<https://gemini.google.com/u/1/app/f406710aca31cc25?is_sa=1&android-min-version=301356232&ios-min-version=322.0&campaign_id=bkws&utm_source=google&utm_medium=cpc&utm_campaign=2024enUS_gemfeb&pt=9008&mt=8&ct=p-growth-sem-bkws>

<https://gemini.google.com/u/1/app/e9ad14765a46eb05>

<https://gemini.google.com/u/1/app/951c86a3d09aaadb>

### 3\. Updated Production-Ready Specification

Target Table Name: public.warning\_severities\_master

Version: 2.1 (Checklist REV 05-18-25-A Applied)

Date: May 18, 2025

1. Purpose & Primary Use-Cases

- Mission Statement: Defines the standardized levels of seriousness for segment warnings, providing clear, translatable, visually distinct, sortable, and lifecycle-managed categories to inform pilgrims of the potential impact of an issue. Audit trails track administrative changes.

- Key User-Story Touchpoints:

- Pilgrim (Anna): Sees the translated warning severity (e.g., "High Hazard") and its associated color-coding.

- Regional Content Manager (Sofia): Selects an \*active\* warning severity from a predefined, ordered list.

- Platform Administrator (Admin Team): Manages warning severities, including codes, names, UI colors, sort order, active status, and audits changes.

2. Schema

| Column | Data Type | Constraints | Description |

| :------------------------ | :------------ | :--------------------------------------------------------------------------------------------------------- | :---------------------------------------------------------------------------------------------------------------------------------------- |

| id | integer | Primary Key, Generated always as identity | Unique identifier for the warning severity. |

| code | text | Not Null, Unique, CHECK (length(code) <= 100 AND code ~ '^[a-z0-9\_]+$') | Short, unique, machine-readable code (e.g., 'critical\_closed'). Max 100 chars. |

| display\_name | text | Not Null, CHECK (length(display\_name) <= 255) | Default display name in the primary reference language (English). (Translatable via public.translations). Max 255 chars. |

| description | text | Nullable | Optional longer description (English). (Translatable via public.translations). |

| ui\_color\_hex | text | Nullable, CHECK (ui\_color\_hex ~\* '^#[0-9A-Fa-f]{6}$' OR ui\_color\_hex IS NULL) | Hexadecimal color code (e.g., '#FF0000') for UI elements. |

| sort\_order | integer | Not Null, Default 0 | Defines display/priority order in UIs. |

| is\_active | boolean | Not Null, Default true | If true, severity is active and selectable. Set to false to retire. |

| notes | text | Nullable | Internal administrative notes. |

| created\_at | timestamptz | Not Null, Default now() | Timestamp of record creation. |

| updated\_at | timestamptz | Not Null, Default now() | Timestamp of last record update (auto-updated). |

| created\_by\_profile\_id | uuid | Nullable, Foreign Key to public.profiles(id) ON DELETE SET NULL | Profile ID of the admin who created the record. |

| updated\_by\_profile\_id | uuid | Nullable, Foreign Key to public.profiles(id) ON DELETE SET NULL | Profile ID of the admin who last updated the record. |

