Mobile App

- Module
  - OnMart - E-Commerce Mobile Application Documentation

Module

Module

OnMart - E-Commerce Mobile Application Documentation

Table of Contents

1. Project Overview
2. Features
3. Technology Stack
4. Project Architecture
5. Getting Started
6. Project Structure
7. Development Guidelines
8. API Integration
9. State Management
10. Navigation
11. Component Library
12. Styling and Theming
13. Internationalization (i18n)
14. Environment Configuration
15. Testing
16. Build and Deployment
17. Common Issues and Troubleshooting
18. Best Practices

Project Overview

OnMart is a full-featured React Native e-commerce mobile application that provides a comprehensive shopping experience for both customers and affiliate marketers. The app supports iOS and Android platforms and features a modern, responsive UI built with TypeScript.

Key Capabilities

- **Shopping Experience**: Browse products, search, filter by categories, add to cart, and checkout
- **User Management**: Authentication, profile management, address management
- **Order Management**: Track orders, view order history, manage payments
- **Social Features**: Chat with sellers, product ratings and reviews
- **Affiliate Program**: Complete affiliate marketing system with dashboard, collection management, and payment tracking
- **Wishlist**: Save favorite products for later
- **Vouchers**: Apply discount vouchers and track voucher history
- **Store Management**: Browse stores and view store details
- **Real-time Features**: Socket.io integration for real-time updates

---

Features

Customer Features

1. **Product Discovery**
   - Homepage with featured products and categories
   - Product search with autocomplete
   - Category-based browsing
   - Product filtering and sorting
   - Store browsing
2. **Product Details**
   - High-quality product images with zoom
   - Detailed product information
   - Product variants (size, color, etc.)
   - Product reviews and ratings
   - Store information
   - Related products
3. **Shopping Cart**

- Add/remove products
- Update quantities
- Apply vouchers
- View total price with discounts

4. **Checkout Process**
   - Multiple address support
   - Shipping method selection
   - Payment method integration
   - Order summary
5. **Order Management**
   - Order tracking
   - Order history
   - Order status updates
   - Payment status
6. **User Account**
   - Profile management
   - Address book
   - Wishlist
   - Notification preferences
   - Account deletion
7. **Communication**
   - Chat with sellers
   - Real-time messaging
   - Order inquiries

Affiliate Features

1. **Affiliate Dashboard**
   - Earnings overview
   - Performance metrics
   - Commission tracking
2. **Collection Management**
   - Create product collections
   - Manage collection items
   - Custom collection banners
3. **Link Generation**
   - Generate affiliate links
   - Track link performance
4. **Payment Management**
   - Withdrawal requests
   - Payment history
   - Tax information

Technology Stack

Core Technologies

- **React Native**: 0.75.2
- **React**: 18.3.1
- **TypeScript**: 5.0.4
- **Node.js**: >= 18

Key Libraries

State Management

- **Redux Toolkit**: @reduxjs/toolkit ^2.2.7
- **React Redux**: ^9.1.2
- **Redux Persist**: ^6.0.0

Navigation

- **React Navigation**: ^6.1.18
  - Native Stack Navigator
  - Bottom Tabs Navigator
  - Drawer Navigator

API & Data

- **Apollo Client**: ^3.5.6 (GraphQL)
- **Axios**: ^1.7.7 (REST API)
- **Socket.io Client**: ^4.8.1 (Real-time)

UI Components

- **React Native Reanimated**: ^3.15.1
- **React Native Gesture Handler**: ^2.18.1
- **React Native SVG**: ^15.9.0
- **React Native Vector Icons**: ^10.1.0
- **React Native Maps**: 1.20.0
- **Gorhom Bottom Sheet**: ^5

Media & Camera

- **React Native Vision Camera**: ^4.5.3
- **React Native Image Picker**: ^7.1.2
- **React Native Image Resizer**: ^3.0.11
- **React Native Video**: ^6.7.0

