Package 'agentr'

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Type Package

Title Specification and Review Scaffolding for AI Agent Workflows

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Description Specification, review, and scaffolding helpers for AI agent systems. The package standardizes workflow, memory, knowledge, interface, proposal, and review artifacts so humans and coding assistants can infer, inspect, revise, and hand off task designs. It intentionally excludes communication layers, provider-specific model client code, and full runtime execution engines so that design artifacts and implementation transport remain cleanly separated.

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Contents

`add_child_task_node` *Add a child task to a task-family workflow*

Description

Add a child task to a task-family workflow

Usage

```
add_child_task_node(workflow, node, tags = character())
```

Arguments

`workflow`	Existing task-family workflow.
`node`	One-row child-task node data frame.
`tags`	Optional tags for the child task.

Value

Updated task-family workflow.

AEConfig *AEConfig*

Description

AEConfig

AEConfig

Details

Configuration for the action-execution subsystem.

Methods

`$initialize(enabled = TRUE, execution_mode = "guided", tool_budget = "standard", metadata = list())`
Create an action-execution config.

`$validate()` Validate the config.

`$as_list()` Return a serializable representation.

Public fields

`enabled` Whether the subsystem is enabled.

`execution_mode` Execution-mode label.

`tool_budget` Optional tool budget label.

`metadata` Free-form metadata list.

Methods

Public methods:

- `AEConfig$new()`
- `AEConfig$validate()`
- `AEConfig$as_list()`
- `AEConfig$print()`
- `AEConfig$clone()`

Method `new()`**:** Create an action-execution config.

Usage:

```
AEConfig$new(
  enabled = TRUE,
  execution_mode = "guided",
  tool_budget = "standard",
  metadata = list()
)
```

Arguments:

`enabled` Whether the subsystem is enabled.

`execution_mode` Execution-mode label.

`tool_budget` Optional tool budget label.

`metadata` Free-form metadata list.

Method `validate()`**:** Validate the config.

Usage:

```
AEConfig$validate()
```

Method `as_list()`**:** Return a serializable representation.

Usage:

```
AEConfig$as_list()
```

Method `print()`**:** Print a compact config summary.

Usage:

```
AEConfig$print(...)
```

Arguments:

`...` Unused print arguments.

Method `clone()`**:** The objects of this class are cloneable with this method.

Usage:

```
AEConfig$clone(deep = FALSE)
```

Arguments:

`deep` Whether to make a deep clone.

`AffectiveConfig` *AffectiveConfig*

Description

AffectiveConfig

AffectiveConfig

Details

Lightweight configuration for the affective layer inside `RWM`.

Methods

`$initialize(enabled = TRUE, style = "lightweight", persistence = "session", summary = NULL, metadat`
Create an affective-layer config.

`$validate()` Validate the config.

`$as_list()` Return a serializable representation.

Public fields

`enabled` Whether the affective layer is enabled.

`style` Affective modeling style.

`persistence` Persistence mode for affective state.

`summary` Optional one-line summary.

`metadata` Free-form metadata list.

Methods

Public methods:

- `AffectiveConfig$new()`
- `AffectiveConfig$validate()`
- `AffectiveConfig$as_list()`
- `AffectiveConfig$print()`
- `AffectiveConfig$clone()`

Method `new()`**:** Create an affective-layer config.

Usage:

```
AffectiveConfig$new(
  enabled = TRUE,
  style = "lightweight",
  persistence = "session",
  summary = NULL,
  metadata = list()
)
```

Arguments:

`enabled` Whether the affective layer is enabled.

`style` Affective modeling style.

`persistence` Persistence mode for affective state.

`summary` Optional one-line summary.

`metadata` Free-form metadata list.

Method `validate()`**:** Validate the config.

Usage:

```
AffectiveConfig$validate()
```

Method `as_list()`**:** Return a serializable representation.

Usage:

```
AffectiveConfig$as_list()
```

Method `print()`**:** Print a compact config summary.

Usage:

```
AffectiveConfig$print(...)
```

Arguments:

... Unused print arguments.

Method `clone()`**:** The objects of this class are cloneable with this method.

Usage:

```
AffectiveConfig$clone(deep = FALSE)
```

Arguments:

`deep` Whether to make a deep clone.

`AffectiveState` *AffectiveState*

Description

AffectiveState

AffectiveState

Details

Minimal structured affective layer with inertia-aware updates.

Methods

`$initialize(state = default_emotion_state())` Create an affective state container.

`$decay(current_time = Sys.time())` Apply time-based decay to the stored affective state.

`$update_primary(updates)` Blend named primary-emotion updates into the current state using inertia.

`$describe(threshold = 0.2, include_blended = TRUE, method = "geometric")` Return a natural-language description of the current affective state.

`$as_list()` Return the raw underlying affective-state list.

Public fields

`state` A named list returned by `default_emotion_state()`.

Methods

Public methods:

- `AffectiveState$new()`
- `AffectiveState$decay()`
- `AffectiveState$update_primary()`
- `AffectiveState$describe()`
- `AffectiveState$as_list()`
- `AffectiveState$clone()`

Method `new()`**:** Create an `AffectiveState` with an initial emotion state.

Usage:

```
AffectiveState$new(state = default_emotion_state())
```

Arguments:

`state` Affective state used by `$initialize()`.

Method `decay()`**:** Apply time-based decay to the current affective state.

Usage:

```
AffectiveState$decay(current_time = Sys.time())
```

Arguments:

`current_time` Reference time used by `$decay()`.

Method `update_primary()`**:** Blend named primary-emotion updates into the current affective state.

Usage:

```
AffectiveState$update_primary(updates)
```

Arguments:

`updates` Named numeric updates used by `$update_primary()`.

Method `describe()`**:** Return a natural-language description of the current affective state.

Usage:

```
AffectiveState$describe(
  threshold = 0.2,
  include_blended = TRUE,
  method = "geometric"
)
```

Arguments:

`threshold` Threshold used by `$describe()`.

`include_blended` Logical flag used by `$describe()`.

`method` Combination method used by `$describe()`.

Method `as_list()`**:** Return the underlying affective state as a plain list.

Usage:

```
AffectiveState$as_list()
```

Method `clone()`**:** The objects of this class are cloneable with this method.

Usage:

```
AffectiveState$clone(deep = FALSE)
```

Arguments:

`deep` Whether to make a deep clone.

AgentCore *AgentCore*

Description

AgentCore

AgentCore

Details

Minimal agent container for the `agentr` cognitive core. An `AgentCore` combines cognitive and affective state layers and can optionally own a `Scaffolder` instance for human-in-the-loop workflow elicitation.

Methods

`$initialize(id = "agentr-core", name = "agentr", cognition = CognitiveState$new(), affect = Affecti`
Create a minimal agent container with cognition and affect.

`$attach_scaffolder(scaffolder = NULL)` Attach an existing scaffolder or create a new `Scaffolder` owned by the agent.

`$snapshot()` Return a serializable snapshot of the agent's core state.

Public fields

`id` Agent identifier.

`name` Human-readable agent name.

`cognition` A `CognitiveState` instance.

`affect` An `AffectiveState` instance.

`scaffolder` Optional `Scaffolder` instance.

`metadata` Free-form metadata list.

Methods

Public methods:

- `AgentCore$new()`
- `AgentCore$attach_scaffolder()`
- `AgentCore$snapshot()`
- `AgentCore$clone()`

Method `new()`**:** Create an `AgentCore` with cognition, affect, and free-form metadata.

Usage:

```
AgentCore$new(
  id = "agentr-core",
  name = "agentr",
  cognition = CognitiveState$new(),
  affect = AffectiveState$new(),
  metadata = list()
)
```

Arguments:

`id` Agent identifier used by `$initialize()`.

`name` Human-readable agent name used by `$initialize()`.

`cognition` A `CognitiveState` instance used by `$initialize()`.

`affect` An `AffectiveState` instance used by `$initialize()`.

`metadata` Free-form metadata list used by `$initialize()`.

Method `attach_scaffolder()`**:** Attach an existing scaffolder or create a new one owned by this agent.

Usage:

```
AgentCore$attach_scaffolder(scaffolder = NULL)
```

Arguments:

`scaffolder` Optional `Scaffolder` instance used by `$attach_scaffolder()`.

Method `snapshot()`**:** Return a serializable snapshot of the agent core state.

Usage:

```
AgentCore$snapshot()
```

Method `clone()`**:** The objects of this class are cloneable with this method.

Usage:

```
AgentCore$clone(deep = FALSE)
```

Arguments:

`deep` Whether to make a deep clone.

`agentr_workspace_paths` *Return standard* `agentr` *workspace paths*

Description

Return standard `agentr` workspace paths

Usage

```
agentr_workspace_paths(workspace)
```

Arguments

workspace	Workspace root directory.

Value

Named list of workspace paths.

AgentScaffoldState *AgentScaffoldState*

Description

AgentScaffoldState

AgentScaffoldState

Details

Top-level state container for approved agent designs and nested workflow state.

Methods

`$initialize(approved_agent_spec = NULL, proposal_state = list(status = "draft", proposals = list())`
Create an agent scaffold state container.

`$validate()` Validate the state object.

`$set_approved_agent_spec(spec)` Store an approved `AgentSpec`.

`$approved_workflow()` Return the approved workflow, preferring the approved agent spec when present.

`$as_list()` Return a serializable representation.

Public fields

`approved_agent_spec` Current approved `AgentSpec` or `NULL`.

`proposal_state` Free-form proposal lifecycle state list.

`workflow_state` A `WorkflowProposalState` object.

`metadata` Free-form metadata list.

Methods

Public methods:

- `AgentScaffoldState$new()`
- `AgentScaffoldState$validate()`
- `AgentScaffoldState$set_approved_agent_spec()`
- `AgentScaffoldState$approved_workflow()`
- `AgentScaffoldState$as_list()`

- AgentScaffoldState$print()
- AgentScaffoldState$clone()

Method `new()`**:** Create an agent scaffold state container.

Usage:

```
AgentScaffoldState$new(
  approved_agent_spec = NULL,
  proposal_state = list(status = "draft", proposals = list()),
  workflow_state = WorkflowProposalState$new(),
  metadata = list()
)
```

Arguments:

`approved_agent_spec` Current approved `AgentSpec` or `NULL`.

`proposal_state` Free-form proposal lifecycle state list.

`workflow_state` A `WorkflowProposalState` object.

`metadata` Free-form metadata list.

Method `validate()`**:** Validate the state object.

Usage:

```
AgentScaffoldState$validate()
```

Method `set_approved_agent_spec()`**:** Store an approved `AgentSpec`.

Usage:

```
AgentScaffoldState$set_approved_agent_spec(spec)
```

Arguments:

`spec` Agent spec used by `$set_approved_agent_spec()`.

Method `approved_workflow()`**:** Return the approved workflow.

Usage:

```
AgentScaffoldState$approved_workflow()
```

Method `as_list()`**:** Return a serializable representation.

Usage:

```
AgentScaffoldState$as_list()
```

Method `print()`**:** Print a compact state summary.

Usage:

```
AgentScaffoldState$print(...)
```

Arguments:

`...` Unused print arguments.

Method `clone()`**:** The objects of this class are cloneable with this method.

Usage:

```
AgentScaffoldState$clone(deep = FALSE)
```

Arguments:

`deep` Whether to make a deep clone.

AgentSpec *AgentSpec*

Description

AgentSpec

AgentSpec

Details

Public agent-design artifact combining workflow, memory, knowledge, state, interface, and optional subsystem diagnostic labels.

Methods

`$initialize(task, agent_name = "agentr-agent", summary = NULL, subsystems = SubsystemSpec$new(), wo`
Create an agent-design artifact.

`$validate()` Validate the agent design.

`$selected_subsystems()` Return the selected subsystem names.

`$workflow_spec()` Return the embedded workflow specification.

`$design_summary()` Return a one-row summary table.

`$as_list()` Return a serializable representation.

`$save(file_path)` Save the object with `save_agent()`.

Public fields

`task` Source task description.

`agent_name` Human-readable agent name.

`summary` One-line agent summary.

`subsystems` A `SubsystemSpec` object.

`workflow` Embedded workflow specification or `NULL`.

`knowledge_spec` Embedded `KnowledgeSpec` or `NULL`.

`memory_spec` Embedded `MemorySpec` or `NULL`.

`state_requirements` Free-form list of state requirements.

`state_spec` Optional structured state-spec list.

`interfaces` Free-form list of interfaces.

`interface_spec` Optional structured interface-spec list.

`autonomy_spec` Optional structured autonomy-spec list.

`autonomy_stage` Optional autonomy-stage label.

`implementation_targets` Free-form list of implementation targets.

`metadata` Free-form metadata list.

Methods

Public methods:

- AgentSpec$new()
- AgentSpec$validate()
- AgentSpec$selected_subsystems()
- AgentSpec$workflow_spec()
- AgentSpec$design_summary()
- AgentSpec$as_list()
- AgentSpec$save()
- AgentSpec$print()
- AgentSpec$clone()

Method `new()`**:** Create an agent-design artifact.

Usage:

```
AgentSpec$new(
  task,
  agent_name = "agentr-agent",
  summary = NULL,
  subsystems = SubsystemSpec$new(),
  workflow = NULL,
  knowledge_spec = NULL,
  memory_spec = NULL,
  state_requirements = list(),
  state_spec = NULL,
  interfaces = list(),
  interface_spec = NULL,
  autonomy_spec = NULL,
  autonomy_stage = NULL,
  implementation_targets = list(),
  metadata = list()
)
```

Arguments:

`task` Source task description.

`agent_name` Human-readable agent name.

`summary` One-line agent summary.

`subsystems` A `SubsystemSpec` object or list payload.

`workflow` Embedded workflow specification or `NULL`.

`knowledge_spec` Embedded `KnowledgeSpec` or `NULL`.

`memory_spec` Embedded `MemorySpec` or `NULL`.

`state_requirements` Free-form list of state requirements.

`state_spec` Optional structured state-spec list.

`interfaces` Free-form list of interfaces.

`interface_spec` Optional structured interface-spec list.

`autonomy_spec` Optional structured autonomy-spec list.

`autonomy_stage` Optional autonomy-stage label.

`implementation_targets` Free-form list of implementation targets.

`metadata` Free-form metadata list.

Method `validate()`**:** Validate the agent design.

Usage:

```
AgentSpec$validate()
```

Method `selected_subsystems()`**:** Return the selected subsystem names.

Usage:

```
AgentSpec$selected_subsystems()
```

Method `workflow_spec()`**:** Return the embedded workflow specification.

Usage:

```
AgentSpec$workflow_spec()
```

Method `design_summary()`**:** Return a one-row summary table.

Usage:

```
AgentSpec$design_summary()
```

Method `as_list()`**:** Return a serializable representation.

Usage:

```
AgentSpec$as_list()
```

Method `save()`**:** Save the object with `save_agent()`.

Usage:

```
AgentSpec$save(file_path)
```

Arguments:

`file_path` Output path used by `$save()`.

Method `print()`**:** Print a compact agent-design summary.

Usage:

```
AgentSpec$print(...)
```

Arguments:

`...` Unused print arguments.

Method `clone()`**:** The objects of this class are cloneable with this method.

Usage:

```
AgentSpec$clone(deep = FALSE)
```

Arguments:

`deep` Whether to make a deep clone.

append_decision_trace *Append a decision trace*

Description

Append a decision trace

Usage

```
append_decision_trace(trace, path)
```

Arguments

trace	Trace list.
path	JSONL or RDS path.

Value

Invisibly returns TRUE.

append_reflection_trace *Append a reflection trace*

Description

Append a reflection trace

Usage

```
append_reflection_trace(trace, path)
```

Arguments

trace	Trace list.
path	JSONL or RDS path.

Value

Invisibly returns TRUE.

apply_design_feedback *Apply structured design feedback*

Description

Applies feedback through existing scaffolder review/discussion mechanisms when a scaffolder is supplied. Non-workflow feedback is preserved as structured design discussion metadata; it is not auto-executed.

Usage

```
apply_design_feedback(x, feedback, review_spec = NULL)
```

Arguments

x	A Scaffolder object.
feedback	Feedback item or list of items.
review_spec	Optional review spec used for target-id warnings.

Value

The mutated Scaffolder object.

apply_initial_spec_message *Apply an initial LLM response into a workspace proposal state*

Description

Apply an initial LLM response into a workspace proposal state

Usage

```
apply_initial_spec_message(
  workspace,
  target = c("workflow", "agent", "memory", "knowledge"),
  message,
  comment = NULL
)
```

Arguments

workspace	Workspace root directory.
target	Target state: workflow, agent, memory, or knowledge.
message	JSON string, parsed list, or path to a JSON response file.
comment	Optional initial task context for workflow or agent targets.

Value

Mutated state object.

`apply_knowledge_message` *Apply a knowledge message*

Description

Apply a knowledge message

Usage

```
apply_knowledge_message(state, message)
```

Arguments

`state`	A `KnowledgeProposalState` object.
`message`	Parsed or raw knowledge message.

Value

Mutated state object.

`apply_memory_message` *Apply a memory message*

Description

Apply a memory message

Usage

```
apply_memory_message(state, message)
```

Arguments

`state`	A `MemoryProposalState` object.
`message`	Parsed or raw memory message.

Value

Mutated state object.

apply_node_detail_message

Apply a node-detail LLM response into a workspace workflow proposal

Description

This is a convenience wrapper for `apply_revision_message(target = "workflow", node_id = ...)`. It previews the proposed node schema or nested workflow edits and stores them as a workflow proposal; approved workflow state is not mutated until the proposal is explicitly approved.

Usage

```
apply_node_detail_message(workspace, node_id, message, agent_spec_path = NULL)
```

Arguments

`workspace`	Workspace root directory.
`node_id`	Workflow node id to revise.
`message`	JSON string, parsed list, or path to a JSON response file.
`agent_spec_path`	Optional path to approved `AgentSpec` `.rds`.

Value

Preview result.

apply_revision_message

Apply a revision LLM response into a workspace proposal state

Description

Workflow revisions are previewed and stored as proposals; approved specs are not mutated by this function.

Usage

```
apply_revision_message(
  workspace,
  target = c("workflow", "agent", "memory", "knowledge"),
  message,
  agent_spec_path = NULL,
  node_id = NULL
)
```

Arguments

workspace	Workspace root directory.
target	Target state: workflow, agent, memory, or knowledge.
message	JSON string, parsed list, or path to a JSON response file.
agent_spec_path	Optional path to approved AgentSpec .rds.
node_id	Optional workflow node id. When supplied for workflow targets, only node-detail actions for this node are accepted.

Value

Mutated state object or preview result.

---

apply_scaffolder_message

Apply a machine-readable scaffolder message

Description

Parses and dispatches a machine-readable scaffolder message into concrete calls on a Scaffolder instance.

Usage

```
apply_scaffolder_message(
  scaffolder,
  message,
  allowed_methods = scaffolder_action_methods(),
  stop_on_error = TRUE
)
```

Arguments

scaffolder	A Scaffolder instance.
message	Parsed message list, JSON string, or path to a downloaded .json file.
allowed_methods	Character vector of allowed method names.
stop_on_error	Whether to stop on the first action error. When FALSE, errors are collected in the returned result object.

