

# Test Plan Report

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# ECHO GPT

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***“Quality is never an accident; it is always the result of high intention, sincere effort, intelligent direction, and skillful execution.”***

*– John Ruskin*

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# 1. Introduction

## 1.1 Purpose

The purpose of this test plan is to outline the systematic approach for testing the entire EchoGPT platform. This document ensures comprehensive coverage of all functional and non-functional aspects across all features, verifies alignment with business and user requirements, and maintains quality standards in usability, security, performance, and accuracy. It serves as a guide for the testing team to identify defects early, mitigate risks, and facilitate a smooth release of the platform.

## 1.2 Project Overview

EchoGPT is an AI-driven productivity platform that offers tools for creative writing, resume building, personal challenges, social content generation, job analysis, SOP building, image generation, and interactive AI chats. The platform supports user onboarding via sign-up/login, provides a dashboard for accessing AI features, and includes pro upgrades for enhanced capabilities. Testing will cover all aspects to ensure seamless user experiences, from registration to advanced AI interactions.

# 2. Requirements Analysis

## 2.1 Exploration of Sign-Up Process Flow

The EchoGPT website is structured with pre-login and post-login interfaces. Key flows include:

- **Pre-Login Homepage:** Navigation options like "New Chat," "Engagement," "Image," "History," "Store," "AI Tasks," "AI Job Analysis," "AI SOP Builder," "Help & Support," and "Upgrade to Pro." The "Sign In" button leads to login/sign-up.

- **Sign-Up/Login Flow:** Users can register/login via email/password, Google, Twitter, or GitHub. Post-authentication, redirect to dashboard.
- **Dashboard/Post-Login Flow:** Greeting ("Hello There! How can I assist you today?"), "Ask a question..." input for AI chats, access to all features.
- **Core AI Flows:**
  - New Chat: Start AI conversations for problem-solving or creativity.
  - Image: Generate images from text prompts with customizable styles.
  - History: View and share chat histories.
  - AI Tasks: Set personal challenges or goals.
  - AI Job Analysis: Analyze job descriptions, generate cover letters/resumes.
  - AI SOP Builder: Create standard operating procedures.
  - Engagement: Interact with AI-generated content.
  - Store: Purchase pro features.
  - Help & Support: Access documentation or support.
- **Pro Upgrade Flow:** Prompt to upgrade for advanced features like performance stats.

## 2.2 Documented Understanding of Sign-Up Feature Requirements

### Explicit Requirements:

- ☐ Authentication: Email/password, third-party logins; secure session management.
- ☐ AI Chat: Input queries, receive responses; support for creativity, math, stories.
- ☐ Image Generation: Text-to-image with styles.
- ☐ History/Sharing: Store and share chats.
- ☐ Productivity Tools: Resume/cover letter generation, job analysis, SOP building, challenges.
- ☐ Pro Features: Enhanced stats, unlimited access.

- UI Elements: Responsive navigation, input fields, buttons.

### Implicit Requirements:

- **Validation:** Real-time checks for email uniqueness, format validity, and password strength; error messages for failures.
- **Security:** HTTPS transmission, password hashing on backend, protection against common vulnerabilities (e.g., SQL injection).
- **Usability:** Responsive design for mobile/desktop, intuitive layout, accessibility (e.g., keyboard navigation, alt text).
- **Integration:** Seamless connection to backend for data storage and session management; compliance with privacy laws (e.g., GDPR for data handling).
- **Performance:** Quick form loading and submission (<3 seconds).

## 2.3 Assumptions About Expected Functionality

- **Content Creator:** Age 25-35, freelancer using AI for social content and creative prompts; expects fast, minimal sign-up to start generating ideas.
- **Job Seeker:** Age 22-40, professional leveraging resume building and job analysis; prioritizes secure handling of personal data during registration.
- **Entrepreneur/Developer:** Age 30-50, business user for SOP building and challenges; assumes reliable performance and integration with tools like GitHub.
- **Casual Learner/Hobbyist:** Age 18-25, student exploring AI for fun; values simple, intuitive sign-up without technical barriers.

## 2.4 Potential User Personas

- **Content Creator:** Age 25-35, freelancer using AI for social content and creative prompts; expects fast, minimal sign-up to start generating ideas.
- **Job Seeker:** Age 22-40, professional leveraging resume building and job analysis; prioritizes secure handling of personal data during registration.
- **Entrepreneur/Developer:** Age 30-50, business user for SOP building and challenges; assumes reliable performance and integration with tools like GitHub.

- **Casual Learner/Hobbyist:** Age 18-25, student exploring AI for fun; values simple, intuitive sign-up without technical barriers.

