**Functional Specification for Behave Test Report Generator**

**1. Purpose**

This Python script generates an HTML test report from a JSON file containing the output of a Behave test run. The report includes the test summary, feature and scenario statuses, and error details for failed scenarios.

**2. Functional Requirements**

**2.1 Command-Line Arguments**

* **--input\_json\_file** (Required): Path to the input JSON file generated from a Behave test run.
* **--output\_html\_file** (Required): Path to the output HTML file to be generated.

**2.2 JSON Parsing and Validation**

* Reads the JSON input file.
* Validates that each top-level element is of type Feature.
* Validates the status of each Feature and Scenario as either passed or failed. Unexpected values raise exceptions.

**2.3 Data Processing and Aggregation**

* Counts and categorizes features and scenarios into passed and failed.
* Calculates the percentage of passed scenarios.
* Identifies failed steps within failed scenarios.

**2.4 HTML Report Generation**

* Generates an HTML report with:
  + **Summary Section**: Displays the pass rate for scenarios and counts of passed/failed features and scenarios.
  + **Feature and Scenario Table**: Lists each feature and scenario with status indicators.
  + **Error Details**: Displays detailed error messages for failed scenarios, expandable via JavaScript.
* Includes embedded CSS for styling and JavaScript for interactive error detail toggling.

**3. Error Handling**

* Raises exceptions for unexpected JSON structure, statuses, or missing failed steps.

**4. Output**

* Generates an HTML file with the provided path, containing the test report.
* Prints summary statistics to the console after report generation.

**5. Constraints and Notes**

* Does not include charts in the HTML report.
* Requires Python 3.x.

**6. Console Output**

* Prints counts of features, scenarios, passed and failed counts, and the path of the generated HTML report.

**7. Enhancement Opportunities**

* Add charts for visual representation.
* Improve styling and layout of the HTML report.
* Include additional details such as test durations and timestamps.