

Terms of Reference (ToR)

Position: Backend Engineer (Mid-Level)

Application Form Link: [<https://forms.gle/fbwdXZNzQY74XZHB8>]

About Open Learning Exchange (OLE) Nepal

Open Learning Exchange Nepal (OLE Nepal) is a social benefit organization dedicated to enhancing teaching-learning in schools through the integration of technology and to provide uniform access to quality educational materials across different geographic areas and socio-economic strata.

OLE Nepal develops and distributes free educational content, trains teachers to integrate technology in classrooms, implements technology interventions in rural schools, and helps build local capacity in technology and education.

We are a team of social workers, educators, designers, developers, and individuals dedicated to leveraging technology to improve the quality of education in public schools across Nepal. To learn more about our team, visit: <https://olenepal.org/our-team/>.

About the Position

The Backend Developer will play a critical role in designing, building, and maintaining the core systems that power OLE Nepal's digital learning platforms, including E-Paath, E-Pustakalaya, and the Learning Platform. This role focuses on developing scalable, secure, and high-performance backend services that ensure reliability, data integrity, and seamless integration across multiple applications.

We are looking for a self-motivated and technically strong professional who can take full ownership of backend development activities from API design and database modeling to performance optimization and system maintenance. The ideal candidate will be proactive, detail-oriented, and capable of working independently on complex backend tasks, while also collaborating closely with frontend developers, QA engineers, and content teams.

In addition to core backend development, the Backend Developer should be mindful of how backend logic, data structures, and system workflows impact overall application behavior and user experience. This includes ensuring consistency in content delivery, supporting smooth learning flows, and identifying backend-level issues that could affect platform usability, performance, or scalability.

Responsibilities

- Implement scalable, secure, and efficient application logic to support OLE Nepal's digital learning platforms.
- Design, develop, and maintain robust backend services and RESTful APIs using Python, Django, and Django REST Framework (DRF).
- Develop and maintain background tasks with Celery, integrating with message brokers such as Redis or RabbitMQ.
- Design, manage, and optimize PostgreSQL databases, including writing efficient SQL queries and improving performance.
- Implement and maintain webhooks and third-party service integrations, ensuring reliability and proper error handling.
- Collaborate with frontend developers, QA engineers, and content teams to deliver well-tested and reliable features.
- Identify performance bottlenecks and improve system scalability, reliability, and maintainability.
- Write clean, reusable, and well-documented code following best practices and coding standards.
- Participate in code reviews, debugging, and continuous system improvements.
- Support deployment, monitoring, and maintenance of backend services in containerized environments (Docker).
- Coordinate and assist the System Admin or DevOps team for both online and offline version deployments.

Requirements

- Minimum 2 years of professional experience in backend development using Python.
- Strong hands-on experience with Django and Django REST Framework (DRF). Experience with FastAPI is a plus.
- Experience with Celery for background processing and message queues (Redis and/or RabbitMQ).
- Solid understanding of PostgreSQL, relational database design, and SQL query optimization.
- Experience implementing and managing caching strategies using Redis to improve performance and scalability.
- Experience writing unit and integration tests for backend services, APIs, and background tasks using pytest or similar frameworks.
- Strong experience designing and consuming REST APIs and handling webhooks.
- Knowledge of Docker and containerization concepts for development and deployment.

- Familiarity with backend security best practices, authentication, and authorization mechanisms.
- Ability to work independently, take ownership of tasks, and deliver features end-to-end.
- Excellent communication skills, both written and verbal, with the ability to clearly document issues and collaborate effectively with cross-functional teams.
- Strong problem-solving skills and attention to detail.
- Exposure to Elasticsearch or other search engines (e.g., Apache Solr) is a plus.

What We Offer

- Opportunity to directly impact the quality of education across multiple subjects in Nepal
- Creative freedom to innovate and experiment with new educational technologies
- Collaborative work environment with passionate educators and technologists
- Professional development opportunities in educational technology and interactive design
- Chance to work on diverse, meaningful projects that reach students across different communities and Languages

We appreciate your interest in contributing to O.L.E. Nepal's mission. We look forward to exploring how your skills can enhance our educational technology initiatives and impact learning communities across Nepal. Feel free to reach out to us if you have any questions.

O.L.E. Nepal is committed to creating an inclusive work environment and encourages applications from candidates of all backgrounds.