## 3. Test Strategy Development

### 3.1 Scope of Testing

#### What Will Be Tested:

- **Functional:** Sign-up form fields, validations, submissions (email and third-party), error handling, redirection.
- **Non-Functional:** Usability (UI/UX consistency), security (data protection), performance (response times), compatibility (browsers/devices).
- **Integration:** Backend API calls for account creation.
- **Edge/Negative Cases:** Invalid inputs, duplicates, boundary values.

#### What Won't Be Tested:

- Full AI feature functionality post-sign-up (e.g., chat responses).
- Payment integration for Pro upgrades.
- Extreme load testing (>100 users).
- Non-English localization or custom enterprise features.

### 3.2 Test Objectives and Success Criteria

#### Objectives:

- Validate seamless account creation for new users.
- Ensure robust validation and error management.
- Confirm security, usability, and performance align with standards.
- Mitigate risks to enhance user onboarding experience.

#### Success Criteria:

- 100% execution of high-priority tests with no critical failures.
- Defect density <5% for functional tests.
- UAT approval rate >85%.
- All requirements traced to test cases with 95% coverage.

### 3.3 Risk Assessment

**High Risk Areas:**

- Security vulnerabilities (e.g., exposed passwords, injection attacks) potential data breaches.
- Integration failures with third-party providers blocking alternative sign-ups.

**Medium Risk Areas:**

- Usability on mobile devices – layout issues affecting user experience.
- Performance under varying networks – delays in OTP/email delivery.

**Low Risk Areas:**

- Basic UI rendering across browsers – minor cosmetic issues.
- Standard input validations – easily fixable.

### 3.4 Testing Approaches

**-Functional Testing:** Manual execution of happy paths, edge cases; automated scripts for repetitions.

**Usability Testing:** User sessions, heuristic reviews for intuitiveness and accessibility (WCAG compliance).

**Security Testing:** Penetration scans (e.g., OWASP tools) for vulnerabilities; check HTTPS and data encryption.

**Performance Testing:** Load times measurement; simulate users with tools like JMeter.

- Overall: Combination of exploratory, regression, and UAT.

### 3.5 Test Environment Requirements

**Client:** Latest browsers (Chrome, Firefox, Safari, Edge); devices (Windows/Mac desktops, Android/iOS mobiles).

**Server:** Staging environment (e.g., <https://staging.echogpt.live/>) with mock backend/DB.

**Tools:** Selenium for automation, Postman for APIs, BrowserStack for compatibility.

**Data:** Test emails (via temp services), sample credentials.



### 3.6 Entry and Exit Criteria

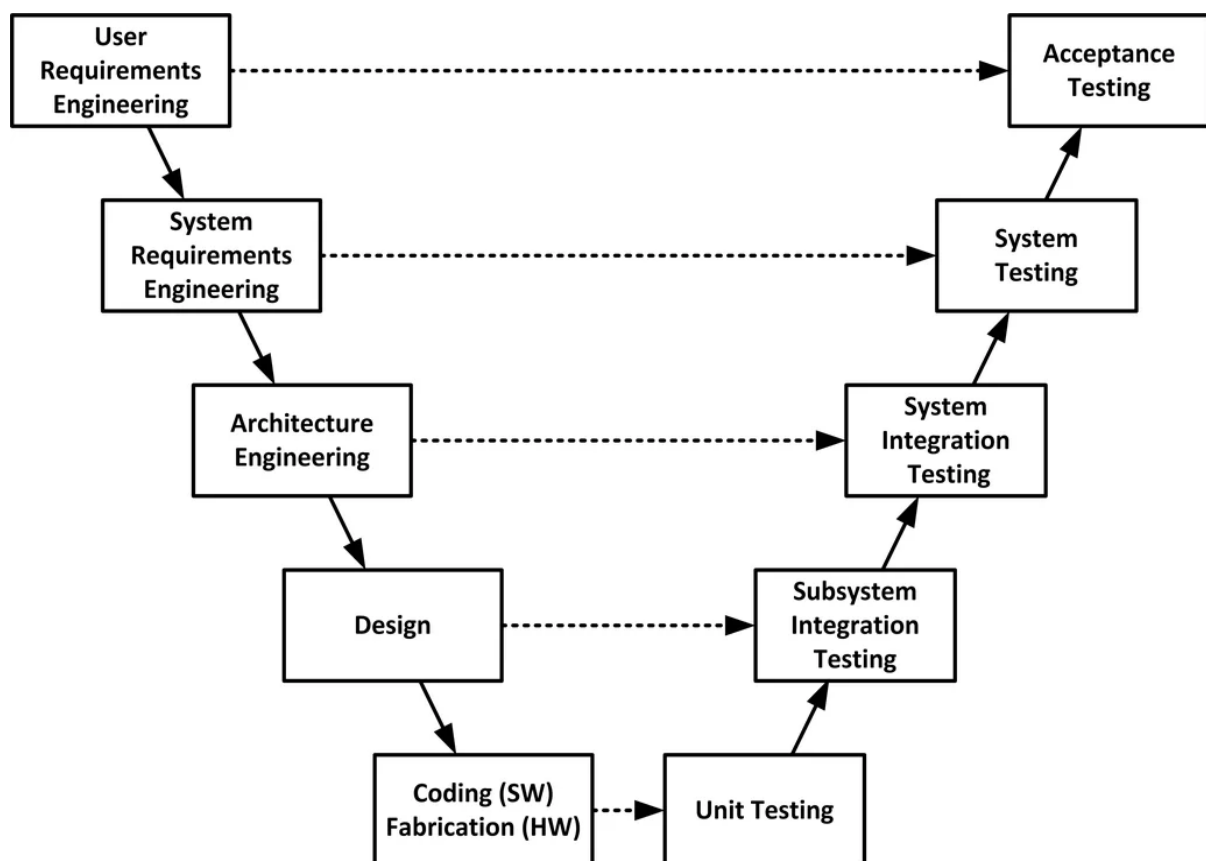
#### Entry Criteria:

