At a Glance

Notations

HOW hat is Sequence Diagram?

Purpose of Sequence Diagram

Object Dimension

Time Dimension

Sequence Diagram Example

Message & Focus of Control

Combined Fragment Example

Sequence Fragments

For Use Case Modeling

Model before Code

Related Links

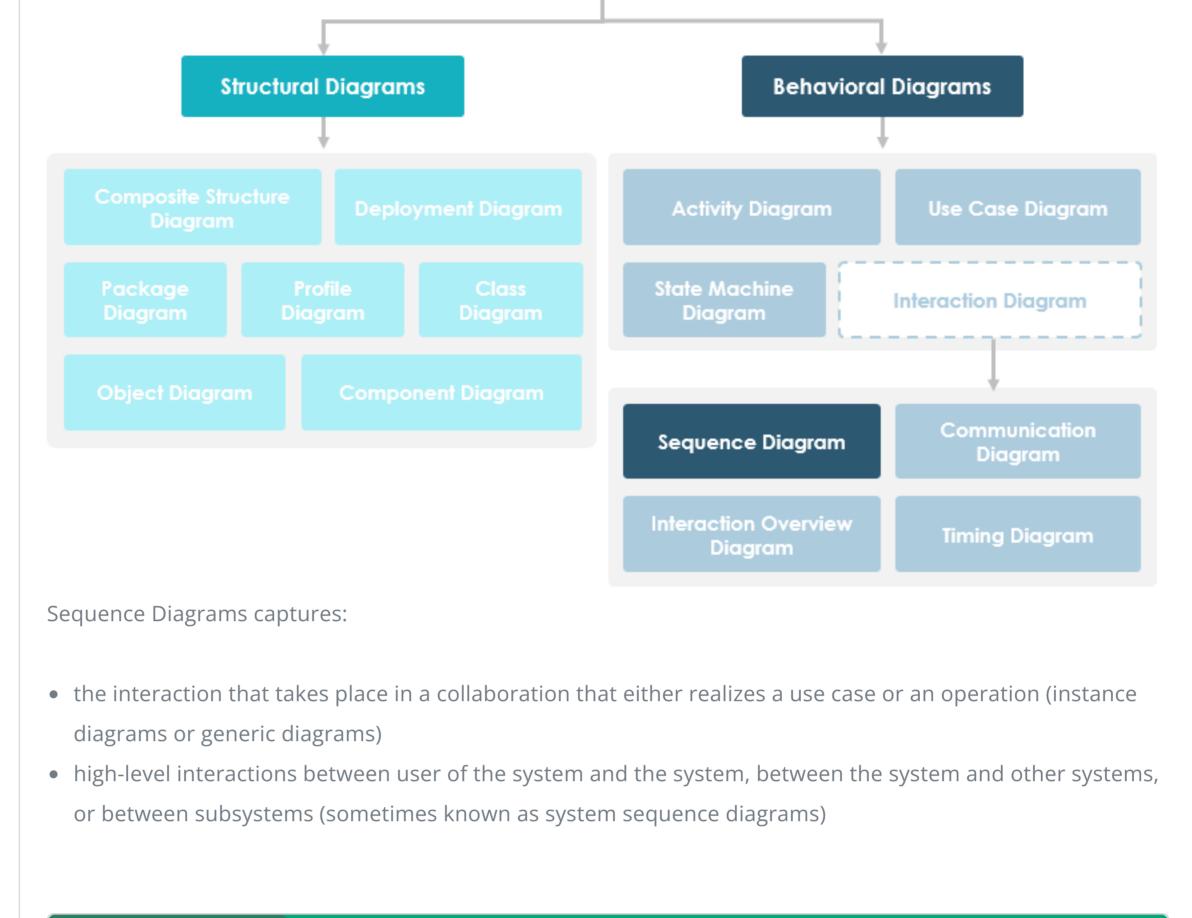
rou

find route (date, from, t

Try Now

bookRoute (route id,seat i verify booking details show success screen Visual Paradigm UML Sequence Diagrams are interaction diagrams that detail how operations are carried out. They capture the interaction between objects in the context of a collaboration. Sequence Diagrams are time focus and they show the order of the interaction visually by using the vertical axis of the diagram to represent time what