Value

A standardized list with applied_actions, workflow_after, human_prompts, and errors.

approve_workspace_proposal

Approve a workspace proposal

Description

Approve a workspace proposal

Usage

```
approve_workspace_proposal(
  workspace,
  type = c("workflow", "agent", "memory", "knowledge"),
  proposal_id,
  note = NULL,
  agent_spec_path = NULL
)
```

Arguments

workspace	Workspace root directory.
type	Proposal type: workflow, agent, memory, or knowledge.
proposal_id	Proposal identifier.
note	Optional approval note.
agent_spec_path	Optional path to approved AgentSpec .rds.

Value

Approved proposal or spec object.

article_workflow_specs_from_json

Build workflow specifications from article extraction JSON

Description

Converts the article-level JSON object produced from build_article_workflow_extraction_prompt() into one validated workflow specification per element of workflows.

Usage

```
article_workflow_specs_from_json(x)
```

Arguments

x	Parsed list, raw JSON string, or path to a .json file.

Value

A named list of validated workflow specifications.

---

backup_agent *Backup an* agentr *object with a timestamped filename*

Description

Saves a timestamped backup of an agentr core object to a specified directory.

Usage

```
backup_agent(agent, dir)
```

Arguments

agent	An object created by agentr.
dir	Backup directory. Must be supplied explicitly.

Value

Invisibly returns the backup file path.

---

build_agent_design_prompt *Build an LLM prompt for agent design decisions*

Description

Creates a prompt that targets subsystem-first agent design while keeping the workflow as a nested component inside the proposed agent specification.

Usage

```
build_agent_design_prompt(scaffolder, format = "json")
```

Arguments

scaffolder	A Scaffolder instance.
format	Prompt payload format. Use "json" or "markdown".

Value

Character string prompt.

`build_article_workflow_extraction_prompt` *Build a workflow extraction prompt from an article*

Description

Creates a prompt for a reasoning model to infer one or more `agentr`-compatible workflow specifications from an article describing agentic AI application cases, demonstrations, or methods.

Usage

```
build_article_workflow_extraction_prompt(
  article_context,
  article_title = NULL,
  task = NULL,
  case_names = NULL,
  extraction_mode = "both",
  format = "json",
  target_agent = "reasoning_model",
  extraction_goal =
    "Infer agentr workflow specs from article-described application cases.",
  constraints = character(),
  extra_context = list()
)
```

Arguments

`article_context`	Character string or character vector containing the article text, excerpt, URL, abstract, notes, or section summaries.
`article_title`	Optional article title.
`task`	Optional task summary for the extraction.
`case_names`	Optional case names to prioritize when extracting workflows.
`extraction_mode`	Extraction mode: `"case_workflows"`, `"global_workflow"`, or `"both"`.
`format`	Prompt payload format. Use `"json"` for SDK-facing structured payloads and `"markdown"` for prompts pasted into a reasoning-model chat interface.
`target_agent`	Target reasoning agent label.
`extraction_goal`	Optional extraction goal note.
`constraints`	Optional character vector of extraction constraints.
`extra_context`	Optional named list of additional context.

Value

Character string prompt.

`build_design_review_data` *Build design-review data*

Description

Packages an agent design and optional proposal states into a stable, JSON-ready review bundle. This prepares the data contract for a future JS/HTML review interface; it does not render a UI.

Usage

```
build_design_review_data(
  x = NULL,
  workflow = NULL,
  memory_spec = NULL,
  knowledge_spec = NULL,
  graph_spec = NULL,
  workflow_state = NULL,
  knowledge_state = NULL,
  memory_state = NULL,
  proposal_states = list(),
  review_id = .design_review_id(),
  metadata = list()
)
```

Arguments

`x`	Optional `AgentSpec`, `IntelligentAgent`, `Scaffolder`, `agentr_workflow_spec`, `WorkflowProposal`, or `KnowledgeSpec`.
`workflow`	Optional workflow spec overriding the workflow inferred from `x`.
`memory_spec`	Optional `MemorySpec` overriding memory inferred from `x`.
`knowledge_spec`	Optional `KnowledgeSpec` overriding knowledge inferred from `x`.
`graph_spec`	Optional plain graph representation overriding graph knowledge inferred from `knowledge_spec`.
`workflow_state`	Optional `WorkflowProposalState`.
`knowledge_state`	Optional `KnowledgeProposalState`.
`memory_state`	Optional `MemoryProposalState`.
`proposal_states`	Additional named proposal-state snapshots.
`review_id`	Optional review bundle id.
`metadata`	Additional metadata list.

Value

A `DesignReviewSpec` object.

build_implementation_prompt *Build an implementation prompt for a coding agent*

Description

Creates a second-stage prompt that turns workflow scaffolding output into an implementation-oriented handoff for a coding assistant.

Usage

```
build_implementation_prompt(
  x,
  language,
  format = "json",
  target_agent = "coding_assistant",
  runtime = NULL,
  style = NULL,
  constraints = character(),
  extra_context = list(),
  include_knowledge = TRUE,
  knowledge_scope = c("referenced", "approved", "all")
)
```

Arguments

x	A Scaffolder instance, workflow specification, or implementation-spec-like list. AgentSpec and IntelligentAgent inputs are also supported.
language	Target implementation language, for example "R" or "Python".
format	Prompt payload format. Use "json" for SDK-facing structured payloads and "markdown" for prompts that a human may paste into a coding chat interface.
target_agent	Target coding assistant label.
runtime	Optional runtime or framework note.
style	Optional implementation style note.
constraints	Optional character vector of implementation constraints.
extra_context	Optional named list of additional context.
include_knowledge	Whether approved knowledge should be included in the implementation handoff when available.
knowledge_scope	Knowledge-selection scope when include_knowledge is TRUE: referenced items only, all approved items, or all items.

Value

Character string prompt.

`build_initial_spec_prompt` *Build an initial design prompt into a workspace*

Description

Build an initial design prompt into a workspace

Usage

```
build_initial_spec_prompt(
  workspace,
  target = c("workflow", "agent", "memory", "knowledge"),
  comment,
  out = NULL,
  format = c("markdown", "json")
)
```

Arguments

`workspace`	Workspace root directory.
`target`	Prompt target: workflow, agent, memory, or knowledge.
`comment`	Natural-language task or design context.
`out`	Optional output file path.
`format`	Prompt payload format.

Value

Output prompt path.

`build_knowledge_conflict_check_prompt` *Build a knowledge conflict-check prompt*

Description

Build a knowledge conflict-check prompt

Usage

```
build_knowledge_conflict_check_prompt(
  knowledge_spec = NULL,
  candidate,
  format = c("markdown", "json")
)
```

Arguments

knowledge_spec	Existing KnowledgeSpec or NULL.
candidate	Proposed knowledge item.
format	Output format, "markdown" or "json".

Value

Prompt string.

---

build_knowledge_design_prompt *Build a knowledge design prompt*

Description

Build a knowledge design prompt

Usage

```
build_knowledge_design_prompt(knowledge_state, format = c("markdown", "json"))
```

Arguments

knowledge_state	A KnowledgeProposalState object.
format	Output format, "markdown" or "json".

Value

Prompt string.

---

build_knowledge_elicitation_prompt *Build a knowledge elicitation prompt*

Description

Build a knowledge elicitation prompt

Usage

```
build_knowledge_elicitation_prompt(
  context = NULL,
  format = c("markdown", "json")
)
```

Arguments

`context`	Optional context text.
`format`	Output format, `"markdown"` or `"json"`.

Value

Prompt string.

`build_knowledge_normalization_prompt` *Build a knowledge normalization prompt*

Description

Build a knowledge normalization prompt

Usage

```
build_knowledge_normalization_prompt(
  raw_statement,
  format = c("markdown", "json")
)
```

Arguments

`raw_statement`	Raw human knowledge statement.
`format`	Output format, `"markdown"` or `"json"`.

Value

Prompt string.

`build_memory_revision_prompt` *Build a memory revision prompt*

Description

Build a memory revision prompt

Usage

```
build_memory_revision_prompt(
  memory_state,
  feedback = NULL,
  format = c("markdown", "json")
)
```

Arguments

memory_state	A MemoryProposalState object.
feedback	Optional human feedback text or structured list.
format	Output format, "markdown" or "json".

Value

Prompt string.

---

build_memory_schema_prompt *Build a memory schema prompt*

Description

Build a memory schema prompt

Usage

```
build_memory_schema_prompt(
  context = NULL,
  current_memory = NULL,
  format = c("markdown", "json")
)
```

Arguments

context	Optional context text.
current_memory	Optional MemorySpec or NULL.
format	Output format, "markdown" or "json".

Value

Prompt string.

build_node_detail_prompt *Build a node-detail revision prompt*

Description

Creates a constrained prompt for revising only one workflow node's interface schema or nested workflow detail. The expected response uses `set_node_schema()` and/or `set_node_nested_workflow()` actions.

Usage

```
build_node_detail_prompt(
  workflow,
  node_id,
  include_nested_workflow = TRUE,
  feedback = NULL,
  format = c("json", "markdown")
)
```

Arguments

`workflow`	Workflow spec containing the target node.
`node_id`	Workflow node id to revise.
`include_nested_workflow`	Whether to include existing nested workflow payload in the prompt.
`feedback`	Optional human revision feedback.
`format`	Prompt payload format. Use `"json"` or `"markdown"`.

Value

Character string prompt.

build_revision_prompt *Build a revision prompt into a workspace*

Description

Build a revision prompt into a workspace

Usage

```
build_revision_prompt(
  workspace,
  target = c("workflow", "agent", "memory", "knowledge"),
  comment,
  out = NULL,
  agent_spec_path = NULL,
  node_id = NULL,
  format = c("markdown", "json")
)
```

Arguments

workspace	Workspace root directory.
target	Revision target: workflow, agent, memory, or knowledge.
comment	Human revision feedback.
out	Optional output file path.
agent_spec_path	Optional path to approved AgentSpec .rds.
node_id	Optional workflow node id. When supplied for workflow targets, the prompt is constrained to node schema and nested-workflow revision.
format	Prompt payload format.

Value

Output prompt path.

---

build_scaffolder_prompt

Build an LLM prompt for scaffolding decisions

Description

Creates a prompt that describes the scaffolder's available methods, the task context, the current workflow state, and the required machine-readable JSON response format.

Usage

```
build_scaffolder_prompt(scaffolder, task = NULL, format = "json")
```

Arguments

scaffolder	A Scaffolder instance.
task	Optional task text. Defaults to the scaffolder's current task.
format	Prompt payload format. Use "json" for SDK-facing structured payloads and "markdown" for prompts that a human may paste into a chat interface.

Value

Character string prompt.

`build_workflow_extraction_prompt` *Build a workflow extraction prompt from existing code*

Description

Creates a prompt for a reasoning model to infer an `agentr`-compatible workflow specification from ad hoc code, scripts, or module summaries that already exist.

Usage

```
build_workflow_extraction_prompt(
  code_context,
  task = NULL,
  language = NULL,
  format = "json",
  target_agent = "reasoning_model",
  extraction_goal = "Infer a workflow specification consistent with agentr.",
  constraints = character(),
  extra_context = list()
)
```

Arguments

`code_context`	Character string or character vector describing the existing code, snippets, file summaries, or execution flow to inspect.
`task`	Optional task summary associated with the code.
`language`	Optional source-code language, for example `"R"` or `"Python"`.
`format`	Prompt payload format. Use `"json"` for SDK-facing structured payloads and `"markdown"` for prompts pasted into a reasoning-model chat interface.
`target_agent`	Target reasoning agent label.
`extraction_goal`	Optional extraction goal note.
`constraints`	Optional character vector of extraction constraints.
`extra_context`	Optional named list of additional context.

Value

Character string prompt.

`build_workspace_implementation_prompt` *Build an implementation handoff prompt from workspace artifacts*

Description

This creates a prompt for a coding assistant or implementation team. It does not execute the approved design.

Usage

```
build_workspace_implementation_prompt(
  workspace,
  agent_spec_path = NULL,
  out = NULL,
  language = "R",
  target_agent = "coding_assistant",
  runtime = NULL,
  style = NULL,
  constraints = character(),
  include_knowledge = TRUE,
  knowledge_scope = c("referenced", "approved", "all"),
  format = c("markdown", "json")
)
```

Arguments

`workspace`	Workspace root directory.
`agent_spec_path`	Optional path to approved `AgentSpec` `.rds`.
`out`	Optional output prompt path.
`language`	Target implementation language.
`target_agent`	Target implementation agent.
`runtime`	Optional runtime note.
`style`	Optional implementation style note.
`constraints`	Character vector of implementation constraints.
`include_knowledge`	Include approved knowledge in the prompt.
`knowledge_scope`	Knowledge inclusion scope.
`format`	Prompt format.

Value

Output prompt path.

`child_task_node` *Create a child-task workflow node*

Description

Creates a workflow node that represents one child task inside a parent task-family workflow. The child task can point to a saved workflow through `subworkflow_ref` and/or embed a reviewable `nested_workflow`.

Usage

```
child_task_node(
  id,
  label,
  subworkflow_ref = NA_character_,
  nested_workflow = NULL,
  input_schema = list(),
  output_schema = list(),
  human_required = TRUE,
  owner = "human",
  automation_status = "human_in_loop",
  target_automation_status = NA_character_,
  implementation_hint = NA_character_,
  rule_spec = NA_character_,
  knowledge_refs = character(),
  trace_required = NA
)
```

Arguments

`id`	Child-task node id.
`label`	Child-task label.
`subworkflow_ref`	Optional reference to a saved child workflow.
`nested_workflow`	Optional embedded child workflow.
`input_schema`	Structured input schema for the child task.
`output_schema`	Structured output schema for the child task.
`human_required`	Whether the child task requires human review.
`owner`	Current child-task owner.
`automation_status`	Current child-task automation status.
`target_automation_status`	Target automation status.

`implementation_hint`
: Optional implementation hint.

`rule_spec`
: Optional child-task rule.

`knowledge_refs`
: Character vector of related knowledge ids.

`trace_required`
: Whether trace collection is required.

Value

One-row workflow node data frame.

`CognitiveConfig` *CognitiveConfig*

Description

CognitiveConfig

CognitiveConfig

Details

Lightweight configuration for the cognitive layer inside `RWM`.

Methods

`$initialize(enabled = TRUE, persistence = "session", memory_types = character(), summary = NULL, me`
: Create a cognitive-layer config.

`$validate()` Validate the config.

`$as_list()` Return a serializable representation.

Public fields

`enabled` Whether the cognitive layer is enabled.

`persistence` Persistence mode for cognitive state.

`memory_types` Character vector of memory categories to keep.

`summary` Optional one-line summary.

`metadata` Free-form metadata list.

Methods

Public methods:

- CognitiveConfig$new()
- CognitiveConfig$validate()
- CognitiveConfig$as_list()
- CognitiveConfig$print()
- CognitiveConfig$clone()

Method `new()`**:** Create a cognitive-layer config.

Usage:

```
CognitiveConfig$new(
  enabled = TRUE,
  persistence = "session",
  memory_types = character(),
  summary = NULL,
  metadata = list()
)
```

Arguments:

`enabled` Whether the cognitive layer is enabled.

`persistence` Persistence mode for cognitive state.

`memory_types` Character vector of memory categories to keep.

`summary` Optional one-line summary.

`metadata` Free-form metadata list.

Method `validate()`**:** Validate the config.

Usage:

```
CognitiveConfig$validate()
```

Method `as_list()`**:** Return a serializable representation.

Usage:

```
CognitiveConfig$as_list()
```

Method `print()`**:** Print a compact config summary.

Usage:

```
CognitiveConfig$print(...)
```

Arguments:

`...` Unused print arguments.

Method `clone()`**:** The objects of this class are cloneable with this method.

Usage:

```
CognitiveConfig$clone(deep = FALSE)
```

Arguments:

`deep` Whether to make a deep clone.

CognitiveState *CognitiveState*

Description

CognitiveState

CognitiveState

Details

Minimal structured cognitive layer for agent state representation. This class intentionally provides only a lightweight API for `0.1.3`. Its `bayes_update()` method is a placeholder interface rather than a full inference engine.

Methods

`$initialize(beliefs = list(), knowledge = list(), goals = list(), task_context = list(), confidence` Create a lightweight cognitive state container.

`$set_belief(name, value, confidence = NULL)` Store or update a named belief and optional confidence value.

`$add_knowledge(entry, label = NULL)` Append a knowledge record with timestamped provenance.

`$set_goal(id, description, status = "proposed")` Store or update a goal record.

`$set_context(...)` Merge named task-context fields into the current cognitive state.

`$bayes_update(target, evidence, prior = NULL, note = NULL)` Record a placeholder Bayesian-style update artifact.

`$as_list()` Return the cognitive state as a plain list.

`$record_update(type, key, value, confidence = NULL)` Append a structured update record to the update log.

Public fields

`beliefs` Named list of beliefs.

`knowledge` List of observations, notes, or external facts.

`goals` List of goal records.

`task_context` Free-form task context list.

`confidence` Named numeric vector of confidence scores.

`update_log` List of update events.

Methods

Public methods:

- CognitiveState$new()
- CognitiveState$set_belief()
- CognitiveState$add_knowledge()
- CognitiveState$set_goal()
- CognitiveState$set_context()
- CognitiveState$bayes_update()
- CognitiveState$as_list()
- CognitiveState$record_update()
- CognitiveState$clone()

Method `new()`**:** Create a `CognitiveState` with beliefs, knowledge, goals, and context.

Usage:

```
CognitiveState$new(
  beliefs = list(),
  knowledge = list(),
  goals = list(),
  task_context = list(),
  confidence = numeric(),
  update_log = list()
)
```

Arguments:

`beliefs` Named list used by `$initialize()`.

`knowledge` List used by `$initialize()` and `$add_knowledge()`.

`goals` Goal list used by `$initialize()`.

`task_context` Task context list used by `$initialize()`.

`confidence` Confidence vector used by `$initialize()` and `$set_belief()`.

`update_log` Update log used by `$initialize()`.

Method `set_belief()`**:** Store or update a named belief and optional confidence value.

Usage:

```
CognitiveState$set_belief(name, value, confidence = NULL)
```

Arguments:

`name` Belief name used by `$set_belief()`.

`value` Belief or update value used by `$set_belief()` and `$record_update()`.

`confidence` Confidence vector used by `$initialize()` and `$set_belief()`.

Method `add_knowledge()`**:** Append a timestamped knowledge record to the cognitive state.

Usage:

```
CognitiveState$add_knowledge(entry, label = NULL)
```

Arguments:

`entry` Knowledge entry used by `$add_knowledge()`.

`label` Optional knowledge label used by `$add_knowledge()`.

Method `set_goal()`**:** Store or update a structured goal record.

Usage:

```
CognitiveState$set_goal(id, description, status = "proposed")
```

Arguments:

`id` Goal identifier used by `$set_goal()`.
`description` Goal description used by `$set_goal()`.
`status` Goal status used by `$set_goal()`.

