# **Enterprise Architecture Components in the Comic Strip**

The comic strip visually represents the key components of an enterprise architecture (EA) designed to support inclusive education in resource-constrained environments. These components align with the digital context map, which highlights challenges and opportunities that EA can address, as well as the capability model. By incorporating technology architecture, data architecture, and application architecture, the comic strip ensures that educational technology solutions effectively meet the needs of learners and educators in a structured and scalable way, utilizing resources that target their critical needs.

The proposed solution includes low-bandwidth connectivity options, community Wi-Fi zones, online collaboration tools, and a cost-effective infrastructure. This approach enhances the learning experience while improving digital accessibility. Students not only gain digital literacy skills through tablet usage, but the broader community also benefits; children no longer need to travel long distances to access information. Instead, they can download materials at school and study offline at home, fostering both educational advancement and community upliftment.

## 1. Capability Model and Key Functions

The narrative highlights essential capabilities required for the platform from the perspective of students and educators. These include the capability such accessing learning materials, taking quizzes and assessments, collaboration, student support, tracking progress and feedback and downloading learning material for offline use. The characters in the comic strip such as students and teachers have limited access to books, digital platforms and connectivity. This reflects real-world challenges. Their interactions emphasize the necessity of an inclusive digital education platform that supports both offline and online functionalities.

## 2. Technology Architecture for Low-Connectivity Environments

The comic strip illustrates different technology layers, from offline learning resources (e.g., Kolibri and Moodle Offline) to intermittent online synchronization mechanisms. These layers are depicted through scenarios where students and teachers navigate connectivity limitations by accessing preloaded content, visiting community centres for free Wi-Fi, and leveraging mobile-friendly platforms with progressive offline support.

## 3. Data Architecture for Local Storage and Cloud Synchronization

A key aspect of the design is how educational content and learner progress data are managed. The comic strip portrays a teacher (Mr. Banda) who introduces a low-bandwidth digital educational platform that students will access via a free tablet. The platform’s data architecture ensures local storage of learning materials and periodic synchronization with the cloud when connectivity becomes available. This approach minimizes data loss and enhances the continuity of learning experiences.

## **Choices and Alignment with Business Considerations**

## 1. Balancing Offline and Online Solutions

A deliberate narrative choice was to show how an inclusive digital education platform does not solely rely on internet access. The integration of offline-first technologies into the storyline highlights a business model that prioritizes accessibility and sustainability. By leveraging cost-effective local storage and community-driven learning models, the platform remains viable in low-resource settings.

## 2. Public-Private Partnerships

The comic strip depicts government institutions, technology suppliers, and NGOs working together to strengthen digital education infrastructure by subsidizing and donating free tablets to students in a rural area. This highlights a key business consideration: the success of an inclusive education platform depends on strategic partnerships that drive funding, policy support, and technological advancements.