



Low Level Design Document

Introduction

This Low Level Design (LLD) document outlines the architecture and core implementation details for **Emmet Explorer - HTML Snippet Generator**. The project is a React-based educational tool that generates and previews HTML snippets from Emmet abbreviations, styled with Tailwind CSS.

1. System Components

Component	Description / Responsibility
App	Root component, manages global state
EmmetInput	Input field for Emmet abbreviation
SnippetPreview	Renders generated HTML snippet
ErrorDisplay	Shows parsing/generation errors
Utils/EmmetParser	Parses Emmet abbreviations to HTML

2. Class/Interface Overview

Component/Class	Key Methods/Props	Relationships
App	state: abbreviation, error, html	Parent of all components
EmmetInput	props: value, onChange	Child of App
SnippetPreview	props: html	Child of App
ErrorDisplay	props: error	Child of App
EmmetParser (util)	parse(abbreviation): string	Used by App

Key Methods (Pseudocode)

```
// EmmetParser.js
function parse(abbreviation) -> string
  // Converts Emmet abbreviation to HTML string
```

```
// App.js (core logic)
onInputChange(abbreviation):
  try:
    html = EmmetParser.parse(abbreviation)
    setHtml(html)
```



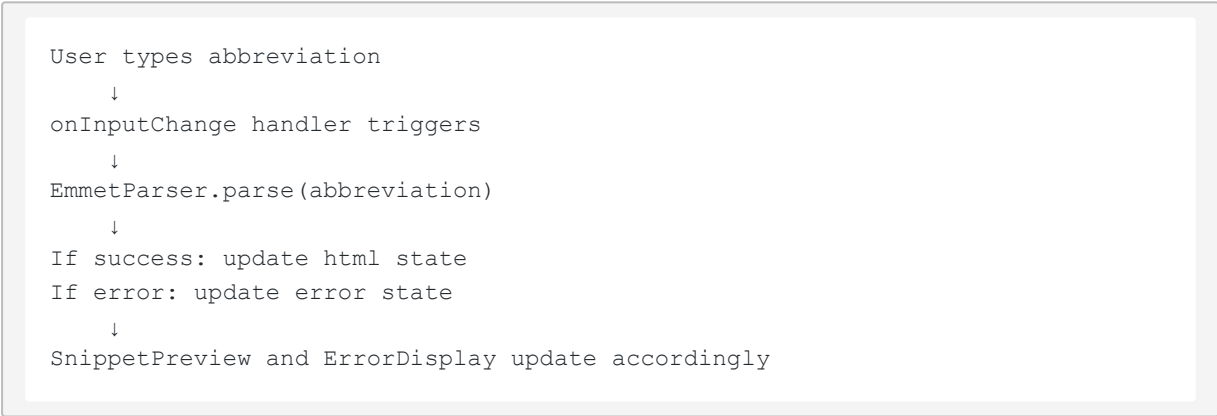
```
        setError(null)
    } catch (err) {
        setError(err.message)
        setHtml("")
    }
}
```

3. Data Structure Overview

Data Model	Fields / Structure	Usage
App State	abbreviation: string	User input
	html: string	Generated HTML
	error: string/null	Error message

4. Algorithms / Logic

Emmet Abbreviation Parsing Flow:



5. Error Handling

Scenario	Handling Approach
Invalid Emmet abbreviation	Show error in ErrorDisplay
Empty input	Clear preview and error
Parser internal error	Show generic error message

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