Method `set_context()`**:** Merge named task-context fields into the current state.

Usage:

```
CognitiveState$set_context(...)
```

Arguments:

`...` Named task-context updates used by `$set_context()`.

Method `bayes_update()`**:** Record a placeholder Bayesian-style update artifact.

Usage:

```
CognitiveState$bayes_update(target, evidence, prior = NULL, note = NULL)
```

Arguments:

`target` Update target used by `$bayes_update()`.
`evidence` Evidence payload used by `$bayes_update()`.
`prior` Optional prior payload used by `$bayes_update()`.
`note` Optional note used by `$bayes_update()`.

Method `as_list()`**:** Return the cognitive state as a plain list.

Usage:

```
CognitiveState$as_list()
```

Method `record_update()`**:** Append a structured update event to the update log.

Usage:

```
CognitiveState$record_update(type, key, value, confidence = NULL)
```

Arguments:

`type` Update type used by `$record_update()`.
`key` Update key used by `$record_update()`.
`value` Belief or update value used by `$set_belief()` and `$record_update()`.
`confidence` Confidence vector used by `$initialize()` and `$set_belief()`.

Method `clone()`**:** The objects of this class are cloneable with this method.

Usage:

```
CognitiveState$clone(deep = FALSE)
```

Arguments:

`deep` Whether to make a deep clone.

collect_scaffolder_questions *Collect human-facing questions from scaffolding output*

Description

Extracts pending human questions from a standardized dispatch result or, if no dispatch result is supplied, from the scaffolder interaction log.

Usage

```
collect_scaffolder_questions(scaffolder, dispatch_result = NULL)
```

Arguments

scaffolder	A Scaffolder instance.
dispatch_result	Optional result object returned by apply_scaffolder_message().

Value

Data frame of human-facing prompts.

combine_emotions *Combine two emotion values*

Description

Combine two emotion values

Usage

```
combine_emotions(a, b, method = "geometric", w1 = 0.5, w2 = 0.5)
```

Arguments

a	First value.
b	Second value.
method	Combination method.
w1	Weight for a when method = "weighted".
w2	Weight for b when method = "weighted".

Value

Numeric scalar.

compute_blended_emotions *Compute blended emotions from primary emotions*

Description

Compute blended emotions from primary emotions

Usage

```
compute_blended_emotions(primary, method = "geometric")
```

Arguments

primary	Named numeric vector of primary emotions.
method	Combination method passed to combine_emotions().

Value

Named list of blended emotions.

create_decision_trace *Create a decision trace*

Description

Create a decision trace

Usage

```
create_decision_trace(
  trace_id,
  agent_id,
  workflow_node_id,
  context = list(),
  human_decision,
  rationale,
  outcome = NULL,
  reflection = NULL,
  candidate_knowledge_refs = character(),
  reusable_rule_candidate = TRUE
)
```

Arguments

`trace_id`	Trace identifier.
`agent_id`	Agent identifier.
`workflow_node_id`	Workflow node identifier.
`context`	Optional context list.
`human_decision`	Human decision text.
`rationale`	Decision rationale.
`outcome`	Optional outcome text.
`reflection`	Optional reflection text.
`candidate_knowledge_refs`	Optional candidate knowledge ids.
`reusable_rule_candidate`	Whether this trace suggests a reusable rule.

Value

Trace list.

`create_reflection_trace` *Create a reflection trace*

Description

Create a reflection trace

Usage

```
create_reflection_trace(
  trace_id,
  agent_id,
  workflow_node_id,
  reflection,
  outcome = NULL
)
```

Arguments

`trace_id`	Trace identifier.
`agent_id`	Agent identifier.
`workflow_node_id`	Workflow node identifier.
`reflection`	Reflection text.
`outcome`	Optional outcome text.

Value

Trace list.

`decay_emotion_state` *Apply time-based decay to an affective state*

Description

Apply time-based decay to an affective state

Usage

```
decay_emotion_state(emotion_state, current_time = Sys.time())
```

Arguments

`emotion_state`	State list created by `default_emotion_state()` or `define_random_emotion_state()`.
`current_time`	Reference time.

Value

Updated affective state list.

`default_emotion_state` *Create a default affective state*

Description

Initializes a minimal affective state with Plutchik-style primary dimensions, an inertia factor, and a timestamp for time-based decay.

Usage

```
default_emotion_state(decay_rate = 0.98, inertia = 0.85)
```

Arguments

`decay_rate`	Hourly decay rate between 0 and 1.
`inertia`	Inertia factor between 0 and 1 for incremental updates.

Value

A named list.

`define_random_emotion_state` *Create a randomized affective state*

Description

Create a randomized affective state

Usage

```
define_random_emotion_state(
  total_intensity = 1,
  sparsity = 0,
  decay_rate = 0.98,
  inertia = 0.85
)
```

Arguments

`total_intensity`	Total sum of primary emotion values.
`sparsity`	Proportion of primary emotions to zero out.
`decay_rate`	Hourly decay rate between 0 and 1.
`inertia`	Inertia factor between 0 and 1 for incremental updates.

Value

A named list.

`describe_emotional_state` *Describe an affective state in natural language*

Description

Describe an affective state in natural language

Usage

```
describe_emotional_state(
  emotion_state,
  threshold = 0.2,
  include_blended = TRUE,
  method = "geometric"
)
```

Arguments

`emotion_state`	State list created by `default_emotion_state()` or `define_random_emotion_state()`.
`threshold`	Minimum intensity required for a dominant affect label.
`include_blended`	Whether to include blended affect.
`method`	Combination method passed to `combine_emotions()`.

Value

Character string.

`DesignReviewSpec` *DesignReviewSpec*

Description

DesignReviewSpec

DesignReviewSpec

Details

Data contract for a future JS/HTML human review layer. It packages the current design artifacts into stable sections that can be rendered, commented on, and converted back into structured feedback.

Methods

`$initialize(...)` Create a design-review data bundle.

`$validate()` Validate the bundle sections.

`$to_list()` Return a JSON-ready list.

`$print(...)` Print a compact summary.

Public fields

`review_id` Review bundle identifier.

`agent_name` Agent name.

`task` Source task.

`generated_at` Bundle creation timestamp.

`workflow_graph` Workflow graph section.

`memory_schema` Memory schema section.

`narrative_knowledge` Narrative knowledge section.

`graph_knowledge` Graph-shaped knowledge section.

`proposal_states` Proposal-state snapshots.

`feedback_schema` Structured feedback schema.

`metadata` Free-form metadata.

Methods

Public methods:

- DesignReviewSpec$new()
- DesignReviewSpec$validate()
- DesignReviewSpec$to_list()
- DesignReviewSpec$print()
- DesignReviewSpec$clone()

Method `new()`**:** Create a design-review data bundle.

Usage:

```
DesignReviewSpec$new(
  review_id = .design_review_id(),
  agent_name = NA_character_,
  task = NA_character_,
  generated_at = Sys.time(),
  workflow_graph = .workflow_review_section(NULL),
  memory_schema = .memory_review_section(NULL),
  narrative_knowledge = .narrative_knowledge_review_section(NULL),
  graph_knowledge = .graph_knowledge_review_section(NULL),
  proposal_states = list(),
  feedback_schema = .design_review_feedback_schema(),
  metadata = list()
)
```

Arguments:

`review_id` Review bundle identifier.

`agent_name` Agent name.

`task` Source task.

`generated_at` Bundle creation timestamp.

`workflow_graph` Workflow graph section.

`memory_schema` Memory schema section.

`narrative_knowledge` Narrative knowledge section.

`graph_knowledge` Graph-shaped knowledge section.

`proposal_states` Proposal-state snapshots.

`feedback_schema` Structured feedback schema.

`metadata` Free-form metadata.

Method `validate()`**:** Validate the design-review bundle.

Usage:

```
DesignReviewSpec$validate()
```

Method `to_list()`**:** Return a JSON-ready list.

Usage:

```
DesignReviewSpec$to_list()
```

Method `print()`**:** Print a compact summary.

Usage:

```
DesignReviewSpec$print(...)
```

Arguments:

`...` Unused print arguments.

Method `clone()`**:** The objects of this class are cloneable with this method.

Usage:

```
DesignReviewSpec$clone(deep = FALSE)
```

Arguments:

`deep` Whether to make a deep clone.

`design_feedback_item` *Create a structured design-feedback item*

Description

Feedback items are the machine-readable output expected from a future JS/HTML review layer. They are intentionally structured rather than free text so they can be routed into workflow, memory, or knowledge revision prompts.

Usage

```
design_feedback_item(
  target,
  field,
  issue,
  suggestion,
  severity = "medium",
  issue_type = "unclear",
  id = NULL,
  target_id = NULL,
  item_id = NA_character_,
  location = list(),
  status = "open",
  source = "human",
  created_at = Sys.time(),
  metadata = list()
)
```

Arguments

`target`	Review target, such as `"workflow_node"`, `"memory_schema"`, `"knowledge_item"`, or `"graph_edge"`.
`field`	Field path or semantic field name being reviewed.
`issue`	Concise issue description.

suggestion	Concise suggested change.
severity	Severity label: low, medium, or high.
issue_type	Issue type.
id	Optional feedback id.
target_id	Optional target identifier, such as a node id or memory-field id.
item_id	Optional target item id, such as a node id or memory-field id.
location	Optional structured location metadata.
status	Feedback status.
source	Feedback source.
created_at	Creation timestamp.
metadata	Additional metadata list.

Value

A validated design-feedback item list.

---

design_review_html *Build standalone design-review HTML*

Description

Creates a standalone, offline HTML/JavaScript review page from a design review bundle or supported design object. The page is review-only: it renders design artifacts and exports structured feedback JSON, but it does not run workflow nodes, call LLM providers, or mutate saved R objects.

Usage

```
design_review_html(
  x,
  include_workflow = TRUE,
  include_knowledge = TRUE,
  include_memory_schema = TRUE,
  include_feedback_panel = TRUE,
  self_contained = TRUE,
  title = NULL,
  graph_layout = c("grid", "layered", "swimlane", "process"),
  edge_style = c("curved", "straight", "orthogonal"),
  node_color_theme = c("default", "subsystems"),
  ...
)
```

Arguments

x	A DesignReviewSpec or any input accepted by build_design_review_data().
include_workflow	Whether to render workflow graph information.
include_knowledge	Whether to render narrative and graph-shaped knowledge.
include_memory_schema	Whether to render memory/state/interface schema.
include_feedback_panel	Whether to include the structured feedback form and JSON export controls.
self_contained	Reserved for future asset handling. The current implementation is always self-contained and uses no remote resources.
title	Optional page title.
graph_layout	Workflow graph layout. "grid" preserves the original row/column placement; "layered" places nodes by DAG depth; "swimlane" groups nodes into responsibility lanes; "process" renders loop-heavy workflows as a vertical process spine with side branches.
edge_style	Workflow edge routing style: "straight", "curved", or "orthogonal".
node_color_theme	Initial node-color theme: "default" uses human-gate, deterministic-automation, and external stochastic LLM categories. Parent nodes with nested workflows inherit the most restrictive descendant category in the default theme. "subsystems" uses subsystem tags such as rwm, pg, ae, la, and iac when available.
...	Additional arguments passed to build_design_review_data() when x is not already a DesignReviewSpec.

Value

HTML string.

---

discover_task_specs *Discover task-local spec files*

Description

Discover task-local spec files

Usage

```
discover_task_specs(task_dir, docs_dir = "docs")
```

Arguments

task_dir	Task root directory.
docs_dir	Documentation/spec directory relative to task_dir, or an absolute path.

Value

Data frame with spec type, path, and existence flag.

`export_design_review_html` *Export standalone design-review HTML*

Description

Export standalone design-review HTML

Usage

```
export_design_review_html(x, path, ...)
```

Arguments

`x`	A `DesignReviewSpec` or any input accepted by `build_design_review_data()`.
`path`	Output HTML path.
`...`	Arguments passed to `design_review_html()`.

Value

Invisibly returns the normalized output path.

`export_workspace_design_review` *Export workspace design-review HTML*

Description

Export workspace design-review HTML

Usage

```
export_workspace_design_review(
  workspace,
  agent_spec_path = NULL,
  out = NULL,
  title = "agentr design review",
  graph_layout = c("grid", "layered", "swimlane", "process"),
  edge_style = c("curved", "straight", "orthogonal")
)
```

Arguments

workspace	Workspace root directory.
agent_spec_path	Optional path to approved AgentSpec .rds.
out	Optional output HTML path.
title	Review title.
graph_layout	Workflow graph layout passed to design_review_html().
edge_style	Workflow edge style passed to design_review_html().

Value

Output HTML path.

IACConfig *IACConfig*

Description

IACConfig

IACConfig

Details

Configuration for Inter-Agent Communication.

Methods

`$initialize(enabled = TRUE, channels = character(), structured_io = TRUE, metadata = list())`
Create an Inter-Agent Communication config.

`$validate()` Validate the config.

`$as_list()` Return a serializable representation.

Public fields

`enabled` Whether the subsystem is enabled.

`channels` Character vector of communication channels.

`structured_io` Whether strongly structured I/O is required.

`metadata` Free-form metadata list.

Methods

Public methods:

- IACConfig$new()
- IACConfig$validate()
- IACConfig$as_list()
- IACConfig$print()
- IACConfig$clone()

Method `new()`**:** Create an Inter-Agent Communication config.

Usage:

```
IACConfig$new(
  enabled = TRUE,
  channels = character(),
  structured_io = TRUE,
  metadata = list()
)
```

Arguments:

`enabled` Whether the subsystem is enabled.

`channels` Character vector of communication channels.

`structured_io` Whether strongly structured I/O is required.

`metadata` Free-form metadata list.

Method `validate()`**:** Validate the config.

Usage:

```
IACConfig$validate()
```

Method `as_list()`**:** Return a serializable representation.

Usage:

```
IACConfig$as_list()
```

Method `print()`**:** Print a compact config summary.

Usage:

```
IACConfig$print(...)
```

Arguments:

`...` Unused print arguments.

Method `clone()`**:** The objects of this class are cloneable with this method.

Usage:

```
IACConfig$clone(deep = FALSE)
```

Arguments:

`deep` Whether to make a deep clone.

import_extracted_workflow *Import extracted workflow JSON into agentr*

Description

Imports workflow JSON from a reasoning model into a workflow specification and optionally stores it as a workflow proposal on a `Scaffolder`.

Usage

```
import_extracted_workflow(
  x,
  scaffolder = NULL,
  source = "model",
  notes = NULL,
  store_proposal = !is.null(scaffolder),
  approve = FALSE
)
```

Arguments

`x`	Parsed list, raw JSON string, or path to a `.json` file.
`scaffolder`	Optional `Scaffolder` instance.
`source`	Proposal source used when storing on a scaffolder.
`notes`	Optional proposal notes.
`store_proposal`	Whether to store a workflow proposal when a scaffolder is supplied.
`approve`	Whether to approve the stored proposal immediately.

Value

A workflow specification or a list containing `workflow`, `proposal_id`, and `proposal`.

inferencer_available *Check whether* `inferencer` *is available*

Description

Check whether `inferencer` is available

Usage

```
inferencer_available()
```

Value

Logical scalar.

inferencer_integration

Build optional integration metadata for `inferencer`

Description

Returns a lightweight descriptor rather than a duplicated provider client.

Usage

```
inferencer_integration(profile = NULL, prompt_template = NULL)
```

Arguments

`profile`	Optional integration profile name.
`prompt_template`	Optional prompt template identifier.

Value

Named list.

init_agentr_proposal_states

Initialize proposal-state artifacts for an `agentr` *workspace*

Description

Initialize proposal-state artifacts for an `agentr` workspace

Usage

```
init_agentr_proposal_states(workspace, agent_spec_path = NULL)
```

Arguments

`workspace`	Workspace root directory.
`agent_spec_path`	Optional path to an approved `AgentSpec` `.rds`.

Value

Named list containing initialized state objects.

init_agentr_workspace *Initialize a generic* agentr *lifecycle workspace*

Description

Creates workspace-scoped directories for specs, proposal states, prompts, reviews, traces, responses, and handoff prompts. It does not seed domain-specific content.

Usage

```
init_agentr_workspace(workspace, comment = NULL, create_readme = TRUE)
```

Arguments

workspace	Workspace root directory.
comment	Optional workspace note.
create_readme	Whether to create a minimal workspace README.

Value

Named list of created workspace paths.

IntelligentAgent *IntelligentAgent*

Description

IntelligentAgent

IntelligentAgent

Details

Runtime-oriented container for an approved agent design.

Methods

`$initialize(id = "intelligent-agent", name = NULL, spec, workflow = NULL, subsystems = NULL, runtim`
Create a runtime-oriented agent container from an AgentSpec.

`$validate()` Validate the runtime container.

`$selected_subsystems()` Return the selected subsystem names.

`$snapshot()` Return a serializable runtime snapshot.

Public fields

`id` Runtime identifier.

`name` Human-readable agent name.

`spec` An `AgentSpec` object.

`workflow` Current workflow specification.

`subsystems` Selected `SubsystemSpec` object.

`runtime_state` Free-form runtime state list.

`metadata` Free-form metadata list.

Methods

Public methods:

- `IntelligentAgent$new()`
- `IntelligentAgent$validate()`
- `IntelligentAgent$selected_subsystems()`
- `IntelligentAgent$snapshot()`
- `IntelligentAgent$print()`
- `IntelligentAgent$clone()`

Method `new()`**:** Create a runtime-oriented agent container from an `AgentSpec`.

Usage:

```
IntelligentAgent$new(
  id = "intelligent-agent",
  name = NULL,
  spec,
  workflow = NULL,
  subsystems = NULL,
  runtime_state = list(),
  metadata = list()
)
```

Arguments:

`id` Runtime identifier.

`name` Human-readable agent name.

`spec` An `AgentSpec` object.

`workflow` Current workflow specification.

`subsystems` Selected `SubsystemSpec` object.

`runtime_state` Free-form runtime state list.

`metadata` Free-form metadata list.

Method `validate()`**:** Validate the runtime container.

Usage:

```
IntelligentAgent$validate()
```

Method `selected_subsystems()`**:** Return the selected subsystem names.

Usage:

```
IntelligentAgent$selected_subsystems()
```

Method `snapshot()`**:** Return a serializable runtime snapshot.

Usage:

```
IntelligentAgent$snapshot()
```

Method `print()`**:** Print a compact runtime summary.

Usage:

```
IntelligentAgent$print(...)
```

Arguments:

`...` Unused print arguments.

Method `clone()`**:** The objects of this class are cloneable with this method.

Usage:

```
IntelligentAgent$clone(deep = FALSE)
```

Arguments:

`deep` Whether to make a deep clone.

`KnowledgeProposal` *KnowledgeProposal*

Description

KnowledgeProposal

KnowledgeProposal

Details

Proposal object for one candidate knowledge item.

Public fields

`id` Proposal identifier.

`item` Proposed knowledge item.

`status` Proposal status.

`notes` Optional notes.

`conflict_report` Optional conflict report.

`history` Lifecycle history.

