RDD Assignment

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Use Case

Name Return a book
Actor *primary* librarian
Trigger The librarian launches the return function

Basic flow

1. The system displays the main screen of the return function
2. The librarian scans the bar code of the book
3. The system retrieves the corresponding book from the database, displays the borrowers' information and asks for confirmation
4. The librarian validates the information
5. The system records the book return by updating the borrowing with the return information

DOM: Borrowing, Book and Person

Borrowing	
Manage borrowing date	
Knows the borrower	Person
Knows the book	Book

Book	
Responsibilities	Collaborators
Knows the book's details	

Person	
Knows the person's details	
Knows its borrowings	Borrowing

Analysis

Analysis - 1 : The system displays the main screen of the return function

1. Which object is responsible for displaying the main screen?

- Control Object (ReturnBook)

2. What object must it collaborate with?

- Boundary Object (ReturningScreen)

Analysis - 2 : The librarian scans the barcode of the book

1. Which object is capturing the barcode scan?

- Boundary Object (ReturningScreen)

2. Any collaboration? Let's see!

Analysis - 3 : The system retrieves the corresponding book from the database, displays the borrowers' information and asks for confirmation

1. What object is responsible for displaying the borrowers' information?

- BookScreen

2. Where does it retrieves the book details from?

- By asking ReturnBook

3. Could ReturnBook provide the information alone?

- No, it must collaborate with DOM entity that knows the information i.e Book

Link 2-3

1. We now know that the ReturningScreen must collaborate with ReturnBook to display the book information via BookScreen.

Analysis - 4 : The librarian validates the information

1. What object is capturing the confirmation by the librarian

- ReturningScreen

2. What does it do with this confirmation? Lets see!

Analysis - 5 : The system records the book return by updating the borrowing with the return information

1. Who records the book return?

- The return is recorded in the Borrowing entity by setting the date for the return field.
- The interface must not collaborate with entity object i.e Borrowing. So, it collaborates with ReturnBook which updates the return field of Borrowing.

CRC Cards

ReturnBook	
Launches the main screen	ReturningScreen
Retrieves a book from its number	Book
Launches the display of the book information	BookScreen
Records the return date	Borrowing

ReturningScreen	
Captures barcode scan and launches book information display	ReturnBook
Captures confirmation from librarian and ask for recording the book return	ReturnBook

BookScreen	
Display Book information	ReturnBook
Display a validation query	ReturnBook

Analysis Model

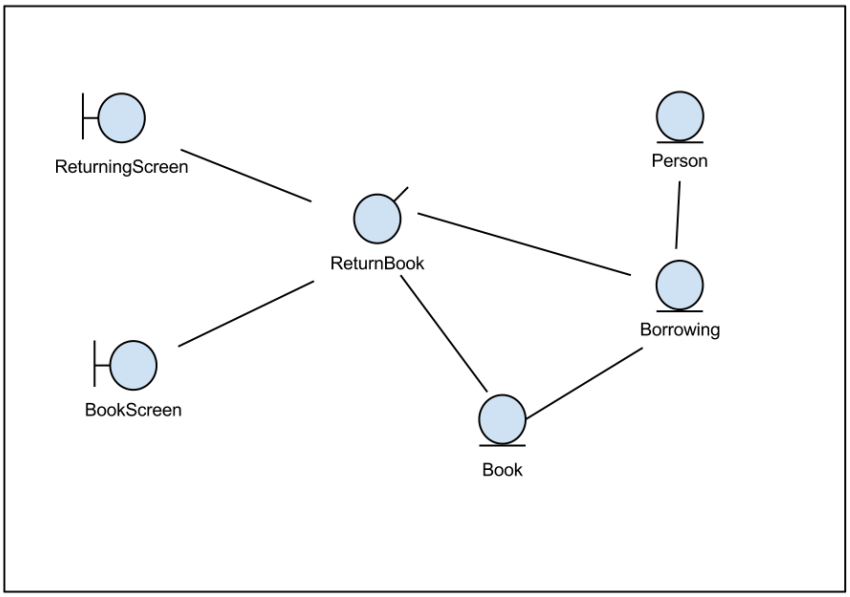

Figure 1: Analysis Model