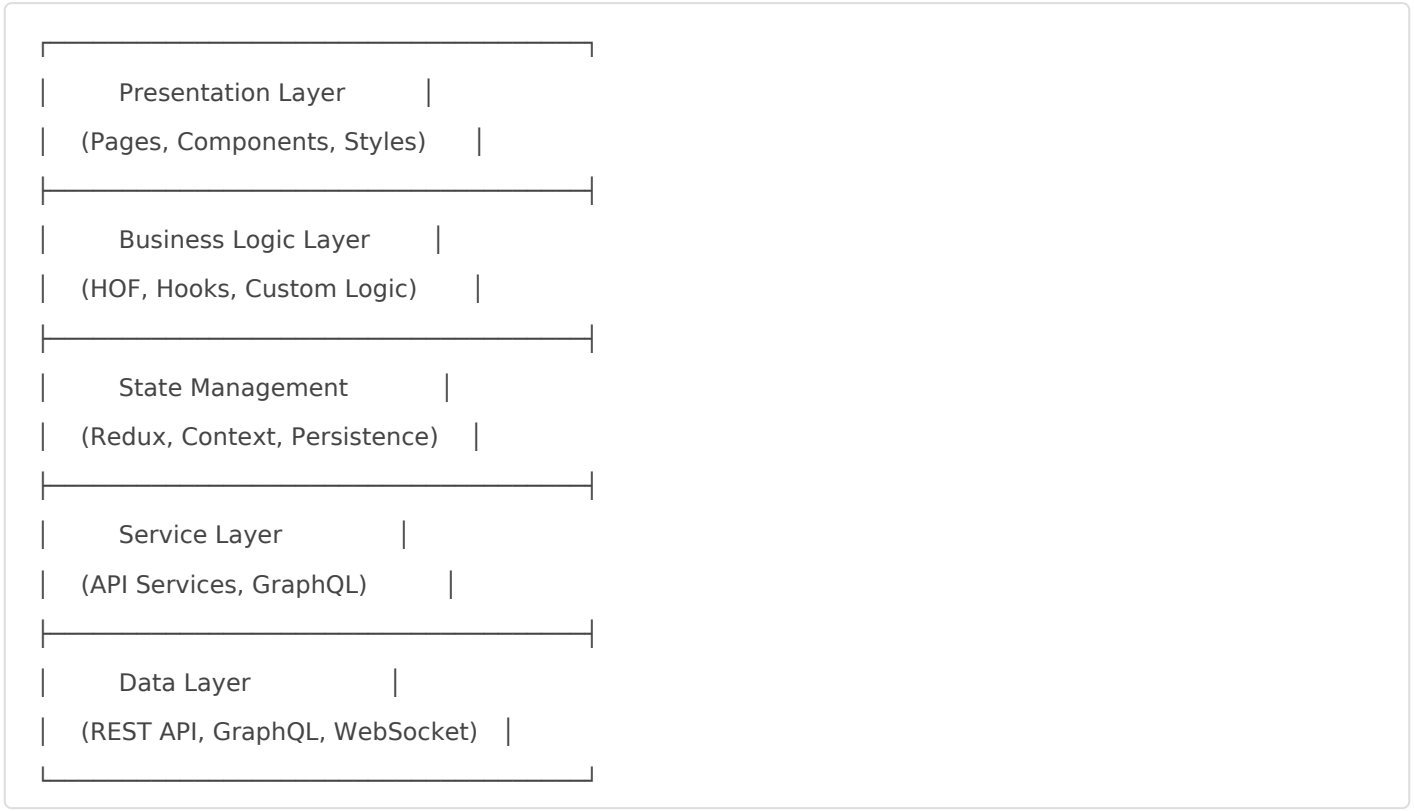
Utilities

- **Moment.js**: ^2.30.1
- **i18next**: ^23.14.0
- **React Native Toast Notifications**: ^3.4.0
- **React Native Share**: ^12.0.3

Project Architecture

OnMart follows a modular architecture with clear separation of concerns:

