# Requirement diagram

2026-11-19 · `examples/types/sysml-requirement.json`

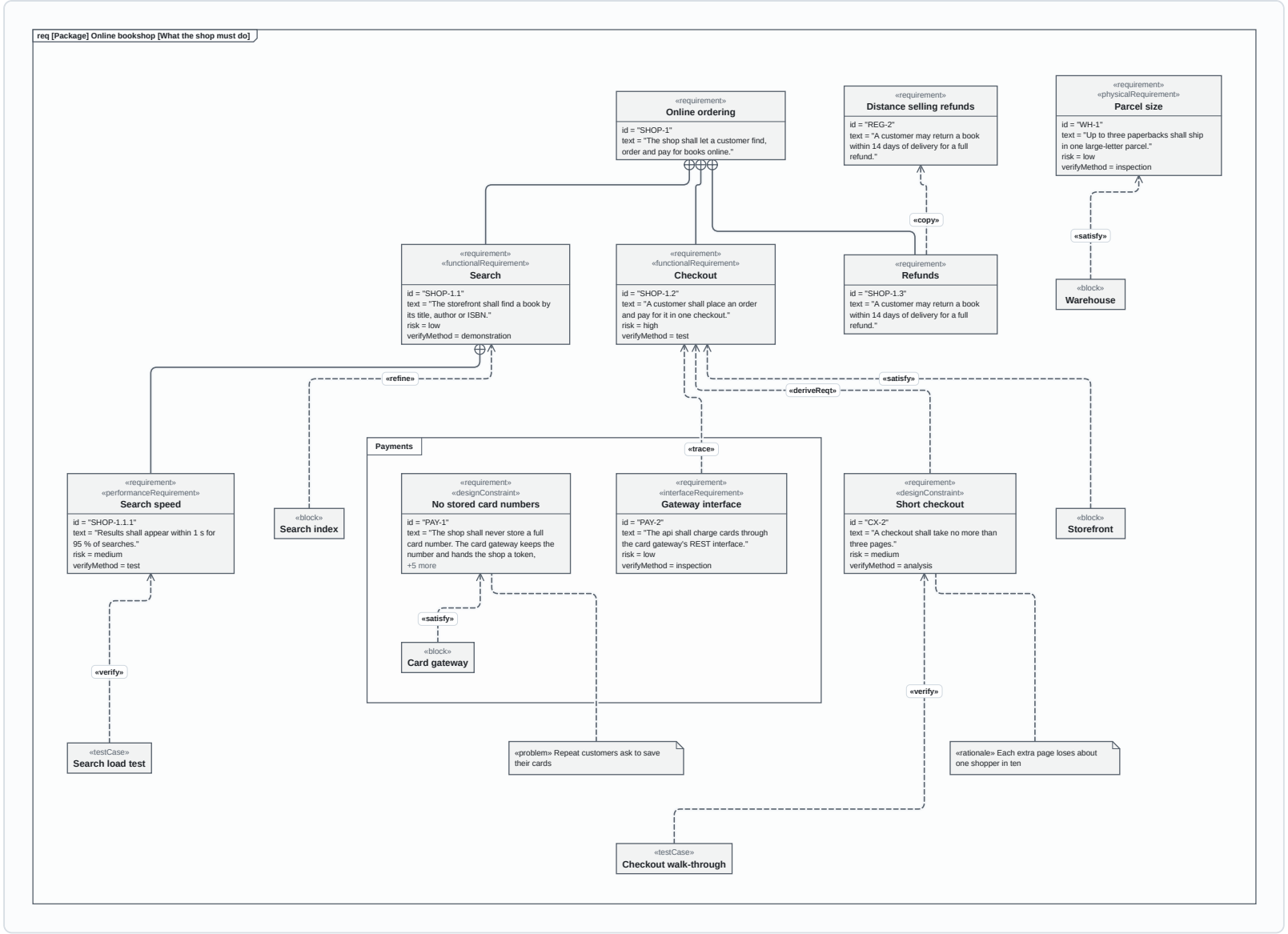
1 view · 20 cards · 11 lines

**Contents**

What the shop must do 2

# What the shop must do

20 cards · 11 lines




**Legend** --> **Derive «deriveReqt»** derived from the requirement it points to --> **Satisfy «satisfy»** meets the requirement it points to --> **Verify «verify»** checks the requirement it points to --> **Refine «refine»** makes the one it points to more precise --> **Trace «trace»** is related to the one it points to --> **Copy «copy»** a read-only copy of the requirement it points to —⊕ **Containment** the requirement at the crosshair holds the other ---- **Comment link** what a comment is about

