

| Field | Description |
|--------------------------------|---|
| Introduction | <p>This sequence diagram details the technical message flow for user registration, mapping the interaction between the User, Frontend, Backend API, and Database.</p> |
| | <ol style="list-style-type: none"> 1. To visualize the order of operations for creating a new account. |
| Objectives | <ol style="list-style-type: none"> 2. To define the specific API calls and database queries required. |
| | <ol style="list-style-type: none"> 3. To illustrate how the system handles errors like duplicate emails. |
| | <ol style="list-style-type: none"> 1. The Frontend must send a POST /api/register request with user details. |
| Functional Requirements | <ol style="list-style-type: none"> 2. The Backend must query the Database to ensure the email is unique. |
| | <ol style="list-style-type: none"> 3. The Database must store the new user record upon successful validation. |
| | <p>Security: User passwords must be hashed before being sent to the database.</p> |

Non-Functional Requirements

Latency: The API response time for registration should not exceed 500ms.