Collaborative Farming

**Functionality Service Request**

**1️. Preconditions**

Before the service request process starts, the following conditions must be met:

* Users (Farmers, Service Providers, and Admins) are registered in the system.
* Services (e.g., Tractor Rental, Soil Testing, Irrigation) are available in the database.
* A service\_requests table exists to store requests.
* A payments table tracks transactions.

**2️. Farmer Logs In**

* The farmer authenticates using email and password.
* The system verifies credentials and retrieves the user profile.
* If authentication fails, the system denies access and prompts for re-entry.
* Once logged in, the farmer navigates to the "Services" section.

**3️. Farmer Selects a Service**

* The system fetches all available services from the database using the following query:
* The farmer filters and selects a service based on:
  + Location (Should match the farmer’s area).
  + Service Type (Tractor, Soil Testing, etc.).
  + Availability (Checked via provider schedule

if he is available then then provide the available service provider details

if any one is not available at that time then just pass message not available).

* + Price (Compared with the budget).
* The farmer provides:
  + User ID (Farmer’s ID)
  + Service ID
  + Start Date
  + Duration

**4️. Validations Before Request Submission**

**Eligibility Check**

The system checks if the farmer:

* Has no pending payments (from previous requests).
* Has an active account (Not suspended or blacklisted).
* If any issue exists, the request is denied with a message.

**Service Availability Check**

* The system ensures the service is available within the requested period:
* If the service is overbooked, the farmer must select another date.

**Location Matching Check**

* The system ensures the service provider operates in the farmer’s region:
* If no provider matches, the system displays an error.

**Cost Calculation**

* The system calculates the total cost:
* total\_cost = usage\_quantity × service\_rate;
* Example Calculation:
  + Tractor rental for 5 hours at ₹500/hour → ₹2500
  + Soil testing for 3 acres at ₹200/acre → ₹600

**5️. Storing the Service Request in the Database**

Once all validations are passed, the request is stored in the Agreement table with "Pending Approval" status:

* The landowner/service provider will review the request and either approve or reject it.