LocalGuide Connect

Software Engineering Course Project --- Group 3

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The Market Problem

High Commission Fees

OTA platforms charge 20-30%, leaving guides with 70-80% of revenue. Independent guides earn unsustainably.

Lack of Authentic Experiences

Guides are incentivized by affiliate kickbacks to promote generic attractions, not genuine local culture.

Geographic & Booking Inefficiency

Tourists wait hours/days for guide confirmation. Limited location-based discovery. No real-time availability.

Trust & Payment Barriers

Lack of guide verification, cross-border payment complexity, and inadequate dispute resolution.

Our Value Proposition

✓ **12% Commission vs 20-30% Industry Standard**

Guides earn 85% of revenue. Tourists get 15-20% lower costs.

✓ **Verified Local Guides + Instant Booking**

Credential verification, transparent pricing, and real-time availability management.

✓ **Multi-Language Support (EN, FR, ZH)**

Cater to international tourists and 68,000 annual Canadian newcomers.

Target Market & Segments

Launch Cities

- **Vancouver** - West Coast hub
- **Toronto** - Largest population
- **Montreal** - Cultural diversity

Geographic focus enables critical mass + quality control

User Segments

- **International Tourists** - ARPU $200+
- **Local Newcomers** - 68K annually in Canada
- **Experienced Guides** - Seeking direct bookings

High-value tourists + underserved immigrant market

Revenue Model

Primary Stream: Transparent Commission

Component	Amount	Example ($100 Tour)
Tour Price	100%	$100.00
Platform Commission (12%)	12%	$12.00
Stripe Processing (~3.2%)	3.2%	$3.20
Guide Receives	**84.8%**	**$84.80**

Secondary Stream: Premium Guide Subscription

$299/year reduces commission to **10%** + priority ranking

Year 1 Target: 150 active guides, 1,200 monthly bookings → **$17,000/month revenue**

Market Positioning

LocalGuide's 12% commission model creates significant competitive advantage:

Platform	Commission Rate	Model	Our Advantage
LocalGuide Connect	**12%**	C2C Marketplace	Lowest rate
ToursByLocals	20-22%	Custom tours	8-10% lower
GetYourGuide	25-30%	Mixed (tours + experiences)	13-18% lower
Airbnb Experiences	27%	Experiences	15% lower
Traditional Agencies	40%+	Offline services	28%+ lower

Revenue Projections

Conservative 12-month growth model based on guide onboarding and booking volume

150

Active Guides (Month 12)

1,200

Monthly Bookings (Month 12)

$17K

Monthly Revenue (Month 12)

$165

Total Dev Cost

MVP Feature Set (15 Core Functions)

Tourist (5)

- Account + Auth
- Search Guides and Tour plans
- View Profiles
- Book Tours
- Stripe Payment

Guide (6)

- Registration
- Service Listings
- Set Coverage Area
- Manage Calendar
- Accept Bookings
- Mark Completed

Admin (3) + System (1)

- Approve Guides
- Moderate Tours
- Suspend Users
- Stripe Integration

Functional Requirements Summary

39 total requirements organized by role (13 Tourist, 13 Guide, 6 Admin, 8 System)

MUST Have (Core Features)

→   Tourist: Register, Search guides or tour plans, View profiles, Create booking, Pay

→   Guide: Register, Create tour plans, Set area, Manage calendar, Accept bookings

→   Admin: Approve guides, Handle disputes, Suspend accounts

→   System: Multi-level search, Double-booking prevention, Stripe integration, Email notifications

SHOULD Have (Phase 2)

→   Favorites, In-app messaging, AI smart search, Map visualization, Review photos, Premium subscriptions

COULD Have (Future)

→   E-tickets with QR codes, Advanced analytics dashboards, Tiered subscription models

Non-Functional requirements

Performance

- Homepage load: **<2s**
- Search response: **<500ms**
- Payment processing: **<3s**
- API response: **<300ms**
- 100 concurrent users

Security

- bcrypt password hashing
- HTTPS/TLS 1.3 encryption
- JWT + OAuth 2.0
- SQL injection prevention
- Rate limiting (100 req/min)

Reliability

- Uptime: **≥99.5%**/month
- MTTR: **<30 min**
- Maintenance: <4hrs/month

Scalability

- Horizontal scaling ready
- ≥70% test coverage
- AWS ElastiCache (Redis)
- AWS CloudWatch

