**Arobs Library - specifications**

**Overview**

ArobsLibrary is an application that is used to manage the internal library in Arobs. A company (Arobs) has a library of books and the employees can rent those books for a period of time (usually a month, maximum of 3months).

Only an employee can rent a book, but the company will know how many books are rented and to which employees.

Renting a book can be done only if that book is available (there can be more copies of the same book).

If a particular book is not available, the employees can register as next readers of that book and once a copy is available, the next potential reader is notified by email. The employee has 24 hours to rent that book, otherwise the next registered employee for that book is notified.

After a month, an employee can return the book or can ask for a 15 days extension of the rental (but no more than 3 months total time). Of course the book can be returned any time before the 1 months deadline.

When returning a book, the employee will give a grade from 1 to 5.

Employees can also request books to be bought. If they do not return a book in time, they can be banned from renting another book for a period of time, that is calculated as double the number of days they were late, but no less than 10 days.

Employee

An Employee represents a person that can rent a book or make proposals for books to be bought. There is also an admin user (can be more than 1) that can add/modify books and copies and add/delete/modify employees.

A Employee need to have the following details:

* name (first name and last name)
* role (admin or regular)
* password (encrypted)
* email

Book

A Book has:

* title
* author
* description
* tags (a list of words describing the content of the book, for example: (java, spring) or (javascript, react).
* the date was added into the system

When adding a book, the admin can choose from the existing tags or can create new tags. There is a search functionality by one or more tags.

Copy

A Book can have one or more copies. Each Copy has:

* a unique code that is assigned to it the moment it is introduced into the system.
* a flag indicating if it is available (if the copy is too deteriorated or it is lost, the flag will prevent it from being rented).
* status, indicating if the copy is available or rented or pending because of a rent request.

BookRent

When an Employee rents a book, a BookRent is created. A BookRent can be created only if a copy of a book is has

* the employee that rented the book
* the book that was rented
* the copy
* the date of rental
* the date of return
* the status of the rental (on\_going, late, returned)
* the note given at return

A rent cannot be created if there is a RentRequest for that book.

The admin should be able to tell the system to mark the rentals that passed their return date as LATE (this should be also made automatically by the system each day).

RentRequest

When no copies are available, the employees can register as wanting to read that book:

* the employee
* the book
* date of the request
* status (waiting for available copy, waiting for confirmation, declined, granted)

When a copy is returned, the system should notify the next employee based on the request date. That copy cannot be given to another employee for the next 24 hours. The employee can accept and a BookRent is created, or it can decline and the system notifies the next request or marks the copy as available if there are no more requests.

BookRequest

An employee can request a book to be bought if it does not exist in the library. The admin can buy the books or not. The book request should have:

* title
* author
* publishing company
* link to an online library (optional)
* estimated number of copies needed
* approximate total cost
* status (pending, accepted, rejected)

Statistics:

Admin should be able to get the following information, on request:

* top X books rented in a specified period (X is a number specified by the user, if missing all entities are returned)
* top X employees by the number of books read (in a specified period)
* all employees that are late in their return