Automatically updates the updated\_at timestamp whenever a row is modified.';

-- Trigger function to clean up related translations on delete

CREATE OR REPLACE FUNCTION public.cleanup\_article\_media\_translations()

RETURNS TRIGGER AS $$

BEGIN

IF TG\_OP = 'DELETE' THEN

DELETE FROM public.translations

WHERE table\_identifier = 'article\_media'

AND column\_identifier IN ('caption\_override', 'alt\_text\_override') -- Specify translatable columns

AND row\_foreign\_key = OLD.id::text; -- Using the surrogate PK of article\_media

END IF;

RETURN OLD;

END;

$$ LANGUAGE plpgsql SECURITY DEFINER;

COMMENT ON FUNCTION public.cleanup\_article\_media\_translations() IS 'Removes related entries from public.translations for caption\_override and alt\_text\_override when an article\_media link is deleted. Runs as SECURITY DEFINER. Ensure search\_path is secure.';

-- Apply the cleanup trigger for translations

CREATE TRIGGER trigger\_cleanup\_article\_media\_translations\_after\_delete

AFTER DELETE ON public.article\_media

FOR EACH ROW

EXECUTE FUNCTION public.cleanup\_article\_media\_translations();

COMMENT ON TRIGGER trigger\_cleanup\_article\_media\_translations\_after\_delete ON public.article\_media IS 'After an article\_media link is deleted, removes its associated translations for overrides from the public.translations table.';

```

5\. JSON Schema Mirror

JSON

```

{

"title": "article\_media",

"description": "Links articles to media items, defining the role, order, and providing translatable text overrides for captions and alt text. Module 8. Version 1.0.",

"type": "object",

"properties": {

"id": {

"type": "integer",

"format": "int64",

"description": "PK. Unique identifier for the article-media link.",

"readOnly": true

},

"article\_id": {

"type": "integer",

"format": "int64",

"description": "FK to public.articles.id. Identifies the article."

},

"media\_id": {

"type": "string",

"format": "uuid",

"description": "FK to public.media.id. Identifies the media item."

},

"media\_role\_code": {

"type": "string",

"description": "FK to public.media\_roles\_master.role\_code. Role of this media within the article."

},

"display\_order": {

"type": "integer",

"default": 1,

"minimum": 1,

"description": "Order of appearance for media items."

},

"caption\_override": {

"type": ["string", "null"],

"maxLength": 500,

"description": "Optional override for the media's default caption. Max 500 chars. (Translatable via public.translations)"

},

"alt\_text\_override": {

"type": ["string", "null"],

"maxLength": 255,

"description": "Optional override for the media's default alt text. Max 255 chars. (Translatable via public.translations)"

},

"created\_at": {

"type": "string",

"format": "date-time",

"description": "Timestamp of when this link was created.",

"readOnly": true

},

"updated\_at": {

"type": "string",

"format": "date-time",

"description": "Timestamp of when this link was last updated.",

"readOnly": true

},

"created\_by\_profile\_id": {

"type": ["string", "null"],

"format": "uuid",

"description": "Profile ID of the user who created this link. FK to public.profiles."

},

"updated\_by\_profile\_id": {

"type": ["string", "null"],

"format": "uuid",

"description": "Profile ID of the user who last updated this link. FK to public.profiles."

}

},

"required": [

"article\_id",

"media\_id",

"media\_role\_code",

"display\_order"

],

"primary\_key": ["id"],

"unique\_constraints": [

{"columns": ["article\_id", "media\_id", "media\_role\_code"], "name": "uq\_article\_media\_link"}

],

"foreign\_keys": [

{"columns": ["article\_id"], "references\_table": "public.articles", "references\_columns": ["id"], "on\_delete": "CASCADE", "on\_update": "CASCADE"},

{"columns": ["media\_id"], "references\_table": "public.media", "references\_columns": ["id"], "on\_delete": "RESTRICT", "on\_update": "CASCADE"},

{"columns": ["media\_role\_code"], "references\_table": "public.media\_roles\_master", "references\_columns": ["role\_code"], "on\_delete": "RESTRICT", "on\_update": "CASCADE"},

{"columns": ["created\_by\_profile\_id"], "references\_table": "public.profiles", "references\_columns": ["id"], "on\_delete": "SET NULL", "on\_update": "NO ACTION"},

{"columns": ["updated\_by\_profile\_id"], "references\_table": "public.profiles", "references\_columns": ["id"], "on\_delete": "SET NULL", "on\_update": "NO ACTION"}

]

}

```

6\. Relationships & Integrity

- Primary Key: `id` (BIGINT).

- Foreign Keys:

- `article\_id` references `public.articles(id) ON DELETE CASCADE ON UPDATE CASCADE`.

- `media\_id` references `public.media(id) ON DELETE RESTRICT ON UPDATE CASCADE`.

- `media\_role\_code` references `public.media\_roles\_master(role\_code) ON DELETE RESTRICT ON UPDATE CASCADE`.

- `created\_by\_profile\_id` references `public.profiles(id) ON DELETE SET NULL ON UPDATE NO ACTION`.

- `updated\_by\_profile\_id` references `public.profiles(id) ON DELETE SET NULL ON UPDATE NO ACTION`.

- Unique Constraint: `uq\_article\_media\_link` on `(article\_id, media\_id, media\_role\_code)` prevents duplicate linking of the same media with the same role to an article.

- Mermaid ER Snippet:

Code snippet