Architecture Layers



Design Patterns

1. **Atomic Design**: Component library organized as Atoms → Molecules → Organisms
2. **Higher-Order Functions (HOF)**: Business logic separated from UI components
3. **Service Layer Pattern**: Centralized API calls in service modules
4. **Container/Presentational Pattern**: Separation of data handling and UI rendering

---

Getting Started

Prerequisites

Before you begin, ensure you have the following installed:

1. **Node.js** (>= 18.x)
2. **Yarn** (3.6.4 - managed via packageManager)
3. **React Native CLI**
4. **Xcode** (for iOS development, macOS only)
5. **Android Studio** (for Android development)
6. **CocoaPods** (for iOS dependencies)

Environment Setup

Follow the React Native Environment Setup guide for your operating system.

Installation

1. **Clone the repository**

```
git clone https://github.com/ondeliveroper/OnMart.git
cd OnMart
```

2. **Install dependencies**

```
yarn install
```

3. **Install iOS dependencies** (macOS only)

```
cd ios
pod install
cd ..
```

4. **Configure environment**

```
# For development
yarn dev

# For production
yarn prod
```

This copies the appropriate `.env.dev` or `.env.prod` file to `.env`

Running the Application

Development Mode

1. **Start Metro bundler**

```
yarn start
```

2. **Run on iOS** (in a new terminal)

```
yarn ios
```

3. **Run on Android** (in a new terminal)

```
yarn android
```

Production Build

Android

```
yarn android:build
```

Output: `android/app/build/outputs/apk/release/app-release.apk`

iOS Build through Xcode or use Fastlane (requires configuration)

Project Structure

```
OnMart/
├── android/                # Android native code
```

```
├── ios/                    # iOS native code
├── src/                    # Application source code
│   ├── api/                # API integration
│   │   ├── services/       # Service modules
│   │   ├── axios-instance.ts  # Axios configuration
│   │   ├── axios-request.ts   # Request wrapper
│   │   └── endpoints.ts       # API endpoints
│   ├── assets/             # Static assets (images, icons, fonts)
│   ├── components/         # Reusable components
│   │   ├── atoms/          # Basic UI elements
│   │   ├── molecules/      # Composed components
│   │   └── organisms/      # Complex components
│   ├── contexts/           # React Context providers
│   │   ├── theme.tsx       # Theme context
│   │   └── product-card-bottom-sheet/ # Bottom sheet context
│   ├── graphql/            # GraphQL operations
│   │   ├── queries/        # GraphQL queries
│   │   └── mutations/      # GraphQL mutations
│   ├── hooks/              # Custom React hooks
│   ├── i18n/               # Internationalization
│   │   ├── locales/        # Translation files
│   │   └── index.ts        # i18n configuration
│   ├── navigation/         # Navigation configuration
│   │   ├── app-navigator.tsx # Main navigator
│   │   ├── root-navigation.tsx # Navigation root
│   │   └── components/     # Navigation components
│   ├── pages/              # Application screens
│   │   ├── home/
│   │   ├── product-detail/
│   │   ├── cart/
│   │   ├── checkout/
│   │   ├── profile/
│   │   ├── affiliate-*/    # Affiliate pages
│   │   └── ...
│   ├── store/              # Redux store
│   │   ├── actions/        # Action creators
│   │   ├── reducers/       # Reducers
│   │   ├── root-reducer.ts   # Root reducer
│   │   └── index.ts        # Store configuration
```

```
│   ├── types/              # TypeScript type definitions
│   └── utils/              # Utility functions
├── __tests__/              # Test files
├── patches/                # Package patches
├── .env.dev                # Development environment variables
├── .env.prod               # Production environment variables
├── App.tsx                 # Application entry point
├── index.js                # React Native entry point
├── package.json            # Dependencies and scripts
└── tsconfig.json           # TypeScript configuration
```

Key Directories Explained

/src/api/services/

Contains service modules for API integration:

- `auth-service.ts` - Authentication endpoints
- `product-service.ts` - Product operations
- `cart-service.ts` - Shopping cart operations
- `checkout-service.ts` - Checkout process
- `order-service.ts` - Order management
- `profile-services.ts` - User profile operations
- `wishlist-service.ts` - Wishlist operations
- `affiliate-service.ts` - Affiliate program operations
- `chat-service.ts` - Chat functionality