# What the shop must do (continued)



## Elements 20

| Card | Kind | Members |
|---|---|---|
| **Online bookshop** | Package | |
| **Online ordering** | Requirement | id: SHOP-1<br>text: The shop shall let a customer find, order and pay for books online.<br>contains Search<br>contains Checkout<br>contains Refunds |
| **Search** | Requirement | id: SHOP-1.1<br>text: The storefront shall find a book by its title, author or ISBN.<br>risk: low<br>verify method: demonstration<br>contained in Online ordering<br>contains Search speed<br>refined by Search index |
| **Search speed** | Requirement | id: SHOP-1.1.1<br>text: Results shall appear within 1 s for 95 % of searches.<br>risk: medium<br>verify method: test<br>contained in Search<br>verified by Search load test |
| **Checkout** | Requirement | id: SHOP-1.2<br>text: A customer shall place an order and pay for it in one checkout.<br>risk: high<br>verify method: test<br>contained in Online ordering<br>derives Short checkout<br>traced from Gateway interface<br>satisfied by Storefront |
| **Refunds** | Requirement | id: SHOP-1.3<br>text: A customer may return a book within 14 days of delivery for a full refund.<br>contained in Online ordering<br>copies Distance selling refunds |

## Elements 20 (continued)

| Card | Kind | Members |
|---|---|---|
| **Distance selling refunds** | Requirement | id: REG-2<br>text: A customer may return a book within 14 days of delivery for a full refund.<br>copied by Refunds |
| **Short checkout** | Requirement | id: CX-2<br>text: A checkout shall take no more than three pages.<br>risk: medium<br>verify method: analysis<br>derived from Checkout<br>verified by Checkout walk-through |
| **Payments** | Package | |
| **No stored card numbers** | Requirement | id: PAY-1<br>text: The shop shall never store a full card number. The card gateway keeps the number and hands the shop a token, which the shop keeps with the order so that a refund can go back to the same card without asking the customer again.<br>risk: high<br>verify method: inspection<br>satisfied by Card gateway |
| **Gateway interface** | Requirement | id: PAY-2<br>text: The api shall charge cards through the card gateway's REST interface.<br>risk: low<br>verify method: inspection<br>traced to Checkout |
| **Parcel size** | Requirement | id: WH-1<br>text: Up to three paperbacks shall ship in one large-letter parcel.<br>risk: low<br>verify method: inspection<br>satisfied by Warehouse |
| **Storefront** | Block | satisfies Checkout |
| **Search index** | Block | refines Search |
| **Card gateway** | Block | satisfies No stored card numbers |

# What the shop must do (continued)



## Elements 20 (continued)

| Card | Kind | Members |
|---|---|---|
| **Warehouse** | Block | satisfies Parcel size |
| **Search load test** | Test case | verifies Search speed |
| **Checkout walk-through** | Test case | verifies Short checkout |
| **«rationale» Each extra page loses about one shopper in ten** | Comment | |
| **«problem» Repeat customers ask to save their cards** | Comment | |

## Lines 11

| From → to | Label | Kind |
|---|---|---|
| Short checkout → Checkout | «deriveReqt» | Derive reqt |
| Refunds → Distance selling refunds | «copy» | Copy |
| Gateway interface → Checkout | «trace» | Trace |
| Search index → Search | «refine» | Refine |
| Storefront → Checkout | «satisfy» | Satisfy |
| Card gateway → No stored card numbers | «satisfy» | Satisfy |
| Warehouse → Parcel size | «satisfy» | Satisfy |
| Search load test → Search speed | «verify» | Verify |
| Checkout walk-through → Short checkout | «verify» | Verify |
| «rationale» Each extra page loses about one shopper in ten → Short checkout | | Comment link |
| «problem» Repeat customers ask to save their cards → No stored card numbers | | Comment link |