Agile Development Approach

6 Sprints × 2 Weeks = 12-Week Delivery

- **Sprint 1-2 (Weeks 1-4)**

  Environment setup, DB design, Authentication system

- **Sprint 3-4 (Weeks 5-8)**

  Guide profiles, Booking system, Stripe integration

- **Sprint 5-6 (Weeks 9-12)**

  Admin panel, Testing, Deployment, Documentation

Team Capacity

- **4 Developers**
- **5 hrs/week** each
- **240 hours** total
- **40 hours** per sprint

Team Roles

- Backend Lead (Spring Boot)
- Frontend Lead (Vue.js)
- Full Stack (Search, AI)
- DevOps/QA

Development Roadmap

Sprint	Duration	Key Deliverables	Status
Sprint 1	Weeks 1-2	Setup, DB schema, Authentication	**Completed**
Sprint 2	Weeks 3-4	Guide profiles, Basic search	**Ongoing**
Sprint 3	Weeks 5-6	Booking system, Stripe integration	Scheduled
Sprint 4	Weeks 7-8	Reviews, AI smart search	Scheduled
Sprint 5	Weeks 9-10	Admin panel, Mobile optimization	Scheduled
Sprint 6	Weeks 11-12	Testing, Bug fixes, Deployment	Scheduled

Risk Mitigation: 2-3 day contingency per sprint + Week 11 dedicated to bug fixes and edge cases

Project Feasibility

✓ Schedule Feasible

15-feature MVP scope is realistic within 12-week timeline with disciplined sprint management

✓ Economically Viable

$165 total dev cost (~$41/person). AWS free tier + open-source tools. Negligible expense.

✓ Technically Viable

Spring Boot, Vue.js, PostgreSQL, Stripe are industry-standard with mature documentation

✓ Resource Adequate

4 developers with 480 total hours. Team capacity aligns with MVP scope. Skill gaps bridged through documentation.

Key Risk Mitigations

- **Payment Integration Risk:** Sandbox testing + dedicated Sprint 4 allocation + fallback manual reconciliation
- **Scope Expansion Risk:** Strict "feature freeze" per sprint + deferral of Phase 2 enhancements
- **Team Unavailability:** Cross-functional training + comprehensive code documentation
- **Deployment Risk:** Pre-deployment trial in Week 10 + Docker containerization

Use Case Diagrams

Tourist

- Search & filter
- View profiles
- Create booking
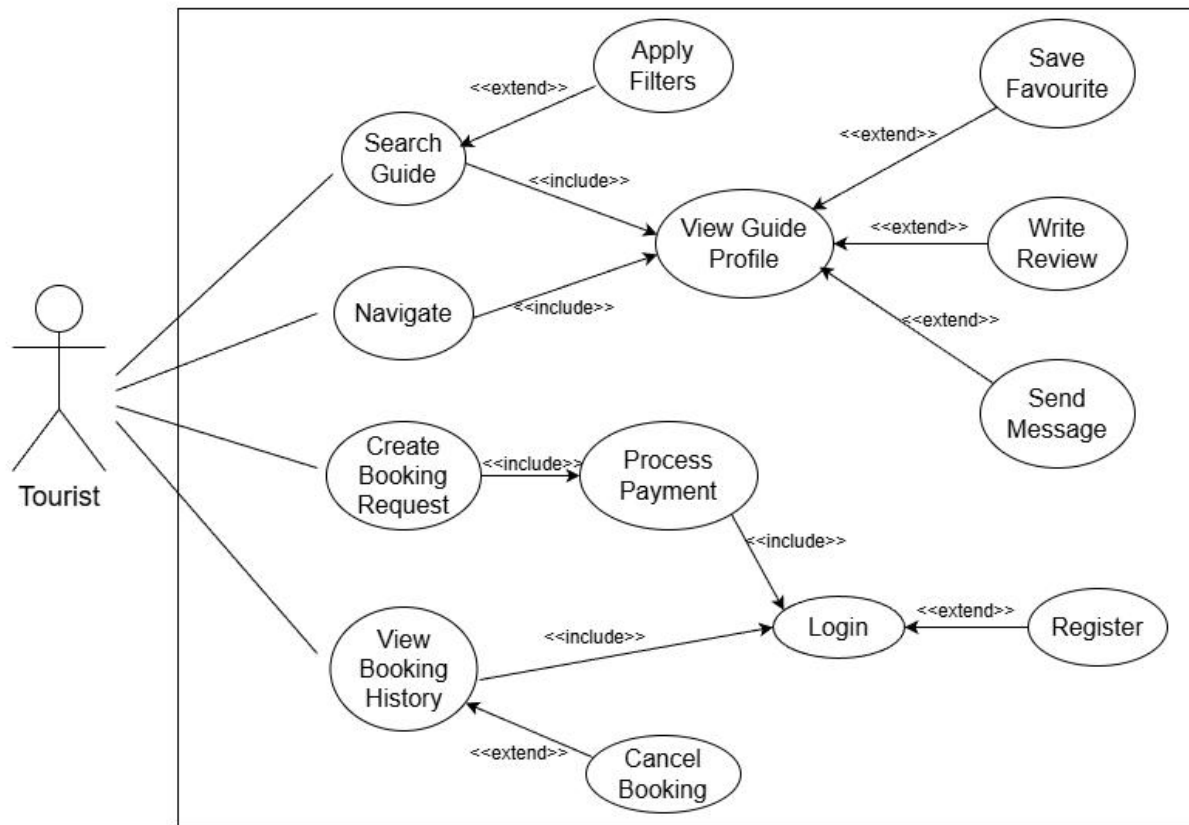- Pay (Stripe)
- Review & rate

