SpotSync - React Native Social Venue Discovery App

Create **SpotSync**, a React Native application that allows users to discover nearby venues and share real-time information about deals, crowds, and conditions. SpotSync combines location-based venue discovery with community-driven insights and real-time social features.

Core Features & Requirements

1. Location & Venue Discovery

- **Geolocation Integration**: Get user's current location with proper permissions handling

- **Geoapify Places API Integration**: Search for venues using Geoapify's Places API

- **Filtering System**: Allow users to filter venues by:
  - Category (restaurants, bars, arcades, entertainment, shopping, etc.)
  - Radius (0.5km, 1km, 2km, 5km, 10km)
  - Price range
  - User ratings
  - Current deals/specials availability

- **Modern List View**: Primary interface displaying venues in an elegant, card-based layout with:
  - Clean typography and contemporary design elements
  - Smooth animations and micro-interactions
  - Progressive disclosure of information
  - Swipe gestures for quick actions
  - Pull-to-refresh functionality

2. Caching & Performance

- **Local Storage Caching**: Cache venue search results with expiration timestamps

- **Rate Limit Management**:
  - Implement request throttling for Geoapify API
  - Cache results for at least 15-30 minutes to minimize API calls
  - Show cached results immediately while refreshing in background

- **Offline Support**: Display cached venues when network is unavailable

- **Smart Refresh**: Only fetch new data when user moves significantly or cache expires

3. User-Generated Content System

Users can contribute real-time information about venues:

- **Daily Deals & Specials**: Text input with **required photo uploads** showing deal signage, menu items, or promotional materials
- **Crowd Levels**: Rating scale (Empty, Light, Moderate, Busy, Packed) with **optional photos** showing current venue conditions
- **Wait Times**: Input current wait times for tables/service with **optional photos** of lines or crowds
- **Live Entertainment**: Schedule and type of entertainment happening with **optional photos/videos** of performers or events
- **Happy Hour Info**: Time slots and specific deals with **optional photos** of drink specials or food items
- **Parking Availability**: Current parking situation with **optional photos** showing available spaces
- **Special Events**: Temporary events or promotions with **required photos** for verification
- **General Notes**: Open text field for other observations with **optional photo attachments**
- **Venue Atmosphere Photos**: Users can contribute photos showing current ambiance, decor, seating areas, and overall vibe

4. Social Features & User Presence

- **Real-Time User Presence**: Show how many logged-in users are currently at each venue
- **Check-In System**: Users can check in/out of venues with optional privacy settings
- **User Profiles at Venues**: See who's currently at a location (with privacy controls)
- **In-Venue Chat**: Location-based chat rooms for each venue
- **Direct Messaging**: Connect with other users at the same venue
- **Social Verification**: User presence helps validate venue information accuracy
- **Friend System**: Add friends and see when they're at nearby venues
- **Group Activities**: Create or join groups meeting at specific venues

5. Authentication & User Management

- **Supabase Auth Integration**: Complete authentication system
- **Social Login Options**:
  - Google Sign-In
  - Apple Sign-In (iOS)
  - Facebook Login

- Email/Password registration

- **User Profiles**: Basic profile with contribution history and reputation score

- **Anonymous Contributions**: Allow some contributions without full registration

6. Data Display & Decision Making

- **Venue Detail Pages**: Comprehensive view combining:
  - Basic venue info (hours, contact, category information from Geoapify)
  - **User-uploaded photo gallery** showing deals, atmosphere, and current conditions
  - **Photo-verified deals and specials** with timestamps
  - Real-time user contributions
  - **Live user count and presence indicators**
  - **Currently checked-in users (with privacy settings)**
  - **Venue-specific chat feed**
  - Historical data trends
  - User reviews and ratings

- **Photo-Based Verification**: Use photo uploads to verify deals, specials, and venue conditions

- **Visual Discovery**: Browse venues based on recent user photos showing atmosphere and current state

- **Social Context**: Show friends' activity and check-ins at venues

- **Community Validation**: User presence data and photos help verify venue information

- **Smart Recommendations**: Suggest venues based on current conditions, user preferences, social activity, and recent photos

- **Time-Sensitive Alerts**: Notify users of expiring deals, changing conditions, or when friends check in nearby

- **Contribution Timestamps**: Show how recent each piece of information and photos are

- **User Verification**: System to verify and validate user contributions through presence correlation and photo authenticity

Technical Specifications

Backend & Database (Supabase)

```sql

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-- Core tables structure
Tables needed:
- venues (id, name, address, coordinates, category, geoapify_place_id)
- user_contributions (id, user_id, venue_id, contribution_type, content, expires_at, created_at)
- contribution_photos (id, contribution_id, photo_url, photo_type, uploaded_at, is_primary)
- venue_photos (id, venue_id, user_id, photo_url, photo_type, description, uploaded_at, verification_status)
- user_checkins (id, user_id, venue_id, checked_in_at, checked_out_at, is_active, privacy_level)
- venue_chats (id, venue_id, user_id, message, created_at, parent_message_id)
- direct_messages (id, sender_id, recipient_id, message, created_at, venue_context_id)
- user_friends (id, user_id, friend_id, status, created_at)
- venue_groups (id, venue_id, creator_id, name, description, meeting_time, max_members)
- group_members (id, group_id, user_id, joined_at, status)
- users (supabase auth + profile data, privacy_settings, is_online)
- cached_searches (location_hash, radius, category, results, expires_at)
- venue_ratings (user_id, venue_id, rating, review_text)
```

