<https://gemini.google.com/u/1/app/0e3ccfac5f6b71bb>

Okay, I'm ready to conceptualize the API for Module 4d (Waypoint - Events).

### Key Conceptual API Endpoints

1. Endpoint: List Events near a Location or along a Trail/Route

- Purpose: To allow users to discover events happening within a certain geographical area, near a specific waypoint, or associated with a trail/route they are interested in, often within a specified date range.

- Path Pattern: `/events`

- Query Params / Filters / Options:

- `near\_waypoint\_id={waypoint\_id}` (BIGINT): ID of a central waypoint.

- `trail\_id={trail\_id}` (BIGINT): Filter events associated with a specific trail.

- `route\_id={route\_id}` (BIGINT): Filter events associated with a specific route.

- `latitude={lat}&longitude={lon}&radius\_km={radius}` (FLOAT, FLOAT, INT): For geo-fenced searches.

- `start\_date={YYYY-MM-DD}` (DATE): Events starting on or after this date.

- `end\_date={YYYY-MM-DD}` (DATE): Events ending on or before this date.

- `event\_type\_codes={code1,code2}` (TEXT): Comma-separated list of `event\_types\_master.code`.

- `theme\_tag\_ids={id1,id2}` (TEXT): Comma-separated list of `tags\_master.id`.

- `min\_certainty\_code={code}` (TEXT): Minimum `event\_date\_certainty\_levels\_master.code`.

- `lang={language\_code}` (TEXT, e.g., `it`): For returning translatable fields in the specified language.

- `page={N}` (INT, default 1), `per\_page={M}` (INT, default 20): For pagination.

- `sort\_by={field}` (TEXT, default `start\_datetime`): e.g., `start\_datetime`, `waypoint\_name`.

- `order={asc|desc}` (TEXT, default `asc`).

2. Endpoint: Get Specific Event Details

- Purpose: To retrieve comprehensive information for a single event, identified by its parent `waypoint\_id`.

- Path Pattern: `/events/{waypoint\_id}` (where `{waypoint\_id}` is the `events\_details.waypoint\_id`)

- Query Params / Filters / Options:

- `lang={language\_code}` (TEXT, e.g., `it`): For returning translatable fields in the specified language.

3. Endpoint: List Event Master Data

- Purpose: To fetch lists of available event types, recurrence frequencies, attendance scales, or date certainty levels, typically for populating UI filters or forms.

- Path Pattern Examples:

- `/event\_types`

- `/event\_recurrence\_frequencies`

- `/event\_attendance\_scales`

- `/event\_date\_certainty\_levels`

- Query Params / Filters / Options:

- `lang={language\_code}` (TEXT, e.g., `it`): For returning translatable fields (`default\_name`, `default\_description`, etc.) in the specified language.

- `sort\_by={field}` (TEXT, default `sort\_order` or `default\_name`): Field to sort by.

- `order={asc|desc}` (TEXT, default `asc`).

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### Example JSON Responses

1. `GET /events?near\_waypoint\_id=123&start\_date=2025-07-01&event\_type\_codes=food\_wine\_sagra&lang=it`

