**API Design Specification**

**Objective:**  
Provide a robust API layer to connect mobile clients with backend services for HR functionalities, third-party integration, and enterprise systems interoperability.

**Detailed Components:**

* **Architecture Style:**
  + RESTful APIs using HTTPS and JSON payloads.
  + Versioning via URI pathing (e.g., /api/v2/employees).
* **Core Endpoints Examples:**
  + GET /employees, POST /attendance, PUT /leave-requests/{id}, GET /performance-reports
  + Modular endpoints grouped by domain (e.g., Auth, HR Core, Payroll, Reports).
* **Authentication & Authorization:**
  + OAuth 2.0 with support for JWT tokens.
  + Role-Based Access Control (RBAC) enforcement through middleware.
* **Rate Limiting & Throttling:**
  + IP-based and user-tier limits to avoid abuse.
  + Token bucket algorithm with burst support.
* **Error & Exception Handling:**
  + Standardized response structure with HTTP status codes.
  + Machine-readable error codes and descriptive messages.
* **API Gateway & Documentation:**
  + Use of tools like Swagger/OpenAPI for live documentation.