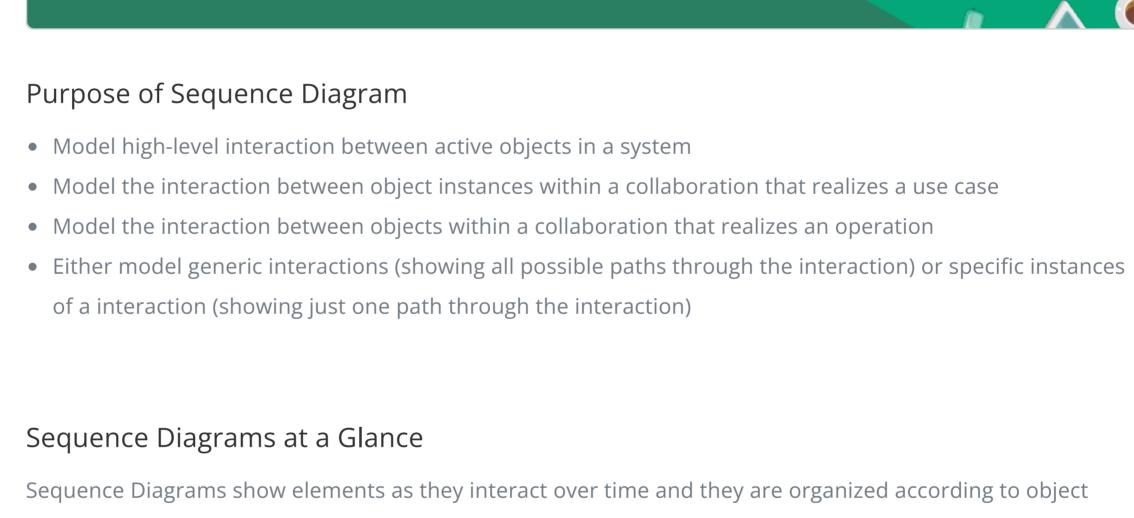
UML Diagram Type



Free Download

messages are sent and when.

- Learn UML Faster, Better and Easier Are you looking for a Free UML tool for learning UML faster, easier and quicker? Visual Paradigm Community Edition is a UML software that supports all UML diagram
- types. It is an international award-winning UML modeler, and yet it is easy-to-use, intuitive & completely free.



Object Dimension

- (horizontally) and time (vertically):

• The horizontal axis shows the elements that are involved in the interaction

• The vertical axis represents time proceedings (or progressing) down the page. Note that:

Time in a sequence diagram is all a about ordering, not duration. The vertical space in an interaction diagram

• Conventionally, the objects involved in the operation are listed from left to right according to when they

take part in the message sequence. However, the elements on the horizontal axis may appear in any order

Sequence Diagram is an interaction diagram that details how operations are carried out -- what messages are sent and when. Sequence diagrams are organized according to time. The time progresses as you go down the page. The objects involved in the operation are listed from left to right according to when they take part in the

message sequence.

LifeLine - -▶

Activation - ->

is not relevant for the duration of the interaction.

Sequence Diagram Example: Hotel System

Message

1: makeReservation

Time Dimension

Below is a sequence diagram for making a hotel reservation. The object initiating the sequence of messages is a Reservation window.

1.1.1: available(roomld, date): isRoom <- - Self Message Alternative [isRoom = true] **Combined Fragment** aNotice : Confirmation

