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Project Presentation and Demonstration

WEB DESIGN PLATFORM
Based On Low-code Visual Components

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CONTENTS

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Introduction

- **What is low-code?**

1. **Less code.**

2. **Faster development.**

3. **Lower technical barriers**
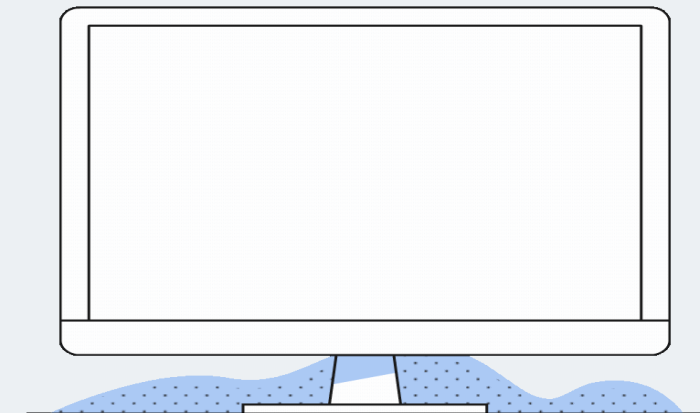
- **What is a low code development platform ?**

1. **A software development tool.**

2. **Provides a graphical user interface and visual components [1].**

3. **Enables users to create software applications with less coding [2].**

01

Introduction

Aim

This project presents a low-code development platform based on visual components that provide citizen developers [3] with an opportunity to rapidly and economically design websites.

Audience

Citizen developers [3]

1. Non-professional, non-technical background

2. Has some business knowledge and creativity

3. Usually employees within the company

Motivation

● **Why I choose this project?**

Enables non-professionals to develop websites that meet their demands

● **What is the problem?**

High costs and long development cycles for traditional development methods
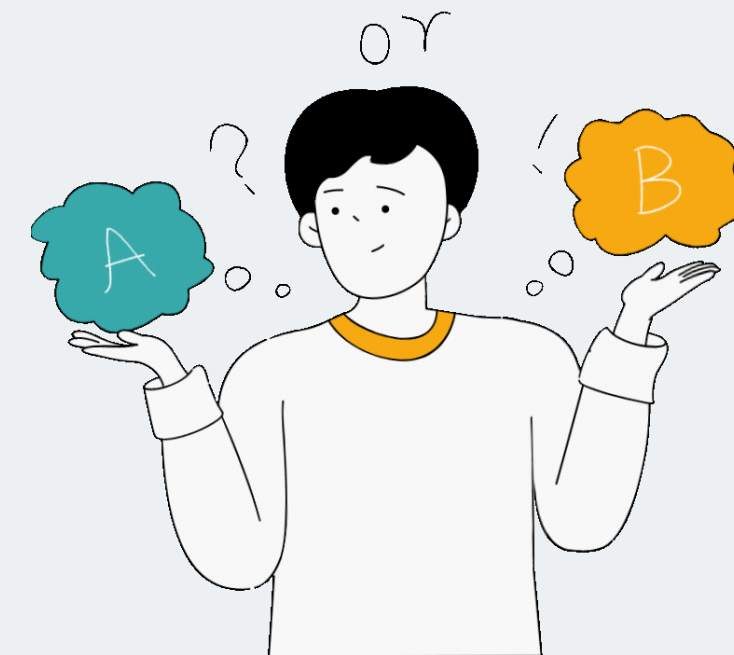
● **Why is it interesting?**

1. Low-code development platforms are a hot topic in the current technology landscape
2. Explore and implement innovative development methods and tools

02

Background Review

Representative leading platforms for further analysis and comparison

1. Mendix

2. Microsoft Power Apps

3. OutSystems

03

Background Review

	Mendix [4]	Microsoft Power Apps [5]	OutSystems [6]
Drag-and-drop application	✅	❌	✅
Multi-type forms	❌	✅	❌
Pre-built modules	✅	✅	✅
Code generation	✅	✅	✅
Cloud deployment	✅	✅	✅

04 Methodology

Incremental Development Model

The incremental model was chosen to be the software development method for this project, decomposing the project into multiple interrelated task modules in accordance with the various functional requirements.

