

Developer Assignments

DEV 1 – Authentication · User · Organization · Admin Management

Frontend Pages/Modules:

- /login, /signup, /forgot-password: Auth flows
- /settings/profile, /settings/organization, /settings/notifications: User/org settings
- /admin/users, /admin/organizations, /admin/feature-flags, /admin/settings: Admin console management
- Shared components: Forms, tables, modals, role toggles

Backend Modules: auth.py, users.py, organizations.py, roles.py, feature_flags.py

- JWT + OAuth auth, RBAC, audit logs, org CRUD
- DB tables: users, organizations, roles, audit_logs, feature_flags
- Expose /admin/* API endpoints
- Shared middleware (security, logging)

DEV 2 – Scraping · Data Ingestion · Source Management

Frontend Pages/Modules:

- /sources: User-side connector management (add/pause/run now)
- /admin/scraping: Admin control of global scrapers
- Log viewer & status dashboard: Realtime job history
- Modals: Add/Edit connector, test run

Backend Modules: sources.py, scraping_jobs.py, scheduler.py

- Implement connectors (Booking, TripAdvisor, etc.)
- Normalization, deduplication, retry policies
- Celery/APScheduler for schedules
- DB tables: sources, scraping_jobs, ingestion_runs

- Redis: Job queues + status cache
- AWS: Store raw JSONs

DEV 3 – Reviews · AI Reply · Insights Dashboard

Frontend Pages/Modules:

- /dashboard: KPIs, quick insights
- /reviews: Review table with filters
- /reviews/[id]: Detail drawer + AI reply editor
- /insights: Charts + word cloud + trend summary

Backend Modules: reviews.py, review_replies.py, sentiment.py, insights.py

- Integrate with ML service (/ml/analyze, /ml/reply)
- Aggregations & trend analytics
- Redis cache for review lists & AI summaries
- Alert rules (low rating trigger)
- DB tables: reviews, review_aspects, review_replies

Notes: Core customer-facing module; AI-inference heavy but no fine-tuning.

DEV 4 – Competitors · Domains · Comparative Analytics

Frontend Pages/Modules:

- /competitors: Domain selector + suggested competitors
- /competitors/[id]: Competitor analysis charts
- /domains: Domain overview & comparison
- Components: Aspect radar, trend charts, tables

Backend Modules: competitors.py, domains.py, analytics.py

- Compute domain averages & competitor rankings
- LLM summary: “Competitor Insights”
- Redis cache for analytics
- DB tables: domains, competitors, competitor_relations

DEV 5 – LLM Fine-Tuning · ML Ops · DevOps & Infrastructure

Frontend Pages/Modules:

- /groups: Group creation + branch list
- /groups/[id]: Brand overview + AI summary
- /admin/monitoring: Infra dashboards (metrics/logs)
- Shared components: Charts, leaderboards, model status cards

Backend/Infra Modules: ml_finetune.py, ml_inference.py

- Prepare datasets from reviews
- Fine-tune LLM (model training job)
- Deploy model to GPU pod via K8s
- Evaluate and version models
- DevOps/AWS/Kubernetes:
 - Terraform for VPC, RDS, EKS, ElastiCache, S3
 - Helm charts for services
 - CI/CD pipelines (GitHub Actions → ECR → EKS)
 - Monitoring (Prometheus/Grafana/CloudWatch)
 - Secrets & IAM roles
- DB tables: groups, group_members, ml_models, fine_tune_jobs