DevClub API Challenge – Course & Faculty Info API

A 24-hour hackathon project from Developers Club, IIITDM Kancheepuram, focusing on making academic information programmatically accessible via a RESTful API. Developed solo with Node.js, Express.js, and JSON.

- Mohammed Shoaib

The Problem: Fragmented Information

Students and administrators often struggle with scattered access to vital course, prerequisite, and faculty information. Existing data sources are not centralized or designed for programmatic consumption. This creates friction and inefficiencies in accessing key academic details.

This API project directly addresses this challenge by providing structured JSON endpoints, making information retrieval seamless and efficient.

API Overview: Simple & Standardized

Course Endpoints

GET /courses: Retrieve all available courses.

GET /courses/:id: Get details for a specific course by its ID.

Faculty Endpoints

GET /faculty: List all faculty members.

GET /faculty/:id: Fetch details for a specific faculty member by ID.

The API adheres to clean, minimal REST principles, ensuring ease of use and integration. Thoroughly tested with Postman and browser.

Structured Data Models

Course Model


```
{
  "id": "201",
  "name": "Computer Architecture",
  "code": "CS4011",
  "description": "Advanced study in computer system and architecture",
  "credits": 4,
  "department": "CSE",
  "prerequisites": ["CS2001"],
  "faculty_id": "3"
}
```

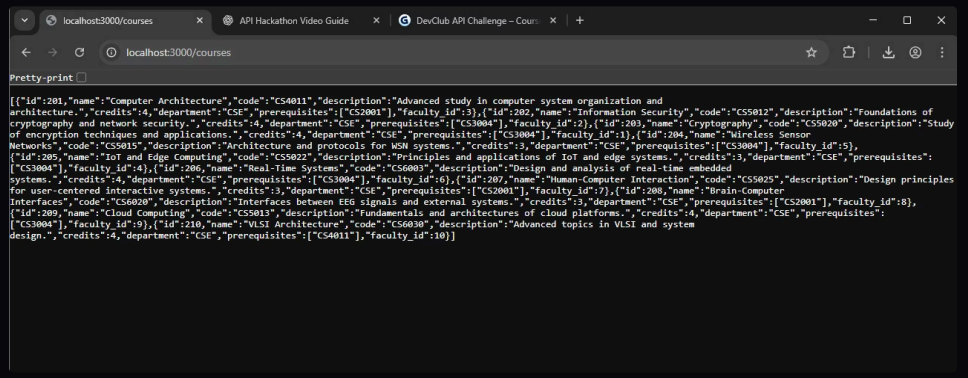

Faculty Model

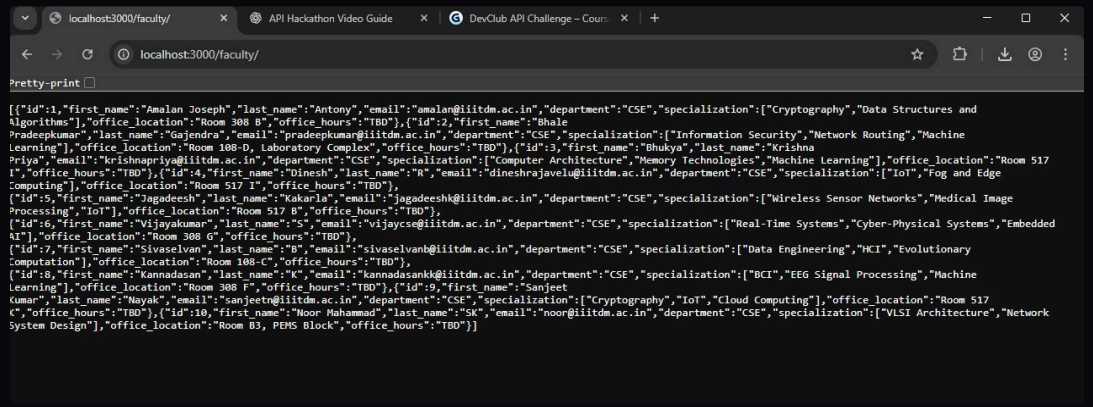

```
{
  "id": 1,
  "first_name": "Amalan Joseph",
  "last_name": "Antony",
  "email": "amalan@iiitdm.ac.in",
  "department": "CSE",
  "specialization": ["Cryptography", "Data Structures and Algorithms"],
  "office_location": "Room 308 B",
  "office_hours": "TBD"
}
```


These JSON structures provide comprehensive details for both courses and faculty, designed for clarity and programmatic access.

Live Demo & Clean JSON Output

The API provides a working demonstration, delivering data in a clean, readable JSON format directly to your browser or API client. No authentication is required, making it an open public API for easy access and integration.





Future Horizons & Extensions

College Mobile Apps

Direct integration into official college mobile applications.

Academic Dashboards

Powering interactive dashboards for students and faculty.

Research & Analytics Tools

Facilitating data-driven academic research initiatives.

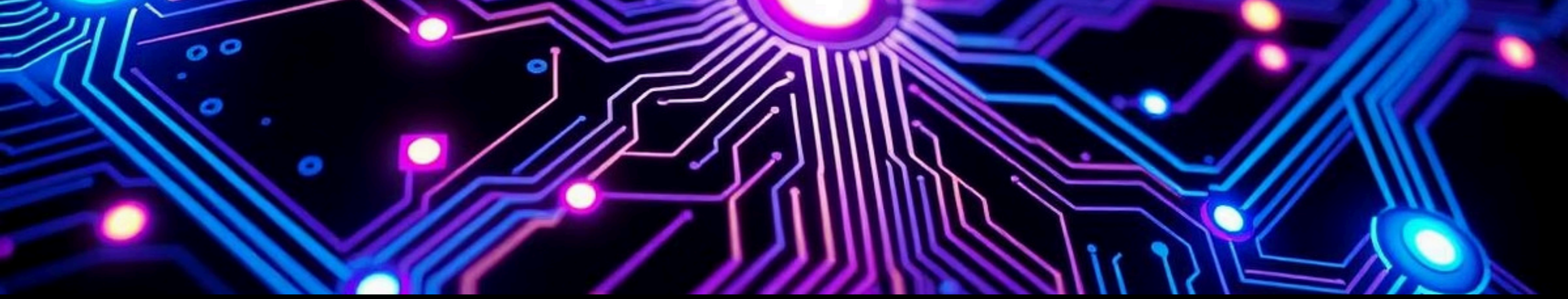
Future plans include adding robust search & filter capabilities, integrating with a real database, and enhancing faculty profiles with images and ratings.

Beyond the Hackathon: Continued Development

Planned Enhancements

- Advanced search and filtering for courses and faculty.
- Migration from mock JSON to a persistent database (e.g., MongoDB).
- Adding faculty profile pictures and student ratings/reviews.
- Course Sorting & Pagination: Sort by credits, name, etc., with `?page=` & `?limit=`.
- Office Hours Calendar: Interactive availability display for faculty.

This project serves as a strong foundation, with clear next steps to evolve into a comprehensive, production-ready academic information service.



Thank You!

Developers Club – IIITDM Kancheepuram

For more details and code:

GitHub Repository - **https://github.com/Shoaib1890/DevClub-api.git**