Competitive Feature Analysis

The requirements gathering methods involved analysing and comparing the features and functions of competing products in the same field to gain a thorough understanding of the product landscape.
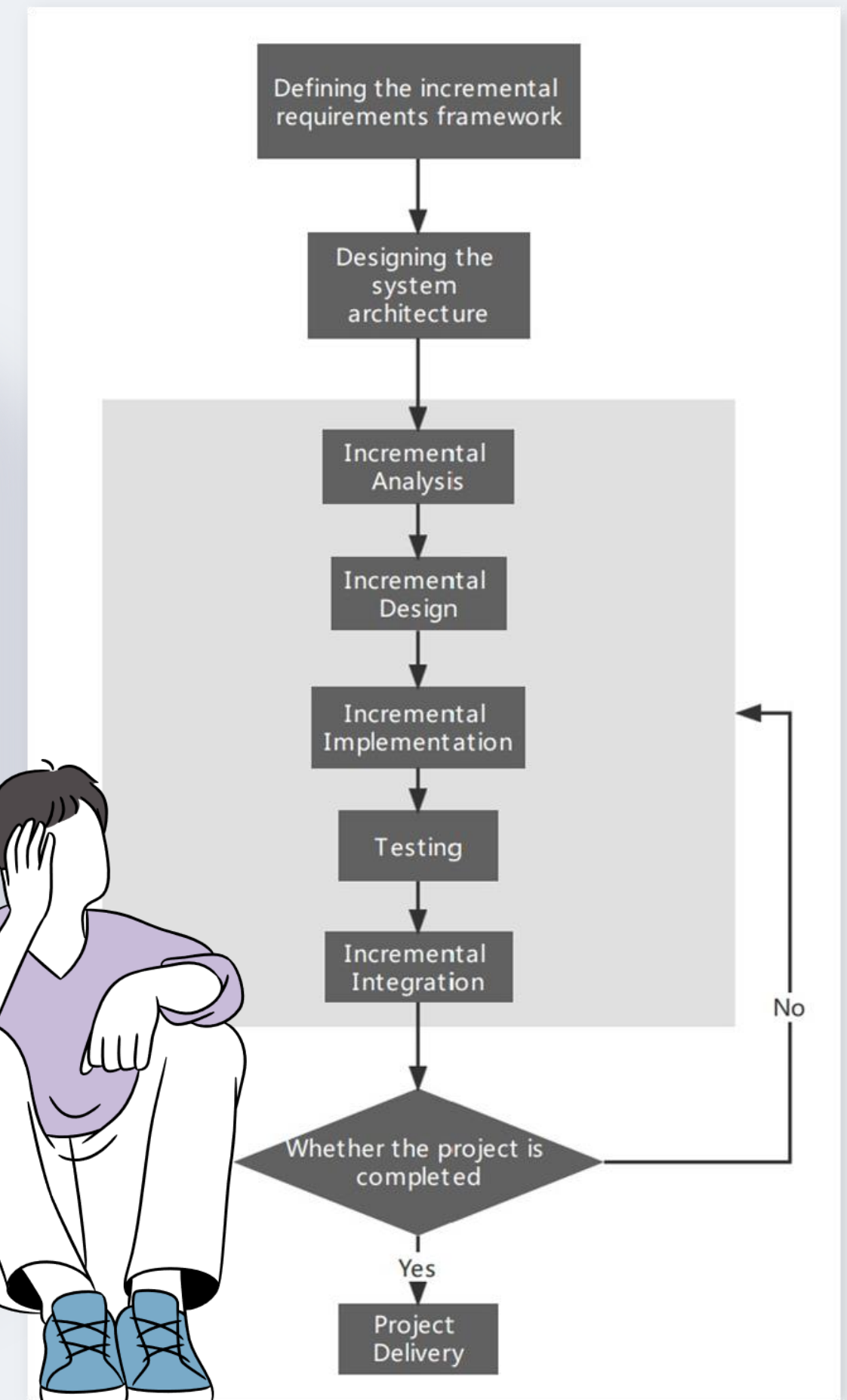
Figure 1.Incremental Development Model Flowchart