`metadata` Free-form metadata.

Methods

Public methods:

Method `new()`**:** Create a knowledge proposal.

Usage:

```
KnowledgeProposal$new(
  item,
  id = if (is.list(item) && !is.null(item$id)) paste0("knowledge_proposal_",
    as.character(item$id)[1]) else "knowledge_proposal_1",
  status = "pending",
  notes = NULL,
  conflict_report = list(),
  history = list(),
  metadata = list(),
  created_at = Sys.time(),
  updated_at = created_at,
  approved_at = as.POSIXct(NA),
  rejected_at = as.POSIXct(NA),
  superseded_by = NA_character_,
  supersedes = NA_character_
)
```

Method `validate()`**:** Validate the proposal.

Usage:

```
KnowledgeProposal$validate()
```

Method `discuss()`**:** Append a discussion note.

Usage:

```
KnowledgeProposal$discuss(
  note,
  source = "human",
  confidence = NA_character_,
  timestamp = Sys.time()
)
```

Method `transition()`**:** Apply a status transition.

Usage:

```
KnowledgeProposal$transition(status, note = NULL, timestamp = Sys.time())
```

Method `approve()`**:** Approve the proposal.

Usage:

```
KnowledgeProposal$approve(note = NULL)
```

Method `reject()`**:** Reject the proposal.

Usage:

```
KnowledgeProposal$reject(note = NULL)
```

Method `to_list()`**:** Return a serializable representation.

Usage:

```
KnowledgeProposal$to_list()
```

Method `print()`**:** Print a compact summary.

Usage:

```
KnowledgeProposal$print(...)
```

Method `clone()`**:** The objects of this class are cloneable with this method.

Usage:

```
KnowledgeProposal$clone(deep = FALSE)
```

Arguments:

`deep` Whether to make a deep clone.

`KnowledgeProposalState` *KnowledgeProposalState*

Description

KnowledgeProposalState

KnowledgeProposalState

Details

State container for approved knowledge plus active and historical proposals.

Public fields

`approved_knowledge_spec` Approved `KnowledgeSpec`.

`proposals` Named list of `KnowledgeProposal` objects.

`history` Proposal-state history.

Methods

Public methods:

- KnowledgeProposalState$new()
- KnowledgeProposalState$validate()
- KnowledgeProposalState$add_proposal()
- KnowledgeProposalState$get_proposal()
- KnowledgeProposalState$list_proposals()
- KnowledgeProposalState$discuss_proposal()
- KnowledgeProposalState$approve_proposal()
- KnowledgeProposalState$reject_proposal()
- KnowledgeProposalState$approved_spec()
- KnowledgeProposalState$as_list()
- KnowledgeProposalState$clone()

Method `new()`**:** Create a knowledge proposal state container.

Usage:

```
KnowledgeProposalState$new(
  approved_knowledge_spec = KnowledgeSpec$new(),
  proposals = list(),
  history = list()
)
```

Method `validate()`**:** Validate the state object.

Usage:

```
KnowledgeProposalState$validate()
```

Method `add_proposal()`**:** Add a proposal object.

Usage:

```
KnowledgeProposalState$add_proposal(proposal)
```

Method `get_proposal()`**:** Return one stored proposal.

Usage:

```
KnowledgeProposalState$get_proposal(proposal_id)
```

Method `list_proposals()`**:** List proposals with optional status filtering.

Usage:

```
KnowledgeProposalState$list_proposals(status = NULL)
```

Method `discuss_proposal()`**:** Append a discussion note to one proposal.

Usage:

```
KnowledgeProposalState$discuss_proposal(proposal_id, note, source = "human")
```

Method `approve_proposal()`**:** Approve one proposal and add its item to approved knowledge.

Usage:

```
KnowledgeProposalState$approve_proposal(proposal_id, note = NULL)
```

Method `reject_proposal()`**:** Reject one proposal.

Usage:

```
KnowledgeProposalState$reject_proposal(proposal_id, note = NULL)
```

Method `approved_spec()`**:** Return the approved knowledge specification.

Usage:

```
KnowledgeProposalState$approved_spec()
```

Method `as_list()`**:** Return a serializable representation.

Usage:

```
KnowledgeProposalState$as_list()
```

Method `clone()`**:** The objects of this class are cloneable with this method.

Usage:

```
KnowledgeProposalState$clone(deep = FALSE)
```

Arguments:

`deep` Whether to make a deep clone.

`KnowledgeSpec` *KnowledgeSpec*

Description

KnowledgeSpec

KnowledgeSpec

Details

Curated domain and epistemic knowledge used to guide agent behavior. `items` stores narrative knowledge items, `graph` stores an optional graph-shaped representation, and `vector_refs` reserves references to external vector stores.

Methods

`$initialize(items = list(), graph = NULL, vector_refs = list(), metadata = list())` Create a knowledge specification.

`$add_item(item)` Add a narrative knowledge item.

`$get_item(id)` Return a narrative knowledge item by id.

`$list_items(type = NULL, domain = NULL)` List narrative knowledge items, optionally filtered.

`$validate()` Validate the knowledge specification.

`$to_list()` Return a serializable list.

`$print(...)` Print a compact summary.

Public fields

`items` Named list of narrative knowledge items.

`graph` Optional graph representation list with `nodes` and `edges`.

`vector_refs` List of external vector-knowledge references.

`metadata` Free-form metadata list.

Methods

Public methods:

- `KnowledgeSpec$new()`
- `KnowledgeSpec$add_item()`
- `KnowledgeSpec$get_item()`
- `KnowledgeSpec$list_items()`
- `KnowledgeSpec$validate()`
- `KnowledgeSpec$to_list()`
- `KnowledgeSpec$print()`
- `KnowledgeSpec$clone()`

Method `new()`**:** Create a knowledge specification.

Usage:

```
KnowledgeSpec$new(
  items = list(),
  graph = NULL,
  vector_refs = list(),
  metadata = list()
)
```

Arguments:

`items` List of narrative knowledge items.

`graph` Optional graph representation list with `nodes` and `edges`.

`vector_refs` List of external vector-knowledge references.

`metadata` Free-form metadata list.

Method `add_item()`**:** Add a knowledge item.

Usage:

```
KnowledgeSpec$add_item(item)
```

Arguments:

`item` Knowledge item used by `$add_item()`.

Method `get_item()`**:** Return a knowledge item by id.

Usage:

```
KnowledgeSpec$get_item(id)
```

Arguments:

`id` Knowledge item id used by `$get_item()`.

Method `list_items()`**:** List knowledge items with optional filters.

Usage:

```
KnowledgeSpec$list_items(type = NULL, domain = NULL)
```

Arguments:

`type` Optional knowledge type filter used by `$list_items()`.

`domain` Optional domain filter used by `$list_items()`.

Method `validate()`**:** Validate the knowledge specification.

Usage:

```
KnowledgeSpec$validate()
```

Method `to_list()`**:** Return a serializable representation.

Usage:

```
KnowledgeSpec$to_list()
```

Method `print()`**:** Print a compact summary.

Usage:

```
KnowledgeSpec$print(...)
```

Arguments:

`...` Unused print arguments.

Method `clone()`**:** The objects of this class are cloneable with this method.

Usage:

```
KnowledgeSpec$clone(deep = FALSE)
```

Arguments:

`deep` Whether to make a deep clone.

`knowledge_action_methods` *List LLM-callable knowledge methods*

Description

List LLM-callable knowledge methods

Usage

```
knowledge_action_methods()
```

Value

Character vector of allowed knowledge methods.

knowledge_graph_data *Build graph data from knowledge, memory, or a graph representation*

Description

agentr treats graph structure as a representation shape rather than as a separate first-class spec. This helper returns graph-ready node and edge data from a KnowledgeSpec, MemorySpec, or plain list(nodes, edges, metadata) graph representation.

Usage

```
knowledge_graph_data(x)
```

Arguments

x	A KnowledgeSpec, MemorySpec, or plain graph list with nodes and edges.

Value

A list with nodes, edges, and metadata.

knowledge_graph_from_spec *Build a graph representation from a knowledge or memory spec*

Description

This is a compatibility-oriented alias for knowledge_graph_data(). It no longer returns a separate KnowledgeGraphSpec; graph is now a representation shape embedded in knowledge or memory specs.

Usage

```
knowledge_graph_from_spec(x)
```

Arguments

x	A KnowledgeSpec, MemorySpec, or graph representation list.

Value

A list with graph-ready nodes, edges, and metadata.

LAConfig *LAConfig*

Description

LAConfig

LAConfig

Details

Configuration for Learning & Adaptation.

Methods

`$initialize(enabled = TRUE, learning_mode = "feedback_driven", feedback_sources = character(), pers`
Create a learning and adaptation config.

`$validate()` Validate the config.

`$as_list()` Return a serializable representation.

Public fields

`enabled` Whether the subsystem is enabled.

`learning_mode` Learning-mode label.

`feedback_sources` Character vector of feedback sources.

`persistence` Persistence mode for learned artifacts.

`metadata` Free-form metadata list.

Methods

Public methods:

- `LAConfig$new()`
- `LAConfig$validate()`
- `LAConfig$as_list()`
- `LAConfig$print()`
- `LAConfig$clone()`

Method `new()`**:** Create a learning and adaptation config.

Usage:

```
LAConfig$new(
  enabled = TRUE,
  learning_mode = "feedback_driven",
  feedback_sources = character(),
  persistence = "session",
  metadata = list()
)
```

Arguments:

`enabled` Whether the subsystem is enabled.

`learning_mode` Learning-mode label.

`feedback_sources` Character vector of feedback sources.

`persistence` Persistence mode for learned artifacts.

`metadata` Free-form metadata list.

Method `validate()`**:** Validate the config.

Usage:

```
LAConfig$validate()
```

Method `as_list()`**:** Return a serializable representation.

Usage:

```
LAConfig$as_list()
```

Method `print()`**:** Print a compact config summary.

Usage:

```
LAConfig$print(...)
```

Arguments:

`...` Unused print arguments.

Method `clone()`**:** The objects of this class are cloneable with this method.

Usage:

```
LAConfig$clone(deep = FALSE)
```

Arguments:

`deep` Whether to make a deep clone.

`list_workspace_proposals` *List workspace proposals*

Description

List workspace proposals

Usage

```
list_workspace_proposals(
  workspace,
  type = c("workflow", "agent", "memory", "knowledge"),
  status = NULL
)
```

Arguments

workspace	Workspace root directory.
type	Proposal type: workflow, agent, memory, or knowledge.
status	Optional status filter.

Value

Data frame summary.

---

load_agent *Load an* agentr *object from a file*

Description

Loads an agentr core object from a saved .rds file.

Usage

```
load_agent(file_path)
```

Arguments

file_path	File path from which to load the object.

Value

An object created by agentr.

---

load_agent_spec *Load an* AgentSpec *from a file*

Description

Loads a saved AgentSpec object from an .rds file.

Usage

```
load_agent_spec(file_path)
```

Arguments

file_path	File path from which to load the object.

Value

An AgentSpec object.

load_design_feedback *Load structured design feedback*

Description

Load structured design feedback

Usage

```
load_design_feedback(path)
```

Arguments

path	Input .rds path.

Value

A design-feedback item or list of items.

load_design_review_spec *Load a design-review specification*

Description

Load a design-review specification

Usage

```
load_design_review_spec(path)
```

Arguments

path	Input .rds path.

Value

A DesignReviewSpec object.

load_json_file *Load a JSON file*

Description

Load a JSON file

Usage

```
load_json_file(path, simplifyVector = TRUE)
```

Arguments

path	Path to a JSON file.
simplifyVector	Passed to jsonlite::fromJSON().

Value

Parsed JSON content.

load_knowledge_proposal *Load a knowledge proposal*

Description

Load a knowledge proposal

Usage

```
load_knowledge_proposal(path)
```

Arguments

path	File path.

Value

A KnowledgeProposal object.

load_knowledge_spec *Load a knowledge specification*

Description

Load a knowledge specification

Usage

```
load_knowledge_spec(path, format = c("rds", "json", "yaml"))
```

Arguments

path	File path.
format	File format, either rds, json, or yaml.

Value

A KnowledgeSpec object.

load_knowledge_spec_json *Load a knowledge specification from JSON*

Description

Load a knowledge specification from JSON

Usage

```
load_knowledge_spec_json(path)
```

Arguments

path	File path.

Value

A KnowledgeSpec object.

load_knowledge_spec_yaml *Load a knowledge specification from YAML*

Description

Load a knowledge specification from YAML

Usage

```
load_knowledge_spec_yaml(path)
```

Arguments

path	File path.

Value

A KnowledgeSpec object.

load_memory_spec *Load a* MemorySpec *from a file*

Description

Loads a saved MemorySpec object from an .rds, .json, or .yaml file.

Usage

```
load_memory_spec(file_path, format = c("rds", "json", "yaml"))
```

Arguments

file_path	File path from which to load the object.
format	File format, either rds, json, or yaml.

Value

A MemorySpec object.

load_memory_spec_json *Load a* MemorySpec *from JSON*

Description

Load a MemorySpec from JSON

Usage

```
load_memory_spec_json(file_path)
```

Arguments

file_path	File path from which to load the JSON.

Value

A MemorySpec object.

load_memory_spec_yaml *Load a* MemorySpec *from YAML*

Description

Load a MemorySpec from YAML

Usage

```
load_memory_spec_yaml(file_path)
```

Arguments

file_path	File path from which to load the YAML.

Value

A MemorySpec object.

load_subsystem_spec *Load a* SubsystemSpec *from a file*

Description

Loads a saved SubsystemSpec object from an .rds file.

Usage

```
load_subsystem_spec(file_path)
```

Arguments

file_path	File path from which to load the object.

Value

A SubsystemSpec object.

load_task_specs *Load task-local specs*

Description

Loads conventional task-local YAML specs when present. Missing specs are returned as NULL unless missing = "error" is requested.

Usage

```
load_task_specs(task_dir, docs_dir = "docs", missing = c("null", "error"))
```

Arguments

task_dir	Task root directory.
docs_dir	Documentation/spec directory relative to task_dir, or an absolute path.
missing	How to handle missing spec files.

Value

Named list containing loaded specs, path metadata, and discovery manifest.

load_workflow_proposal *Load a workflow proposal*

Description

Loads a previously saved workflow proposal from an `.rds` file.

Usage

```
load_workflow_proposal(file_path)
```

Arguments

`file_path`	File path from which to load the proposal.

Value

Workflow proposal object.

load_workflow_spec *Load a workflow specification*

Description

Load a workflow specification

Usage

```
load_workflow_spec(file_path, format = c("rds", "json", "yaml"))
```

Arguments

`file_path`	File path from which to load the workflow.
`format`	File format, either `rds`, `json`, or `yaml`.

Value

Workflow specification.

`load_workflow_spec_json` *Load a workflow specification from JSON*

Description

Load a workflow specification from JSON

Usage

```
load_workflow_spec_json(file_path)
```

Arguments

`file_path`	File path from which to load the workflow JSON.

Value

Workflow specification.

`load_workflow_spec_yaml` *Load a workflow specification from YAML*

Description

Load a workflow specification from YAML

Usage

```
load_workflow_spec_yaml(file_path)
```

Arguments

`file_path`	File path from which to load the workflow YAML.

Value

Workflow specification.

load_yaml_file *Load a YAML file*

Description

Load a YAML file

Usage

```
load_yaml_file(path)
```

Arguments

path	Path to a YAML file.

Value

Parsed YAML content.

mark_node_agent_owned *Mark a workflow node as agent-owned*

Description

Mark a workflow node as agent-owned

Usage

```
mark_node_agent_owned(workflow, node_id)
```

Arguments

workflow	Workflow specification.
node_id	Node identifier.

Value

Updated workflow specification.

mark_node_human_owned *Mark a workflow node as human-owned*

Description

Mark a workflow node as human-owned

Usage

```
mark_node_human_owned(
  workflow,
  node_id,
  reason,
  target_automation_status = NULL,
  trace_required = TRUE
)
```

Arguments

workflow	Workflow specification.
node_id	Node identifier.
reason	Human-owned reason.
target_automation_status	Optional target automation status.
trace_required	Whether traces are required.

Value

Updated workflow specification.

MemoryProposal *MemoryProposal*

Description

MemoryProposal

MemoryProposal

Details

Proposal object for a candidate memory schema.

Public fields

`id` Proposal identifier.

`memory_spec` Proposed `MemorySpec`.

`status` Proposal status.

`notes` Optional notes.

`history` Lifecycle history.

`metadata` Free-form metadata.

`created_at` Creation timestamp.

`updated_at` Last update timestamp.

`approved_at` Approval timestamp, or `NA`.

`rejected_at` Rejection timestamp, or `NA`.

`superseded_by` Proposal identifier that superseded this proposal, or `NA`.

`supersedes` Proposal identifier superseded by this proposal, or `NA`.

Methods

Public methods:

- `MemoryProposal$new()`
- `MemoryProposal$validate()`
- `MemoryProposal$discuss()`
- `MemoryProposal$transition()`
- `MemoryProposal$approve()`
- `MemoryProposal$reject()`
- `MemoryProposal$to_list()`
- `MemoryProposal$print()`
- `MemoryProposal$clone()`

Method `new()`**:** Create a memory proposal.

Usage:

```
MemoryProposal$new(
  memory_spec,
  id = paste0("memory_proposal_", format(Sys.time(), "%Y%m%d%H%M%S")),
  status = "pending",
  notes = NULL,
  history = list(),
  metadata = list(),
  created_at = Sys.time(),
  updated_at = created_at,
  approved_at = as.POSIXct(NA),
  rejected_at = as.POSIXct(NA),
  superseded_by = NA_character_,
  supersedes = NA_character_
)
```

Arguments:

`memory_spec` Proposed `MemorySpec` or serializable memory-spec list.

`id` Proposal identifier.

`status` Proposal status.

`notes` Optional proposal notes.

`history` Lifecycle history entries.

`metadata` Free-form metadata.

`created_at` Creation timestamp.

`updated_at` Last update timestamp.

`approved_at` Approval timestamp, or `NA`.

`rejected_at` Rejection timestamp, or `NA`.

`superseded_by` Proposal identifier that superseded this proposal, or `NA`.

`supersedes` Proposal identifier superseded by this proposal, or `NA`.

Method `validate()`**:** Validate the proposal.

Usage:

```
MemoryProposal$validate()
```

Method `discuss()`**:** Append a discussion note.

Usage:

```
MemoryProposal$discuss(
  note,
  source = "human",
  confidence = NA_character_,
  timestamp = Sys.time()
)
```

Arguments:

`note` Discussion or transition note.

`source` Discussion source.

`confidence` Optional confidence label.

`timestamp` Event timestamp.

Method `transition()`**:** Apply a lifecycle transition.

Usage:

```
MemoryProposal$transition(status, note = NULL, timestamp = Sys.time())
```

Arguments:

`status` Proposal status.

`note` Discussion or transition note.

`timestamp` Event timestamp.

Method `approve()`**:** Approve the proposal.

Usage:

```
MemoryProposal$approve(note = NULL)
```

Arguments:

`note` Discussion or transition note.