3. PostgreSQL DDL

SQL

```

CREATE TABLE public.warning\_severities\_master (

id integer GENERATED ALWAYS AS IDENTITY PRIMARY KEY,

code text NOT NULL UNIQUE CHECK (length(code) <= 100 AND code ~ '^[a-z0-9\_]+$'),

display\_name text NOT NULL CHECK (length(display\_name) <= 255),

description text NULL,

ui\_color\_hex text NULL CHECK (ui\_color\_hex ~\* '^#[0-9A-Fa-f]{6}$' OR ui\_color\_hex IS NULL),

sort\_order integer NOT NULL DEFAULT 0,

is\_active boolean NOT NULL DEFAULT true,

notes text NULL,

created\_at timestamptz NOT NULL DEFAULT now(),

updated\_at timestamptz NOT NULL DEFAULT now(),

created\_by\_profile\_id UUID REFERENCES public.profiles(id) ON DELETE SET NULL,

updated\_by\_profile\_id UUID REFERENCES public.profiles(id) ON DELETE SET NULL

);

COMMENT ON TABLE public.warning\_severities\_master IS 'Master list of predefined warning severities (e.g., Low, Medium, High, Critical), including active status, sort order, and audit fields. Replaces segment\_warning\_severity\_enum. Version 2.1.';

COMMENT ON COLUMN public.warning\_severities\_master.code IS 'PK (Informal). Short, unique, machine-readable code for the severity (e.g., ''high\_hazard''). Recommended: snake\_case, lowercase.';

COMMENT ON COLUMN public.warning\_severities\_master.display\_name IS 'Default display name in the primary reference language (English). (Translatable via public.translations).';

COMMENT ON COLUMN public.warning\_severities\_master.description IS 'Optional longer description in the primary reference language (English). (Translatable via public.translations).';

COMMENT ON COLUMN public.warning\_severities\_master.ui\_color\_hex IS 'Hexadecimal color code (e.g., ''#FF0000'') for UI elements associated with this severity.';

COMMENT ON COLUMN public.warning\_severities\_master.sort\_order IS 'Defines the order for display or prioritization (e.g., 0 for lowest, 100 for highest).';

COMMENT ON COLUMN public.warning\_severities\_master.is\_active IS 'Indicates if the severity level is active and available for selection (default true). Set to false to retire a severity level.';

COMMENT ON COLUMN public.warning\_severities\_master.notes IS 'Internal administrative notes about this warning severity.';

COMMENT ON COLUMN public.warning\_severities\_master.created\_at IS 'Timestamp of when this warning severity record was created.';

COMMENT ON COLUMN public.warning\_severities\_master.updated\_at IS 'Timestamp of when this warning severity record was last updated (auto-updated by trigger).';

COMMENT ON COLUMN public.warning\_severities\_master.created\_by\_profile\_id IS 'Profile ID of the administrator who created this warning severity. FK to public.profiles(id).';

COMMENT ON COLUMN public.warning\_severities\_master.updated\_by\_profile\_id IS 'Profile ID of the administrator who last updated this warning severity. FK to public.profiles(id).';

-- Indexes

CREATE INDEX ix\_warning\_severities\_master\_active\_sort\_order ON public.warning\_severities\_master (is\_active, sort\_order);

CREATE INDEX ix\_warning\_severities\_master\_created\_by\_profile\_id ON public.warning\_severities\_master (created\_by\_profile\_id) WHERE created\_by\_profile\_id IS NOT NULL;

CREATE INDEX ix\_warning\_severities\_master\_updated\_by\_profile\_id ON public.warning\_severities\_master (updated\_by\_profile\_id) WHERE updated\_by\_profile\_id IS NOT NULL;

```

4. Triggers/Functions

- `updated\_at` Trigger:

SQL

```

-- Assumes public.set\_current\_timestamp\_updated\_at() function is created globally.

CREATE TRIGGER set\_warning\_severities\_master\_updated\_at

BEFORE UPDATE ON public.warning\_severities\_master

FOR EACH ROW

EXECUTE FUNCTION public.set\_current\_timestamp\_updated\_at();

```

- Orphaned Translation Cleanup Trigger Function (Conceptual definition, to be created globally):

SQL

```

-- CREATE OR REPLACE FUNCTION public.cleanup\_related\_translations() ...

```

\*(Actual attachment in Next-Action Checklist)\*

5. JSON Schema Mirror

JSON

```

{

"title": "warning\_severity\_master",

"description": "Defines a level of severity for segment warnings, with code, display name, UI color, sort order, active status, and audit fields. Version 2.1.",

"type": "object",

"properties": {

"id": { "type": "integer", "description": "PK. Unique identifier.", "readOnly": true },

"code": { "type": "string", "description": "Unique machine-readable code (snake\_case).", "maxLength": 100, "pattern": "^[a-z0-9\_]+$" },

"display\_name": { "type": "string", "description": "Default display name (English). Translatable.", "maxLength": 255 },

"description": { "type": ["string", "null"], "description": "Optional description (English). Translatable." },

"ui\_color\_hex": { "type": ["string", "null"], "description": "Hex color code for UI.", "pattern": "^#[0-9A-Fa-f]{6}$" },

"sort\_order": { "type": "integer", "description": "UI display order.", "default": 0 },

"is\_active": { "type": "boolean", "description": "True if active and selectable.", "default": true },

"notes": { "type": ["string", "null"], "description": "Internal admin notes." },

"created\_at": { "type": "string", "format": "date-time", "description": "Creation timestamp.", "readOnly": true },

"updated\_at": { "type": "string", "format": "date-time", "description": "Last update timestamp.", "readOnly": true },

"created\_by\_profile\_id": { "type": ["string", "null"], "format": "uuid", "description": "Profile ID of creator." },

"updated\_by\_profile\_id": { "type": ["string", "null"], "format": "uuid", "description": "Profile ID of last updater." }

},

"required": [ "code", "display\_name", "sort\_order", "is\_active" ]

}

```

6. Relationships & Integrity

- This is a master data table.

- Referenced by `segment\_warnings.warning\_severity\_id` (FK).

- `ON DELETE RESTRICT` is appropriate for FKs from `segment\_warnings` pointing to this table. An active severity in use should not be deletable. Use `is\_active = false` to retire.

- Foreign keys `created\_by\_profile\_id` and `updated\_by\_profile\_id` reference `public.profiles(id) ON DELETE SET NULL`.

7. Multilingual Strategy

- Translatable Fields: `display\_name`, `description`. These store the primary reference language text (English).