/src/components/

Follows Atomic Design methodology:

- **Atoms**: Button, Card, Container, TextInput, DatePicker, Dropdown, SkeletonLoader
- **Molecules**: BackButton, CartButton, Badge, Rating, SearchButton, PageInfo
- **Organisms**: Complex multi-component structures

/src/pages/

Each page represents a screen in the app:

- Structure: `page-name/page-name.tsx` (UI) + `page-name-hof.ts` (logic)
- Components specific to a page are in `page-name/components/`
- Styles are in `page-name/style.ts`

/src/store/

Redux store configuration:

- **actions**: Action creators and action types
- **reducers**: State reducers (login, user, profile, counter, affiliate)
- Integrated with Redux Persist for state persistence

Development Guidelines

Code Organization

1. **Page Structure**

```
page-name/
├── page-name.tsx          # UI component
├── page-name-hof.ts       # Business logic (Higher-Order Function)
├── style.ts               # Styles
└── components/            # Page-specific components
    ├── component-a.tsx
    └── component-b.tsx
```

2. **Component Structure**

```
import React from 'react';
import { View, Text } from 'react-native';

interface ComponentProps {
  // Props definition
}

const Component: React.FC<ComponentProps> = (props) => {
  // Component logic
  return (
    <View>
      {/* JSX */}
    </View>
  );
};
```

```
export default Component;
```

3. **HOF Pattern**

```
const usePageHOF = () => {
  // State management
  // Business logic
  // API calls

  return {
    datas: {
      // Data to expose
    },
    methods: {
      // Methods to expose
    }
  };
};

export default usePageHOF;
```

Naming Conventions

- **Files**: kebab-case (e.g., `product-detail.tsx`)
- **Components**: PascalCase (e.g., `ProductCard`)
- **Functions/Variables**: camelCase (e.g., `handleSubmit`)
- **Constants**: UPPER_SNAKE_CASE (e.g., `API_BASE_URL`)
- **Types/Interfaces**: PascalCase (e.g., `ProductType`)

TypeScript Guidelines

1. **Always define types for props**

```
interface ButtonProps {
  title: string;
  onPress: () => void;
  disabled?: boolean;
}
```

2. **Use type imports**

```
import type { ProductType } from '../types';
```

3. **Avoid `any` type** - use `unknown` if type is truly unknown

Styling Guidelines

1. **Use theme for consistency**

```
const styles = createStyles(theme);
```

2. **Create reusable style functions**

```
export const createStyles = (theme: Theme) =>
  StyleSheet.create({
    container: {
      flex: 1,
      backgroundColor: theme.colors.background,
    },
  });
```

3. **Responsive design**: Use percentages and flex for layouts

---

API Integration

REST API (Axios)

Configuration

API is configured in `src/api/axios-instance.ts`:

- Base URL from environment variables
- Request/response interceptors
- Authentication token injection

Making API Calls

Service modules in `src/api/services/` provide type-safe API calls:

```
// Example: Product Service
import { getProductDetail } from '../api/services/product-service';

const fetchProduct = async (productId: string) => {
  try {
    const response = await getProductDetail(productId);
    // Handle response
  } catch (error) {
    // Handle error
  }
};
```

Available Services

- **AuthService**: login, signup, logout, password reset
- **ProductService**: list products, product details, search
- **CartService**: add to cart, update cart, remove from cart
- **CheckoutService**: create order, payment processing
- **OrderService**: order history, order details, track order
- **ProfileService**: get/update profile, address management
- **WishlistService**: add/remove from wishlist
- **AffiliateService**: affiliate operations, commission tracking
- **ChatService**: send/receive messages

GraphQL (Apollo Client)

Configuration

Apollo Client is configured in the app with:

- GraphQL endpoint
- Authentication headers
- File upload support (apollo-upload-client)

