

# Emerald

## Online Guideline Checking Tool

Information Architecture and Web Usability 2023/2024  
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# What is Guideline Checking?

- Manual usability inspection.
- Evaluator checks interface against list of guidelines or criteria.
- Employs dozens of guidelines.
- Answered with “Yes” or “No”.
- Example guidelines:
  - “Entry via Primary Display.”
  - “Feedback During Data Entry.”

The screenshot displays the TESTPAD application interface. At the top, there are tabs for 'SCRIPT', 'EDIT', and 'REPORTING'. Below the tabs, the application name 'ExampleApp' and version 'ExampleApp 1.8' are shown, along with a progress indicator '51/104 (49%)'. The main content area is titled 'ExampleApp - Login & Signup' and contains a list of test cases. The test cases are organized into sections: 'Signup', 'Login', and 'Forgotten Password'. Each test case has a unique ID (e.g., 0001, 0002) and a description. The results of the tests are shown in a column on the right, with green checkmarks indicating successful tests and red 'X' marks indicating failed tests. The 'Signup' section includes tests for context, normal process, blank fields, and email address. The 'Login' section includes tests for normal login, redirects, blank email, wrong passwords, blank password, and URL redirection. The 'Forgotten Password' section includes tests for email sending, unknown emails, password reset link, and password reset process. The interface also shows a sidebar with user information (Sarah, 16:02:01, ALL, Safari) and a bottom navigation bar with options like 'Close All', '1', '2', '3', '4', '5', '6', 'Expand All', 'Interesting', and 'Untested'.

# Guideline Checking Tool - General Functionality

- Used to maintain and plan manual testing.
- Gather information about findings.
- Streamlining of testing process.
- Collaborative tool.
- Quick access to data analysis.
- Managing all test related activities and documents.

# Emerald - Main Features

- Login / Logout.
- Create users:
  - Admins.
  - Users (Project Owner or Reviewer).
- Create Projects.
- Project Overview.
- Participate in project:
  - Reviewer checks if criteria are Passed or Failed.
- See assigned projects.

# Netlify

- Cloud hosting service for web applications.
- Connects to GitHub repository:
  - Build and deploy on push.
- Offers serverless backend functions:
  - Stateless backend.
  - Used to connect to MongoDB.

# MongoDB

- Document based database.
- Data is stored in collections of JSON objects:
  - Fields can vary from document to document.
  - Very flexible.
  - Easy to work with.
- Hosted database using MongoDB Atlas:
  - Cloud database service.

# Backend

- Netlify functions:
  - Functions written in JavaScript within codebase.
  - Netlify deploys them as full API endpoints.
  - Functions called with fetch requests to the endpoints.
- User authentication using Java Web Tokens:
  - Works with Netlify's serverless functions.
  - Stored in cookie.
  - Quick solution.
  - Using sessions stored on server better in most cases.
  - Cannot revoke token.

# Frontend

- Angular Material:
  - Open source template with MIT license.
  - Login Screen.
  - Three panels:
    - Admin Panel.
    - Project Owner Panel.
    - Reviewer Panel.

Emerald: <https://emerald-23.netlify.app/>



# Login Screen & Admin Panel

### Login

  
  

Don't have an account? Contact the Admin.

**EMERALD**

- Manage Users
- User Panel
- Logout

### Add new User

User Name \*

Password \*

Admin  
 Project Owner

Confirm

### Registered Users:

Filter Users

ID	Username	Admin	Project Owner	Delete
6599910107bf61b1fee3463f	dliegl	✓	×	<a href="#">delete</a>
65a4266d891b30da14e70cdc	admin	✓	×	<a href="#">delete</a>
65ad23e626c8493d4a219fc0	Fabian	✓	×	<a href="#">delete</a>
65ae71a13068c7f694de2189	Thomas	✓	×	<a href="#">delete</a>
65aec47cb50cfc52931f0ce6	mlisa	×	×	<a href="#">delete</a>
65afa2116ed7fc03e1cd75d8	Demo	×	×	<a href="#">delete</a>
65afe2c45e55fcc3b917bfcc	Hubert	×	✓	<a href="#">delete</a>

# User Panel: Reviewer

The screenshot shows the EMERALD User Panel interface. On the left is a sidebar with the EMERALD logo and navigation options: Studies (highlighted in red), Create Project, and Logout. The main content area is titled "User Panel" and features two sections: "Your Projects:" and "Your Assigned Projects:". The "Your Projects:" section contains two items: "New Script" and "Requirements List", each with an "Open" button. The "Your Assigned Projects:" section contains one item: "Login" with a due date of "04/23/2024" and an "Open" button.

The screenshot shows the EMERALD Login interface. On the left is a sidebar with the EMERALD logo and navigation options: Studies, Create Project, and Logout. The main content area is titled "Login" and features two sections: "Project Description" and "Criteria:". The "Project Description" section contains the text: "Check if the login panel works and complies with usability standards." The "Criteria:" section contains four items, each with a status indicator and an "Evaluate" button: "Can use Username or Email to log in." (Success), "Can tab directly from username to password." (Success), "Password is masked using dots or asterisks." (Failure), and "Can press 'enter' key to login." (Evaluate).

# User Panel: Project Owner

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Studies

Create Project

Logout

### Project Details:

Project name

Project description

Add Criteria

Due date

### Assign Users

Filter Users

ID	Username	Assignment
6599910107bf61b1fee3463f	dliegl	Assigned
65a4266d891b30da14e79cdc	admin	Assign
65ad23e626c8493d4a219fc0	Fabian	Assigned
65ae71a13068c7f694de2189	Thomas	Assigned
65aec47cb50cfc52931f0ce6	mlisa	Assign
65afa2116ed7fc03e1cd75d8	Demo	Assign
65afe2c45e55fcc3b917bfcc	Hubert	Assigned

Create Project

Showcase Video: <https://youtu.be/vBq1Jn1ahrk>

# Limitations and Future Work

- Import projects.
- Full mobile support.
- Password changing.
- User editing.
- Clearer distinction between Project Owner and Reviewer.
- Improve user experience.
- Implement visualization tools.