



CODENOVATE

# Canteen chaos to Convenience

Annapurna Delights

*"Annapurna: Where Efficiency Meets Hunger"*

Open Innovation Project

# PROBLEM STATEMENT

Canteens in colleges often experience overcrowding during peak hours, long wait times for food preparation and payment, lack of a system to handle group or individual orders efficiently, inefficient customization options for students. It results in inefficient ordering systems, resulting in long queues, significant time wastage, and poor student experience. Students spend an average of 30 minutes for a 15-minute meal, with peak hour wait times of 15-20 minutes, causing missed classes (taunts from teachers and security) and reduced productivity.

## IDEA

**Annapurna App:-** Our solution is a mobile application designed to revolutionize campus dining. It is a solution designed to transform the college canteen experience by addressing critical challenges in food ordering, queue management, and operational efficiency. This system aims to eliminate long waiting times, streamline operations, and enhance the overall dining experience for students and staff alike.

## FEATURES

### Pre-Order System

- Roll number-based unique ordering
- Advance ordering capability
- Integrated payment gateway
- Real-time order tracking

### Customization Options

- Portion size selection
- Ingredient modifications
- Special instructions

### Group Order Management

- Token-based group orders
- Two-person pickup limit
- Split payment integration
- Group order coordination

### Social Features

- Friend circles for group orders
- Meal sharing options
- Community reviews
- Food polls (suggesting new items on Fridays and Saturdays)

### Queue Management

- Dedicated pickup counter
- Real-time status updates
- Time slot allocation

### Payment Solutions

- Subscription plans
- Parent-linked payments

## USPs (Unique Selling Points)

- College-specific solution
- Group order management
- Token-based pickup system
- Real-time order tracking
- Integrated payment splitting



# TECH STACK

## Frontend



- Mobile app (Android)
- Digital menu displays
- Queue management screens

## Backend/Database



- Cloud-based servers
- Real-time database
- Analytics engine
- Payment gateway integration

## Security Features

- JWT Token-based
- Two-Factor Authentication
- UPI Integration
- Fraud Prevention





## Core Challenges

### 1. Time Management Crisis

- 45 minutes spent for a 15-minute meal
- 15% students report class tardiness
- Faculty avoiding peak hours
- Reduced study and break time

### 2. Operational Inefficiencies

- Manual order processing errors
- Payment processing delays
- Canteen fraudulent(payment) alert
- Inventory mismanagement
- Group order complications

### 3. Student Experience Issues

- Limited meal customization
- Bill splitting difficulties
- No pre-planning options

### 4. Resource Management

- Staff overwhelm during peak hours
- Inconsistent food quality
- Poor resource allocation

## Canteen Management Side Features

### 1. Order Dashboard:

Real-time monitoring of incoming orders with categorization (individual/group).  
- Alerts for peak order volumes.

### 2. Kitchen Workflow Optimization:

- Orders are grouped and displayed by time slots, allowing staff to prioritize efficiently.

### 3. Token Management System:

- Handles group orders using digital tokens linked to order IDs.

### 4. Inventory Management:

- Tracks item availability and alerts staff to low stock levels.

### 5. Peak Load Analysis:

- Provides insights into busy periods to allocate resources effectively.

### 6. Dedicated Counter Integration:

- Assigns specific counters for pre-ordered items, speeding up distribution.

### 7. Revenue and Analytics Dashboard:

- Displays daily earnings, popular items, and peak times to help with planning.

## Additional Features

- **QR Code Scanning for Pickup:**

QR codes linked to order IDs simplify identity verification.

- **Meal Subscription Plans:**

Students can subscribe to weekly or monthly meal plans for convenience.

- **Health Metrics:**

Nutritional breakdown of food items, helping students make informed choices.

- **Multi-Language Support:**

App available in multiple languages for diverse student populations.



## Expected Impact

### Quantitative Benefits

- Wait time reduction: 75%
- Order accuracy: 95%
- Customer satisfaction: 85%
- Operational efficiency: 60%

### Qualitative Benefits

- Improved student experience
- Better resource utilization
- Enhanced staff satisfaction

## Competitive Analysis

### Versus Traditional Systems

- Manual ordering: High error rate, time-consuming
- Traditional queues: Long wait times, inefficient
- Paper-based tracking: Poor inventory management
- Cash payments: Slow processing, security risks

### Versus Existing Apps

- Generic food apps: Not tailored for institutions
- Delivery apps: Higher costs, not campus-specific
- Current canteen systems: Limited features, poor integration

## Workflows

### User Side Workflow

#### 1. Registration and Login:

Users log in with their roll number and password or just scan their ID card to register.

#### 2. Order Placement:

Users browse the menu, customize their meal, and add items to the cart.  
- Select between 'single order' or 'group order.'

#### 3. Payment:

Choose from multiple payment modes.  
Receive a confirmation with a unique order ID or token (for group orders).

#### 4. Order Tracking:

View the status of the order in real-time.

#### 5. Pickup:

At the counter, users provide their roll number or token for verification and collect their food.

#### 6. Post-Order Feedback:

Users rate their experience or report issues which helps in improving the food quality.

### Canteen Management Workflow

#### 1. Order Reception:

- Orders are displayed in an admin panel categorized by preparation urgency.

#### 2. Preparation:

- Staff prepare items based on real-time updates. Scheduled orders are queued accordingly.

#### 3. Token-Based Distribution:

- For group orders, only two members of a group are allowed to collect the food, ensuring orderliness.

#### 4. End-of-Day Reports:

- Summary of daily transactions, order breakdown, and customer feedback.



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## Annapurna's Business Model

### Statistics

#### Target Market Statistics:

- Average daily users: 500+ students
- Peak hour orders: 80-100 orders/hour
- Group orders: 40% of total orders
- Individual orders: 60% of total orders

#### Projected Impact:

- Wait time reduction: 15 mins → 5 mins
- Order processing speed: +70%
- Customer satisfaction: +85%
- Revenue optimization: +25%

### Future Roadmap

#### Short-term Goals (6 months)

- Basic feature implementation
- User base establishment
- Initial feedback integration
- System optimization

#### Long-term Vision (2+ years)

- Multi-campus expansion
- Advanced AI integration
- Complete automation
- Ecosystem development

#### Value Proposition:

- For Students: Streamlined dining experience with reduced wait times, personalized meal plans, and flexible ordering
- For Canteens: Enhanced operational efficiency, real-time order tracking, and data-driven insights

#### Revenue Streams:

1. **Subscription Plans**
  - Monthly meal packages: ₹500-₹1500
2. **Additional Income Sources**
  - In-app advertisements
  - Analytics dashboard subscriptions
  - Canteen onboarding fees

#### Cost Structure:

- App development and maintenance
- Cloud hosting
- Payment gateway fees
- Marketing
- Customer support

#### Key Partnerships:

- Payment gateways (Google Pay, Stripe)
- Cloud providers (AWS, Firebase)

#### Scalability Potential:

- Expansion beyond colleges
- Corporate cafeteria integration
- Nutritional tracking features
- Merchandise cross-selling

#### Strategic Differentiators:

- Technology-driven solution
- Dual-sided value creation
- Flexible monetization approach

#### Target Segments:

- Primary: College students
- Secondary: Canteen management
- Tertiary: Food service vendors

## Conclusion

Annapurna represents a comprehensive solution to the pressing challenges faced by college canteens. By combining cutting-edge technology with practical operational improvements, the platform promises to transform the campus dining experience. The phased implementation approach ensures smooth adoption while maintaining flexibility for future enhancements.

-----**Thank you**-----