Guide

- Register & verify
- Publish listings
- Manage calendar
- Accept bookings
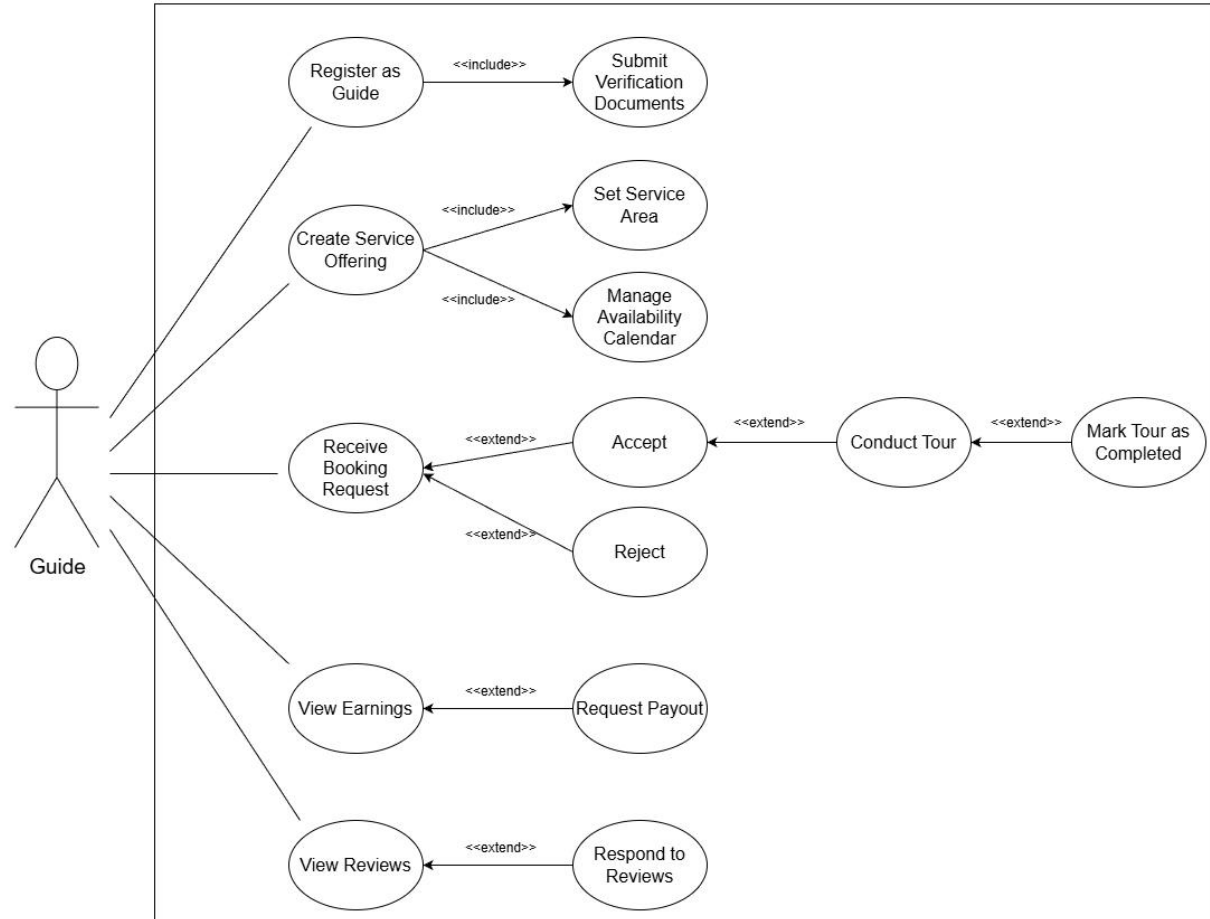- View earnings