Key React Native Libraries

- **@react-native-async-storage/async-storage**: Local caching

- **@react-native-geolocation/geolocation**: Location services

- **react-native-maps**: Map integration with user presence markers

- **@supabase/supabase-js**: Backend integration and real-time subscriptions

- **react-native-image-picker**: Photo capture and selection for venue contributions

- **react-native-image-resizer**: Optimize photo uploads for performance

- **@react-native-google-signin/google-signin**: Google authentication

- **react-native-vector-icons**: UI icons

- **react-native-gifted-chat**: Chat interface for venue and direct messaging

- **@react-native-community/push-notification-ios**: Push notifications for social interactions

- **react-native-background-timer**: Background location updates for check-ins

- **react-native-fast-image**: Optimized image loading for user-uploaded photos

- **react-native-photo-view**: Full-screen photo viewing with zoom capabilities

API Integration Patterns

- **Geoapify Places API**:
  - Implement proper API key management
  - Handle rate limiting gracefully

- Parse and normalize venue data (note: does not include photos)

  - Focus on venue discovery, categories, and basic information

- **Supabase Storage**: Handle user photo uploads with automatic optimization and CDN delivery

- **Photo Management**:

  - Implement image compression before upload

  - Generate multiple sizes for different UI contexts

  - Auto-delete expired deal photos

  - Moderate user-uploaded content

- **Caching Strategy**:

  - Hash location + radius + filters as cache key

  - Implement LRU cache eviction

  - Background refresh for popular locations

  - Cache user photos locally for faster loading

UI/UX Requirements

- **Modern, Sleek Interface**:

  - Contemporary design with glassmorphism elements

  - Subtle shadows and depth

  - Vibrant accent colors and smooth gradients

  - Clean typography hierarchy

  - Fluid animations and transitions

- **List-First Design**: Focus on perfecting the list view experience before adding maps

- **Fast Loading**: Show cached data immediately, refresh in background

- **Intuitive Filtering**: Easy-to-use filter interface with visual feedback

- **Real-Time Updates**: Live updates of user contributions, check-ins, and chat messages

- **Social Indicators**: Visual cues for user presence, friend activity, and popular venues

- **Chat Interface**: Seamless messaging experience within venue context

- **Privacy Controls**: Granular privacy settings for check-ins and profile visibility

- **Accessibility**: Proper labels and navigation for screen readers

- **Dark/Light Mode**: Support system theme preferences with beautiful color schemes

- **Push Notifications**: Smart notifications for social interactions and venue updates

Implementation Priority

1. **Phase 1**: Modern list-based UI, location services, Geoapify integration, venue display with contemporary design

2. **Phase 2**: Supabase auth, user check-ins, basic presence system

3. **Phase 3**: Venue chat, direct messaging, user-generated content

4. **Phase 4**: Advanced filtering, caching system, map integration with social markers

5. **Phase 5**: Friend system, group activities, push notifications

6. **Phase 6**: Analytics, user reputation system, advanced social features

Additional Considerations

- **Privacy**: Handle location data responsibly, granular privacy controls for social features and photo sharing

- **Photo Storage & Management**: Efficient photo upload, compression, and CDN delivery through Supabase Storage

- **Content Moderation**: System to report and moderate inappropriate contributions, messages, and photos

- **Photo Verification**: Implement systems to verify photo authenticity and relevance to venues

- **Real-Time Infrastructure**: Implement efficient WebSocket connections for live updates

- **Safety Features**: Report/block users, venue safety ratings, emergency contacts

- **Scalability**: Design database schema and real-time systems to handle concurrent users and photo uploads

- **Social Verification**: Use user presence and photos to validate venue information accuracy

- **Analytics**: Track app usage, popular venues, social engagement patterns, and photo engagement

- **Monetization Options**: Consider premium features, venue partnerships, or promoted content

- **Cross-Platform**: Ensure consistent social and photo experience on iOS and Android

- **Offline Mode**: Core features available when connectivity is limited, with photo upload queuing

Success Metrics

- User engagement with social features and real-time interactions

- Active check-ins and user presence accuracy

- Chat participation and direct message usage

- User retention through social connections

- Accuracy and freshness of venue information through community validation

- Daily active users and social engagement rates

- API cost efficiency through effective caching

- Community participation in content creation and social features

- Friend connections and group activity formation

Create a fully functional SpotSync app with clean, production-ready code, proper error handling, and comprehensive documentation for setup and deployment.