Project Proposal: **Smart Grocery Shopping Platform**
Course: **IT643 Software design and testing**

1. Niyati Nagar   202412051
2. Pankaj Mainani   202412056

Project Summary
The Smart Grocery Shopping Platform is an innovative e-commerce platform designed to revolutionize the way users purchase groceries online.
The platform combines traditional grocery shopping with a unique recipe-based shopping feature, making it easier for users to purchase ingredients for specific dishes they want to prepare. This innovative approach simplifies meal planning and grocery shopping by automatically compiling ingredient lists based on chosen recipes.

Aim and Objectives

Primary Aim
To develop a comprehensive online grocery shopping platform that enhances the user experience by integrating recipe-based shopping with traditional grocery purchasing.

Objectives
1. Create a user-friendly e-commerce platform for grocery shopping
2. Implement an innovative recipe-to-cart feature for automatic ingredient selection
3. Develop a robust inventory management system
4. Ensure secure payment processing and user data protection
5. Optimize delivery routing and order fulfillment processes

Features of the Project

Core Features
- User registration and authentication
- Product browsing with search functionality
- Shopping cart management
- Secure checkout process
- Order tracking and history
- User profile management
- Address management
- Payment gateway integration

Recipe-Based Shopping Features
- Curated recipe catalog with popular Indian dishes
- One-click ingredient addition to cart from recipes
- Automatic quantity calculation based on serving size
- Recipe favoriting and saving
- Customizable ingredient preferences
- Recipe sharing capabilities

Additional Features

- Real-time inventory tracking
- Multiple payment options
- Order status notifications
- Product reviews and ratings
- Personalized recommendations
- Regular offers and discounts

Tools and Technologies

Frontend Development
- React.js for user interface
- Redux for state management
- Material-UI/Tailwind CSS/Bootstrap for styling
- Axios for API integration

Backend Development
- Node.js runtime environment
- Express.js framework
- MongoDB for database
- JWT for authentication

Development Tools
- Git for version control
- GitHub for repository management
- VS Code for development
- Postman for API testing

Related Work
1. Analysis of existing e-commerce platforms
2. Study of recipe management systems
3. Research on inventory management solutions
4. Investigation of delivery optimization techniques
5. Review of security best practices in e-commerce

Expected Outcomes

1. A fully functional e-commerce platform for grocery shopping
2. Innovative recipe-based shopping feature
3. Secure and scalable application architecture
4. Comprehensive documentation
5. User-friendly interface with responsive design