NAGA VENTURE

Role-Based Access Control (RBAC) Documentation

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Introduction

This document outlines the Role-Based Access Control (RBAC) structure for the NAGA VENTURE tourism platform. It details the sidebar navigation elements and permissions for each user role in the system.

User Roles Overview

The NAGA VENTURE platform has the following user roles:

1. **Tourism Admin** - Full system access and control
2. **Business Listing Manager** - Manages business listings and related content
3. **Tourism Content Manager** - Manages tourist spots, events, and tourism content
4. **Business Registration Manager** - Handles business registration approvals
5. **Business Owner** - Manages their own business listings
6. **Tourist** - Regular end-users of the platform

1. Tourism Admin

Sidebar Sections

1. **Dashboard**
   - Overview statistics
   - Recent activities
   - System health metrics
   - Quick access to pending approvals

2. **User Management**
   - Staff accounts (managers)
   - Business owners
   - Tourist accounts
   - Role assignments
   - Verification status

3. **Business Listings**
   - Accommodations
   - Shops
   - Services
   - Pending approvals
   - Featured businesses

4. **Tourism Content**
   - Tourist spots
   - Events
   - Promotions
   - Featured content

5. **Categories**
   - Main categories
   - Subcategories
   - Category management

6. **Bookings & Reservations**
   - Accommodation bookings
   - Booking statistics

- Issue resolution

7. **Reviews & Ratings**
    - Review moderation
    - Reported reviews
    - Rating analytics

8. **Content Approval**
    - Pending business profiles
    - Pending tourist spots
    - Pending events
    - Pending promotions

9. **Analytics**
    - Visitor statistics
    - Popular locations
    - Booking trends
    - User engagement

10. **System Settings**
    - API integrations
    - Storage management
    - Security settings
    - Backup & restore

Permissions

User Management

- Create, view, update, and delete all user accounts
- Assign and modify user roles
- Verify business owners
- Reset passwords
- View user activity logs
- Manage staff permissions

Business Listings

- Approve or reject new business registrations
- Edit any business listing information
- Feature/unfeature businesses

- Deactivate problematic businesses
- Manage business categories
- View all business analytics

Tourism Content

- Create and manage tourist spots
- Create and manage events
- Approve or reject content submissions
- Feature/unfeature content
- Manage content categories
- Upload and manage images

Categories

- Create new main categories and subcategories
- Edit category information
- Reorder categories
- Activate/deactivate categories
- Assign categories to businesses/spots

Bookings & Reservations

- View all bookings across the platform
- Modify booking status
- Handle booking disputes
- Access payment information
- Generate booking reports

Reviews & Ratings

- View all reviews
- Approve or reject reviews
- Edit or delete inappropriate reviews
- Respond to reviews
- View rating analytics

Content Approval

- Review all submitted content
- Approve or reject with comments
- Edit submitted content

- Manage approval workflows
- View approval history

Analytics

- Access all platform analytics
- Generate custom reports
- Export data
- Set up automated reports
- View business performance metrics

System Settings

- Configure API integrations (Google Maps, payment gateways)
- Manage storage buckets and policies
- Configure security settings
- Perform database backups
- Update system parameters

2. Business Listing Manager

Sidebar Sections

1. **Dashboard**
   - Business listing statistics
   - Recent business activities
   - Pending approvals

2. **Business Listings**
   - Accommodations
   - Shops
   - Services
   - Pending approvals
   - Featured businesses

3. **Categories**
   - Main categories
   - Subcategories
   - Category management

4. **Reviews & Ratings**
   - Review moderation for businesses
   - Reported reviews
   - Business rating analytics

5. **Content Approval**
   - Pending business profiles
   - Pending business updates

6. **Analytics**
   - Business performance metrics
   - Popular businesses
   - Business engagement

Permissions

Business Listings

- Approve or reject new business registrations
- Edit any business listing information
- Feature/unfeature businesses
- Deactivate problematic businesses
- Manage business categories
- View all business analytics

Categories

- Create new business-related categories
- Edit category information
- Reorder categories
- Activate/deactivate categories
- Assign categories to businesses

Reviews & Ratings

- View all business reviews
- Approve or reject business reviews
- Edit or delete inappropriate reviews
- View business rating analytics

Content Approval

- Review business profile submissions
- Approve or reject with comments
- Edit submitted business content
- View business approval history

Analytics

- Access business-related analytics
- Generate business reports
- Export business data
- View business performance metrics

3. Tourism Content Manager

Sidebar Sections

1. **Dashboard**
   - Tourism content statistics
   - Recent content activities
   - Pending content approvals