JSON

```

{

"pagination": {

"current\_page": 1,

"per\_page": 20,

"total\_items": 1,

"total\_pages": 1

},

"data": [

{

"waypoint\_id": 123,

"waypoint\_name": { // Name from waypoints table, translated

"default": "Piazza Centrale di Assisi",

"translations": {

"it": "Piazza Centrale di Assisi"

}

},

"event\_name\_official": {

"default": "Assisi Annual Summer Food Fair",

"translations": {

"it": "Sagra Estiva di Assisi"

}

},

"start\_datetime": "2025-07-15T18:00:00Z",

"end\_datetime": "2025-07-18T23:00:00Z",

"event\_type": {

"code": "food\_wine\_sagra",

"name": { // Name from event\_types\_master, translated

"default": "Food/Wine Festival (Sagra)",

"translations": {

"it": "Sagra Enogastronomica"

}

},

"icon\_identifier": "icon-event-sagra"

},

"recurrence\_frequency": null, // Example: not recurring or not specified

"date\_certainty\_level": {

"code": "confirmed\_specific\_dates",

"name": { // Name from event\_date\_certainty\_levels\_master, translated

"default": "Confirmed Specific Dates",

"translations": {

"it": "Date Specifiche Confermate"

}

},

"advice": { // Advice from event\_date\_certainty\_levels\_master, translated

"default": "Dates are confirmed. Plan with confidence.",

"translations": {

"it": "Le date sono confermate. Pianifica con fiducia."

}

}

},

"attendance\_scale": {

"code": "medium\_regional",

"name": { // Name from event\_attendance\_scales\_master, translated

"default": "Medium - Regional Attraction",

"translations": {

"it": "Medio - Attrattiva Regionale"

}

},

"approximate\_range": { // Range from event\_attendance\_scales\_master, translated

"default": "200 - 1,000",

"translations": {

"it": "200 - 1.000"

}

}

},

"location\_details\_within\_waypoint": {

"default": "Main square",

"translations": {

"it": "Piazza principale"

}

},

"event\_website\_or\_social\_media\_url": "https://example.com/assisi-sagra"

}

]

}

```

2. `GET /events/123?lang=it`

JSON

```

{

"waypoint\_id": 123,

"waypoint\_name": {

"default": "Piazza Centrale di Assisi",

"translations": { "it": "Piazza Centrale di Assisi" }

},

"waypoint\_latitude": 43.0700,

"waypoint\_longitude": 12.6170,

"waypoint\_visibility\_status\_code": "published",

"event\_name\_official": {

"default": "Assisi Annual Summer Food Fair",

"translations": { "it": "Sagra Estiva di Assisi" }

},

"event\_type": {

"code": "food\_wine\_sagra",

"name": {

"default": "Food/Wine Festival (Sagra)",

"translations": { "it": "Sagra Enogastronomica" }

},

"icon\_identifier": "icon-event-sagra"

},

"event\_theme\_or\_focus\_tag\_ids": [5, 12], // IDs; client resolves to names via /tags endpoint if needed

"description\_long": {

"default": "A wonderful fair celebrating local Umbrian cuisine and wines, held annually.",

"translations": { "it": "Una meravigliosa sagra che celebra la cucina e i vini umbri locali, che si tiene ogni anno." }

},

"start\_datetime": "2025-07-15T18:00:00Z",

"end\_datetime": "2025-07-18T23:00:00Z",

"is\_recurring\_event": true,

"recurrence\_frequency": {

"code": "annually",

"name": {

"default": "Annually",

"translations": { "it": "Annuale" }

}

},

"recurrence\_detail\_text": {

"default": "Every year, the third weekend of July, Friday to Sunday.",

"translations": { "it": "Ogni anno, il terzo fine settimana di luglio, da venerdì a domenica." }

},

"date\_certainty\_level": {

"code": "confirmed\_specific\_dates",

"name": {

"default": "Confirmed Specific Dates",

"translations": { "it": "Date Specifiche Confermate" }

},

"advice": {

"default": "Dates are confirmed. Plan with confidence.",

"translations": { "it": "Le date sono confermate. Pianifica con fiducia." }

}

},

"exception\_dates": null,

"specific\_next\_occurrence\_dates\_text": {

"default": "2025: July 15-18; 2026: July 14-17 (estimated)",

"translations": { "it": "2025: 15-18 luglio; 2026: 14-17 luglio (stimato)" }

},

"organizer\_name": {

"default": "Assisi Local Council",

"translations": { "it": "Comune di Assisi" }

},

"event\_website\_or\_social\_media\_url": "https://example.com/assisi-sagra",

"contact\_phone\_event": "+39 075 XXX XXXX",

"contact\_email\_event": "eventi@comune.assisi.pg.it",

"entry\_fee\_or\_ticket\_info": {

"default": "Free entry to the general fair, individual food/wine purchases.",

"translations": { "it": "Ingresso gratuito alla fiera generale, acquisti individuali di cibo/vino." }

},

"location\_details\_within\_waypoint": {

"default": "Main square and surrounding streets.",

"translations": { "it": "Piazza principale e vie limitrofe." }

},

"attendance\_scale": {

"code": "medium\_regional",

"name": {

"default": "Medium - Regional Attraction",

"translations": { "it": "Medio - Attrattiva Regionale" }

},

"approximate\_range": {

"default": "200 - 1,000",

"translations": { "it": "200 - 1.000" }

}

},

"impact\_on\_accommodation\_notes": {

"default": "Accommodation can be scarce; book well in advance.",

"translations": { "it": "L'alloggio può essere scarso; prenotare con largo anticipo." }

},

"impact\_on\_trail\_access\_notes": null,

"impact\_on\_local\_services\_notes": {

"default": "Restaurants and shops may have extended hours but expect crowds.",

"translations": { "it": "Ristoranti e negozi potrebbero avere orari prolungati ma aspettatevi folla." }

},

"general\_impact\_notes\_for\_pilgrims": null,

"pilgrim\_participation\_info": null,

"related\_attraction\_waypoint\_id": null,

"data\_last\_verified\_at": "2025-03-01T10:00:00Z",

"data\_verified\_by\_user\_display\_name": "Sofia Admin",

"created\_by\_user\_display\_name": "ContentManagerX",

"event\_detail\_created\_at": "2024-11-10T09:00:00Z",

"event\_detail\_updated\_at": "2025-03-01T10:00:00Z"

}

