



# Project Proposal

SECJ3623: Mobile Application Programming

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## Project Title: EasyInvo

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## **1. PROJECT BACKGROUND AND PROBLEM STATEMENT**

### **1.1. Background**

EasyInvo is a mobile application designed to streamline invoice management and financial operations for small to medium-sized businesses and freelancers. In today's digital economy, managing invoices, clients, and financial records efficiently is critical for business success. However, many small business owners and independent professionals lack access to user-friendly, affordable invoice management solutions.

### **1.2. Problem Statement**

Current Challenges:

- Small business owners and freelancers struggle to manage invoices manually using spreadsheets or paper-based systems
- Lack of centralized platform to store client information, track payments, and maintain financial records
- Difficulty in generating professional invoices quickly and efficiently
- No easy way to monitor income and generate financial reports
- Time-consuming process of tracking unpaid invoices and sending reminders
- Inability to analyze business performance through comprehensive reports and analytics
- Complex inventory and item management across multiple clients

Target Problem: There is a significant gap in the market for an accessible, user-friendly mobile invoice management solution that integrates client management, inventory tracking, and financial reporting and all accessible on-the-go.

## **2. PROJECT OBJECTIVES AND SCOPE**

### **2.1. Primary Objectives**

- i. Create a comprehensive invoice management system that allows users to generate, send, and track professional invoices
- ii. Develop client relationship management features to maintain organized client information
- iii. Implement financial tracking and reporting tools to provide insights into business performance
- iv. Build an inventory/item management system to track products and services offered
- v. Enable data security and authentication to protect sensitive business and financial information
- vi. Provide cross-platform accessibility (iOS, Android, Web) for seamless mobile experience

### **2.2. Project Scope**

#### **Included Features:**

- User authentication and account management
- Business profile setup and management
- Invoice creation, editing, and deletion
- Client management (add, edit, view, delete)
- Item/Product inventory management
- Income tracking
- Financial reporting and analytics
- PDF export and file sharing capabilities
- Payment method tracking
- Tax and discount calculations
- Responsive user interface with intuitive navigation

### **3. TARGET USERS AND IDENTIFIED USER NEEDS**

#### **3.1. Primary Target Users**

##### **i. Freelancers**

- Independent professionals (consultants, designers, writers, developers)
- Need: Quick and easy invoice generation, client tracking, payment reminders
- Usage Pattern: Sporadic, multiple clients, varying project rates

##### **ii. Small Business Owners**

- Entrepreneurs running small businesses (shops, services, repairs)
- Need: Comprehensive financial overview, customer relationship management, tax-ready reports
- Usage Pattern: Regular invoicing, recurring clients, inventory tracking

##### **iii. Service Providers**

- Electricians, plumbers, contractors, beauticians
- Need: On-site invoice generation, service item tracking, quick client lookup
- Usage Pattern: Mobile-first, field-based operations, cash/card payments

#### **3.2. Identified User Needs**

User Segment	Primary Needs	Secondary Needs
Freelancers	Fast invoice creation, payment tracking, client database	Tax reports, invoice templates
Small Business	Client management, inventory tracking, financial reports	Multi-business profiles, revenue analytics, payment reminders
Service Providers	Mobile accessibility, quick invoicing, service categorization	receipt printing

## **4. OVERVIEW OF PROPOSED APPLICATION FEATURES**

### **4.1. Core Features**

#### **A. Authentication & Account Management**

- User Registration & Login: Secure sign-up with Firebase Authentication
- Email Verification: Ensure user identity verification
- Password Management: Secure password reset functionality
- User Profile: User information and account settings

#### **B. Business Profile Management**

- Multi-Profile Support: Create and manage multiple business profiles
- Business Information: Company name, contact details, logo upload
- Banking Information: Bank account and payment method storage
- Profile Customization: Business theme colors and branding

#### **C. Invoice Management**

- Invoice Creation: Intuitive invoice builder with drag-and-drop items
- Auto-Numbering: Automatic sequential invoice reference generation
- Invoice Templates: Pre-designed professional templates
- Invoice Status Tracking: Track invoice status (Draft, Sent, Paid, Overdue)
- Invoice Editing & Duplication: Modify existing invoices or create similar ones
- Invoice Deletion: Delete unnecessary invoices
- Payment Tracking: Record payment received and track due dates

#### **D. Client Management**

- Add/Edit/Delete Clients: Complete client information management
- Client Database: Searchable, sortable client list
- Client Details Screen: View complete client information and transaction history
- Contact Information: Store email, phone, address, GST details

- Client Payment History: Track all payments received from each client
- Automated Reminders: Notification system for overdue invoices