2. **Tourism Content**
   - Tourist spots
   - Events
   - Promotions
   - Featured content

3. **Categories**
   - Tourism-related categories
   - Category management

4. **Reviews & Ratings**
   - Review moderation for tourist spots and events
   - Reported reviews
   - Tourism content rating analytics

5. **Content Approval**
   - Pending tourist spots
   - Pending events
   - Pending promotions

6. **Analytics**
   - Tourism content performance
   - Popular tourist spots
   - Event engagement

Permissions

Tourism Content

- Create and manage tourist spots
- Create and manage events
- Create and manage promotions
- Approve or reject content submissions
- Feature/unfeature content
- Manage content categories
- Upload and manage images

Categories

- Create new tourism-related categories
- Edit category information
- Reorder categories
- Activate/deactivate categories
- Assign categories to tourist spots and events

Reviews & Ratings

- View all tourist spot and event reviews
- Approve or reject tourism content reviews
- Edit or delete inappropriate reviews
- View tourism content rating analytics

Content Approval

- Review tourism content submissions
- Approve or reject with comments
- Edit submitted tourism content
- View tourism content approval history

Analytics

- Access tourism content analytics
- Generate tourism content reports
- Export tourism content data
- View tourism content performance metrics

4. Business Registration Manager

Sidebar Sections

1. **Dashboard**
   - Registration statistics
   - Pending registrations
   - Recent registration activities

2. **Business Registrations**
   - Pending registrations
   - Approved registrations
   - Rejected registrations
   - Registration history

3. **Business Owners**
   - Business owner accounts
   - Verification requests
   - Account issues

4. **Analytics**
   - Registration metrics
   - Approval rates
   - Registration trends

Permissions

Business Registrations

- View all business registration requests
- Approve or reject business registrations
- Request additional information from applicants
- View registration history
- Generate registration reports

Business Owners

- View business owner accounts

- Verify business owner identities
- Reset business owner passwords
- Deactivate problematic accounts
- Communicate with business owners

Analytics

- Access registration analytics
- Generate registration reports
- View registration trends
- Monitor approval/rejection rates

5. Business Owner

Sidebar Sections

1. **Dashboard**
   - Business performance overview
   - Recent bookings
   - Recent reviews
   - Quick actions

2. **My Businesses**
   - Business profiles
   - Business details
   - Business images
   - Business hours
   - Amenities

3. **Rooms/Products** (if applicable)
   - Room types (for accommodations)
   - Products/services
   - Pricing
   - Availability

4. **Bookings**
   - Pending bookings
   - Confirmed bookings
   - Booking history
   - Booking calendar

5. **Reviews**
   - Customer reviews
   - Review responses
   - Rating analytics

6. **Promotions**
   - Active promotions
   - Create promotion
   - Promotion history

- Promotion analytics

7. **Analytics**

    - Business performance

    - Customer demographics

    - Revenue reports

    - Comparison with similar businesses

8. **Settings**

    - Account settings

    - Notification preferences

    - Payment settings

Permissions

My Businesses

- Create and edit own business profiles

- Upload business images

- Set business hours

- Manage amenities

- Submit business updates for approval

Rooms/Products

- Create and manage room types (for accommodations)

- Set room prices and availability

- Upload room images

- Manage room amenities

Bookings

- View bookings for own businesses

- Confirm or reject booking requests

- Communicate with guests

- View booking history

- Generate booking reports

Reviews

- View reviews for own businesses

- Respond to reviews

- Report inappropriate reviews
- View rating analytics

Promotions

- Create promotions for own businesses
- Edit active promotions
- View promotion history
- View promotion analytics

Analytics

- Access own business analytics
- Generate business reports
- View customer demographics
- View revenue reports

Settings

- Update account information
- Change notification preferences
- Manage payment settings

6. Tourist (Regular User)

Sidebar Sections

1. **Home**
   - Discover
   - Featured content
   - Recommendations

2. **Explore**
   - Tourist spots
   - Accommodations
   - Shops
   - Events
   - Map view

3. **My Trips**
   - Saved places
   - Trip plans
   - Trip history

4. **Bookings**
   - Upcoming bookings
   - Booking history
   - Booking requests

5. **Reviews**
   - My reviews
   - Review drafts
   - Places to review

6. **Profile**
   - Personal information
   - Preferences
   - Settings
   - Notifications

Permissions

Explore

- View all approved businesses, tourist spots, and events
- Search and filter content
- View business details, images, and reviews
- Access interactive map
- Save favorite places

