

# Analysis of a Transaction Design Model

Requested Reality

Advanced GeneXus Course

# **GeneXus<sup>TM</sup> 17**

© GeneXus. All rights reserved. This document may not be reproduced by any means without the express permission of GeneXus<sup>TM</sup>. The information contained herein is for personal use only.

Registered Trademark

GeneXus is a trademark or registered trademark of GeneXus S.A. All other trademarks mentioned herein are the property of their respective owners

## PROBLEM

Suppose you need to design a GeneXus application for managing the tasks of a library in relation to the loan of books, magazines and notebooks.

It works with Members who can access different reading material, such as books and magazines, as well as computer equipment loaned by the Library.

The information to be recorded is as follows:

### **Country**

Each Country is recorded with a unique identifier and its name.

### **Member**

Every Library Member is registered with his/her ID document, name, address, photo and a contact phone number.

Library members must be 20 years of age or older.

### **Author**

Each Author is registered with a unique identifier, name, photo and country of origin. An Author may have several books published.

### **Book**

Each book is registered with a unique identifier, title, publication date and number of copies available in the Library. It can be a Novel, an Essay, a Poetry book, etc.; therefore, a book belongs to a literary genre.

In addition, a Book has an Author and a Publisher in charge of its publication.

### **Magazine**

Each magazine is registered with a unique identifier, title, date of publication, cover image and the number of copies available.

### **Notebook**

The Library's services include loans of notebooks to its Members, since many of them are writers and researchers. Each notebook is registered with a unique identifier, its image, and short description.

In addition, its status (available or checked out) is recorded.

## Loan

The Library loans books, magazines, and notebooks to its Members.

Each loan is recorded with a unique identifier, the date of checkout, Member, and due date, which must be automatically determined.

All loans are for 15 days; they may include a maximum of 3 books, 4 magazines, and may or may not include the loan of a notebook.

Only one copy of each publication may be checked out, and it is possible to enter any comments considered necessary at the level of each copy's loan (e.g., damaged cover, missing pages, etc.).

In addition, the date on which a new loan is recorded is always the current date and it must not be possible to change it.

## Request for copies (BookRequest)

It often happens that certain books are in high demand, and the Library decides to request more copies.

To this end, it makes a Request to the corresponding Publisher. The system must check that book copies are requested from the indicated Publisher.