

## **Project Overview: Buyer-Seller Matching Platform**

### **Objective:**

To develop a mobile application (Android & iOS) and web-based platform that intelligently matches buyers with suitable sellers based on specified preferences, categories, and matching algorithms. The platform is intended to streamline lead generation, facilitate efficient transactions, and reduce manual matchmaking.

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### **Core Functional Modules:**

#### **1. User Registration & Profile Management**

- Role-based sign-up (Buyer, Seller, Admin)
- Profile creation with custom attributes per role
  - Buyers: Budget, Categories of interest, Preferred location, Purchase timeline
  - Sellers: Product/Service listings, Pricing, Location, Inventory status
- Verification (email, phone, and optionally ID)

#### **2. Matching Engine**

- Uses rules and algorithms to score and rank sellers for each buyer
- Core matching parameters:
  - Category
  - Location proximity
  - Budget range
  - Product availability / lead time
  - Buyer interest tags vs seller offering tags
- Dynamic recommendation system based on user behavior and platform activity

#### **3. Product & Service Listings**

- Sellers can create multiple listings
- Listings include:
  - Title, Description, Price, Location, Availability
  - Images, Documents, and optional Videos
  - Tags and filters for enhanced discoverability

#### **4. Buyer Requests / Needs**

- Buyers can post what they are looking for (RFP-style form)
- These posts trigger the matching engine to notify suitable sellers

- Sellers can respond with offers or queries

#### **5. Chat & Messaging System**

- Real-time chat between buyers and sellers
- Auto-suggestions and quick replies based on intent
- Option to attach files or proposals

#### **6. Notification System**

- Email, SMS, and in-app notifications
- In-app push notifications for both Android and iOS platforms
- Alerts for matches, messages, request status updates

#### **7. Dashboard**

- Separate dashboards for buyers and sellers
- Overview of matches, messages, stats, and active listings/requests

#### **8. Admin Panel (Web-based)**

- Web-only login for admin access
- User management and moderation tools
- Reports and analytics
- Manage categories, flag violations, update system preferences

#### **9. Security & Compliance**

- Data encryption in transit and at rest
- GDPR and other local regulations compliant
- Role-based access control

#### **10. Payment Integration (Phase 2)**

- Optional milestone-based payments
- Escrow capability
- Invoice generation and transaction logging

#### **11. Review and Rating System**

- After interaction, users can rate each other
- Helps improve trust and match quality

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### **User Journey Summary:**

1. Buyer signs up via the app, creates a profile, and posts a request.

2. Matching engine finds and scores best-fit sellers.
3. Sellers are notified and can respond or propose listings.
4. Chat allows negotiation or clarification.
5. Buyer selects preferred seller; transaction initiated.
6. Post-transaction, both parties rate each other.

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**Technology Recommendations:**

- Mobile App: React Native (Android & iOS)
- Frontend (Admin/Web): React / Next.js
- Backend: Node.js / Express or NestJS
- Database: PostgreSQL (primary), Redis (caching), ElasticSearch (search)
- Hosting: AWS / GCP / Azure
- Real-time: Socket.IO for messaging
- Notifications: Firebase for push notifications, Twilio for SMS

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**Next Steps for Development Team:**

- Convert above requirements into functional specification
- Define API endpoints and data models
- Develop UI/UX wireframes and user flow diagrams
- Break features into milestones/sprints