Abstract

This document describes main concepts of the application and its basic business rules

Order software

System Requirements

## Main Concepts

Order is a system designed to track Items belonging to police Cases (or any events where items need tracking).

The main purpose is putting in order information about current item location and its chain of custody i.e. – system gives the user ability to know who was responsible for the item at any moment since it was entered in Order.

Every Item can possibly belong to several Cases, but only one Case is considered the main one – or Primary Case.

Every item that is entered to the system can possibly be in one of the following statuses:

* Checked In – item is stored in some Location (i.e. room, shelf, vault)
* Checked Out – item was taken out from its Location and given to some Custodian (responsible Person)
* Disposed – no longer exists

Every client Organization may have several Offices – at least one. Each system User belongs to some Organization. Every system User has default Office it belongs to.

Every Office has its Locations hierarchy.

There are two types of system Permissions:

* View – User can see the information
* Update – User can modify the information in any way (i.e. Create, Update, Delete)

## Business Rules

### Items Business Rules

There are 5 main operations that change Item state. These are the operations that are to be reflected in Item’s chain of custody.

* Check In – item gets Location filled; Custodian becomes empty.

Only items that are Checked Out or first come in Order can be Checked In

* Check Out – item gets Custodian filled; Location becomes empty

Only items that are Checked In can be Checked Out

* Move – item changes its Location

Only items that are Checked In can be Moved

* Transfer – item changes its Custodian

Only items that are Checked Out can be Transferred

* Dispose – Custodian and Location becomes empty

Only items that are not yet Disposed can be Disposed

Also, there are 4 additional operations for Items

* Items can be Added to the Case or Removed from the Case. Item cannot be removed from its Primary Case unless new Primary Case is provided.
* Items can get Packed to be Checked In (Checked Out etc.) together as a single Item. Every Item in the Pack gets tracked individually, i.e. should have its own chain of custody entry for every operation done to the Pack it belongs to.
* Items can be UnPacked to be Checked In (Checked Out etc.) individually.
* Also, Items can be Split, creating child/parent relationship for the Items.
* And Item can become Active or Inactive. Only Active Items need tracking.

### Cases Business Rules

Cases have 2 possible states:

* Open
* Closed - Case can only be Closed if it has no Items or all the Items in the Case are Inactive.

Every Organization gets such Cases closed automatically based on the individual schedule.

### Permissions Business Rules

There are 3 types of Users in the system

* System Admin – has unrestricted access
* Org Admin – has unrestricted access in the Organization
* General User – has access according to her Permissions

There are two types of permissions in Order

* Office Permissions
* Case Level Permissions (CLP)

If some Case gets its CLP mode on – a custom set of User Permissions is specified for all the entities related to the Case. Office Permissions to longer matter. All Case information – its Items, Media, Notes, etc. are now available only to the Users that got CLP permissions, Org and Sys Admins

# Domain model

## Entities

### Case

|  |  |  |
| --- | --- | --- |
|  | Type | Comment |
| Organization |  |  |
| Office |  |  |
| Item[] |  |  |
| CreatedDate | DateTime in past |  |
| OffenceDate | DateTime |  |
| CreatedBy | User |  |
| Responsible | User |  |
| Active | boolean |  |
| isClp | boolean |  |
| CasePermission[] |  |  |
| **RegisterCase()** |  |  |
| **CloseCase()** |  |  |
| **AddItem()** |  |  |
| **Activate()** |  |  |
| **Deactivate()** |  |  |
| **Update()** |  |  |
| **UserPermission[]** |  |  |
| **TurnClpOn()** |  |  |
| **TurnClpOff()** |  |  |

### Item

|  |  |  |
| --- | --- | --- |
|  | Type | Comment |
| Organization |  |  |
| Office |  |  |
| Status |  |  |
| Category |  |  |
| PrimaryCase | Case |  |
| Case[] |  |  |
| Location |  |  |
| Custodian | User |  |
| Active | boolean |  |
| CoC[] |  | Chain of Custody i.e. history of Item whereabouts |
| **RegisterItem()** |  |  |
| **AddToCase()** |  |  |
| **ChangePrimaryCase()** |  |  |
| **CheckIn()** |  |  |
| **CheckOut()** |  |  |
| **Move()** |  |  |
| **Transfer()** |  |  |
| **Dispose()** |  |  |
| **Split()** |  |  |

### User

|  |  |  |
| --- | --- | --- |
|  | Type | Comment |
| Organization |  |  |
| Office |  |  |
| OfficePermission[] |  |  |
| **SetPermissions()** |  |  |

## Value Objects

### Permission

|  |  |  |
| --- | --- | --- |
|  |  |  |
| EntityType |  | Item/Case/User |
| AccessType |  | View/Update |

### OfficePermission

|  |  |  |
| --- | --- | --- |
|  |  |  |
| Permission |  |  |
| Office |  |  |

### CasePermission

|  |  |  |
| --- | --- | --- |
|  |  |  |
| Permission |  |  |
| Case |  |  |

### CoC

|  |  |  |
| --- | --- | --- |
|  |  |  |
| Event |  | Check In/ Check Out/ Move/ Transfer / Dispose |
| Date | DateTime |  |
| PerformedBy | User |  |
| NewLocation |  |  |
| NewCustomer |  |  |

## Domain Events

### Check In

### Check Out

### Move

### Transfer

### Dispose