My Trips

- Create and edit trip plans
- Save places to trip plans
- View trip history
- Share trips with others

Bookings

- Make booking requests
- View booking status
- Cancel bookings
- View booking history
- Rate booking experiences

Reviews

- Write reviews for visited places
- Upload review images
- Edit own reviews
- Delete own reviews
- View own review history

Profile

- Update personal information
- Set preferences
- Manage notification settings
- View activity history

Implementation Guidelines

Database Integration

The RBAC structure is implemented through the `profiles` and `staff_permissions` tables in the database:

```sql
-- User Roles Enum
CREATE TYPE user_role AS ENUM (
  'tourism_admin',
  'business_listing_manager',
  'tourism_content_manager',
  'business_registration_manager',
  'business_owner',
  'tourist'
);

-- Profiles Table
CREATE TABLE profiles (
  id UUID PRIMARY KEY REFERENCES auth.users(id) ON DELETE CASCADE,
  email TEXT UNIQUE NOT NULL,
  first_name TEXT,
  last_name TEXT,
  phone_number TEXT,
  profile_image_url TEXT,
  role user_role NOT NULL DEFAULT 'tourist',
  is_verified BOOLEAN NOT NULL DEFAULT FALSE,
  created_at TIMESTAMPTZ NOT NULL DEFAULT NOW(),
  updated_at TIMESTAMPTZ NOT NULL DEFAULT NOW()
);

-- Staff Permissions Table
CREATE TABLE staff_permissions (
  id UUID PRIMARY KEY DEFAULT uuid_generate_v4(),
  profile_id UUID NOT NULL REFERENCES profiles(id) ON DELETE CASCADE,
  can_manage_users BOOLEAN NOT NULL DEFAULT FALSE,
  can_manage_businesses BOOLEAN NOT NULL DEFAULT FALSE,
  can_manage_tourist_spots BOOLEAN NOT NULL DEFAULT FALSE,
  can_manage_events BOOLEAN NOT NULL DEFAULT FALSE,
  can_approve_content BOOLEAN NOT NULL DEFAULT FALSE,
  can_manage_categories BOOLEAN NOT NULL DEFAULT FALSE,
  created_at TIMESTAMPTZ NOT NULL DEFAULT NOW(),
  updated_at TIMESTAMPTZ NOT NULL DEFAULT NOW()
);
```

Frontend Implementation

When implementing the sidebar and permissions in the frontend:

1. Dynamic Sidebar Generation

```
function generateSidebar(userRole) {
  const sidebarItems = [];

  // Common items for all users
  sidebarItems.push({ label: 'Dashboard', icon: 'dashboard', route: '/dashboard' });

  // Role-specific items
  switch(userRole) {
    case 'tourism_admin':
      sidebarItems.push({ label: 'User Management', icon: 'users', route: '/
users' });
      sidebarItems.push({ label: 'Business Listings', icon: 'business', route: '/
businesses' });
      // Add other admin-specific items
      break;
    case 'business_owner':
      sidebarItems.push({ label: 'My Businesses', icon: 'store', route: '/my-
businesses' });
      sidebarItems.push({ label: 'Bookings', icon: 'calendar', route: '/bookings' });
      // Add other business owner-specific items
      break;
    // Handle other roles
  }

  return sidebarItems;
}
```

2. Permission Checking

```
function hasPermission(user, permission) {
  // For admin, grant all permissions
  if (user.role === 'tourism_admin') return true;

  // For staff roles, check specific permissions
  if (['business_listing_manager', 'tourism_content_manager',
'business_registration_manager'].includes(user.role)) {
    return user.permissions[permission] === true;
  }

  // For business owners, check if they own the resource
  if (user.role === 'business_owner' && permission.startsWith('manage_own_')) {
```

```
      const resourceId = permission.split('_').pop();
      return user.ownedBusinessIds.includes(resourceId);
    }

    // Default deny
    return false;
  }
```

Security Considerations

1. **Server-Side Validation**: Always validate permissions on the server side, not just in the UI
2. **RLS Policies**: Implement Row Level Security policies in the database as the primary security mechanism
3. **Token Validation**: Validate JWT tokens and check permissions on each API request
4. **Audit Logging**: Log all permission-related actions for security auditing
5. **Least Privilege**: Grant only the minimum permissions needed for each role

Conclusion

This RBAC structure provides a comprehensive security model for the NAGA VENTURE tourism platform. By clearly defining roles, sidebar sections, and permissions, the platform ensures that users can only access and modify data appropriate to their role while providing an intuitive and focused user experience.