Method `reject()`**:** Reject the proposal.

Usage:

```
MemoryProposal$reject(note = NULL)
```

Arguments:

`note` Discussion or transition note.

Method `to_list()`**:** Return a serializable representation.

Usage:

```
MemoryProposal$to_list()
```

Method `print()`**:** Print a compact summary.

Usage:

```
MemoryProposal$print(...)
```

Arguments:

`...` Unused.

Method `clone()`**:** The objects of this class are cloneable with this method.

Usage:

```
MemoryProposal$clone(deep = FALSE)
```

Arguments:

`deep` Whether to make a deep clone.

`MemoryProposalState` *MemoryProposalState*

Description

MemoryProposalState

MemoryProposalState

Details

State container for approved memory schema plus candidate proposals.

Public fields

`approved_memory_spec` Approved `MemorySpec`.

`proposals` Named list of `MemoryProposal` objects.

`history` Proposal-state history.

Methods

Public methods:

- MemoryProposalState$new()
- MemoryProposalState$validate()
- MemoryProposalState$add_proposal()
- MemoryProposalState$get_proposal()
- MemoryProposalState$list_proposals()
- MemoryProposalState$discuss_proposal()
- MemoryProposalState$approve_proposal()
- MemoryProposalState$reject_proposal()
- MemoryProposalState$approved_spec()
- MemoryProposalState$as_list()
- MemoryProposalState$clone()

Method `new()`**:** Create a memory proposal state container.

Usage:

```
MemoryProposalState$new(
  approved_memory_spec = MemorySpec$new(),
  proposals = list(),
  history = list()
)
```

Arguments:

`approved_memory_spec` Approved MemorySpec or serializable memory-spec list.

`proposals` Initial proposals.

`history` Proposal-state history.

Method `validate()`**:** Validate the state object.

Usage:

```
MemoryProposalState$validate()
```

Method `add_proposal()`**:** Add a proposal.

Usage:

```
MemoryProposalState$add_proposal(proposal)
```

Arguments:

`proposal` MemoryProposal object or serializable proposal record.

Method `get_proposal()`**:** Return one proposal.

Usage:

```
MemoryProposalState$get_proposal(proposal_id)
```

Arguments:

`proposal_id` Proposal identifier.

Method `list_proposals()`**:** List proposals with optional status filtering.

Usage:

```
MemoryProposalState$list_proposals(status = NULL)
```

Arguments:

`status` Optional status filter.

Method `discuss_proposal()`**:** Discuss one proposal.

Usage:

```
MemoryProposalState$discuss_proposal(proposal_id, note, source = "human")
```

Arguments:

`proposal_id` Proposal identifier.
`note` Discussion or transition note.
`source` Discussion source.

Method `approve_proposal()`**:** Approve one proposal and replace the approved memory spec.

Usage:

```
MemoryProposalState$approve_proposal(proposal_id, note = NULL)
```

Arguments:

`proposal_id` Proposal identifier.
`note` Discussion or transition note.

Method `reject_proposal()`**:** Reject one proposal.

Usage:

```
MemoryProposalState$reject_proposal(proposal_id, note = NULL)
```

Arguments:

`proposal_id` Proposal identifier.
`note` Discussion or transition note.

Method `approved_spec()`**:** Return the approved memory specification.

Usage:

```
MemoryProposalState$approved_spec()
```

Method `as_list()`**:** Return a serializable representation.

Usage:

```
MemoryProposalState$as_list()
```

Method `clone()`**:** The objects of this class are cloneable with this method.

Usage:

```
MemoryProposalState$clone(deep = FALSE)
```

Arguments:

`deep` Whether to make a deep clone.

MemorySpec *MemorySpec*

Description

MemorySpec

MemorySpec

Details

First-class memory schema for an agent design. MemorySpec records which memory fields exist, what type of memory they represent, how they persist across cold-start runs, and how they are expected to update. It can also carry an optional graph-shaped representation of memory relationships.

Methods

`$initialize(fields = list(), graph = NULL, metadata = list())` Create a memory specification.

`$add_field(field)` Add one memory field.

`$get_field(id)` Return one memory field by id.

`$list_fields(memory_type = NULL, persistence = NULL)` Return memory fields, optionally filtered.

`$validate()` Validate the memory specification.

`$to_list()` Return a serializable list.

`$print(...)` Print a compact summary.

Public fields

`fields` Named list of memory field records.

`graph` Optional graph representation list with `nodes` and `edges`.

`metadata` Free-form metadata list.

Methods

Public methods:

- `MemorySpec$new()`
- `MemorySpec$add_field()`
- `MemorySpec$get_field()`
- `MemorySpec$list_fields()`
- `MemorySpec$validate()`
- `MemorySpec$to_list()`
- `MemorySpec$print()`
- `MemorySpec$clone()`

Method `new()`**:** Create a memory specification.

Usage:

```
MemorySpec$new(fields = list(), graph = NULL, metadata = list())
```

Arguments:

`fields` List of memory field records.

`graph` Optional graph representation list with `nodes` and `edges`.

`metadata` Free-form metadata list.

Method `add_field()`**:** Add one memory field.

Usage:

```
MemorySpec$add_field(field)
```

Arguments:

`field` Memory field record used by `$add_field()`.

Method `get_field()`**:** Return one memory field by id.

Usage:

```
MemorySpec$get_field(id)
```

Arguments:

`id` Memory field id used by `$get_field()`.

Method `list_fields()`**:** Return memory fields, optionally filtered by type or persistence policy.

Usage:

```
MemorySpec$list_fields(memory_type = NULL, persistence = NULL)
```

Arguments:

`memory_type` Optional memory type filter used by `$list_fields()`.

`persistence` Optional persistence-policy filter used by `$list_fields()`.

Method `validate()`**:** Validate the memory specification.

Usage:

```
MemorySpec$validate()
```

Method `to_list()`**:** Return a serializable list.

Usage:

```
MemorySpec$to_list()
```

Method `print()`**:** Print a compact memory schema summary.

Usage:

```
MemorySpec$print(...)
```

Arguments:

`...` Unused print arguments.

Method `clone()`**:** The objects of this class are cloneable with this method.

Usage:

```
MemorySpec$clone(deep = FALSE)
```

Arguments:

`deep` Whether to make a deep clone.

memory_action_methods *List LLM-callable memory methods*

Description

List LLM-callable memory methods

Usage

```
memory_action_methods()
```

Value

Character vector of allowed memory methods.

memory_field *Create a memory field record*

Description

Create a memory field record

Usage

```
memory_field(
  id,
  label,
  memory_type = c("context", "semantic", "episodic", "procedural"),
  description = NA_character_,
  schema = list(),
 persistence = c("session", "cold_start_rds", "jsonl_trace", "external_store", "none"),
  update_policy = list(),
  source = NA_character_,
  review = list(status = "draft"),
  provenance = list(),
  metadata = list()
)
```

Arguments

id	Memory field identifier.
label	Human-readable field label.
memory_type	Memory type: context, semantic, episodic, or procedural.
description	Optional field description.

schema	Structured schema constraints for the field.
persistence	Persistence policy.
update_policy	Free-form update-policy description or list.
source	Optional source label.
review	Review metadata list.
provenance	Provenance metadata list.
metadata	Additional metadata list.

Value

A validated memory field list.

`memory_persistence_policies`
Memory persistence policies

Description

Memory persistence policies

Usage

```
memory_persistence_policies()
```

Value

Character vector of supported memory persistence policies.

`memory_schema_graph_data`
Convert a MemorySpec into graph-ready data

Description

Converts memory fields and their optional schema shapes into graph-ready node and edge data. This is a design-review projection of memory structure, not a runtime memory store.

Usage

```
memory_schema_graph_data(x, include_field_schemas = TRUE)
```

Arguments

x	A MemorySpec object.
include_field_schemas	Whether to include nested schema-shape nodes for each memory field's schema.

Value

A list with vertices and edges data frames.

---

memory_types *Memory types*

Description

Memory types

Usage

```
memory_types()
```

Value

Character vector of supported memory type labels.

---

new_design_review_spec *Create a design-review specification*

Description

Convenience constructor matching the public plan API.

Usage

```
new_design_review_spec(...)
```

Arguments

...	Arguments passed to DesignReviewSpec$new().

Value

A DesignReviewSpec object.

`new_task_family_workflow` *Create a task-family workflow*

Description

Creates a root workflow whose nodes are child tasks. By default the root workflow has no edges because sibling child tasks are interpreted as independent unless explicit dependencies are supplied.

Usage

```
new_task_family_workflow(
  id,
  label,
  objective,
  nodes = .empty_workflow_nodes(),
  edges = .empty_workflow_edges(),
  shared_inputs = character(),
  shared_review_concerns = character(),
  task_tags = list(),
  metadata = list()
)
```

Arguments

`id`	Task-family identifier.
`label`	Task-family label.
`objective`	Family-level objective.
`nodes`	Data frame of child-task nodes.
`edges`	Optional root-level dependency edges among child tasks.
`shared_inputs`	Character vector of shared input names.
`shared_review_concerns`	Character vector of shared review concerns.
`task_tags`	Optional named list mapping child-task ids to tags.
`metadata`	Additional root workflow metadata.

Value

`agentr_workflow_spec`.

new_workflow_spec *Create a workflow specification*

Description

Workflow specifications are outputs of reasoning and scaffolding rather than fixed package logic. The object captures DAG-like workflow structure and the minimal metadata needed for downstream implementation translation.

Usage

```
new_workflow_spec(
  nodes = workflow_node("task", "Task"),
  edges = data.frame(from = character(), to = character(), relation = character(),
    stringsAsFactors = FALSE),
  task = NULL,
  metadata = list()
)
```

Arguments

nodes	Data frame of workflow nodes.
edges	Data frame of workflow edges.
task	Optional source task text.
metadata	Additional metadata list.

Value

An object of class agentr_workflow_spec.

normalize_subsystem_key *Normalize subsystem keys*

Description

Accepts canonical subsystem keys and legacy mixed-case variants, then returns the canonical keys used throughout agentr.

Usage

```
normalize_subsystem_key(x)
```

Arguments

x	Character vector of subsystem keys.

Value

Character vector containing canonical subsystem keys.

---

parse_design_feedback_json *Parse design feedback JSON*

Description

Parse design feedback JSON

Usage

```
parse_design_feedback_json(x)
```

Arguments

x	JSON string, parsed list, or `.json` file path.

Value

A list of validated design-feedback items.

---

parse_knowledge_message *Parse a knowledge message*

Description

Parse a knowledge message

Usage

```
parse_knowledge_message(x)
```

Arguments

x	JSON string, parsed list, or `.json` file path.

Value

Parsed knowledge message list.

parse_memory_message *Parse a memory message*

Description

Parse a memory message

Usage

```
parse_memory_message(x)
```

Arguments

x	JSON string, parsed list, or .json file path.

Value

Parsed memory message list.

parse_scaffolder_message *Parse an LLM scaffolder message*

Description

Parses a machine-readable scaffolder message from JSON text or a .json file path into an R list.

Usage

```
parse_scaffolder_message(text)
```

Arguments

text	Character string containing JSON or a path to a .json file.

Value

Parsed list.

PGConfig *PGConfig*

Description

PGConfig

PGConfig

Details

Configuration for the Perception & Grounding subsystem.

Methods

`$initialize(enabled = TRUE, planning_mode = "task_decomposition", decomposition_style = "dag", meta`
Create a Perception & Grounding config. Legacy field names are preserved for compatibility.

`$validate()` Validate the config.

`$as_list()` Return a serializable representation.

Public fields

`enabled` Whether the subsystem is enabled.

`planning_mode` Legacy field name retained for compatibility; interpreted as a grounding/perception mode label.

`decomposition_style` Legacy field name retained for compatibility; interpreted as a representation-structuring style.

`metadata` Free-form metadata list.

Methods

Public methods:

- `PGConfig$new()`
- `PGConfig$validate()`
- `PGConfig$as_list()`
- `PGConfig$print()`
- `PGConfig$clone()`

Method `new()`**:** Create a Perception & Grounding config.

Usage:

```
PGConfig$new(
  enabled = TRUE,
  planning_mode = "task_decomposition",
  decomposition_style = "dag",
  metadata = list()
)
```

Arguments:

`enabled` Whether the subsystem is enabled.

`planning_mode` Planning mode label.

`decomposition_style` Workflow decomposition style.

`metadata` Free-form metadata list.

Method `validate()`**:** Validate the config.

Usage:

```
PGConfig$validate()
```

Method `as_list()`**:** Return a serializable representation.

Usage:

```
PGConfig$as_list()
```

Method `print()`**:** Print a compact config summary.

Usage:

```
PGConfig$print(...)
```

Arguments:

`...` Unused print arguments.

Method `clone()`**:** The objects of this class are cloneable with this method.

Usage:

```
PGConfig$clone(deep = FALSE)
```

Arguments:

`deep` Whether to make a deep clone.

`plot_knowledge_graph` *Plot a graph-shaped knowledge or memory representation*

Description

Plot a graph-shaped knowledge or memory representation

Usage

```
plot_knowledge_graph(
  x,
  rankdir = "TB",
  label_width = 28,
  show_edge_labels = TRUE,
  show_tooltips = FALSE
)
```

Arguments

x	A KnowledgeSpec, MemorySpec, or graph representation list.
rankdir	Graphviz rank direction, for example "TB" or "LR".
label_width	Approximate wrapping width for node labels.
show_edge_labels	Whether to show edge relation labels.
show_tooltips	Whether to include Graphviz tooltip attributes.

Value

A DiagrammeR graph object.

---

plot_workflow_graph *Plot a workflow graph with DiagrammeR*

Description

Creates a DiagrammeR graph from a workflow. This is preferred over base igraph plotting for readable workflow DAG visualization.

Usage

```
plot_workflow_graph(
  x,
  rankdir = "TB",
  label_width = 28,
  show_edge_labels = FALSE,
  show_tooltips = FALSE,
  same_rank = NULL
)
```

Arguments

x	A workflow specification or a Scaffolder instance.
rankdir	Graphviz rank direction, for example "TB" or "LR".
label_width	Approximate wrapping width for node labels.
show_edge_labels	Whether to show edge relation labels.
show_tooltips	Whether to include Graphviz tooltip attributes. Defaults to FALSE because long prose tooltips can trigger Viz.js parse failures in some DiagrammeR renderers.
same_rank	Optional list of node-id character vectors to keep at the same Graphviz rank.

Value

A DiagrammeR graph object.

preview_design_feedback

Preview design feedback application

Description

Preview design feedback application

Usage

```
preview_design_feedback(x, feedback, review_spec = NULL)
```

Arguments

x	A Scaffolder or design object.
feedback	Feedback item or list of items.
review_spec	Optional review spec used for target-id warnings.

Value

A non-mutating preview list.

preview_knowledge_message

Preview a knowledge message

Description

Preview a knowledge message

Usage

```
preview_knowledge_message(state, message)
```

Arguments

state	A KnowledgeProposalState object.
message	Parsed or raw knowledge message.

Value

Preview list.

`preview_memory_message` *Preview a memory message*

Description

Preview a memory message

Usage

```
preview_memory_message(state, message)
```

Arguments

`state`	A `MemoryProposalState` object.
`message`	Parsed or raw memory message.

Value

Preview list.

`preview_scaffolder_message` *Preview a machine-readable scaffolder message without mutating live workflow*

Description

Applies a message to a deep clone of the scaffolder, returns the preview result, and optionally stores the resulting workflow as a proposal on the original scaffolder for later approval or discussion.

Usage

```
preview_scaffolder_message(
  scaffolder,
  message,
  allowed_methods = scaffolder_action_methods(),
  stop_on_error = TRUE,
  store_proposal = TRUE,
  source = "model",
  proposal_notes = NULL
)
```

Arguments

scaffolder	A Scaffolder instance.
message	Parsed message list, JSON string, or path to a downloaded .json file.
allowed_methods	Character vector of allowed method names.
stop_on_error	Whether to stop on the first action error. When FALSE, errors are collected in the returned result object.
store_proposal	Whether to store the previewed workflow as a proposal on the original scaffolder.
source	Proposal source label used when storing a proposal.
proposal_notes	Optional proposal notes. Defaults to top-level message$notes when available.

Value

A standardized list with proposal_id, proposal, preview_dispatch, workflow_after, human_prompts, and errors.

---

print.agentr_workflow_proposal

Format a workflow proposal

Description

Format a workflow proposal

Usage

```
## S3 method for class 'agentr_workflow_proposal'
print(x, ...)
```

Arguments

x	Workflow proposal object.
...	Unused.

print.agentr_workflow_spec *Format a workflow specification*

Description

Format a workflow specification

Usage

```
## S3 method for class 'agentr_workflow_spec'
print(x, ...)
```

Arguments

x	Workflow specification.
...	Unused.

read_decision_traces *Read decision traces*

Description

Read decision traces

Usage

```
read_decision_traces(path)
```

Arguments

path	JSONL or RDS path.

Value

List of traces.

read_reflection_traces *Read reflection traces*

Description

Read reflection traces

Usage

```
read_reflection_traces(path)
```

Arguments

path	JSONL or RDS path.

Value

List of traces.

reject_workspace_proposal *Reject a workspace proposal*

Description

Reject a workspace proposal

Usage

```
reject_workspace_proposal(
  workspace,
  type = c("workflow", "agent", "memory", "knowledge"),
  proposal_id,
  note = NULL
)
```

Arguments

workspace	Workspace root directory.
type	Proposal type: workflow, agent, memory, or knowledge.
proposal_id	Proposal identifier.
note	Optional rejection note.

Value

Rejected proposal.

render_knowledge_graphviz

Render a graph representation as Graphviz DOT, DiagrammeR, or SVG

Description

This helper renders graph-shaped knowledge or memory. It accepts a `KnowledgeSpec`, `MemorySpec`, or plain `list(nodes, edges, metadata)` graph representation. It does not require or create a separate graph spec.

Usage

```
render_knowledge_graphviz(
  x,
  rankdir = "TB",
  as = c("dot", "diagrammer", "svg"),
  label_width = 28,
  show_edge_labels = TRUE,
  show_tooltips = FALSE
)
```

Arguments

`x`	A `KnowledgeSpec`, `MemorySpec`, or graph representation list.
`rankdir`	Graphviz rank direction, for example `"TB"` or `"LR"`.
`as`	Output format: raw `"dot"` text, a `"diagrammer"` object, or exported `"svg"` text.
`label_width`	Approximate wrapping width for node labels.
`show_edge_labels`	Whether to show edge relation labels.
`show_tooltips`	Whether to include Graphviz tooltip attributes.

Value

A Graphviz DOT string, `DiagrammeR` graph object, or SVG string.

render_markdown_terminal

Render markdown-like text for terminal output

Description

Render markdown-like text for terminal output

Usage

```
render_markdown_terminal(txt)
```

Arguments

txt	Character string.

Value

Rendered character string with ANSI styling.

---

render_memory_schema_graphviz *Render a MemorySpec as Graphviz DOT, DiagrammeR, or SVG*

Description

Renders memory fields and, optionally, the schema shape of each field. The output is for inspection and review of memory design, not runtime memory execution.

