

# Campus Bot

Group 6 | <https://github.com/SPMSHV/CSC510-S2-G6/tree/main/proj2>

CampusBot provides a production-ready REST API for managing food orders, delivery fleet tracking, and user roles. We've built a clean, tested, well-documented backend that handles:

1. Order Management — Full CRUD for student food orders with status tracking
2. Fleet Tracking — Robot/delivery agent location, battery, and status management
3. User Roles — Support for Students, Vendors, Admins, and Engineers

Why This Matters: A solid backend is 70% of any delivery app. We've done the hard work: database design, validation, testing, CI/CD, and documentation.



Your Project 3 team gets a head start instead of starting from scratch.

## What We Built

### Core Backend (Milestones 1-4):

- 6 Core APIs: Orders, Robots/Fleet, Users, Restaurants, Auth, Telemetry
- RESTful Design: Clean endpoints with proper HTTP methods
- OpenAPI 3.0 Spec: Interactive Swagger UI at /api-docs
- PostgreSQL Schema: Production-ready with indexes
- In-Memory Mode: Quick dev setup (no DB required)
- Input Validation: Joi schemas for all endpoints

### Quality & DevOps ★:

- 22 test suites, 410+ test cases, 74% code coverage.
- TypeScript — Full type safety
- GitHub Actions CI — Auto lint, test, build
- Docker Ready — docker-compose up
- ESLint + Prettier — Consistent code style



Forum



Github PR

### Release 2(Planned)

- Robot health monitoring & alerting
- Geofence & campus policy engine.
- Remote-control & maintenance workflows
- Real-time telemetry (WebSocket/MQTT)

### Extension Ideas for Project 3:

- 💡 React/React Native mobile app
- 🌐 Interactive map with live robot tracking
- 📊 Analytics dashboard with delivery metrics
- 🔒 User authentication (OAuth2/JWT)
- 💳 Payment processing (Stripe)
- 🎨 Vendor management portal

## Watch Demo

### Tech Stack

- 🚀 Backend: Node.js 18 + Express + TypeScript
- 🗄️ Database:PostgreSQL 15 (optional in-memory)
- 🧪 Testing: Jest + Supertest
- 📊 API Docs: OpenAPI 3.0 + Swagger UI
- 🐳 Container: Docker + Docker Compose
- 🔧 Quality: ESLint + Prettier
- ci CI: GitHub Actions

✉️ Contact Team

Aniruddh Bhagwat — [abaghwa2@ncsu.edu](mailto:abaghwa2@ncsu.edu)

Pranshav Gajjar — [prgajjar@ncsu.edu](mailto:prgajjar@ncsu.edu)

Hardik Majethia — [hmajeth@ncsu.edu](mailto:hmajeth@ncsu.edu)

Ishan Patel — [ispatel@ncsu.edu](mailto:ispatel@ncsu.edu)