Methodology

○ **Design Tools**

○ **Development Tools**

○ **Testing Tools**

Xmind   **ProcessOn**   **Figma**
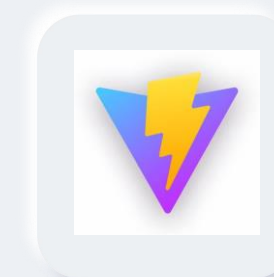
Vue   **Vite**   **VS Code**

Selenium IDE   **PyCharm**

05 Implementation & Result

Project Structure

The project consists of four main modules:

- Navigation Bar - Page editing and previewing

- Component Library Area - Integrate component libraries and basic HTML elements

- Editing Canvas Area - Code editing, previewing, and page deletion

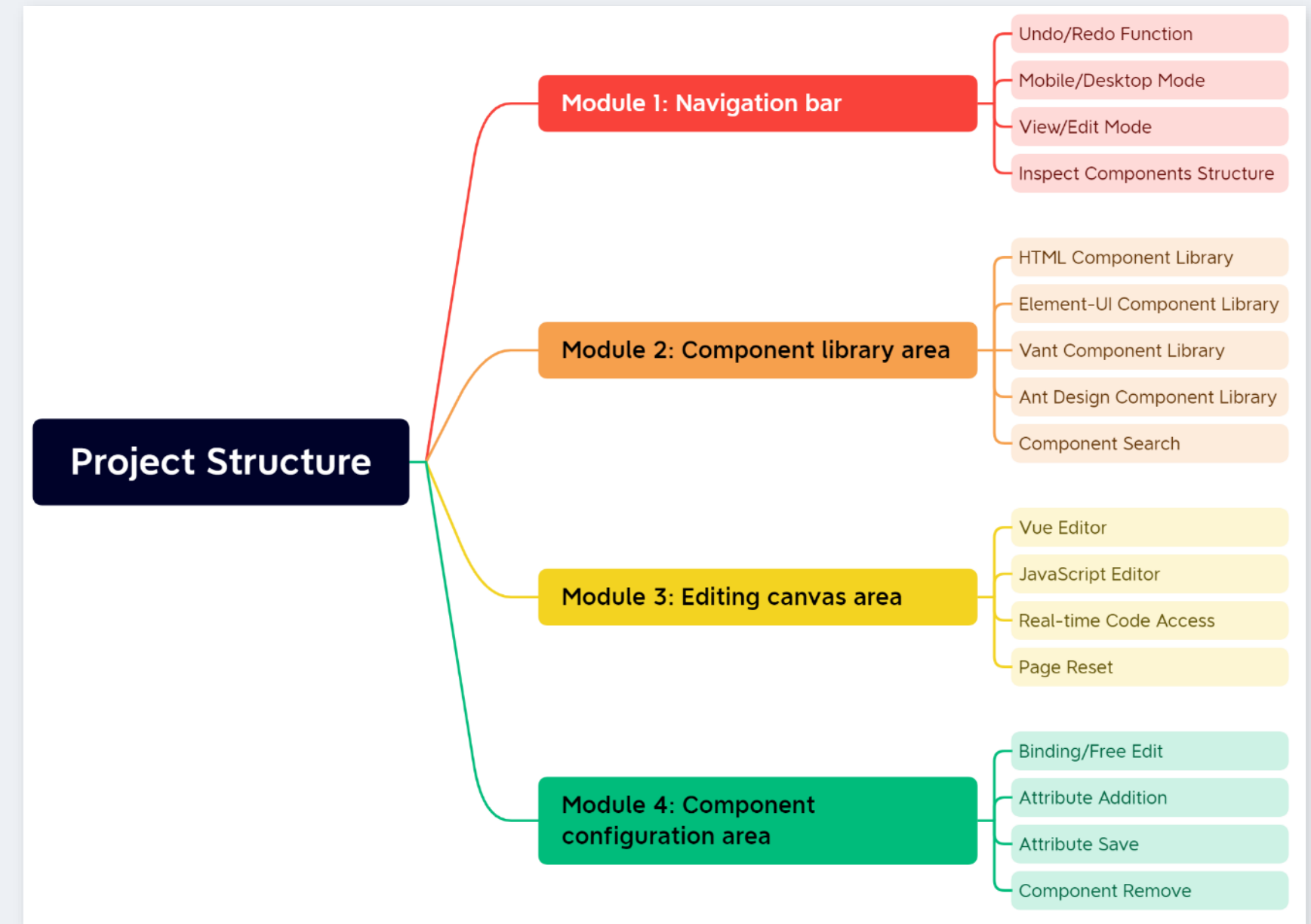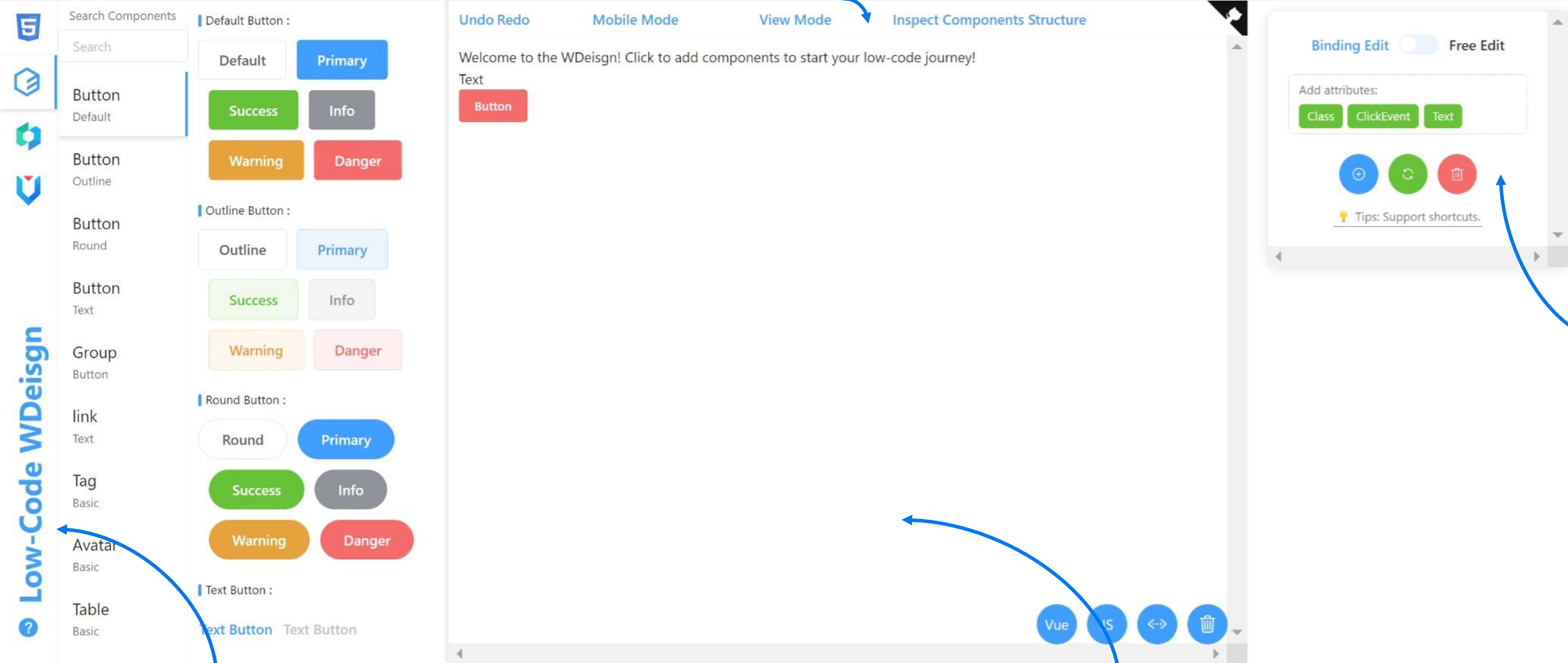- Component Configuration Area - Edit component properties.