Usage

```
render_memory_schema_graphviz(
  x,
  include_field_schemas = TRUE,
  rankdir = "TB",
  as = c("dot", "diagrammer", "svg"),
  label_width = 28,
  show_edge_labels = TRUE,
  show_tooltips = FALSE
)
```

Arguments

x	A MemorySpec object.
include_field_schemas	Whether to include nested schema-shape nodes for each memory field's schema.
rankdir	Graphviz rank direction, for example "TB" or "LR".
as	Output format: raw "dot" text, a "diagrammer" object, or exported "svg" text.
label_width	Approximate wrapping width for node labels.
show_edge_labels	Whether to show edge relation labels.
show_tooltips	Whether to include Graphviz tooltip attributes.

Value

A Graphviz DOT string, DiagrammeR graph object, or SVG string.

render_schema_shape_graphviz *Render a schema shape as Graphviz DOT, DiagrammeR, or SVG*

Description

Renders a structural preview of a nested schema object, such as a workflow node's `input_schema` or `output_schema`.

Usage

```
render_schema_shape_graphviz(
  x,
  root_id = "schema",
  root_label = "schema",
  rankdir = "TB",
  as = c("dot", "diagrammer", "svg"),
  label_width = 28,
  show_edge_labels = TRUE,
  show_tooltips = FALSE
)
```

Arguments

`x`	Schema object to inspect.
`root_id`	Root node identifier.
`root_label`	Human-readable root node label.
`rankdir`	Graphviz rank direction, for example `"TB"` or `"LR"`.
`as`	Output format: raw `"dot"` text, a `"diagrammer"` object, or exported `"svg"` text.
`label_width`	Approximate wrapping width for node labels.
`show_edge_labels`	Whether to show edge relation labels.
`show_tooltips`	Whether to include Graphviz tooltip attributes.

Value

A Graphviz DOT string, `DiagrammeR` graph object, or SVG string.

render_task_preview *Render one task-local design-review preview*

Description

Loads conventional task-local YAML specs and renders `docs/review.html`. When present, memory and narrative knowledge specs are included alongside the workflow graph. Graph-shaped knowledge is read from `knowledge_spec.yaml` when present.

Usage

```
render_task_preview(
  task_dir,
  docs_dir = "docs",
  out = NULL,
  title = NULL,
  require_workflow = TRUE,
  graph_layout = c("grid", "layered", "swimlane", "process"),
  edge_style = c("curved", "straight", "orthogonal"),
  node_color_theme = c("default", "subsystems"),
  ...
)
```

Arguments

`task_dir`	Task root directory.
`docs_dir`	Documentation/spec directory relative to `task_dir`, or an absolute path.
`out`	Optional output HTML path. Defaults to `docs/review.html`.
`title`	Optional review title. Defaults to the workflow task title, then the task directory name.
`require_workflow`	Whether `workflow_spec.yaml` must exist.
`graph_layout`	Workflow graph layout passed to `export_design_review_html()`.
`edge_style`	Workflow edge style passed to `export_design_review_html()`.
`node_color_theme`	Initial node-color theme passed to `export_design_review_html()`.
`...`	Additional arguments passed to `export_design_review_html()`.

Value

Invisibly returns the normalized output HTML path.

render_task_previews *Render task-local design-review previews under a workspace*

Description

Scans a workspace for `workflow_spec.yaml` files under task-local `docs/` directories and renders one review HTML file per discovered task. This helper only loads specs and writes review artifacts; it does not execute task code.

Usage

```
render_task_previews(
  root,
  tasks_dir = "tasks",
  docs_dir = "docs",
  recursive = TRUE,
  require_workflow = TRUE,
  ...
)
```

Arguments

`root`	Workspace root directory.
`tasks_dir`	Tasks directory relative to `root`, or an absolute path.
`docs_dir`	Documentation/spec directory name relative to each task.
`recursive`	Whether to scan nested task folders. Defaults to `TRUE` so node-folder subworkflow specs are rendered too.
`require_workflow`	Whether discovered task previews require a workflow spec. Discovered paths always have one; this is forwarded to `render_task_preview()`.
`...`	Additional arguments passed to `render_task_preview()`.

Value

Data frame with rendered task directories and review paths.

render_workflow_graphviz *Render a workflow as Graphviz DOT, DiagrammeR, or SVG*

Description

Converts a workflow specification into a Graphviz-friendly representation. The DiagrammeR path is preferred for visual inspection of workflow DAGs.

Usage

```
render_workflow_graphviz(
  x,
  rankdir = "TB",
  as = c("dot", "diagrammer", "svg"),
  label_width = 28,
  show_edge_labels = FALSE,
  show_tooltips = FALSE,
  same_rank = NULL
)
```

Arguments

x	A workflow specification or a Scaffolder instance.
rankdir	Graphviz rank direction, for example "TB" or "LR".
as	Output format: raw "dot" text, a "diagrammer" object, or exported "svg" text.
label_width	Approximate wrapping width for node labels.
show_edge_labels	Whether to show edge relation labels.
show_tooltips	Whether to include Graphviz tooltip attributes. Defaults to FALSE because long prose tooltips can trigger Viz.js parse failures in some DiagrammeR renderers.
same_rank	Optional list of node-id character vectors to keep at the same Graphviz rank.

Value

A Graphviz DOT string, DiagrammeR graph object, or SVG string.

RWMConfig *RWMConfig*

Description

RWMConfig

RWMConfig

Details

Configuration for the Reasoning & World Model subsystem.

Methods

`$initialize(cognitive = CognitiveConfig$new(), affective = NULL, persistence = "session", summary =` Create a Reasoning & World Model config.

`$validate()` Validate the config.

`$selected_layers()` Return the active inner layers.

`$as_list()` Return a serializable representation.

Public fields

`cognitive` A `CognitiveConfig` object or `NULL`.

`affective` An `AffectiveConfig` object or `NULL`.

`persistence` Persistence mode for the overall subsystem.

`summary` Optional one-line summary.

`metadata` Free-form metadata list.

Methods

Public methods:

- `RWMConfig$new()`
- `RWMConfig$validate()`
- `RWMConfig$selected_layers()`
- `RWMConfig$as_list()`
- `RWMConfig$print()`
- `RWMConfig$clone()`

Method `new()`**:** Create an `RWM` config.

Usage:

```
RWMConfig$new(
  cognitive = CognitiveConfig$new(),
  affective = NULL,
  persistence = "session",
  summary = NULL,
  metadata = list()
)
```

Arguments:

`cognitive` A `CognitiveConfig` object or list payload.

`affective` An `AffectiveConfig` object or list payload.

`persistence` Persistence mode for the overall subsystem.

`summary` Optional one-line summary.

`metadata` Free-form metadata list.

Method `validate()`**:** Validate the config.

Usage:

```
RWMConfig$validate()
```

Method `selected_layers()`**:** Return the active inner layers.

Usage:

```
RWMConfig$selected_layers()
```

Method `as_list()`**:** Return a serializable representation.

Usage:

```
RWMConfig$as_list()
```

Method `print()`**:** Print a compact config summary.

Usage:

```
RWMConfig$print(...)
```

Arguments:

`...` Unused print arguments.

Method `clone()`**:** The objects of this class are cloneable with this method.

Usage:

```
RWMConfig$clone(deep = FALSE)
```

Arguments:

`deep` Whether to make a deep clone.

`save_agent` *Save an* `agentr` *object to a file*

Description

Saves an `AgentCore`, `CognitiveState`, `AffectiveState`, or `Scaffolder` object to a specified `.rds` file. `AgentSpec`, `SubsystemSpec`, `MemorySpec`, `DesignReviewSpec`, `AgentScaffoldState`, and `IntelligentAgent` are also supported.

Usage

```
save_agent(agent, file_path)
```

Arguments

`agent`	An object created by `agentr`.
`file_path`	File path where the object should be saved.

Value

Invisibly returns `TRUE`.

save_agent_spec *Save an* AgentSpec *to a file*

Description

Saves an AgentSpec object to a specified .rds file.

Usage

```
save_agent_spec(spec, file_path)
```

Arguments

spec	An AgentSpec object.
file_path	File path where the object should be saved.

Value

Invisibly returns TRUE.

save_design_feedback *Save structured design feedback*

Description

Save structured design feedback

Usage

```
save_design_feedback(x, path)
```

Arguments

x	A design-feedback item or list of items.
path	Output .rds path.

Value

Invisibly returns TRUE.

save_design_review_spec

Save a design-review specification

Description

Save a design-review specification

Usage

```
save_design_review_spec(x, path)
```

Arguments

x	A DesignReviewSpec object.
path	Output .rds path.

Value

Invisibly returns TRUE.

save_knowledge_proposal

Save a knowledge proposal

Description

Save a knowledge proposal

Usage

```
save_knowledge_proposal(x, path)
```

Arguments

x	A KnowledgeProposal object.
path	File path.

Value

Invisibly returns TRUE.

save_knowledge_spec *Save a knowledge specification*

Description

Save a knowledge specification

Usage

```
save_knowledge_spec(x, path, format = c("rds", "json", "yaml"))
```

Arguments

x	A KnowledgeSpec object.
path	File path.
format	File format, either rds, json, or yaml.

Value

Invisibly returns TRUE.

save_knowledge_spec_json *Save a knowledge specification as JSON*

Description

Save a knowledge specification as JSON

Usage

```
save_knowledge_spec_json(x, path)
```

Arguments

x	A KnowledgeSpec object.
path	File path.

Value

Invisibly returns TRUE.

save_knowledge_spec_yaml *Save a knowledge specification as YAML*

Description

Save a knowledge specification as YAML

Usage

```
save_knowledge_spec_yaml(x, path)
```

Arguments

x	A KnowledgeSpec object.
path	File path.

Value

Invisibly returns TRUE.

save_memory_spec *Save a* MemorySpec *to a file*

Description

Saves a MemorySpec object to a specified .rds, .json, or .yaml file.

Usage

```
save_memory_spec(spec, file_path, format = c("rds", "json", "yaml"))
```

Arguments

spec	A MemorySpec object.
file_path	File path where the object should be saved.
format	File format, either rds, json, or yaml.

Value

Invisibly returns TRUE.

save_memory_spec_json *Save a* MemorySpec *as JSON*

Description

Save a MemorySpec as JSON

Usage

```
save_memory_spec_json(spec, file_path)
```

Arguments

spec	A MemorySpec object.
file_path	File path where the JSON should be saved.

Value

Invisibly returns TRUE.

save_memory_spec_yaml *Save a* MemorySpec *as YAML*

Description

Save a MemorySpec as YAML

Usage

```
save_memory_spec_yaml(spec, file_path)
```

Arguments

spec	A MemorySpec object.
file_path	File path where the YAML should be saved.

Value

Invisibly returns TRUE.

save_subsystem_spec *Save a* SubsystemSpec *to a file*

Description

Saves a SubsystemSpec object to a specified .rds file.

Usage

```
save_subsystem_spec(spec, file_path)
```

Arguments

spec	A SubsystemSpec object.
file_path	File path where the object should be saved.

Value

Invisibly returns TRUE.

save_workflow_proposal *Save a workflow proposal*

Description

Saves an agentr_workflow_proposal object so it can be reviewed, approved, or visualized in a later session.

Usage

```
save_workflow_proposal(proposal, file_path)
```

Arguments

proposal	Workflow proposal object.
file_path	File path where the proposal should be saved.

Value

Invisibly returns TRUE.

save_workflow_spec *Save a workflow specification*

Description

Save a workflow specification

Usage

```
save_workflow_spec(workflow, file_path, format = c("rds", "json", "yaml"))
```

Arguments

workflow	Workflow specification.
file_path	File path where the workflow should be saved.
format	File format, either rds, json, or yaml.

Value

Invisibly returns TRUE.

save_workflow_spec_json *Save a workflow specification as JSON*

Description

Save a workflow specification as JSON

Usage

```
save_workflow_spec_json(workflow, file_path)
```

Arguments

workflow	Workflow specification.
file_path	File path where the JSON should be saved.

Value

Invisibly returns TRUE.

save_workflow_spec_yaml *Save a workflow specification as YAML*

Description

Save a workflow specification as YAML

Usage

```
save_workflow_spec_yaml(workflow, file_path)
```

Arguments

workflow	Workflow specification.
file_path	File path where the YAML should be saved.

Value

Invisibly returns TRUE.

Scaffolder *Scaffolder*

Description

Scaffolder

Scaffolder

Details

Human-in-the-loop scaffolding interface for iterative workflow elicitation. A Scaffolder keeps a persistent task-evaluation artifact, supports free-form discussion rounds before structured graph edits, separates workflow-level and node-level review, treats node/edge edits as first-class operations, and manages previewable workflow proposals with explicit lifecycle state.

Methods

$initialize(agent = NULL, completion_threshold = 0.75) Create a scaffolder with empty workflow state and review metadata.

$evaluate_task(task, summary = NULL, workflow_complete = NA, blockers = NULL, next_focus = NULL) Create or refresh the persistent task-evaluation artifact.

$discuss_task(feedback, source = "human", node_id = NULL, confidence = NA_real_) Record a free-form human, model, or system discussion round.

`$decompose_task(task = self$task, candidates = NULL, suggestions = NULL, nodes = NULL, edges = NULL` Create or replace the workflow from linear candidates or non-linear graph suggestions.

`$ask_human_complete(node_id)` Create a prompt asking whether a workflow node is complete.

`$ask_human_changes()` Create a prompt asking what workflow or edge changes should happen next.

`$ask_human_rule(node_id)` Create a prompt requesting a node-specific rule.

`$review_workflow(status = "pending", notes = NULL, confidence = NA_real_)` Store workflow-level completeness or revision review state.

`$review_node(node_id, status = "pending", notes = NULL, confidence = NA_real_, complete = NULL)` Store node-level correctness or completion review state.

`$edit_workflow(add = NULL, insert = NULL, remove = NULL, add_edges = NULL, remove_edges = NULL, rul` Apply first-class node and edge edits to the current workflow.

`$set_node_schema(node_id, input_schema = NULL, output_schema = NULL)` Set input/output schema metadata for one workflow node.

`$set_node_nested_workflow(node_id, subworkflow_ref = NULL, nested_workflow = NULL)` Attach a nested workflow reference or embedded nested workflow to one node.

`$apply_human_feedback(completeness = NULL, add = NULL, remove = NULL, rule_specs = list(), confiden` Compatibility wrapper for structured human workflow edits.

`$recommend_subsystems(task = self$task)` Recommend optional subsystem/capability labels for the current task and workflow.

`$subsystem_recommendations()` Return the current subsystem recommendation records.

`$subsystem_recommendation_rationale(subsystem = NULL)` Return stored recommendation rationale for one subsystem or all subsystems.

`$select_subsystems(subsystems)` Store the selected subsystem configuration.

`$selected_subsystems()` Return the currently selected subsystem names.

`$label_workflow_subsystems(labels)` Assign subsystem owners to workflow nodes.

`$edit_workflow_subsystems(set = NULL, add = NULL, remove = NULL, clear = NULL)` Edit workflow-node subsystem ownership incrementally.

`$propose_agent_spec(agent_name = "agentr-agent", summary = NULL, subsystems = NULL, workflow = NULL` Store a draft agent-spec proposal.

`$list_agent_spec_proposals(status = NULL)` Return stored agent-spec proposal summaries.

`$get_agent_spec_proposal(proposal_id)` Return a stored agent-spec proposal by id.

`$discuss_agent_spec_proposal(proposal_id, feedback, source = "human", confidence = NA_real_)` Attach discussion feedback to a draft agent-spec proposal.

`$approve_agent_spec_proposal(proposal_id, approve_linked_workflow = TRUE)` Approve a stored agent-spec proposal and optionally approve its linked workflow proposal.

`$approve_agent_spec(agent_name = "agentr-agent", summary = NULL, state_requirements = list(), inter` Approve an `AgentSpec` built from the current task, workflow, and optional subsystem labels.

`$agent_spec()` Return the approved agent spec or a draft spec built from current state.

`$propose_workflow(workflow, source = "model", notes = NULL)` Store a pending workflow proposal for preview and review.

`$list_workflow_proposals(status = NULL)` Return a summary table of stored workflow proposals.

`$get_workflow_proposal(proposal_id)` Return a stored `WorkflowProposal` object by identifier.

`$approve_workflow_proposal(proposal_id)` Promote a stored workflow proposal to the live workflow and supersede older active proposals when applicable.

`$discuss_workflow_proposal(proposal_id, feedback, source = "human", confidence = NA_real_)` Attach free-form discussion feedback to a non-approved workflow proposal and transition it into discussion state when needed.

`$workflow_spec()` Validate and return the current workflow specification.

`$implementation_spec()` Return an implementation-facing summary of workflow nodes and rules.

`$low_confidence_nodes()` Return workflow nodes below the completion threshold.

`$get_node(node_id)` Return a single workflow node by identifier.

`$record_interaction(type, payload)` Append an interaction event to the scaffolder log.

Public fields

`agent` Optional `AgentCore` owner.

`task` Current task text.

`workflow` Current workflow specification.

`workflow_state` Public workflow proposal state container.

`agent_state` Public agent scaffold state container.

`proposal_log` Stored workflow proposals across pending, discussion, approved, superseded, and rejected lifecycle states.

`interaction_log` List of scaffolding interactions.

`completion_threshold` Threshold used to flag low-confidence nodes.

Methods

Public methods:

- `Scaffolder$new()`
- `Scaffolder$evaluate_task()`
- `Scaffolder$discuss_task()`
- `Scaffolder$decompose_task()`
- `Scaffolder$ask_human_complete()`
- `Scaffolder$ask_human_changes()`
- `Scaffolder$ask_human_rule()`
- `Scaffolder$review_workflow()`
- `Scaffolder$review_node()`
- `Scaffolder$edit_workflow()`
- `Scaffolder$set_node_schema()`
- `Scaffolder$set_node_nested_workflow()`

- Scaffolder$apply_human_feedback()
- Scaffolder$recommend_subsystems()
- Scaffolder$subsystem_recommendations()
- Scaffolder$subsystem_recommendation_rationale()
- Scaffolder$select_subsystems()
- Scaffolder$selected_subsystems()
- Scaffolder$label_workflow_subsystems()
- Scaffolder$edit_workflow_subsystems()
- Scaffolder$propose_agent_spec()
- Scaffolder$list_agent_spec_proposals()
- Scaffolder$get_agent_spec_proposal()
- Scaffolder$discuss_agent_spec_proposal()
- Scaffolder$approve_agent_spec_proposal()
- Scaffolder$approve_agent_spec()
- Scaffolder$agent_spec()
- Scaffolder$propose_workflow()
- Scaffolder$list_workflow_proposals()
- Scaffolder$get_workflow_proposal()
- Scaffolder$approve_workflow_proposal()
- Scaffolder$discuss_workflow_proposal()
- Scaffolder$workflow_spec()
- Scaffolder$implementation_spec()
- Scaffolder$low_confidence_nodes()
- Scaffolder$get_node()
- Scaffolder$record_interaction()
- Scaffolder$clone()

Method `new()`**:** Create a `Scaffolder` with empty workflow, review, and discussion state.

