KimuntuPro AI – Resource Research Document

The following are the resource requirements for cloud hosting, database options, deployment methods, APIs, payment systems, and coding environment setup.

Concise Resources Required

- Access for the U.S. and Canadian legal databases (to use case law, statutes, immigration information as input for our models).
- Cloud credits for AI/ML model training on AWS/GCP/Azure.
- Domain hosting and SSL certificates for production deployment of the product and the business track's use cases.
- Licenses/keys for third-party APIs (job boards, OpenAI, legal API's).
- Budget for email/text services (SendGrid, Twilio for Texting Services).
- Stripe/PayPal accounts for payment processing.

Cloud Hosting Options

- **AWS**: EC2 (compute), S3 (storage), RDS (databases), Lambda (serverless), OpenSearch (vector databases). Cost: $100–$200/month dev environment.
- **Google Cloud**: Strong AI/ML tools, BigQuery analytics. Cost: $100–$250/month.
- **Azure**: Enterprise compliance focus. Cost: $150–$350/month.
- **Recommendation:** I think we should use AWS for horizontal and vertical scalability reasons and because it offers many things we need in one centralized place..

Deployment Options

- **Docker**: Containerization for consistent environments.
- **Kubernetes (EKS/GKE/AKS)**: Orchestration for microservices and a much higher complexity.
- **Heroku**: Less scalable, harder to understand, higher long-term costs.
- **Recommendation:** I think we should use Docker for all of our services. We may need to evaluate Kubernetes once scaling is required for our full scale production launch..

Database Options

- **PostgreSQL**: Reliable relational database. Cost: ~$30–$100/month (AWS RDS, Supabase or Firebase).
- **MongoDB**: Flexible NoSQL, but not tabular. Cost: ~$10–$50/month.
- **Firebase**: Real-time sync, auth. Free tier; scales $25–$100/month.
- **Recommendation:** PostgreSQL as primary either solo or through one of Supabase or Firebase, Firebase or Supabase for auth/sync, ElasticSearch for search-heavy features.

APIs Needed

- **Job Board APIs**: LinkedIn, Indeed (premium plans for API's).
- **Legal APIs**: Immigration services, case law datasets (require licenses).
- **Funding APIs**: VC and grant databases. For the business track specifically.
- **Communication APIs**: Twilio (SMS), SendGrid (emails). Cost: ~$20–$100/month.
- **Other APIs:** Legal side for the law cases, Business side need OpenAI and others for business generation, etc.

Payment Options

- **Stripe**: Developer-friendly and pay-per-use. Fees: around 3% + $0.30/transaction.
- **PayPal**: Used a lot. Fees: ~3.5%/transaction.
- **Square**: Good for integration of like retail purposes, not best for this. Fees: 2.6% + $0.10/transaction.
- **Recommendation:** Use Stripe as primary, PayPal as secondary if needed.

Coding Environment Setup

- **Languages**: Python 3.11+ , Node.js 20+, more later.
- **Package Managers**: pip/conda for Python, npm for Node.js.
- **Containerization**: Docker for consistent local dev/test environments. Docker CLI or Desktop
- **Version Control**: GitHub for code management.
- **Project Management**: Taiga for tracking.
- **Communication**: Discord, Zoom Meetings when needed.

Coding Technologies & Frameworks

Backend Options

Backend : Python (FastAPI/Django)

- Pros: Strong AI/ML ecosystem, fast API development
- Cons: Less optimized for real-time

Backend – Node.js

- Pros: Real-time performance
- Cons: Weak AI/ML usability

Frontend Options

Frontend – React.js

- Pros: Widely used, good visuals
- Cons: Separate mobile codebase

Frontend – Angular

- Pros: Enterprise-ready
- Cons: Harder mobile development

Frontend – React Native

- Pros: Cross-platform mobile development
- Cons: Performance trade-offs

Frontend – Swift/Kotlin

- Pros: Speed
- Cons: Separate codebases

Recommendation: Use Hybrid Backend (Python + Node.js). React.js for web, Swift/Kotlin for mobile; React Native for prototypes. Could even use React Native for the entire mobile, if there is a shortage of people resources.