- Translation Mechanism: Uses the central `public.translations` table. An `AFTER DELETE` trigger on `public.warning\_severities\_master` is needed for cleanup.

8. Role-Based Workflow & RLS Notes

- Management: Primarily by Platform Administrators.

- RLS Policies:

- 🟢 Authenticated users can read active warning severities:

SQL

```

CREATE POLICY "select\_active\_warning\_severities\_for\_authenticated"

ON public.warning\_severities\_master FOR SELECT TO authenticated

USING (is\_active = true);

```

- 🟢 Platform Administrators have full control:

SQL

```

CREATE POLICY "admin\_all\_access\_on\_warning\_severities\_master"

ON public.warning\_severities\_master FOR ALL

USING (public.has\_role\_on\_profile(auth.uid(), 'admin\_platform')) -- Example admin role

WITH CHECK (public.has\_role\_on\_profile(auth.uid(), 'admin\_platform'));

```

\*(Assumes `public.has\_role\_on\_profile(UUID, TEXT)` helper function exists)\*

9. ENUM vs Lookup Discussion

- 🟢 This table correctly replaces `segment\_warning\_severity\_enum`. Benefits include extensibility, i18n, data management, and richer UI/UX.

10. UI/UX Enablement

- Admin UI: Dropdowns populated by `display\_name` (translated), filtered by `is\_active = true`, ordered by `sort\_order`.

- Pilgrim UI: `display\_name` (translated) and `ui\_color\_hex` represent severity.

- Performance: Small table, standard indexing is sufficient.

11. Auditing & Lifecycle Management

- Audit Columns: `created\_at`, `updated\_at`, `created\_by\_profile\_id`, `updated\_by\_profile\_id`.

- Lifecycle: Managed by `is\_active` flag.

12. Scalability & Future-Proofing

- Scalability: Table expected to remain small.

- Future-Proofing: Structure allows adding new attributes easily. `is\_active` flag and audit columns enhance maintainability.

13. Seed Data (V1 Example)

SQL

```

INSERT INTO public.warning\_severities\_master

(code, display\_name, description, ui\_color\_hex, sort\_order, is\_active, created\_by\_profile\_id, updated\_by\_profile\_id)

VALUES

('info\_minor', 'Information / Minor Inconvenience', 'General information or a minor issue that pilgrims should be aware of but is unlikely to significantly impact their walk.', '#3498DB', 10, true, '[ADMIN\_PROFILE\_UUID]', '[ADMIN\_PROFILE\_UUID]'),

('caution\_advised', 'Caution Advised', 'A potential hazard or moderate difficulty exists. Pilgrims should proceed with caution and be prepared.', '#F1C40F', 20, true, '[ADMIN\_PROFILE\_UUID]', '[ADMIN\_PROFILE\_UUID]'),

('hazard\_significant', 'Significant Hazard / Consider Alternative', 'A significant hazard is present. Experienced and well-equipped pilgrims might proceed with extreme caution, others should consider alternatives.', '#E67E22', 30, true, '[ADMIN\_PROFILE\_UUID]', '[ADMIN\_PROFILE\_UUID]'),

('critical\_path\_impassable', 'Critical - Path Impassable / Closed', 'The path is closed, impassable, or extremely dangerous. Do not proceed. Seek alternatives.', '#C0392B', 40, true, '[ADMIN\_PROFILE\_UUID]', '[ADMIN\_PROFILE\_UUID]'),

('historical\_severity\_retired', 'Old Severity Level (Retired)', 'A previously used severity level, now retired and not for new selection.', '#808080', 5, false, '[ADMIN\_PROFILE\_UUID]', '[ADMIN\_PROFILE\_UUID]');

-- Replace [ADMIN\_PROFILE\_UUID] with an actual admin user's profile\_id

```

14. Next-Action Checklist

- 🔴 Ensure `public.profiles` table exists before running DDL for FK constraints.

- 🔴 Ensure RLS helper `public.has\_role\_on\_profile(UUID, TEXT)` exists and is SECURITY DEFINER hardened if necessary.

- 🔴 Ensure `public.set\_current\_timestamp\_updated\_at()` function exists.

- 🔴 Implement DDL: Execute `CREATE TABLE` for `public.warning\_severities\_master`.

- 🔴 Apply `updated\_at` Trigger.

- 🔴 Create Indexes as defined.

- 🔴 Implement Orphaned Translation Cleanup Trigger: After `public.translations` table exists, create and apply `trigger\_cleanup\_warning\_severities\_translations` using `public.cleanup\_related\_translations()` on this table.

- 🔴 Populate Initial Seed Data, replacing `[ADMIN\_PROFILE\_UUID]` with a valid `profiles.id`.

- 🟢 Review `ui\_color\_hex` values for accessibility and `sort\_order` for logical flow.

- 🟢 Plan administrative interface for managing these severities.