Usage:

```
Scaffolder$new(agent = NULL, completion_threshold = 0.75)
```

Arguments:

`agent` Optional `AgentCore` used by `$initialize()`.

`completion_threshold` Confidence threshold used by `$initialize()`.

Method `evaluate_task()`**:** Create or refresh the persistent task-evaluation artifact.

Usage:

```
Scaffolder$evaluate_task(
  task,
  summary = NULL,
  workflow_complete = NA,
  blockers = NULL,
  next_focus = NULL
)
```

Arguments:

`task` Task text used by `$evaluate_task()` and `$decompose_task()`.

`summary` Optional task summary used by `$evaluate_task()`.

`workflow_complete` Optional task-level completeness flag used by `$evaluate_task()`.

`blockers` Optional blocker strings used by `$evaluate_task()`.

`next_focus` Optional next-focus note used by `$evaluate_task()`.

Method `discuss_task()`**:** Record a free-form human, model, or system discussion round.

Usage:

```
Scaffolder$discuss_task(
  feedback,
  source = "human",
  node_id = NULL,
  confidence = NA_real_
)
```

Arguments:

`feedback` Free-form discussion feedback used by `$discuss_task()`.

`source` Discussion source used by `$discuss_task()`.

`source` Proposal source used by proposal methods.

`node_id` Workflow node identifier used by node-specific methods.

`confidence` Confidence value used by review/edit helpers.

Method `decompose_task()`**:** Replace the workflow with nodes and edges derived from task suggestions.

Usage:

```
Scaffolder$decompose_task(
  task = self$task,
  candidates = NULL,
  suggestions = NULL,
  nodes = NULL,
  edges = NULL,
  notes = NULL
)
```

Arguments:

`task` Task text used by `$evaluate_task()` and `$decompose_task()`.

`candidates` Optional candidate node labels used by `$decompose_task()`.

`suggestions` Optional free-form or structured graph suggestions used by `$decompose_task()`.

`nodes` Optional node list accepted directly by `$decompose_task()`.

`edges` Optional edge list accepted directly by `$decompose_task()`.

`notes` Optional decomposition notes accepted directly by `$decompose_task()`.

`notes` Optional review notes.

`notes` Optional proposal notes.

Method `ask_human_complete()`**:** Build a prompt asking whether a node is complete.

Usage:

```
Scaffolder$ask_human_complete(node_id)
```

Arguments:

`node_id` Workflow node identifier used by node-specific methods.

Method `ask_human_changes()`**:** Build a prompt asking what workflow or edge changes should happen next.

Usage:

```
Scaffolder$ask_human_changes()
```

Method `ask_human_rule()`**:** Build a prompt asking for a node-specific rule.

Usage:

```
Scaffolder$ask_human_rule(node_id)
```

Arguments:

`node_id` Workflow node identifier used by node-specific methods.

Method `review_workflow()`**:** Store workflow-level completeness or revision review state.

Usage:

```
Scaffolder$review_workflow(
  status = "pending",
  notes = NULL,
  confidence = NA_real_
)
```

Arguments:

`status` Review status used by `$review_workflow()` and `$review_node()`.

`notes` Optional decomposition notes accepted directly by `$decompose_task()`.

`notes` Optional review notes.

`notes` Optional proposal notes.

`confidence` Confidence value used by review/edit helpers.

Method `review_node()`**:** Store node-level review status, notes, confidence, and completion state.

Usage:

```
Scaffolder$review_node(
  node_id,
  status = "pending",
  notes = NULL,
  confidence = NA_real_,
  complete = NULL
)
```

Arguments:

`node_id` Workflow node identifier used by node-specific methods.

`status` Review status used by `$review_workflow()` and `$review_node()`.

`notes` Optional decomposition notes accepted directly by `$decompose_task()`.

notes Optional review notes.

notes Optional proposal notes.

confidence Confidence value used by review/edit helpers.

complete Optional node completion flag used by $review_node().

Method edit_workflow(): Apply first-class node and edit changes to the current workflow.

Usage:

```
Scaffolder$edit_workflow(
  add = NULL,
  insert = NULL,
  remove = NULL,
  add_edges = NULL,
  remove_edges = NULL,
  rule_specs = list(),
  confidence = list()
)
```

Arguments:

add List of node records to add in $edit_workflow().

insert List of insertion specs used by $edit_workflow().

remove Character vector of node ids to remove in $edit_workflow().

add_edges List of edge records to add in $edit_workflow().

remove_edges List of edge specs to remove in $edit_workflow().

rule_specs Named list of rule specs used by $edit_workflow().

confidence Confidence value used by review/edit helpers.

Method set_node_schema(): Set structured input and output schema metadata for one workflow node.

Usage:

```
Scaffolder$set_node_schema(node_id, input_schema = NULL, output_schema = NULL)
```

Arguments:

node_id Workflow node identifier used by node-specific methods.

input_schema Structured input schema used by $set_node_schema().

output_schema Structured output schema used by $set_node_schema().

Method set_node_nested_workflow(): Attach a nested workflow reference or embedded nested workflow to one node.

Usage:

```
Scaffolder$set_node_nested_workflow(
  node_id,
  subworkflow_ref = NULL,
  nested_workflow = NULL
)
```

Arguments:

node_id Workflow node identifier used by node-specific methods.

`subworkflow_ref` Nested workflow reference used by `$set_node_nested_workflow()`.

`nested_workflow` Embedded nested workflow used by `$set_node_nested_workflow()`.

Method `apply_human_feedback()`**:** Apply legacy structured human feedback to the workflow.

Usage:

```
Scaffolder$apply_human_feedback(
  completeness = NULL,
  add = NULL,
  remove = NULL,
  rule_specs = list(),
  confidence = list()
)
```

Arguments:

`completeness` Named list of completion flags used by `$apply_human_feedback()`.

`add` List of node records to add in `$edit_workflow()`.

`remove` Character vector of node ids to remove in `$edit_workflow()`.

`rule_specs` Named list of rule specs used by `$edit_workflow()`.

`confidence` Confidence value used by review/edit helpers.

Method `recommend_subsystems()`**:** Recommend optional subsystem/capability labels for the current task and workflow.

Usage:

```
Scaffolder$recommend_subsystems(task = self$task)
```

Arguments:

`task` Task text used by `$evaluate_task()` and `$decompose_task()`.

Method `subsystem_recommendations()`**:** Return the current subsystem recommendation records.

Usage:

```
Scaffolder$subsystem_recommendations()
```

Method `subsystem_recommendation_rationale()`**:** Return stored recommendation rationale.

Usage:

```
Scaffolder$subsystem_recommendation_rationale(subsystem = NULL)
```

Arguments:

`subsystem` Optional subsystem name used by `$subsystem_recommendation_rationale()`.

Method `select_subsystems()`**:** Store the selected subsystem configuration.

Usage:

```
Scaffolder$select_subsystems(subsystems)
```

Arguments:

`subsystems` Selected subsystems used by `$select_subsystems()`.

Method `selected_subsystems()`**:** Return the currently selected subsystem names.

Usage:

```
Scaffolder$selected_subsystems()
```

Method `label_workflow_subsystems()`**:** Assign subsystem owners to workflow nodes.

Usage:

```
Scaffolder$label_workflow_subsystems(labels)
```

Arguments:

`labels` Named node-to-subsystem assignments used by `$label_workflow_subsystems()`.

Method `edit_workflow_subsystems()`**:** Edit workflow-node subsystem ownership incrementally.

Usage:

```
Scaffolder$edit_workflow_subsystems(
  set = NULL,
  add = NULL,
  remove = NULL,
  clear = NULL
)
```

Arguments:

`set` Named node-to-subsystem assignments used by `$edit_workflow_subsystems()`.

`add` List of node records to add in `$edit_workflow()`.

`remove` Character vector of node ids to remove in `$edit_workflow()`.

`clear` Character vector of node ids whose ownership labels should be cleared by `$edit_workflow_subsystems()`.

Method `propose_agent_spec()`**:** Store a draft agent-spec proposal.

Usage:

```
Scaffolder$propose_agent_spec(
  agent_name = "agentr-agent",
  summary = NULL,
  subsystems = NULL,
  workflow = NULL,
  workflow_proposal_id = NULL,
  state_requirements = list(),
  interfaces = list(),
  implementation_targets = list(),
  metadata = list(),
  source = "model",
  notes = NULL
)
```

Arguments:

`agent_name` Agent name used by `$approve_agent_spec()`.

`summary` Optional task summary used by `$evaluate_task()`.

`subsystems` Selected subsystems used by `$select_subsystems()`.

`workflow` Proposed workflow used by proposal methods.

`workflow_proposal_id` Workflow proposal id used to seed an agent-spec proposal.

`state_requirements` State requirements used by `$approve_agent_spec()`.

`interfaces` Interfaces used by `$approve_agent_spec()`.

`implementation_targets` Implementation targets used by `$approve_agent_spec()`.

`metadata` Agent-spec metadata used by `$approve_agent_spec()`.

`source` Discussion source used by `$discuss_task()`.

`source` Proposal source used by proposal methods.

`notes` Optional decomposition notes accepted directly by `$decompose_task()`.

`notes` Optional review notes.

`notes` Optional proposal notes.

Method `list_agent_spec_proposals()`**:** Return stored agent-spec proposal summaries.

Usage:

```
Scaffolder$list_agent_spec_proposals(status = NULL)
```

Arguments:

`status` Review status used by `$review_workflow()` and `$review_node()`.

Method `get_agent_spec_proposal()`**:** Return a stored agent-spec proposal by id.

Usage:

```
Scaffolder$get_agent_spec_proposal(proposal_id)
```

Arguments:

`proposal_id` Workflow proposal identifier.

Method `discuss_agent_spec_proposal()`**:** Attach discussion feedback to a draft agent-spec proposal.

Usage:

```
Scaffolder$discuss_agent_spec_proposal(
  proposal_id,
  feedback,
  source = "human",
  confidence = NA_real_
)
```

Arguments:

`proposal_id` Workflow proposal identifier.

`feedback` Free-form discussion feedback used by `$discuss_task()`.

`source` Discussion source used by `$discuss_task()`.

`source` Proposal source used by proposal methods.

`confidence` Confidence value used by review/edit helpers.

Method `approve_agent_spec_proposal()`**:** Approve a stored agent-spec proposal and optionally approve its linked workflow proposal.

Usage:

```
Scaffolder$approve_agent_spec_proposal(
  proposal_id,
  approve_linked_workflow = TRUE
)
```

Arguments:

`proposal_id` Workflow proposal identifier.

`approve_linked_workflow` Whether linked workflow proposals should be approved when approving an agent-spec proposal.

Method `approve_agent_spec()`**:** Approve an agent spec built from the current scaffolding state.

Usage:

```
Scaffolder$approve_agent_spec(
  agent_name = "agentr-agent",
  summary = NULL,
  state_requirements = list(),
  interfaces = list(),
  implementation_targets = list(),
  metadata = list()
)
```

Arguments:

`agent_name` Agent name used by `$approve_agent_spec()`.

`summary` Optional task summary used by `$evaluate_task()`.

`state_requirements` State requirements used by `$approve_agent_spec()`.

`interfaces` Interfaces used by `$approve_agent_spec()`.

`implementation_targets` Implementation targets used by `$approve_agent_spec()`.

`metadata` Agent-spec metadata used by `$approve_agent_spec()`.

Method `agent_spec()`**:** Return the approved agent spec or a draft spec built from current state.

Usage:

```
Scaffolder$agent_spec()
```

Method `propose_workflow()`**:** Store a pending workflow proposal for preview and review.

Usage:

```
Scaffolder$propose_workflow(workflow, source = "model", notes = NULL)
```

Arguments:

`workflow` Proposed workflow used by proposal methods.

`source` Discussion source used by `$discuss_task()`.

`source` Proposal source used by proposal methods.

`notes` Optional decomposition notes accepted directly by `$decompose_task()`.

`notes` Optional review notes.

`notes` Optional proposal notes.

Method `list_workflow_proposals()`**:** Return a summary table of stored workflow proposals.

Usage:

```
Scaffolder$list_workflow_proposals(status = NULL)
```

Arguments:

`status` Review status used by `$review_workflow()` and `$review_node()`.

Method `get_workflow_proposal()`**:** Return a stored `WorkflowProposal` object by identifier.

Usage:

```
Scaffolder$get_workflow_proposal(proposal_id)
```

Arguments:

`proposal_id` Workflow proposal identifier.

Method `approve_workflow_proposal()`**:** Promote a stored workflow proposal to the live workflow and supersede older active proposals when applicable.

Usage:

```
Scaffolder$approve_workflow_proposal(proposal_id)
```

Arguments:

`proposal_id` Workflow proposal identifier.

Method `discuss_workflow_proposal()`**:** Attach free-form discussion feedback to a non-approved workflow proposal and transition it into discussion state when needed.

Usage:

```
Scaffolder$discuss_workflow_proposal(
  proposal_id,
  feedback,
  source = "human",
  confidence = NA_real_
)
```

Arguments:

`proposal_id` Workflow proposal identifier.

`feedback` Free-form discussion feedback used by `$discuss_task()`.

`source` Discussion source used by `$discuss_task()`.

`source` Proposal source used by proposal methods.

`confidence` Confidence value used by review/edit helpers.

Method `workflow_spec()`**:** Validate and return the current workflow specification.

Usage:

```
Scaffolder$workflow_spec()
```

Method `implementation_spec()`**:** Return an implementation-facing summary of workflow nodes and rules.

Usage:

```
Scaffolder$implementation_spec()
```

Method `low_confidence_nodes()`**:** Return workflow nodes whose confidence falls below the completion threshold.

Usage:

```
Scaffolder$low_confidence_nodes()
```

Method `get_node()`**:** Return a single workflow node by identifier.

Usage:

```
Scaffolder$get_node(node_id)
```

Arguments:

`node_id` Workflow node identifier used by node-specific methods.

Method `record_interaction()`**:** Append an interaction record to the scaffolder log.

Usage:

```
Scaffolder$record_interaction(type, payload)
```

Arguments:

`type` Interaction type used by `$record_interaction()`.

`payload` Interaction payload used by `$record_interaction()`.

Method `clone()`**:** The objects of this class are cloneable with this method.

Usage:

```
Scaffolder$clone(deep = FALSE)
```

Arguments:

`deep` Whether to make a deep clone.

`scaffolder_action_methods` *List LLM-callable scaffolder methods*

Description

Returns the method names that an external reasoning system is allowed to request through a machine-readable scaffolding message.

Usage

```
scaffolder_action_methods()
```

Value

Character vector of allowed method names.

schema_shape_graph_data *Convert a schema shape into graph-ready data*

Description

Converts a nested R list, JSON-schema-like object, vector, or data frame into node and edge data frames. The output is a structural preview of the schema shape, not a validator.

Usage

```
schema_shape_graph_data(x, root_id = "schema", root_label = "schema")
```

Arguments

x	Schema object to inspect. Common inputs are workflow-node input_schema or output_schema lists.
root_id	Root node identifier.
root_label	Human-readable root node label.

Value

A list with vertices and edges data frames.

set_workflow_node_automation_status *Set one workflow node automation status*

Description

Set one workflow node automation status

Usage

```
set_workflow_node_automation_status(
  workflow,
  node_id,
  automation_status,
  target_automation_status = NULL
)
```

Arguments

`workflow`	Workflow specification.
`node_id`	Node identifier.
`automation_status`	Automation-status value.
`target_automation_status`	Optional target automation-status value.

Value

Updated workflow specification.

`set_workflow_node_owner` *Set one workflow node owner*

Description

Set one workflow node owner

Usage

```
set_workflow_node_owner(workflow, node_id, owner)
```

Arguments

`workflow`	Workflow specification.
`node_id`	Node identifier.
`owner`	Owner value.

Value

Updated workflow specification.

SubsystemSpec *SubsystemSpec*

Description

SubsystemSpec

SubsystemSpec

Details

Sparse diagnostic inventory of the selected agent subsystems.

Methods

`$initialize(rwm = NULL, pg = NULL, ae = NULL, iac = NULL, la = NULL, metadata = list())` Create an optional subsystem diagnostic inventory.

`$validate()` Validate the subsystem diagnostic labels.

`$selected_subsystems()` Return the selected subsystem names.

`$persistence_requirements()` Return persistence requirements for selected subsystems.

`$communication_requirements()` Return communication requirements for selected subsystems.

`$summary()` Return a one-row summary table.

`$as_list()` Return a serializable representation.

Public fields

`rwm` An `RWMConfig` object or `NULL`.

`pg` A `PGConfig` object or `NULL`.

`ae` An `AEConfig` object or `NULL`.

`iac` An `IACConfig` object or `NULL`.

`la` A `LAConfig` object or `NULL`.

`metadata` Free-form metadata list.

Methods

Public methods:

- `SubsystemSpec$new()`
- `SubsystemSpec$validate()`
- `SubsystemSpec$selected_subsystems()`
- `SubsystemSpec$persistence_requirements()`
- `SubsystemSpec$communication_requirements()`
- `SubsystemSpec$summary()`
- `SubsystemSpec$as_list()`

- SubsystemSpec$print()
- SubsystemSpec$clone()

Method `new()`**:** Create an optional subsystem diagnostic inventory.

Usage:

```
SubsystemSpec$new(
  rwm = NULL,
  pg = NULL,
  ae = NULL,
  iac = NULL,
  la = NULL,
  metadata = list()
)
```

Arguments:

`rwm` An `RWMConfig` object or list payload.

`pg` A `PGConfig` object or list payload.

`ae` An `AEConfig` object or list payload.

`iac` An `IACConfig` object or list payload.

`la` A `LAConfig` object or list payload.

`metadata` Free-form metadata list.

Method `validate()`**:** Validate the subsystem diagnostic labels.

Usage:

```
SubsystemSpec$validate()
```

Method `selected_subsystems()`**:** Return the selected subsystem names.

Usage:

```
SubsystemSpec$selected_subsystems()
```

Method `persistence_requirements()`**:** Return persistence requirements for selected subsystems.

Usage:

```
SubsystemSpec$persistence_requirements()
```

Method `communication_requirements()`**:** Return communication requirements for selected subsystems.

Usage:

```
SubsystemSpec$communication_requirements()
```

Method `summary()`**:** Return a one-row summary table.

Usage:

```
SubsystemSpec$summary()
```

Method `as_list()`**:** Return a serializable representation.

Usage:

```
SubsystemSpec$as_list()
```

Method `print()`**:** Print a compact subsystem summary.

Usage:

```
SubsystemSpec$print(...)
```

Arguments:

`...` Unused print arguments.

Method `clone()`**:** The objects of this class are cloneable with this method.

Usage:

```
SubsystemSpec$clone(deep = FALSE)
```

Arguments:

`deep` Whether to make a deep clone.

`task_family_metadata` *Create task-family metadata*

Description

Task-family metadata describes a parent design space whose root workflow contains child-task nodes. It is stored under `workflow$metadata$task_family` so the workflow remains a normal `agentr_workflow_spec`.