#### E. Item/Product Inventory Management

- Item Management: Create and maintain product catalog
- Item Categories: Organize items by category
- Pricing Management: Set standard rates for items
- Quantity Tracking: Track stock levels (for physical products)
- Item Search: Quick item lookup during invoice creation

#### F. Financial Tracking

- Income Recording: Log all income transactions with categorization
- Expense Tracking: Record and categorize business expenses
- Transaction History: Complete audit trail of all transactions
- Payment Method Tracking: Record payment methods (cash, card, bank transfer, check)

#### G. Reporting & Analytics

- Paid Invoices Report: Summary of paid invoices with revenue insights
- Customer Report: Client-wise revenue analysis and payment status
- Product Report: Item-wise sales performance and revenue contribution
- PDF Export: Generate and export reports as PDF documents
- Excel Export: Export reports in Excel format for further analysis
- Year-wise Filtering: Analyze data by fiscal/calendar year

#### H. Data Export & Sharing

- PDF Generation: Professional PDF invoices and reports
- Excel Export: Spreadsheet format for accounting software integration
- File Sharing: Share invoices via email, messaging apps, or cloud storage
- Print Support: Print invoices directly from mobile device

- I. Settings
  - Settings: Invoice templates, password changes
- J. Help & Support
  - Support Contact: Chat with AI
  - About Screen: Application version and credits

#### **4.2. Technical Features**

- Cloud Database: Firebase Firestore for real-time data synchronization
- Cloud Authentication: Firebase Authentication for secure user management
- Cloud Storage: Firebase Storage for document and image storage
- Material Design: Modern, responsive UI following Material Design principles
- Cross-Platform: Flutter for iOS, Android, Web compatibility
- Offline Support: Data caching for limited offline functionality
- Real-time Updates: Live data synchronization across devices

#### **4.3. User Interface Features**

- Intuitive Navigation: Bottom navigation bar with 4 main sections
  - Home Dashboard
  - Invoices
  - Reports
  - Menu
- Dashboard: Overview of key metrics and quick actions
- Gradient Backgrounds: Modern, visually appealing design
- Form Validation: Real-time input validation with helpful error messages
- Loading States: Clear feedback during data operations
- Empty States: Helpful messages when no data is available
- Search & Filter: Quick lookup functionality across all lists

## **5. PROJECT TIMELINE AND DEVELOPMENT MILESTONES**

### **5.1. Project Phases**

#### **Phase 1: Foundation & Setup (Week 1-2)**

- Project setup and Firebase configuration
- UI/UX design framework and theme implementation
- User authentication system (sign up, login, password reset)
- Deliverable: Working authentication system with secure user accounts

#### **Phase 2: Core Invoice Management (Week 3-5)**

- Invoice model and database schema
- Invoice creation interface with item selection
- Invoice editing and deletion functionality
- Invoice list view with filtering and searching
- Invoice details screen with payment tracking
- Deliverable: Fully functional invoice management system

#### **Phase 3: Client & Item Management (Week 6-7)**

- Client creation, editing, and deletion
- Client details screen with transaction history
- Item/product inventory management
- Item categorization and searching
- Deliverable: Complete client and inventory management system

#### **Phase 4: Financial Tracking (Week 8-9)**

- Income transaction recording
- Transaction history and filtering
- Payment method management
- Deliverable: Comprehensive financial tracking module

### **Phase 5: Reporting & Analytics (Week 10-11)**

- Invoice summary reports
- Customer revenue analysis
- Product/item performance reports
- PDF and Excel export functionality
- Deliverable: Advanced reporting system with export capabilities

### **Phase 6: Settings, Help & Polish (Week 12-13)**

- Business profile management
- Help and support section
- About screen and version information
- Deliverable: Complete, polished application

## **5.2. Development Milestones**

Milestone	Target Date	Status
Authentication & Business profile management	Week 2	✓ Completed
Invoice Management MVP	Week 5	✓ Completed
Client & Item Management	Week 7	✓ Completed
Financial Tracking Module	Week 9	✓ Completed
Reporting & Analytics	Week 11	✓ Completed
Settings & Polish	Week 13	✓ Completed
Testing & Ready to use	Week 14	✓ Completed

### **5.3. Key Deliverables**

- Week 2: Working login/signup and Business profile management with Firebase authentication
- Week 5: Invoice creation, editing, deletion, and viewing with item management
- Week 7: Client management system with contact database
- Week 9: Income/expense tracking with transaction history
- Week 11: Comprehensive reporting with PDF/Excel export
- Week 13: Settings, help system, and UI refinements
- Week 14: Tested

### **5.4. Development Team & Responsibilities**

- Flutter Developer: UI development, app logic, integration
- Backend Developer: Firebase setup, data model design, cloud functions
- UI/UX Designer: Design system, user experience, interface design
- QA Tester: Testing, bug tracking, performance validation