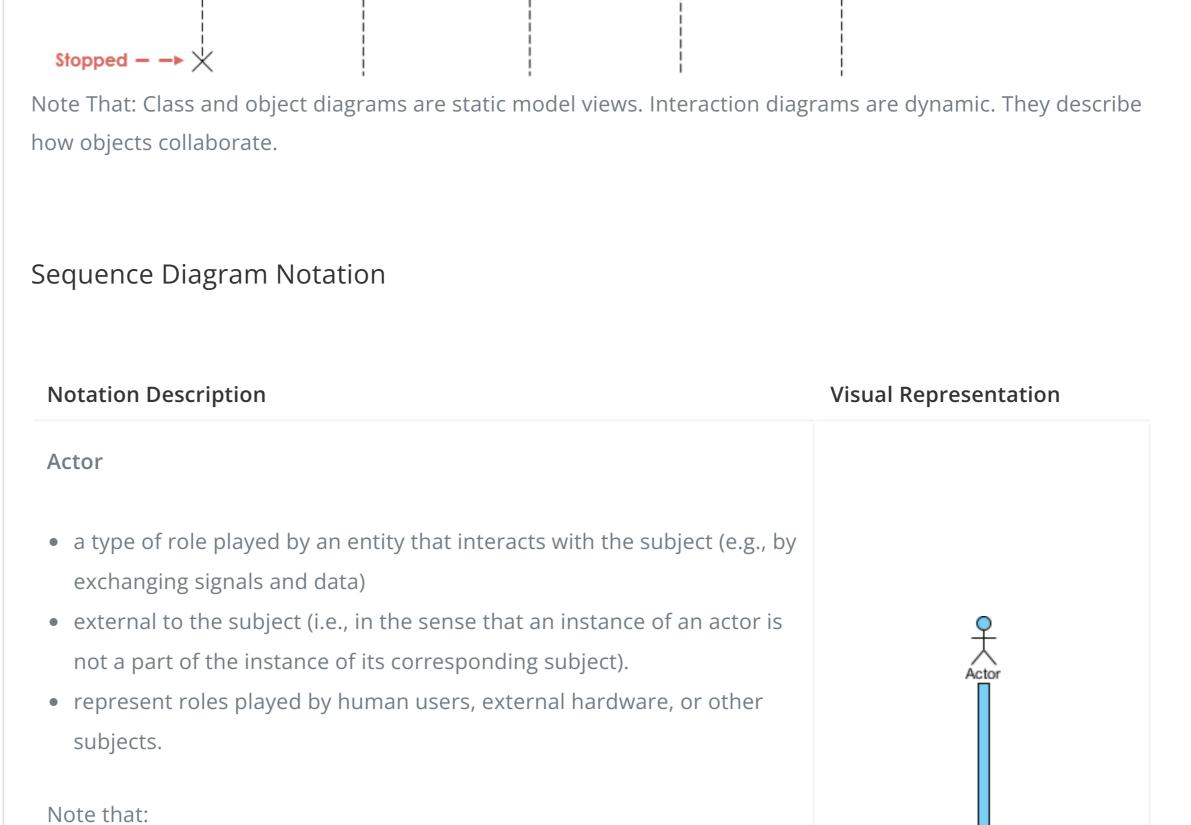
Create Message

[each day]