```

3. `GET /event\_types?lang=it`

JSON

```

[

{

"id": 1,

"code": "religious\_feast\_day\_procession",

"name": {

"default": "Religious Feast/Procession",

"translations": { "it": "Festa Religiosa/Processione" }

},

"description": {

"default": "Celebrations related to religious feast days, often including processions.",

"translations": { "it": "Celebrazioni legate a feste religiose, che spesso includono processioni." }

},

"icon\_identifier": "icon-event-religious",

"sort\_order": 10

},

{

"id": 2,

"code": "food\_wine\_sagra",

"name": {

"default": "Food/Wine Festival (Sagra)",

"translations": { "it": "Sagra Enogastronomica" }

},

"description": {

"default": "Local festivals celebrating specific foods, wines, or agricultural products.",

"translations": { "it": "Feste locali che celebrano cibi, vini o prodotti agricoli specifici." }

},

"icon\_identifier": "icon-event-sagra",

"sort\_order": 50

}

// ... more event types

]

```

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### Database-Support Analysis

1. Endpoint: `GET /events` (List Events)

- Indexes:

- Sufficient for basic filtering by `events\_details.start\_datetime` (`ix\_events\_details\_start\_datetime`).

- If querying by `trail\_id` or `route\_id` becomes common, `events\_details` would need a way to link to trails/routes (perhaps via `waypoints` relationships or directly if events can span broader areas). Assuming events are tied to specific `waypoints`, and `waypoints` are linked to trails/routes, the query might involve joins through `waypoints`.

- `event\_type\_id` is indexed (`ix\_events\_details\_event\_type\_id`). For filtering by `event\_type\_codes`, the application would first query `event\_types\_master` to get IDs for codes, then use `event\_type\_id IN (...)`.

- `event\_theme\_or\_focus\_tag\_ids` has a GIN index (`ix\_events\_details\_event\_theme\_or\_focus\_tag\_ids`), which is good for `@>` (contains) or `&&` (overlaps) operations.

- Geo-spatial queries (`latitude`, `longitude`, `radius\_km`) would require PostGIS extension and spatial indexes on `waypoints.geom`.

- Join Complexity:

- High. This endpoint will likely use the `public.event\_details\_enriched\_view` (or similar logic in a function) to gather data from `events\_details`, `waypoints`, and all the event-specific master tables.