Usage

```
task_family_metadata(
  id,
  label,
  objective,
  child_tasks = character(),
  dependency_policy = "independent_children_no_root_edges",
  shared_inputs = character(),
  shared_review_concerns = character(),
  task_tags = list(),
  metadata = list()
)
```

Arguments

`id`	Task-family identifier.
`label`	Human-readable task-family label.
`objective`	Family-level objective.
`child_tasks`	Character vector of child-task node ids.
`dependency_policy`	Description of how root-level child nodes should be interpreted.

shared_inputs	Character vector of shared input names.
shared_review_concerns	Character vector of shared review concerns.
task_tags	Optional named list mapping child-task ids to tags.
metadata	Additional metadata.

Value

List suitable for `workflow$metadata$task_family`.

`task_spec_paths` *Return conventional task-local spec paths*

Description

Coding-assistant workflows commonly keep editable `agentr` specs under a task-local `docs/` directory. This helper returns the conventional paths without creating or modifying files.

Usage

```
task_spec_paths(task_dir, docs_dir = "docs")
```

Arguments

task_dir	Task root directory.
docs_dir	Documentation/spec directory relative to `task_dir`, or an absolute path.

Value

Named list of task-local paths.

`terminal_ask_node_complete` *Ask for workflow-node completeness in the terminal*

Description

Ask for workflow-node completeness in the terminal

Usage

```
terminal_ask_node_complete(scaffolder, node_id)
```

Arguments

scaffolder	A Scaffolder instance.
node_id	Workflow node identifier.

Value

A list containing the prompt and response.

---

terminal_ask_node_rule

Ask for a node-specific rule in the terminal

Description

Ask for a node-specific rule in the terminal

Usage

```
terminal_ask_node_rule(scaffolder, node_id)
```

Arguments

scaffolder	A Scaffolder instance.
node_id	Workflow node identifier.

Value

A list containing the prompt and response.

---

terminal_ask_workflow_changes

Ask for workflow changes in the terminal

Description

Ask for workflow changes in the terminal

Usage

```
terminal_ask_workflow_changes(scaffolder)
```

Arguments

scaffolder	A Scaffolder instance.

Value

A list containing the prompt and response.

terminal_discuss_task *Capture free-form terminal feedback and record it in the scaffolder*

Description

Capture free-form terminal feedback and record it in the scaffolder

Usage

```
terminal_discuss_task(
  scaffolder,
  prompt = "Share feedback for the current task or workflow.",
  source = "human",
  node_id = NULL
)
```

Arguments

scaffolder	A Scaffolder instance.
prompt	Character string shown to the human.
source	Discussion source label.
node_id	Optional workflow node identifier.

Value

A list containing the prompt and recorded response.

terminal_scaffold_input *Prompt for terminal input during scaffolding*

Description

Prompt for terminal input during scaffolding

Usage

```
terminal_scaffold_input(prompt)
```

Arguments

prompt	Character string shown to the human.

Value

Character string entered by the user.

validate_design_feedback

Validate structured design feedback

Description

Validate structured design feedback

Usage

```
validate_design_feedback(x, review_spec = NULL)
```

Arguments

x	A feedback item, list of feedback items, or parsed feedback bundle containing a feedback field.
review_spec	Optional DesignReviewSpec or review-spec list used to warn when feedback target ids no longer exist in the reviewed design.

Value

The validated feedback, invisibly.

validate_design_review_spec

Validate a design-review specification

Description

Validate a design-review specification

Usage

```
validate_design_review_spec(x)
```

Arguments

x	A DesignReviewSpec object or serializable design-review list.

Value

The validated object, invisibly.

validate_knowledge_item *Validate a knowledge specification item*

Description

Validate a knowledge specification item

Usage

```
validate_knowledge_item(item)
```

Arguments

item	Knowledge-item list.

Value

Validated item, invisibly.

validate_knowledge_proposal *Validate a knowledge proposal*

Description

Validate a knowledge proposal

Usage

```
validate_knowledge_proposal(x)
```

Arguments

x	Knowledge proposal record or object.

Value

Validated proposal, invisibly.

validate_knowledge_spec *Validate a knowledge specification*

Description

Validate a knowledge specification

Usage

```
validate_knowledge_spec(x)
```

Arguments

x	A KnowledgeSpec object.

Value

The validated object, invisibly.

validate_memory_field *Validate a memory field*

Description

Validate a memory field

Usage

```
validate_memory_field(x)
```

Arguments

x	Memory field list.

Value

The validated field, invisibly.

validate_memory_proposal *Validate a memory proposal*

Description

Validate a memory proposal

Usage

```
validate_memory_proposal(x)
```

Arguments

x	Memory proposal record or object.

Value

The validated proposal, invisibly.

validate_memory_spec *Validate a MemorySpec*

Description

Validate a MemorySpec

Usage

```
validate_memory_spec(x)
```

Arguments

x	A MemorySpec object.

Value

The validated object, invisibly.

validate_scaffolder_message *Validate a machine-readable scaffolder message*

Description

Validate a machine-readable scaffolder message

Usage

```
validate_scaffolder_message(x, allowed_methods = scaffolder_action_methods())
```

Arguments

x	Parsed scaffolder message.
allowed_methods	Character vector of allowed method names.

Value

The validated message, invisibly.

validate_task_specs *Validate task-local specs*

Description

Validates conventional task-local YAML specs when present and reports missing or invalid files without mutating the task directory.

Usage

```
validate_task_specs(
  task_dir,
  docs_dir = "docs",
  require = character(),
  stop_on_error = FALSE
)
```

Arguments

task_dir	Task root directory.
docs_dir	Documentation/spec directory relative to task_dir, or an absolute path.
require	Character vector of spec types that must exist. Supported values are workflow, memory, and knowledge.
stop_on_error	Whether to stop when required or present specs are invalid.

Value

Data frame with one row per spec type.

`validate_workflow_proposal` *Validate a workflow proposal*

Description

Checks that a workflow proposal has the expected structure, valid lifecycle status, and a valid embedded workflow specification.

Usage

```
validate_workflow_proposal(x)
```

Arguments

`x`	Workflow proposal object.

Value

The validated proposal, invisibly.

`validate_workflow_spec` *Validate a workflow specification*

Description

Validate a workflow specification

Usage

```
validate_workflow_spec(x, knowledge_spec = NULL, warn_missing_knowledge = TRUE)
```

Arguments

`x`	Workflow specification.
`knowledge_spec`	Optional `KnowledgeSpec` used to warn about missing, non-approved, or inactive `knowledge_refs`.
`warn_missing_knowledge`	Whether to emit warnings about unresolved knowledge references when `knowledge_spec` is supplied.

Value

The validated object, invisibly.

`WorkflowProposal` *WorkflowProposal*

Description

WorkflowProposal

WorkflowProposal

Details

Public workflow proposal object with explicit lifecycle state and persistence helpers.

Methods

`$initialize(...)` Create a workflow proposal object.

`$validate()` Validate the proposal state and embedded workflow.

`$as_list()` Return the proposal as a serializable proposal record.

`$summary()` Return a one-row summary data frame.

`$transition(to_status, timestamp = Sys.time(), superseded_by = NULL, supersedes = NULL)` Apply a valid lifecycle transition.

`$discuss(feedback, source = "human", confidence = NA_real_, timestamp = Sys.time())` Append a discussion round and transition into discussion state when needed.

`$graph_data()` Export graph-ready data from the proposed workflow.

`$save(file_path)` Save the proposal to disk.

Public fields

`id` Workflow proposal identifier.

`status` Workflow proposal lifecycle status.

`source` Proposal source label.

`notes` Optional proposal notes.

`workflow` Proposed workflow specification.

`discussion_rounds` Stored discussion rounds.

`created_at` Proposal creation time.

`updated_at` Latest proposal update time.

`approved_at` Approval time.

`superseded_by` Newer proposal id that superseded this proposal.

`supersedes` Older proposal id superseded by this proposal.

`rejected_at` Rejection time.

Methods

Public methods:

- WorkflowProposal$new()
- WorkflowProposal$validate()
- WorkflowProposal$as_list()
- WorkflowProposal$summary()
- WorkflowProposal$transition()
- WorkflowProposal$discuss()
- WorkflowProposal$graph_data()
- WorkflowProposal$save()
- WorkflowProposal$clone()

Method `new()`**:** Create a `WorkflowProposal`.

Usage:

```
WorkflowProposal$new(
  id,
  workflow,
  status = "pending",
  source = "model",
  notes = NULL,
  discussion_rounds = list(),
  created_at = Sys.time(),
  updated_at = created_at,
  approved_at = as.POSIXct(NA),
  superseded_by = NA_character_,
  supersedes = NA_character_,
  rejected_at = as.POSIXct(NA)
)
```

Arguments:

`id` Workflow proposal identifier.

`workflow` Proposed workflow specification.

`status` Workflow proposal lifecycle status.

`source` Proposal source label.

`notes` Optional proposal notes.

`discussion_rounds` Stored discussion rounds.

`created_at` Proposal creation time.

`updated_at` Latest proposal update time.

`approved_at` Approval time.

`superseded_by` Newer proposal id that superseded this proposal.

`supersedes` Older proposal id superseded by this proposal.

`rejected_at` Rejection time.

Method `validate()`**:** Validate the proposal.

Usage:

```
WorkflowProposal$validate()
```

Method `as_list()`**:** Return a serializable proposal record.

Usage:

```
WorkflowProposal$as_list()
```

Method `summary()`**:** Return a one-row proposal summary.

Usage:

```
WorkflowProposal$summary()
```

Method `transition()`**:** Apply a valid lifecycle transition.

Usage:

```
WorkflowProposal$transition(
  to_status,
  timestamp = Sys.time(),
  superseded_by = NULL,
  supersedes = NULL
)
```

Arguments:

`to_status` Target lifecycle status used by `$transition()`.

`timestamp` Timestamp used by `$transition()` and `$discuss()`.

`superseded_by` Newer proposal id that superseded this proposal.

`supersedes` Older proposal id superseded by this proposal.

Method `discuss()`**:** Append a discussion round to the proposal.

Usage:

```
WorkflowProposal$discuss(
  feedback,
  source = "human",
  confidence = NA_real_,
  timestamp = Sys.time()
)
```

Arguments:

`feedback` Discussion feedback used by `$discuss()`.

`source` Proposal source label.

`confidence` Optional discussion confidence used by `$discuss()`.

`timestamp` Timestamp used by `$transition()` and `$discuss()`.

Method `graph_data()`**:** Export graph-ready proposal workflow data.

Usage:

```
WorkflowProposal$graph_data()
```

Method `save()`**:** Save the proposal to disk.

Usage:

```
WorkflowProposal$save(file_path)
```

Arguments:

`file_path` File path used by `$save()`.

Method `clone()`**:** The objects of this class are cloneable with this method.

Usage:

```
WorkflowProposal$clone(deep = FALSE)
```

Arguments:

`deep` Whether to make a deep clone.

`WorkflowProposalState` *WorkflowProposalState*

Description

WorkflowProposalState

WorkflowProposalState

Details

Public state container for the approved workflow plus stored workflow proposals.

Methods

`$initialize(approved_workflow = new_workflow_spec(...), proposals = list())` Create a workflow proposal state container.

`$set_approved_workflow(workflow)` Replace the approved workflow.

`$add_proposal(proposal)` Store a proposal object.

`$get_proposal(proposal_id)` Return a stored proposal by id.

`$list_proposals(status = NULL)` Return a summary table of proposals.

`$latest_proposal()` Return the latest stored proposal or `NULL`.

`$active_proposals()` Return active proposal objects.

`$proposal_history()` Return proposal history in insertion order.

`$approve_proposal(proposal_id, timestamp = Sys.time())` Approve a proposal, update the approved workflow, and supersede older active proposals.

`$as_list()` Return a serializable state snapshot.

Public fields

`approved_workflow` Current approved workflow specification.

`proposals` Named list of `WorkflowProposal` objects.

Methods

Public methods:

Method `new()`**:** Create a `WorkflowProposalState`.

Usage:

```
WorkflowProposalState$new(
  approved_workflow = new_workflow_spec(nodes = .empty_workflow_nodes(), edges =
     .empty_workflow_edges(), task = NULL, metadata = list(evaluation = NULL,
     workflow_review = NULL, discussion_rounds = list())),
  proposals = list()
)
```

Arguments:

`approved_workflow` Current approved workflow specification used by `$initialize()`.

`proposals` Initial proposal objects used by `$initialize()`.

Method `set_approved_workflow()`**:** Replace the approved workflow.

Usage:

```
WorkflowProposalState$set_approved_workflow(workflow)
```

Arguments:

`workflow` Approved workflow specification used by `$set_approved_workflow()`.

Method `add_proposal()`**:** Store a proposal object.

Usage:

```
WorkflowProposalState$add_proposal(proposal)
```

Arguments:

`proposal` Proposal object used by `$add_proposal()`.

Method `get_proposal()`**:** Return a stored proposal by id.

Usage:

```
WorkflowProposalState$get_proposal(proposal_id)
```

Arguments:

proposal_id Proposal identifier used by $get_proposal() and $approve_proposal().

Method list_proposals(): Return proposal summary rows.

Usage:

```
WorkflowProposalState$list_proposals(status = NULL)
```

Arguments:

status Optional proposal status filter used by $list_proposals().

Method latest_proposal(): Return the latest proposal or NULL.

Usage:

```
WorkflowProposalState$latest_proposal()
```

Method active_proposals(): Return active proposals.

Usage:

```
WorkflowProposalState$active_proposals()
```

Method proposal_history(): Return proposal history.

Usage:

```
WorkflowProposalState$proposal_history()
```

Method approve_proposal(): Approve a stored proposal and supersede older active proposals.

Usage:

```
WorkflowProposalState$approve_proposal(proposal_id, timestamp = Sys.time())
```

Arguments:

proposal_id Proposal identifier used by $get_proposal() and $approve_proposal().

timestamp Timestamp used by $approve_proposal().

Method as_list(): Return a serializable state snapshot.

Usage:

```
WorkflowProposalState$as_list()
```

Method clone(): The objects of this class are cloneable with this method.

Usage:

```
WorkflowProposalState$clone(deep = FALSE)
```

Arguments:

deep Whether to make a deep clone.

workflow_edge *Create a workflow edge record*

Description

Create a workflow edge record

Usage

```
workflow_edge(
  from,
  to,
  relation = "depends_on",
  confidence = NA_real_,
  notes = NA_character_,
  condition = NA_character_,
  branch_group = NA_character_,
  mutually_exclusive = NA
)
```

Arguments

from	Source node id.
to	Target node id.
relation	Edge relation label. Common relations include depends_on, branch, exclusive_branch, reads, writes, updates, prompts_with, validates_against, and produces.
confidence	Optional edge confidence score between 0 and 1.
notes	Optional edge notes.
condition	Optional branch or transition condition.
branch_group	Optional identifier for related branch alternatives.
mutually_exclusive	Whether the edge is mutually exclusive with other edges in the same branch group.

Value

One-row data frame.

workflow_graph_data *Convert a workflow specification into graph-ready data*

Description

Returns node and edge data frames in a shape that is directly usable by graph packages and renderers such as DiagrammeR.

Usage

```
workflow_graph_data(
  x,
  highlight_low_confidence = TRUE,
  confidence_threshold = 0.6
)
```

Arguments

x	A workflow specification or a Scaffolder instance.
highlight_low_confidence	Whether to add a low-confidence flag based on confidence_threshold.
confidence_threshold	Threshold for low-confidence highlighting.

Value

A list with vertices and edges data frames.

workflow_node *Create a workflow node record*

Description

Create a workflow node record

Usage

```
workflow_node(
  id,
  label,
  confidence = NA_real_,
  human_required = TRUE,
  rule_spec = NA_character_,
  implementation_hint = NA_character_,
  complete = FALSE,
```

```
  review_status = "pending",
  review_notes = NA_character_,
  review_confidence = NA_real_,
  node_kind = "action",
  owner = NA_character_,
  automation_status = NA_character_,
  human_owned_reason = NA_character_,
  target_automation_status = NA_character_,
  trace_required = NA,
  knowledge_refs = character(),
  source_path = NA_character_,
  retrieval_mode = NA_character_,
  persistence = NA_character_,
  linked_spec_ids = character(),
  subworkflow_ref = NA_character_,
  input_schema = list(),
  output_schema = list(),
  nested_workflow = NULL
)
```

Arguments

`id`	Node identifier.
`label`	Human-readable node label.
`confidence`	Provisional confidence score between 0 and 1.
`human_required`	Whether human confirmation is required.
`rule_spec`	Optional node-specific rule specification.
`implementation_hint`	Optional implementation hint.
`complete`	Whether the node is considered complete.
`review_status`	Node-level review status.
`review_notes`	Optional node-level review notes.
`review_confidence`	Optional confidence attached to the latest review.
`node_kind`	Optional workflow node kind. Supported values are `action`, `status`, `knowledge`, `memory`, `file`, `api`, `schema`, and `data`.
`owner`	Optional current owner for the node.
`automation_status`	Optional current automation status for the node.
`human_owned_reason`	Optional explanation for why the node remains human-owned.
`target_automation_status`	Optional target automation status for the node.
`trace_required`	Optional logical flag indicating whether decision traces should be collected.

knowledge_refs	Optional character vector of referenced knowledge-item ids.
source_path	Optional path, URI, or symbolic source for data/resource nodes.
retrieval_mode	Optional retrieval mode for data/resource nodes.
persistence	Optional persistence description for data/resource nodes.
linked_spec_ids	Optional character vector of linked knowledge, memory, schema, or interface spec ids.
subworkflow_ref	Optional identifier or path for a nested workflow.
input_schema	Optional structured input schema for the node.
output_schema	Optional structured output schema for the node.
nested_workflow	Optional nested workflow spec or list with nodes and edges, used by review UIs for drilldown.

Value

One-row data frame.

`workflow_proposal_graph_data` *Convert a workflow proposal into graph-ready data*

Description

Exports graph-ready vertex and edge tables for a stored workflow proposal. This accepts either a workflow proposal object directly or a `Scaffolder` plus a proposal id.

Usage

```
workflow_proposal_graph_data(x, proposal_id = NULL)
```

Arguments

x	A workflow proposal object or a `Scaffolder` instance.
proposal_id	Optional proposal id when `x` is a `Scaffolder`.

Value

A list with `vertices` and `edges`.

workflow_spec_from_json

Build a workflow specification from extracted JSON

Description

Converts reasoning-model output produced from `build_workflow_extraction_prompt()` into a validated `agentr_workflow_spec` object.

Usage

```
workflow_spec_from_json(x)
```

Arguments

`x`	Parsed list, raw JSON string, or path to a `.json` file.

Value

A validated workflow specification.

workflow_spec_from_yaml

Build a workflow specification from YAML

Description

Build a workflow specification from YAML

Usage

```
workflow_spec_from_yaml(file_path)
```

Arguments

`file_path`	Path to a `.yaml` or `.yml` workflow specification file.

Value

A validated workflow specification.

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