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DEPARTMENT: CSE

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TECHNOLOGY PROJECT NAME: USER REGISTRATION WITH
VALIDATION

SUBMITTED BY,

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1.Problem Statement

Design and implement a User Registration System that allows new users to create an account by providing necessary details. The system should perform input validation to ensure that the data entered by the user meets specific rules and constraints before successful registration.

This problem statement can be used for implementing a web or mobile application or for designing a backend API.

2.Users & Stakeholders

- **Primary Users**

- New users
- Registered users

- **Stakeholders**

- System Administrator
- Product Owner / Business Owner
- Developers / Development Teams
- Security Team
- End Users / Customers of the System
- Support Team

3. User Stories

- As a new user, I want to register by providing my name, email, and password, so that I can create an account and access the system.
- As a new user, I want to receive clear error messages when my input does not meet the validation rules (e.g., invalid email, weak password), so that I can correct my input and successfully complete registration.
- As a new user, I want to confirm my password by entering it twice, so that I ensure I didn't mistype my password.
- As a new user, I want the system to check if my email is already registered, so that I cannot create multiple accounts with the same email.
- As a new user, I want to optionally provide my phone number in a valid format, so that I can use it later for account recovery or verification.
- As a system administrator, I want all user passwords to be stored securely using hashing, so that user data remains safe even if the database is compromised.

- As a security officer, I want the system to prevent weak passwords and enforce strong validation, so that user accounts are not easily compromised.
- As a new user, I want to receive a confirmation message after successful registration, so that I know my account has been created and I can proceed to login.
- As a developer, I want the system to perform validation both on the client and the server, so that users get instant feedback while also maintaining security on the server.

4.MVP Features

- Input Fields: email, password, confirm password
- Validation: email format, required fields, password rules, match confirm password
- Uniqueness check: email not already registered
- Error messages + Success confirmation
- Password hashing
- Basic rate limiting
- (Optional) email verification

5. Wireframes / API Endpoint List

Wireframes

- Wireframes for User Registration with Validation

These are basic screens/states the registration would have.

- Registration Screen (Fields, Buttons)
- Error States (Inline messages)
- “Email is Invalid”
- “Password do not match”
- “Password must be at least 8 characters”
- “Email already registered”
- Success Rate
- Message: Account created successfully.
- Redirect to: Login screen or Dashboard

API Endpoint List

- POST /API /auth /register
- Request body
- Validation
- Response (success)
- Response (error)
- POST /API /auth /login (needed after registration)
- (Optional MVP add-on) POST /API /auth /verify-email

6. Acceptance Criteria

- User must provide email, password, and confirm password.
- All fields are mandatory.

- Email must be in valid format.
- Password must meet minimum rules (e.g., at least 8 characters).
- Confirm password must match password.
- Email must be unique (not already registered).
- Show clear error messages for invalid inputs.
- Registration must not proceed if errors exist.
- Passwords must be stored securely (hashed, not plain text).
- On success, show confirmation message.
- User should be able to proceed to login after successful registration.
- API returns *201* for success, *400* for validation errors, *409* for duplicate email.