Admin

- Verify guides
- Dispute resolution
- Monitor activity
- Moderate reviews
- Suspend users

Key Relationships: <<include>> Create Booking includes Process Payment | <<extend>> Search extends Apply Filters
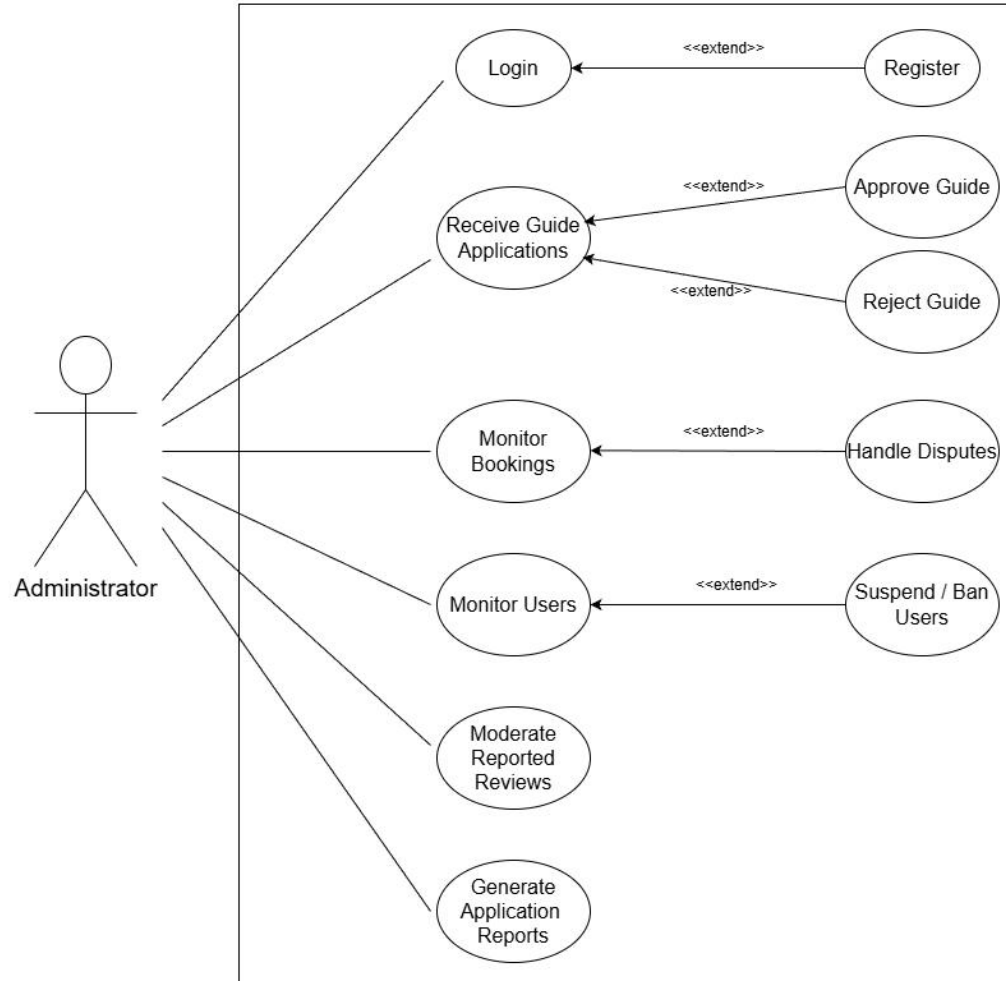
Use Case Diagrams

Use Case Diagrams

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Use Case Diagrams

Key Performance Indicators (KPIs)

Requirements Analysis KPIs (Phase Completion)

95%

Requirements Coverage

4.0(5.0)

Platform Usability

<2 seconds

System Response Time

100%

Stakeholder Approval

>80%

Booking Completion Rate

Project Roadmap

Phase 1: MVP Launch (12 weeks)

✓ **Core marketplace operational**

Guide search, booking, payments, verification, basic reviews

Phase 2: Feature Expansion (Months 4-6)

✓ **Interactive map with nearby guide discovery**

GPS-based location filtering

✓ **Premium subscription tiers**

Enhanced features for guides, curated collections for tourists

Questions

LocalGuide Connect

AI-Powered C2C Tour Guide Platform

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