Part 1: Test Planning & Analysis – EchoGPT Sign-Up Feature

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 Date: 27-Aug-2025

1.1 Requirements Analysis

Objective: Understand and document the functionality, flow, and requirements of the EchoGPT sign-up feature.

1. Sign-Up Process Flow (Exploration)

- Navigate to the EchoGPT website.

- Click on the "Sign Up" button to access the registration page.

- Fill in mandatory fields: First Name, Last Name, Email, Username, Password.

- Receive OTP via email for verification.

- Validate OTP to complete registration.

- Optional sign-ups via social authentication (Google, GitHub, Twitter).

- Terms & Conditions and Privacy Policy links should be accessible.

- Optional features: receive updates checkbox, exit confirmation on back navigation.

2. Requirements (Explicit and Implicit)

- **Explicit Requirements:**

  - Mandatory field validation (First Name, Last Name, Email, OTP).

  - OTP verification for authentication.

  - Social login via Google, GitHub, Twitter.

  - Links for Terms of Use and Privacy Policy.

  - Username validation (length, allowed characters).

- **Implicit Requirements:**

  - Proper error handling for invalid input.

  - Prevention of duplicate email registration.

  - Responsive design across devices (desktop & mobile).

  - Fast page load and smooth user experience.

3. Assumptions

- Users have a valid email for OTP verification.

- Social login accounts are active and authorized.

- OTP delivery via email is reliable and timely.

- Users will interact with the app on modern browsers (Chrome, Firefox, Edge) or mobile Chrome.

4. Potential User Personas

- **Job Seekers:** Want quick account creation to access productivity tools.

- **Professionals:** Looking for AI-assisted writing features.

- **Students:** Interested in learning and testing the platform.

- **Tech-Savvy Users:** Prefer social login for convenience.

1.2 Test Strategy Development

Objective: Define a structured approach for testing the sign-up module to ensure functionality, usability, and reliability.

1. Scope of Testing

- **In-Scope:**

  - Sign-up page functionality (field validation, OTP verification).

  - Social login integrations (Google, GitHub, Twitter).

  - Links and checkboxes on the sign-up page.

  - Navigation and error handling.

  - Cross-browser and mobile compatibility.

- **Out-of-Scope:**

  - Backend email server functionality.

  - Other features of the EchoGPT platform unrelated to sign-up.

2. Test Objectives & Success Criteria

- Verify all fields accept valid inputs and reject invalid ones.

- Ensure OTP is sent and verified correctly.

- Confirm social login buttons work as expected.

- Ensure legal links are clickable and display content.

- Success criteria: No critical defects remain, all mandatory validations pass, and the sign-up process completes smoothly.

3. Risk Assessment

Risk Area	Risk Level	Notes
Duplicate Email Handling	High	Users may create multiple accounts; critical for UX.
Social Login Integration	High	Twitter login may fail or redirect incorrectly.
OTP Validation	Medium	Wrong OTP or delayed email may frustrate users.
Terms/Privacy Links	Medium	Non-clickable links may affect legal compliance.
Mobile Responsiveness	Low	Minor layout issues possible on older devices.

4. Testing Approaches

- **Functional Testing:** Validate input fields, OTP, social login, links, checkboxes.

- **Usability Testing:** Assess navigation, error messages, and user-friendly design.

- **Security Testing:** Verify proper email/OTP validation to prevent unauthorized access.

- **Performance Considerations:** Ensure acceptable load times and responsiveness.

5. Test Environment Requirements

- **Desktop:** Windows 11, Chrome v126, Firefox, Edge

- **Mobile:** Android Chrome

- **Test Accounts:** Gmail, GitHub, Twitter accounts

- **Other Tools:** OTP test email accounts, browser developer tools

6. Entry & Exit Criteria

- **Entry Criteria:**

  - Sign-up page is accessible.

  - Test environment set up and accounts ready.

  - Test data prepared.

- **Exit Criteria:**

    - All planned test cases executed.

    - Defects logged and categorized.

    - Sign-up module meets defined success criteria.