API Documentation: Dashboard

This document provides the technical specification for the API endpoints related to the statistical dashboard, as defined in dashboard_route.py. All endpoints in this module are restricted to administrative users.

Manager Features

1. Overview Statistics

Retrieves a high-level overview of key statistics for the entire centre.

- **Endpoint**: GET /dashboard/statistics
- **Description**: Fetches aggregate counts of all employees, students, and total revenue from paid contracts.
- **Authentication**: Manager Role Required.
- **Responses**:
  - **200 OK (Success)**
    - **Description**: Returned with the overview statistics.
    - **Body**:

```
{
    "total_employees": 12,
    "total_teachers": 8,
    "total_learning_advisors": 3,
    "total_students": 11,
    "total_revenue": 32000000
}
```

  - 403 Forbidden (Unauthorised)
    - **Description**: Returned if the user making the request does not have the 'Manager' role.

2. Student Statistics

Retrieves a detailed breakdown of student demographics.

- **Endpoint**: GET /dashboard/statistics/students
- **Description**: Fetches statistics on the student body, including a total count, a breakdown by age group, and a breakdown by subject enrolment.
- **Authentication**: Manager Role Required.
- **Responses**:
  - **200 OK (Success)**
    - **Description**: Returned with detailed student statistics.
    - **Body**:

```
{
    "total_students": 11,
    "elementary_students": 1,
    "middle_school_students": 2,
    "high_school_students": 5,
    "other_students": 3,
    "math_students": 1,
    "english_students": 1
}
```

3. Teacher Statistics

Retrieves a total count of all teachers.

- **Endpoint**: GET /dashboard/statistics/teachers
- **Description**: Fetches the total number of employees with the 'Teacher' role.
- **Authentication**: Manager Role Required.
- **Responses**:
  - **200 OK (Success)**
    - **Description**: Returned with the total teacher count.
    - **Body**:

```
{
    "total_teachers": "8"
}
```

4. Detailed Teacher Statistics

Retrieves detailed performance and activity metrics for a specific teacher.

- **Endpoint**: GET /dashboard/statistics/teachers/details

- **Description**: Fetches statistics for a single teacher, including approved leave, punctuality, and total teaching hours by subject.

- **Authentication**: Manager Role Required.

- **Query Parameters**:

Parameter	Type	Required	Description
teacher_id	String	Yes	The unique ID of the teacher to retrieve statistics for.

Responses:

- **200 OK (Success)**

  - **Description**: Returned with detailed statistics for the specified teacher.

  - **Body**:

```
{
    "leave_counts": 1,
    "late_counts": 1,
    "on_time_counts": 1,
    "total_counts": 2,
    "late_percentage": 50.0,
    "on_time_percentage": 50.0,
    "total_math_hours": 1.5,
```

```
        "total_english_hours": 0
}
```

- 404 Not Found

  - **Description**: Returned if no teacher with the specified teacher_id exists.

5. Revenue Statistics

Retrieves a breakdown of total revenue from paid contracts by year.

- **Endpoint**: GET /dashboard/statistics/revenue

- **Description**: Fetches the sum of tuition_fee for all paid contracts, grouped by the contract's start year.

- **Authentication**: Manager Role Required.

- **Responses**:

  - **200 OK (Success)**

    - **Description**: Returned with a list of revenue totals by year, starting from 2023.

    - **Body**:

```
{
        "revenue_by_year": [
                0,
                0,
                32000000
        ]
}
```