Figure 2. Project Structure Diagram

Implementation & Result

Editing Page

Navigation bar
Provides the functions of Undo/Redo, Mobile/Desktop Mode, View/Edit Mode and Inspect Components Structure.

Screenshot 1. Editing Page

Component Configuration Area
Provides component deletion, component attribute editing, adding and removing functions, and supports both binding and free editing modes.

Component Library Area
Provides three different component libraries and the functionality to search for components, but only within the currently selected component library.

Editing Canvas Area
Providing functions such as web code editing, preview, and web page deletion

Implementation
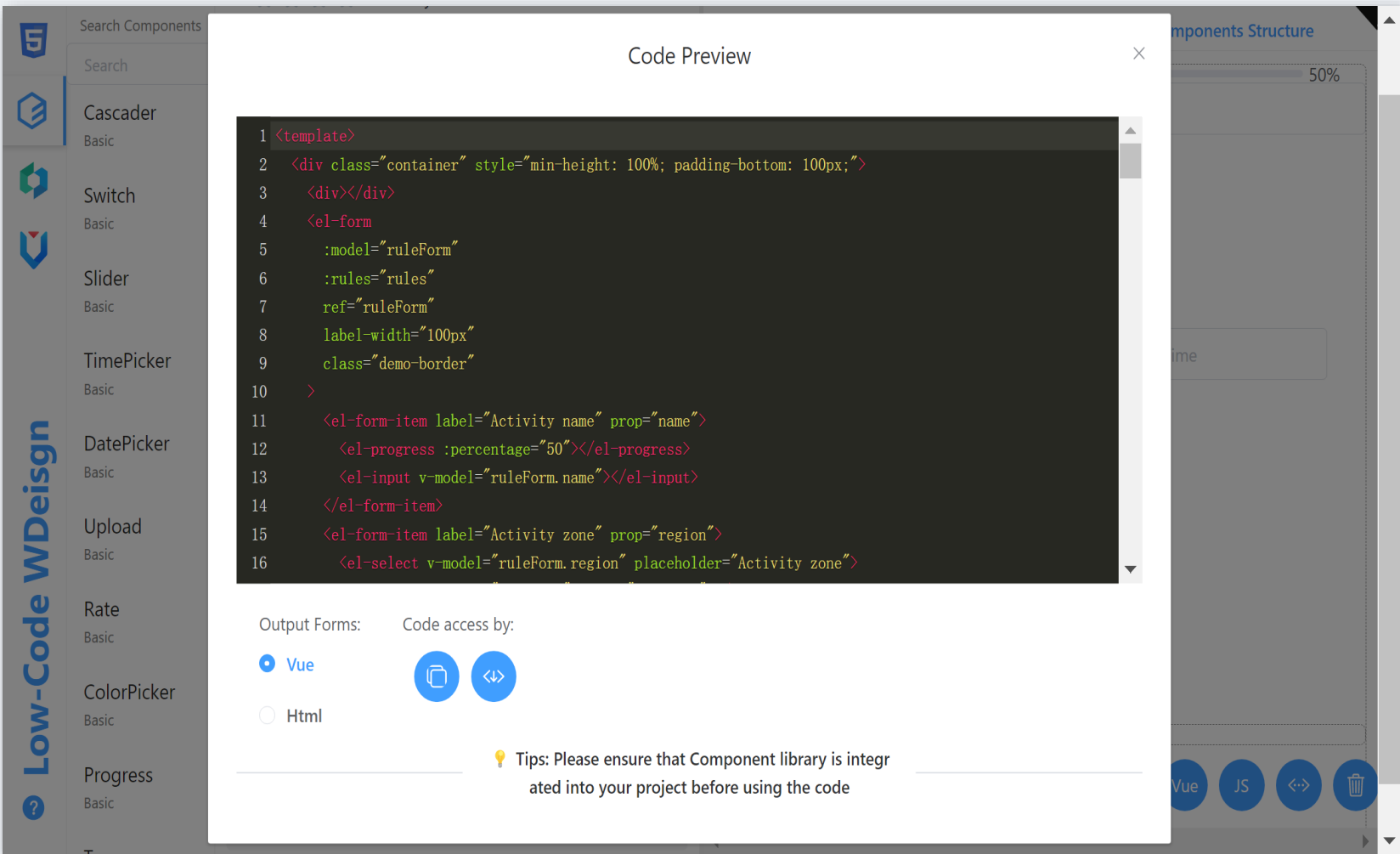# & Result

1   Page Preview

Provide visual page preview function, view the effect of the web page through the web preview function during the web page editing process.
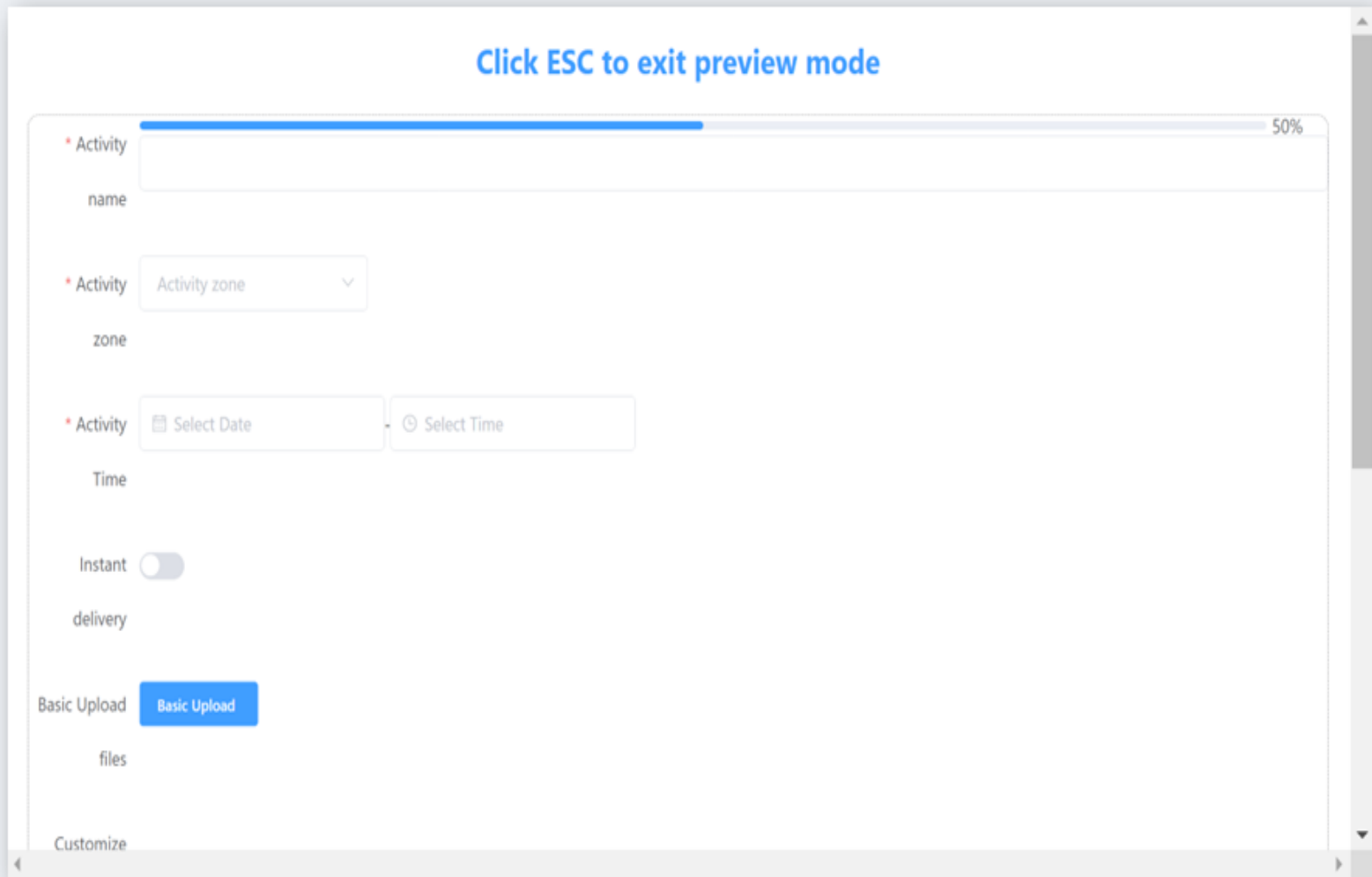
Screenshot 3. Page Preview

