

SE 3XA3: Module Interface Specification

ScrumBot

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Last Updated: March 12, 2020

MeetingTypes Module

Module

MeetingTypes

Uses

N/A

Syntax

Exported Constants

N/A

Exported Types

MeetingT = {Grooming, StandUp, Retrospective, SprintPlanning}

Exported Access Programs

None

Semantics

State Variables

None

State Invariant

None

Generic Dictionary Module

Generic Template Module

Dict(T)

Uses

N/A

Syntax

Exported Types

Dict = ?

Exported Constants

None

Exported Access Programs

Routine Name	In	Out	Exceptions
new Dict		Dict	
add	T		
remove	\mathbb{N}		KeyError
toSeq		set of (\mathbb{N}, T)	

Semantics

State Variables

D: set of (\mathbb{N}, T)

c: \mathbb{N}

State Invariant

$|D| \geq 0$

$c \geq 0$

Assumptions & Design Decision

- The Dict(T) constructor is called for each object instance before any other access routine is called for that object.

Access Routine Semantics

new Dict():

- transition: $D, c := \langle \rangle, 0$
- output: $out := self$

add(e):

- transition: $D := D \parallel \langle c, e \rangle, c := c + 1$

remove(id):

- transition: $D := D - \langle id, e \rangle$
- exception: $exc := \langle id, e \rangle \notin D \Rightarrow \text{KeyError}$

toSeq():

- output: D

MeetingList Module

Template Module

MeetingList is a Dict of Meeting

Generic Meeting Module

Template Module

Meeting

Uses

MeetingTypes

Syntax

Exported Constants

None

Exported Types

Meeting = ?

Exported Access Programs

Routine Name	In	Out	Exceptions
new Meeting	String, Date, Time, MeetingT	Meeting	invalid_argument
new Meeting	String, Date, Time, MeetingT, String	Meeting	invalid_argument
getDetails		String	
setDescription	String		

Semantics

State Variables

Name: String

T: Time

D: Date

Type: MeetingT

Desc: String

State Invariant

None

Assumptions

None

Access Routine Semantics

new Meeting(name, date, time, type)

- transition:
- output: $out := self$

Grooming Meeting

ProjectList Module

Template Module

ProjectList is a Dict of Project

Project Module

Uses

Syntax

Exported Constants

None

Exported Types

Project = ?

Exported Access Programs

Routine Name	In	Out	Exceptions
new Project	String	Project	invalid_argument
getDescription		String	
setDescription	String		

Table 1: Revision History

Date	Developer(s)	Change
March 9, 2020	Timothy Choy	Copy template, ScrumBot Module
March 10, 2020	Leon So	MeetingList module
March 11, 2020	Leon So	Meeting module, MeetingTypes Module
March 11, 2020	Leon So	Project module, ProjectList Module, Meeting module, MeetingTypes Module, Generic Dict Module