- Feature build deployed and stable.
- Test cases reviewed and approved.
- Environment setup complete.

#### Exit Criteria:

- All tests executed; critical defects resolved.
- Coverage metrics achieved.
- Stakeholder sign-off obtained.

## 4. SDLC Process - V-Model



## **Development Phases**

Requirement Analysis

System Design

High-Level Design

Low-Level Design

## **Testing Phases**

Unit Testing

Integration Testing

System Testing

Acceptance Testing

## 5. Execution Strategy

### 5.1 Entrance Criteria

- Build ready requirements frozen.

### 5.2 Exit Criteria

- Tests passed defects closed.

### 5.3 Test Cycles

- **Cycle 1:** Functional (2 days).
- **Cycle 2:** Non-Functional/Regression (1 day).
- **Cycle 3:** UAT (1 day).

## 6. Test Management Process

### 6.1 Test Management Tools

- Jira for tracking, TestRail for cases.

### 6.2 Test Design Process

- Use boundary analysis and equivalence partitioning.

### 6.3 Test Execution Process

- Prioritize high-risk, log results in real-time.

## 7. Test Environment

### 7.1 Client and Server Platform

- Client: Web (JS/React).
- Server: Cloud (e.g., AWS) with Postgres/SQL.

### 7.2 Testing Server Details

- **QA:** qa.echogpt.live
- **Prod:** echogpt.live

### 7.3 Test Operating System

- Windows 10, 11.
- Linux

### 7.4 Browser and Network

- Chrome
- Edge
- Brave Browser

## 8. Milestones and Deliverables

### 8.1 Test Schedule

- Planning: August 25 to 27 , 2025.

- Execution: August 27 to 31, 2025.
- Closure: September 4, 2025.

## 8.2 Deliverables

- Test Plan.
- Test Cases.
- Defect Reports.
- Summary Report.

## 9. Defect Reporting Procedure

- Identify defects via deviation from specs.
- Report in Jira with steps, screenshots, severity (Critical/Major/Minor/ Trival).
- Triage: Assign priority, fix, retest.

## 10. Staffing and Trainging

### Staffing

- Manual Tester: Mr. A , Mr. B , Mr. C, .....
- Automation Tester: Senior SQA Enginner, .....

### Training

- TestZephyr: 20 hours.

## 11. Risks and Mitigations

### 11.1 List of Risks

- **Risk 1:** Late Delivery for Features.
- **Risk 2:** QA Environment is down
- **Risk 3:** Un-planned vacations
- **Risk 4:** Critical Bugs keep showing, which affect the time frame.

### 11.2 Risk Mitigation

- **Risk 1:** Risk Acceptance
- **Risk 2:** Risk Transfer
- **Risk 3:** Risk Monitoring
- **Risk 4:** Risk Acceptance

- **Risk 5:** Third-party API downtime – Mitigation: Mock integrations.
- **Risk 6:** Data privacy issues – Mitigation: Compliance audits.

## 12. Automation Testing

### 12.1 Scope of Automation Testing

Automate core flows (e.g., email sign-up) using Selenium; target 60% coverage for regression.

## 13. Test References

- User Stories
- Figma Design
- System Design

## 14. Approvals

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(Signature with Date)

Test Lead  
Mr. X

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(Signature with Date)

Project Manager  
Mr. Y