2   Code Preview

Provides real-time code modification and copying, as well as download projects in different output formats such as Vue and HTML.
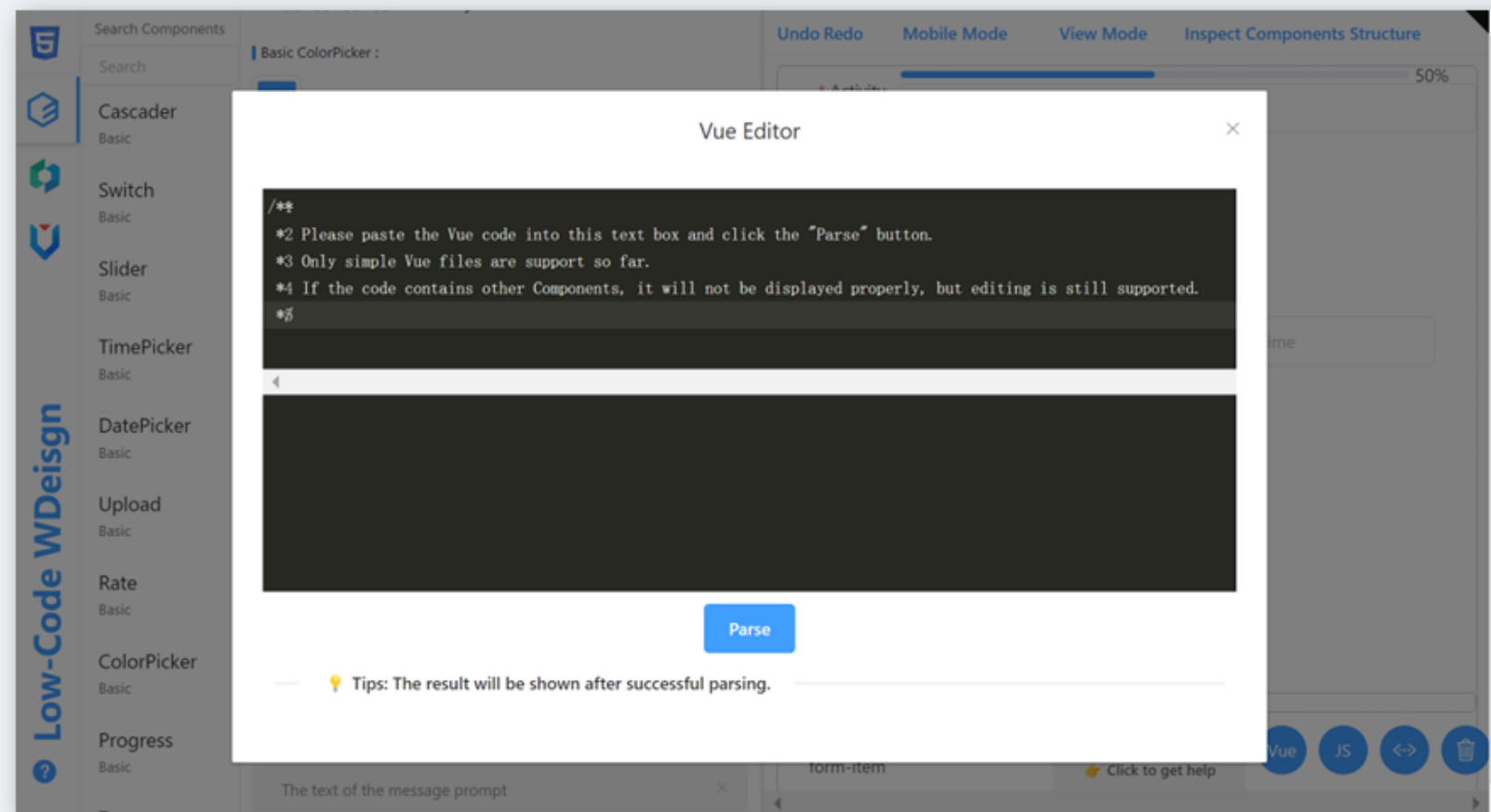