- The view itself handles many joins. Further joins to `public.translations` would be needed for each translatable field if not handled by a Supabase RPC function that encapsulates this.

- Performance Gotchas:

- RLS on `events\_details` (checking parent `waypoints` status) will add overhead but is necessary. Ensuring `waypoints` and `content\_statuses\_master` are well-indexed for these RLS checks is key.

- Complex date range queries combined with multiple filters (tags, types, geo) can be slow. Careful query construction and ensuring all filterable columns are indexed is crucial.

- Pagination with `OFFSET` can be slow on large datasets; keyset pagination is preferred if performance becomes an issue.

- Missing Data?:

- No obvious missing data for core event discovery within the `events\_details` and its master tables. The main dependency is well-structured `waypoints` data, including their geo-location and links to trails/routes.

2. Endpoint: `GET /events/{waypoint\_id}` (Get Specific Event Details)

- Indexes:

- Primary key lookup on `events\_details.waypoint\_id` is efficient.

- Join Complexity:

- Similar to the list endpoint but for a single record. The `public.event\_details\_enriched\_view` (queried with `WHERE waypoint\_id = ...`) or an equivalent database function would be ideal to fetch all necessary data, including names from master tables.

- Translations would add lookups to `public.translations`.

- Performance Gotchas:

- RLS on `events\_details` still applies.

- Minimal gotchas for a single PK lookup, assuming the view/function is optimized.

- Missing Data?: No.

3. Endpoint: `GET /event\_types` (and other master data endpoints)

- Indexes:

- `event\_types\_master.id` (PK), `event\_types\_master.code` (UNIQUE), `ix\_event\_types\_master\_active\_sort` are sufficient. Similar indexes exist for other master tables.

- Join Complexity:

- Low for fetching the master data itself.

- If translations are included directly in the response (as shown in the example), it requires a join to `public.translations` for each record and each translatable field. A Supabase RPC function could assemble this.

- Performance Gotchas:

- RLS on master tables (checking `is\_active`) is simple.

- Tables are small, so performance should be good.

- Missing Data?: No.

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### Immediate Schema Tweaks (if any)

1. 🔴 `tags\_master.is\_active` Column: The `check\_event\_theme\_tags\_exist()` trigger for `events\_details.event\_theme\_or\_focus\_tag\_ids` was updated to check `tags\_master.is\_active`. The `tags\_master` table (from Module 4 Waypoints - General) must have an `is\_active BOOLEAN NOT NULL DEFAULT true` column and appropriate indexes.

- \*Rationale\*: Ensures that events are not linked to inactive/retired tags. This implies a review of `tags\_master` spec.

2. 🟠 `waypoints` table fields for View: The `public.event\_details\_enriched\_view` assumes `waypoints` has `default\_name` (for waypoint's primary language name) and `content\_visibility\_status\_id` (linking to `content\_statuses\_master.id`). It also assumes `content\_statuses\_master` has an `is\_active` flag. These need to be confirmed or adjusted in the view based on the final `waypoints` and `content\_statuses\_master` schemas.

- \*Rationale\*: Ensures the view can correctly pull necessary contextual information from the parent waypoint.

3. 🟢 Geo-spatial Index on `waypoints`: If `GET /events` with geo-filters (`latitude`, `longitude`, `radius\_km`) is a priority, the `waypoints` table needs a PostGIS `GEOGRAPHY` or `GEOMETRY` column and a spatial index (e.g., GIST) on it.

- \*Rationale\*: Essential for performant location-based event searches. This is more of a `waypoints` table concern but impacts this API.

4. 🟢 `icon\_identifier` for other Event Master Tables: `event\_types\_master` has `icon\_identifier`. Consider if `event\_recurrence\_frequencies\_master`, `event\_attendance\_scales\_master`, or `event\_date\_certainty\_levels\_master` would benefit from an `icon\_identifier` field for richer UI representation, though it's not critical.

- \*Rationale\*: Potential UI enhancement for consistency if icons are desired for these attributes.