Queries and Mutations

Located in `src/graphql/`:

```
// Example Query
import { useQuery } from '@apollo/client';
import { GET_PRODUCTS } from '../graphql/queries';
```

```
const { data, loading, error } = useQuery(GET_PRODUCTS, {
  variables: { categoryId: '123' }
});
```

WebSocket (Socket.io)

Real-time features use Socket.io:

- Chat messages
- Order status updates
- Notifications

State Management

Redux Store Structure

```
{
  login: {
    isLoggedIn: boolean,
    token: string,
    // ...
  },
  user: {
    userId: string,
    userInfo: UserType,
    // ...
  },
  profile: {
    // User profile data
  },
  counter: {
    cartCount: number,
    wishlistCount: number,
    notificationCount: number,
  },
```

```
  affiliate: {
    // Affiliate program data
  }
}
```

Using Redux

Accessing State

```
import { useSelector } from 'react-redux';

const MyComponent = () => {
  const isLoggedIn = useSelector((state: RootState) => state.login.isLoggedIn);
  const cartCount = useSelector((state: RootState) => state.counter.cartCount);

  // Component logic
};
```

Dispatching Actions

```
import { useDispatch } from 'react-redux';
import { setUser } from '../store/actions';

const MyComponent = () => {
  const dispatch = useDispatch();

  const handleLogin = (user: UserType) => {
    dispatch(setUser(user));
  };

  // Component logic
};
```

Redux Persist

State is automatically persisted to AsyncStorage. Configured in `src/store/index.ts`.

Context API

Used for:

- **ThemeContext**: Theme management
- **PCBottomSheetProvider**: Product card bottom sheet

Navigation

Navigation Structure

```
Root Navigator
├── Auth Stack (if not logged in)
│   ├── OnBoarding
│   ├── Login
│   ├── SignUp
│   └── ForgotPassword
└── Main App (if logged in)
    ├── Bottom Tab Navigator
    │   ├── Home Stack
    │   ├── Wishlist
    │   ├── Cart
    │   └── Profile
    └── Other Stacks
        ├── Product Detail Stack
        ├── Checkout Stack
        ├── Order Stack
        ├── Affiliate Stack
        └── Chat Stack
```

Navigation Types

Define navigation types in `src/types/route.ts`:

```
export type RootStackParamList = {
  Home: undefined;
  ProductDetail: { productId: string };
  // ...
};
```

Navigating Between Screens

```
import { useNavigation } from '@react-navigation/native';

const MyComponent = () => {
  const navigation = useNavigation();

  const goToProduct = (productId: string) => {
    navigation.navigate('ProductDetail', { productId });
  };

  const goBack = () => {
    navigation.goBack();
  };
};
```

Deep Linking

Configure deep linking in `react-native.config.js` and navigation configuration for handling external links.

Component Library

Atomic Design Structure

Atoms (Basic Building Blocks)

Button

```
import { Button } from '../../components';

<Button
  title="Submit"
  onPress={handleSubmit}
  variant="primary"
  disabled={false}
/>
```

Card

```
import { Card } from '../../components';

<Card>
  <Text>Card Content</Text>
</Card>
```

TextInput

```
import { TextInput } from '../../components';

<TextInput
  placeholder="Enter text"
  value={text}
  onChangeText={setText}
  leftIcon={<Icon />}
  rightIcon={<Icon />}
/>
```

ProductCard

```
import { ProductCard } from '../../components';

<ProductCard
  product={productData}
  onPress={handleProductPress}
  onAddToCart={handleAddToCart}
/>
```

SkeletonLoader

```
import { SkeletonLoader } from '../../components';

<SkeletonLoader width={100} height={20} borderRadius={4} />
```

Molecules (Composite Components)

BackButton

```
import { BackButton } from '../../components';

<BackButton onBackPress={handleBack} />
```

CartButton

```
import { CartButton } from '../../components';

<CartButton
  count={cartCount}
  onPress={handleCartPress}
/>
```

Rating

```
import { Rating } from '../../components';

<Rating
  rating={4.5}
  count={120}
  size="small"
/>
```

