

Package: GoldenVizR (via r-universe)

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Type Package

Title Rule-Based Quality Checks for 'ggplot2' Visualizations Based on the 25 Golden Rules of Data Visualization

Version 0.1.0

Description Quality-checking tools for reviewing R data visualizations built with the 'ggplot2' library against the 25 GoldenViz rules described at <<https://goldenviz.org/>>. The package provides a visual QA and teaching layer that helps users identify common chart clarity, readability, and integrity issues.

License AGPL (>= 3)

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Depends R (>= 4.1)

Imports ggplot2, htmltools

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BugReports https://github.com/WajdiBenSaad/GoldenViz_R/issues

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Repository <https://wajdibensaad.r-universe.dev>

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analyze_plot	Analyze a ggplot object with GoldenViz
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Description

Analyze a ggplot object and return structured GoldenViz feedback. The current implementation returns a plot-level summary and 25 ordered heuristic rule results with status counts.

Usage

```
analyze_plot(plot)
```

Arguments

plot A ggplot2 plot object.

Value

A goldenviz_report object. See goldenviz_report for the report schema and status definitions.

Examples

```
if (requireNamespace("ggplot2", quietly = TRUE)) {
  p <- ggplot2::ggplot(
    mtcars,
    ggplot2::aes(wt, mpg, colour = factor(cyl))
  ) +
    ggplot2::geom_point() +
    ggplot2::labs(
      title = "Fuel economy by weight",
      subtitle = "Motor Trend cars",
      x = "Weight",
      y = "Miles per gallon",
      colour = "Cylinders",
      caption = "Source: mtcars"
    )

  report <- analyze_plot(p)
```

```
report$summary
subset(report$rule_results, status != "PASS")
}
```

goldenviz_check_rules *Run GoldenViz heuristic rule checks*

Description

Evaluates the 25 GoldenViz rules using a lightweight inspection list. The function is intentionally tolerant of missing fields: rules that cannot be assessed from the supplied info return INFO rather than failing.

Usage

```
goldenviz_check_rules(info = list())
```

Arguments

info	A named list produced by a plot inspection layer. Missing fields are allowed. Common fields include plot labels (title, x_label, y_label, caption), structural metadata (layer_count, chart_type), and optional inspection signals such as palette_accessible, overplotting, scale_truthful, and framing_neutral.
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Value

A data frame with columns id, family, rule, status, and message. Exactly 25 rows are returned.

Status values

Rule statuses are:

- PASS: the supplied info satisfied the rule.
- WARNING: a potential issue was detected.
- FAIL: a stronger integrity or accessibility issue was detected.
- INFO: the rule could not be assessed from the supplied info.

Examples

```
# Advanced use: provide an inspection-like list directly.
# Most users should call analyze_plot() instead.
checks <- goldenviz_check_rules(list(
  title = "Fuel economy by weight",
  x_label = "Weight",
  y_label = "Miles per gallon",
  missing_values = FALSE,
  text_size = 11,
  scale_truthful = TRUE,
```

```

    framing_neutral = TRUE
  ))

  checks[checks$status != "PASS", ]

```

goldenviz_report	<i>GoldenViz report objects</i>
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Description

A `goldenviz_report` is the structured result returned by `analyze_plot()`. It is a list with stable top-level fields intended for programmatic use.

Report schema

A report contains:

- `plot_summary`: a named list of plot metadata, including labels, layer count, geom names, data dimensions, facet class, and coordinate class.
- `rule_results`: a data frame with one row per GoldenViz rule and columns `rule_id`, `family`, `rule`, `status`, `message`, and `suggestion`. The `rule_id` column is the public rule identifier.
- `status_counts`: a named integer vector with counts for PASS, WARNING, FAIL, and INFO.
- `summary`: a one-row data frame with aggregate counts and the current report-level status.

Rule result statuses

Rule-level status values are:

- PASS: the available inspection data satisfied the rule.
- WARNING: the rule found a potential issue to review.
- FAIL: the rule found a stronger integrity or accessibility issue.
- INFO: the rule could not be assessed from the available inspection data.

Report-level `summary$status` values are derived from rule-level statuses: `fail` if any rule fails, `warning` if any rule warns, `pending_checks` if any rule remains informational, and `pass` otherwise.

goldenviz_rules	<i>GoldenViz rule registry</i>
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Description

Returns the current 25-rule structure used by GoldenViz, grouped into Completeness, Readability, and Integrity.

Usage

```
goldenviz_rules()
```

Value

A data frame with one row per rule and columns:

- id: stable rule identifier, currently R1 through R25.
- family: rule family, one of Completeness, Readability, or Integrity.
- rule: human-readable rule label.

Examples

```
rules <- goldenviz_rules()
rules

split(rules[, c("id", "rule")], rules$family)
```

render_report	<i>Render a GoldenViz report as HTML</i>
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Description

Render a GoldenViz report as HTML

Usage

```
render_report(report, include_passed = TRUE)
```

Arguments

report A goldenviz_report object returned by analyze_plot().
include_passed Whether passed checks should be included.

Value

An htmltools browsable tag object.

save_report	<i>Save a GoldenViz report as standalone HTML</i>
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Description

Save a GoldenViz report as standalone HTML

Usage

```
save_report(report, path = "goldenviz-report.html", include_passed = TRUE)
```

Arguments

report	A goldenviz_report object returned by analyze_plot().
path	Output HTML path.
include_passed	Whether passed checks should be included.

Value

Invisibly returns path.

view_report	<i>View a GoldenViz report</i>
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Description

View a GoldenViz report

Usage

```
view_report(report, include_passed = TRUE)
```

Arguments

report	A goldenviz_report object returned by analyze_plot().
include_passed	Whether passed checks should be included.

Value

Invisibly returns the rendered report.

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