IT23292154 – W. M. Chamudini

Top Level Structure (EBNF)

program   ::= form

form   ::= "form" IDENTIFIER "{" meta_block section_list validation_block? "}"

meta_block   ::= ("meta" IDENTIFIER "=" STRING ";")*

section_list   ::= (section)+

section   ::= "section" STRING "{" field_list "}"

field_list   ::= (field)+

field   ::=

        "text" IDENTIFIER STRING required_flag? pattern_attr? ";" |

        "email" IDENTIFIER STRING required_flag? ";" |

        "password" IDENTIFIER STRING required_flag? pattern_attr? ";" |

        "date" IDENTIFIER STRING required_flag? min_attr? max_attr? ";" |

        "textarea" IDENTIFIER STRING required_flag? rows_attr? cols_attr? ";" |

        "number" IDENTIFIER STRING min_attr? max_attr? required_flag? ";" |

        "file" IDENTIFIER STRING required_flag? accept_attr? ";" |

        "checkbox" IDENTIFIER STRING ";" |

        "radio" IDENTIFIER STRING "{" option_list "}" ";" |

        "dropdown" IDENTIFIER STRING "{" option_list "}" ";"

option_list   ::= (STRING "=" STRING ";")+

required_flag ::= "required"

pattern_attr   ::= "pattern" "=" STRING

rows_attr   ::= "rows" "=" NUMBER

cols_attr   ::= "cols" "=" NUMBER

min_attr   ::= "min" "=" NUMBER

max_attr   ::= "max" "=" NUMBER

accept_attr   ::= "accept" "=" STRING

validation_block ::= "validate" "{" (validation_rule)+ "}"

validation_rule   ::= "if" IDENTIFIER comparison_operator value "error" "=" STRING ";"

comparison_operator ::= "<" | ">" | "==" | "!=" | "<=" | ">="

value   ::= NUMBER | STRING | BOOLEAN

Tokens (Defined in lexer.l)

IDENTIFIER [a-zA-Z_][a-zA-Z0-9_]*

STRING \"[^\"]*\"   ; Quoted string (e.g., "Full Name")

NUMBER [0-9]+

BOOLEAN (true|false)