SearchButton

```
import { SearchButton } from '../../components';

<SearchButton onPress={handleSearch} />
```

Creating Custom Components

Follow the atomic design principle:

1. Determine the component level (atom/molecule/organism)
2. Create in appropriate directory
3. Export from `components/index.ts`
4. Add TypeScript types
5. Use theme for styling

Styling and Theming

Theme Structure

Theme is defined in `src/contexts/theme.tsx`:

```
{
  colors: {
    primary: string,
    secondary: string,
    background: string,
    text: string,
    error: string,
    success: string,
    // ...
  },
  spacing: {
    small: number,
    medium: number,
    large: number,
  },
  margin: {
    small: number,
    medium: number,
    large: number,
  },
  padding: {
    small: number,
    medium: number,
    large: number,
  },
```

```
  typography: {
    fontSize: {...},
    fontWeight: {...},
  },
  // ...
}
```

Using Theme

```
import { useTheme } from '../../contexts';

const MyComponent = () => {
  const { theme } = useTheme();

  const styles = createStyles(theme);

  return (
    <View style={styles.container}>
      {/* Component content */}
    </View>
  );
};

const createStyles = (theme: Theme) => StyleSheet.create({
  container: {
    backgroundColor: theme.colors.background,
    padding: theme.padding.medium,
  },
  text: {
    color: theme.colors.text,
    fontSize: theme.typography.fontSize.medium,
  },
});
```

Responsive Design

Use dimensions and flex for responsive layouts:

```
import { Dimensions } from 'react-native';

const { width, height } = Dimensions.get('window');

const styles = StyleSheet.create({
  container: {
    width: width * 0.9,
  },
});
```

Internationalization (i18n)

Configuration

i18n is configured using `i18next` and `react-i18next`.

Configuration: `src/i18n/index.ts` Translations: `src/i18n/locales/en.json`

Adding Translations

1. Add keys to `src/i18n/locales/en.json`:

   ```
   {
     "welcome": "Welcome to OnMart",
     "login": {
       "title": "Login",
       "email": "Email Address",
       "password": "Password"
     }
   }
   ```

2. Use in components:

   ```
   import { useTranslation } from 'react-i18next';

   const MyComponent = () => {
     const { t } = useTranslation();
   ```

```
  return (
    <Text>{t('welcome')}</Text>
    <Text>{t('login.title')}</Text>
  );
};
```

Adding New Languages

1. Create new translation file: `src/i18n/locales/[lang].json`
2. Import in `src/i18n/index.ts`
3. Add to resources configuration

Environment Configuration

Environment Variables

Three environment files:

- `.env` - Active environment (copied from .env.dev or .env.prod)
- `.env.dev` - Development configuration
- `.env.prod` - Production configuration

Available Variables

```
API_AUTH_URL=https://auth-api.example.com
API_BASE_URL=https://api.example.com
URL=https://app.example.com
MAP_KEY=YOUR_GOOGLE_MAPS_API_KEY
COLLECTION_BANNER=https://storage.example.com/default-banner.png
```

Using Environment Variables

```
import { API_BASE_URL, MAP_KEY } from '@env';

const apiUrl = API_BASE_URL;
const mapKey = MAP_KEY;
```

Switching Environments

```
# Switch to development
yarn dev

# Switch to production
yarn prod
```

Testing

Running Tests

```
# Run all tests
yarn test

# Run tests in watch mode
yarn test --watch

# Run tests with coverage
yarn test --coverage
```

Test Structure

Tests are located in `__tests__/` directory.