```

erDiagram

articles ||--|{ article\_media : "has\_media\_via"

media ||--|{ article\_media : "linked\_to\_article\_via"

media\_roles\_master ||--|{ article\_media : "defines\_role\_for\_link"

profiles ||--o{ article\_media : "audit\_created\_by"

profiles ||--o{ article\_media : "audit\_updated\_by"

article\_media {

BIGINT id PK

BIGINT article\_id FK

UUID media\_id FK

TEXT media\_role\_code FK

INTEGER display\_order

TEXT caption\_override "Translatable"

TEXT alt\_text\_override "Translatable"

UUID created\_by\_profile\_id FK

UUID updated\_by\_profile\_id FK

TIMESTAMPTZ created\_at

TIMESTAMPTZ updated\_at

UQ "article\_id, media\_id, media\_role\_code"

}

```

7\. Multilingual Strategy

- Translatable Fields: `caption\_override` and `alt\_text\_override` allow context-specific translations for linked media. These store primary reference language text directly.

- Translated versions are stored in `public.translations` linked by `table\_identifier = 'article\_media'`, `column\_identifier` (e.g., 'caption\_override'), and `row\_foreign\_key = article\_media.id::text`.

- An `AFTER DELETE` trigger (`trigger\_cleanup\_article\_media\_translations\_after\_delete`) ensures orphaned translations for these overrides are removed.

8\. Role-Based Workflow & RLS Notes

- Key Fields: `article\_id` (for relating to parent RLS), `created\_by\_profile\_id`.

- RLS Policies:

- Enable RLS: `ALTER TABLE public.article\_media ENABLE ROW LEVEL SECURITY;`

- Force RLS for table owners: `ALTER TABLE public.article\_media FORCE ROW LEVEL SECURITY;`

- 🟢 Policy 1: Users can view media links associated with articles they can view. This often means checking the status of the parent article.

SQL

```

CREATE POLICY "Users can view media for viewable articles"

ON public.article\_media FOR SELECT

USING (

EXISTS (

SELECT 1 FROM public.articles a

WHERE a.id = article\_id AND a.article\_status = 'published'::public.content\_visibility\_status\_enum AND a.deleted\_at IS NULL

)

);

```

- 🟢 Policy 2: Users who can edit an article (e.g., author of draft, admin, regional manager for their content) can add, update, and delete media links for that article. \*(This requires a helper function or checking permissions on the parent `articles` table. For simplicity, a placeholder for checking parent article edit rights is used).\*

SQL

```

-- Assuming a function like public.can\_edit\_article(article\_id BIGINT) RETURNS BOOLEAN

CREATE POLICY "Users who can edit articles can manage their media links"

ON public.article\_media FOR ALL

USING ( public.can\_edit\_article(article\_id) ) -- Placeholder for actual permission check logic

WITH CHECK ( public.can\_edit\_article(article\_id) ); -- Placeholder

```

\*A more direct approach without a helper function might involve sub-selects or joins in the USING clause to check the `articles` table for ownership/role permissions, similar to the `articles` RLS policies.\*

9\. ENUM vs Lookup Discussion

- 🟢 `media\_role\_code` appropriately references the `media\_roles\_master` lookup table.

10\. UI/UX Enablement

- Columns powering UI: `media\_id` (to fetch media details), `media\_role\_code` (to understand context), `display\_order`, `caption\_override` (translated), `alt\_text\_override` (translated).

- Indexed Fields: PK, all FKs, and `(article\_id, media\_role\_code, display\_order)` for efficient querying of an article's media.

11\. Auditing & Lifecycle Management

- Audit Columns: `created\_at`, `updated\_at` (auto-managed). `created\_by\_profile\_id`, `updated\_by\_profile\_id`.

- Lifecycle: These linking records are typically created and deleted as part of managing the parent article's content. No separate `is\_active` or `deleted\_at` on this table itself; `ON DELETE CASCADE` from `articles` handles removal.

12\. Scalability & Future-Proofing

- Scalability: Standard linking table. Performance depends on indexing and volume of articles/media.

- Future-Proofing: Allows adding more media roles over time via `media\_roles\_master`.

13\. Seed Data

- ⚪ N/A - This table stores transactional linking data, not predefined master data requiring seeding.

14\. Next-Action Checklist

- 🔴 Dependency Note: Depends on `public.articles`, `public.media`, `public.media\_roles\_master`, and `public.profiles`. Ensure these are created first. The translation cleanup trigger depends on `public.translations`.

- 🔴 Create Table: Execute DDL for `public.article\_media`.

- 🔴 Create Indexes: Execute DDL for all defined indexes.

- 🔴 Implement Triggers:

- Apply `handle\_article\_media\_updated\_at` trigger.

- Create and apply `public.cleanup\_article\_media\_translations()` function and its trigger.

- 🔴 Implement RLS Policies: Define and apply RLS policies. This may require developing helper functions (e.g., `public.can\_edit\_article(article\_id BIGINT)`) or more complex `USING` clauses.

- 🟠 Application Logic: Develop application logic for managing (adding, removing, reordering) media within articles and handling the display of media based on its role and overrides.

- 🟠 Audit Field Population: Ensure `created\_by\_profile\_id` and `updated\_by\_profile\_id` are correctly populated by the application layer or appropriate RLS context.

\* \* \* \* \*