Screenshot 4. Code Preview

Implementation & Result
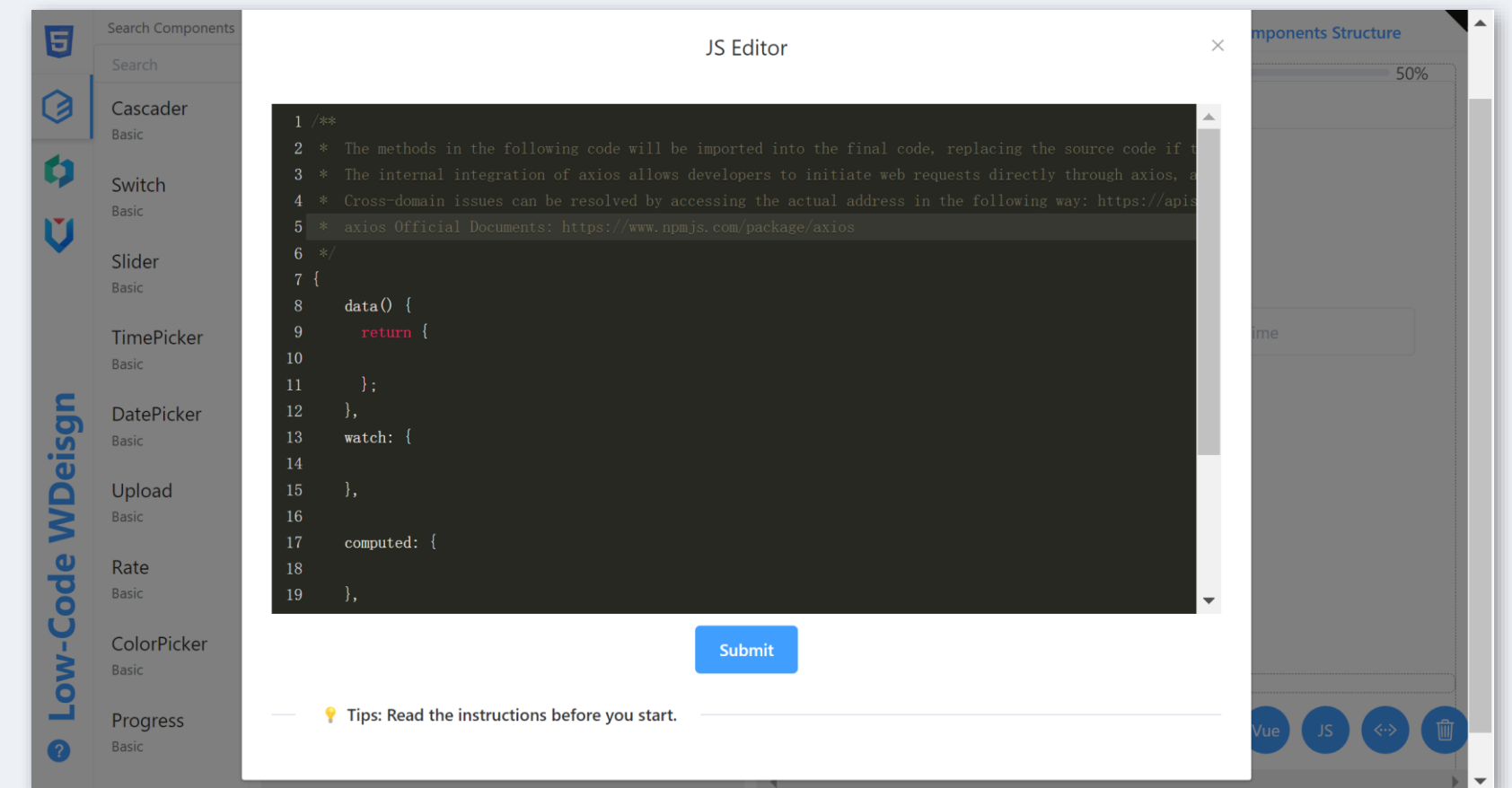
1 ▶ Vue Editor

Provides secondary editing functionality to import and parse Vue code.

Screenshot 3. Page Preview

2 ▶ JavaScript Editor

Provide logical editing function, users can modify or import the JS code of the editing page, and view the result by attributes save function and preview function.

Screenshot 4. Code Preview

06 Conclusion

Achievements

- Drag And Drop Components
- Visualisation
- Code Generation
- Web Import and Export
- Inspect Components Structure
- Page Preview

Limitation

- No free drag and drop
- Limited component libraries
- No project storage and management function
- Platform security vulnerabilities exist

Future Work

- Further Component Libraries
- User Project Management
- On-line collaboration
- Platform security
- Cloud Deployment

THANK YOU

Web Design Platform Based On Low-code Visual Components

Reference

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[4] "Mendix Low-Code Platform Features - Low-Code App Development Tools," Mendix. https://www.mendix.com/platform/

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