Writing Tests

```
import React from 'react';
import { render } from '@testing-library/react-native';
import MyComponent from '../MyComponent';

describe('MyComponent', () => {
  it('renders correctly', () => {
    const { getByText } = render(<MyComponent />);
    expect(getByText('Hello')).toBeTruthy();
  });
});
```

Build and Deployment

Android Build

Debug Build

```
yarn android
```

Release Build

```
yarn android:build
```

Output: `android/app/build/outputs/apk/release/app-release.apk`

Signing Configuration

Configure signing in `android/app/build.gradle`:

```
signingConfigs {
    release {
        storeFile file('your-keystore.keystore')
        storePassword 'your-store-password'
        keyAlias 'your-key-alias'
        keyPassword 'your-key-password'
    }
```

```
}
```

iOS Build

Debug Build

```
yarn ios
```

Release Build

1. Open `ios/OnMart.xcworkspace` in Xcode
2. Select "Product" → "Archive"
3. Follow distribution steps

Code Signing

- **iOS**: Configure signing in Xcode
- **Android**: Configure keystore

App Distribution

- **iOS**: App Store Connect / TestFlight
- **Android**: Google Play Console / Firebase App Distribution

---

Common Issues and Troubleshooting

Metro Bundler Issues

Problem: Metro bundler cache issues

Solution:

```
yarn start --reset-cache
```

Pod Install Failures (iOS)

Problem: CocoaPods installation fails

Solution:

```
cd ios
pod deintegrate
pod install
cd ..
```

Android Build Failures

Problem: Gradle build fails

Solution:

```
cd android
./gradlew clean
cd ..
yarn android
```

Package Conflicts

Problem: Package version conflicts

Solution:

```
rm -rf node_modules
rm yarn.lock
yarn install
```

Native Module Linking Issues

Problem: Native modules not found

Solution:

```
# Reinstall dependencies
yarn install

# iOS
cd ios && pod install && cd ..

# Android - usually auto-links
```

Common Error Messages

1. **"Unable to resolve module"**
   - Clear Metro cache: `yarn start --reset-cache`
   - Reinstall dependencies
2. **"Command failed: gradlew.bat"**
   - Check Android SDK installation
   - Update Gradle version
3. **"CocoaPods could not find compatible versions"**
   - Update CocoaPods: `pod repo update`
   - Update pod dependencies: `cd ios && pod update && cd ..`

Best Practices

Performance Optimization

1. **Use React.memo for pure components**

```
export default React.memo(MyComponent);
```

2. **Use useCallback for functions passed as props**

```
const handlePress = useCallback(() => {
  // Handler logic
}, [dependencies]);
```

3. **Use useMemo for expensive calculations**

```
const expensiveValue = useMemo(() => {
  return computeExpensiveValue(data);
```

```
}, [data]);
```

4. **Optimize FlatList with proper keys and props**

```
<FlatList
  data={items}
  keyExtractor={(item) => item.id}
  removeClippedSubviews={true}
  maxToRenderPerBatch={10}
  windowSize={10}
/>
```

5. **Use SkeletonLoader for loading states**

Security Best Practices

1. **Never commit sensitive data**
   - Use environment variables
   - Add sensitive files to `.gitignore`
2. **Validate user input**
3. **Use HTTPS for all API calls**
4. **Implement proper authentication**
5. **Store tokens securely** (using AsyncStorage with encryption)

Code Quality

1. **Run linter before committing**

```
yarn lint
```

2. **Follow TypeScript best practices**
3. **Write meaningful commit messages**
4. **Comment complex logic**
5. **Keep functions small and focused**

Git Workflow

1. **Create feature branches**

```
git checkout -b feature/my-feature
```

2. **Commit frequently with clear messages**

```
git commit -m "Add product search functionality"
```

3. **Pull before pushing**

```
git pull origin main
git push origin feature/my-feature
```

Component Development

1. **Start with the simplest implementation**
2. **Make components reusable**
3. **Use TypeScript for type safety**
4. **Separate concerns (UI vs logic)**
5. **Test edge cases**

Additional Resources

React Native Documentation

- React Native Docs
- React Navigation
- Redux Toolkit

Learning Resources

- React Native Express
- TypeScript Handbook

Community

- React Native Community
- Stack Overflow - React Native

Conclusion

This documentation provides a comprehensive guide to understanding, developing, and maintaining the OnMart mobile application. For any questions or issues not covered here, please contact the development team.

Version: 1.0.4 **Last Updated**: February 2026 **Maintained By**: OnDelivery Operations Team