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Introduction

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NativeSpark was co-founded by myself and Valeriya Saltykova, but I’ve since taken over the development independently. The goal remains clear: to build a space where Indigenous communities can showcase their craftsmanship, connect with partners, and grow economically through technology.

Many Indigenous communities face isolation—geographically, financially, and socially. From the lack of business mentorship to regulatory hurdles, Indigenous entrepreneurs face significant barriers.

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The platform supports three user types: businesses, entrepreneurs, and basic consumers. Businesses can place bulk orders or post jobs, entrepreneurs can sell or respond to project requests, and basic users can browse and purchase handmade products.

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Technically, NativeSpark is built using the MVC architecture for modular and scalable development. The backend is powered by Java with Spring Boot, while the frontend uses Thymeleaf templating with HTML, CSS, JavaScript, and Bootstrap for responsiveness and UI consistency.

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The platform is supported by a MySQL database. For advanced features, I integrated Python with libraries like scikit-learn for product recommendations, SQLAlchemy for ORM, and Faker for realistic data generation. This combination helped implement smart, data-driven features efficiently.

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Users can register under different roles and experience tailored functionalities. Features like dynamic filtering, order history, and saving listings are essential for usability. Even out-of-stock items can be requested via a custom amount form.

One of the advanced features is a recommendation engine that uses category and price to suggest similar products. This system relies on cosine similarity and avoids API dependencies, making it lightweight and efficient for local deployment.

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Not everything went smoothly. I had to make decisions on what to prioritize. Implementing a chatbot or AI matchmaking was too time-intensive, so I shifted focus.

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Thank you for your time and attention. NativeSpark has been more than a project—it’s a step toward creating a platform that is socially impactful.