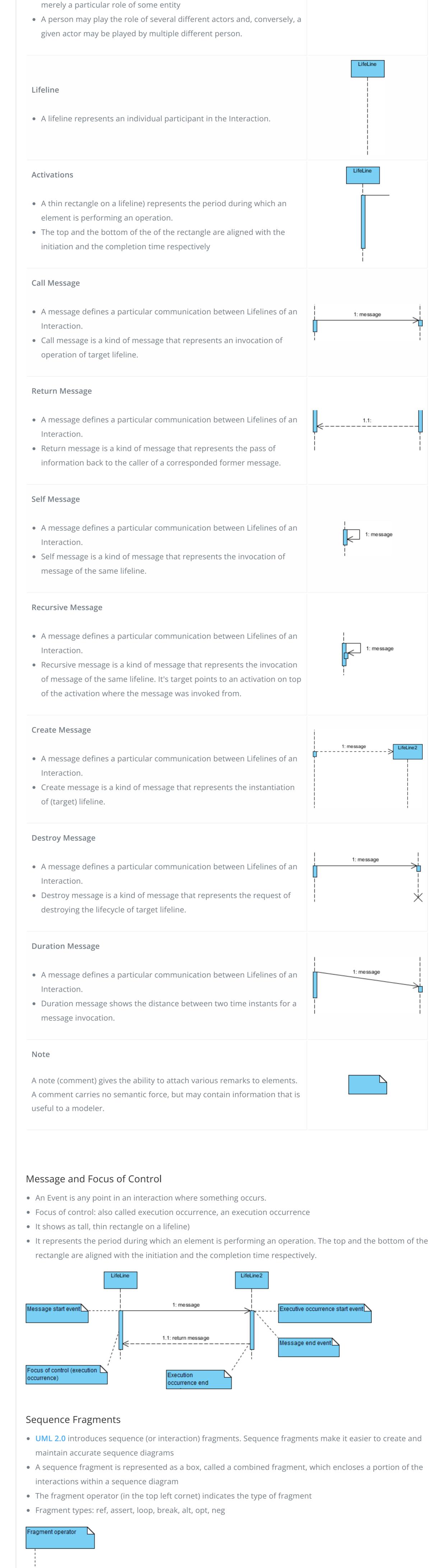
1.1: makeReservation

loop

Loop



• An actor does not necessarily represent a specific physical entity but



Parallel: each fragment is run in parallel. par Loop: the fragment may execute multiple times, and the guard indicates the basis of iteration. loop Critical region: the fragment can have only one thread executing it at once. region

with one trace.

message or intervals between messages.

[for each each line item]

[value > \$15,000]

[needs confirmation]

Sequence Diagram for Modeling Use Case Scenarios

: Customer

Search Book : Use Case

Main scenario

The Customer specifies an author

on the Search Page and then presses the Search button.

The system validates the

Customer's search criteria.

If author is entered, the System

searches the Catalog for books associated with the specified author.

When the search is complete, the

- Alternate path -

If the Customer did not enter the name of an author before pressing

the Search button, the System displays

the Search Results page.

• Easier to do sequence diagrams as a team

Can be used for testing and/or UX Wireframing

system displays the search results on

interactions between external actors and a system. In UML, a use case is:

1: onSearch(author)

1.1: dispatch

1.2: dispatch

loop/

opt/

Operator - - ▶ alt

Guard -

loop

Operator

alt

opt

neg

ref

sd

Note That:

loop.

Combined Fragment Example regular: Distributor Messenger careful: Distributor dispatch

← — — Frame

• Combined fragment keywords: alt, opt, break, par, seq, strict, neg, critical, ignore, consider, assert and

• Constraints are usually used to show timing constraints on messages. They can apply to the timing of one

The sequence fragment box

Negative: the fragment shows an invalid interaction.

• It is possible to combine frames in order to capture, e.g., loops or branches.

Sequence diagram: used to surround an entire sequence diagram.

Fragment Type

Optional: the fragment executes only if the supplied condition is true. Equivalent to an alt only

Reference: refers to an interaction defined on another diagram. The frame is drawn to cover

the lifelines involved in the interaction. You can define parameters and a return value.

Alternative multiple fragments: only the one whose condition is true will execute.

"the specification of a sequence of actions, including variants, that a system (or entity) can perform, interacting with actors of the system." A scenario is one path or flow through a use case that describes a sequence of events that occurs during one particular execution of a system which is often represented by a sequence diagram.

[author entered]

[author not entered]

Search Results Page

1.1: validateSearchCriteria()

1.3: displayErrorMessage()

1.2: searchByAuthor(author)

Try to Draw UML Sequence Diagram Now

You've learned what a Sequence Diagram is and how to draw a Sequence

Diagram. It's time to draw a Sequence Diagram of your own. Get Visual

Community Circle

Know-how

: Catalog

1.2.1.1: display()

1.2.1: create()

Search Results

Search Page

alt

User requirements are captured as use cases that are refined into scenarios. A use case is a collection of

1.3: confirm

- Sequence Diagram Model before Code Sequence diagrams can be somewhat close to the code level, so why not just code up that algorithm rather than drawing it as a sequence diagram? • A good sequence diagram is still a bit above the level of the real code • Sequence diagrams are language neutral • Non-coders can do sequence diagrams
- Paradigm Community Edition, a free UML modeling tool, and create your own Sequence Diagram with the free Sequence Diagram tool. It's easy-touse and intuitive. Free Download

1. What is Unified Modeling Language?

2. Professional UML diagram tool

Related Links

Product Support Learn

Features

Editions

We use cookies to offer you a better experience. By visiting our website, you agree to the use of cookies as described in our Cookie Policy.

Newsroom YouTube Channel Academic Partnership

OK

Visual Paradigm

About Us

Forums

Request Help

Turn every software project into a successful one.

Try Visual Paradigm Free