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COMPLETED THE PROJECT NAMED AS
PHASE2 TECHNOLOGY PROJECT

NAME:INTERACTIVE FORM VALIDATION

SUBMITTED BY,

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 Project title: Interactive form validation

Phase 2 – Solution Design & Architecture

Tech Stack Selection

Frontend: React.js (for form interactivity), Tailwind CSS (for styling),
React Hook Form / Formik (form handling)

Backend: Node.js + Express.js (REST API)

Database: MongoDB or PostgreSQL

Validation Libraries: Yup / Joi (schema-based validation)

Auth (optional for signup form): JWT + bcrypt

◆ UI Structure / API Schema Design

UI Components:

FormContainer (main form wrapper)

InputField (with validation feedback)

ErrorTooltip (inline error messages)

SubmitButton

SuccessMessage / ErrorMessage

API Schema (example for registration form):

```
// User Submission Model
{
  id: String,
```

```
name: String, email:
String, passwordHash:
String, phone: String,
createdAt: Date,
isValid: Boolean

}
```

◆ Data Handling Approach

Frontend Validation: Handled by React Hook Form + Yup (fast, interactive feedback).

Backend Validation: Extra layer with Joi (ensures no bypass of frontend rules).

Data Security: Passwords hashed before storage.

Storage: Validated submissions stored in MongoDB/Postgres.

◆ Component / Module Diagram

Frontend:

Validation Module (field checks)

Error Handling Module (tooltips/messages)

Submission Module (form submit handler)

Backend:

Validation Middleware (Joi schema checks)

Submission Controller

Admin Controller (fetch submissions)

◆ Basic Flow Diagram

User → Frontend (React Form) → REST API (Express) → Database (MongoDB/Postgres)

1. User fills form → frontend validates input in real-time.
2. On submit, request sent to backend.
3. Backend re-validates data.
4. If valid → save to DB → success response.
5. If invalid → return error response → UI displays message.