**תכנות ותכן מונחה עצמים**

**046271**

**דו"ח הגשה – תרגיל בית רטוב 3**

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**שאלה 1**

מצורפים שני קבצים נוספים המכילים:

1. מסמך דרישות עבור מערכת ניהול הספרייה - Requirements Document.
2. מסמך הנחות על הדרישות – Assumptions.

**שאלה 2**

1. השחקנים הלוקחים חלק המערכת הם:
2. Library Manager – The owner of the system, manages most of the system.
3. Library Customers – Any person that register to the library and can use its functionalities.
4. External Borrowing System – An external software that manages the borrowing for the library.
5. External Email System – An external software that have emails using capabilities.
6. External Suppliers – Suppliers of books or other services.
7. Other Libraries – Other libraries systems for cross borrowing.

תיאור Use-Cases אפשריים במערכת:

1. **Actor: Library Manager**
   1. Name: Log in  
      Description: A Manager inputs their credentials on the system login page. The system verifies the credentials: it displays an error message if they are invalid, or grants access to the restricted admin section if they are valid.
   2. Name: Log out  
      Description: A Manager initiates a logout request. The system logs them out and redirects them to the main page, where no administrative data or actions are accessible.
   3. Name: Add New Book  
      Description: A Manager navigate to the book adding page. The system prompt to enter details for a new book into the system, including title, author, publication year, category, description, number of copies, publisher, and genre.
   4. Name: Mark Book as Rare  
      Description: In a book managing page, the manager mark a book as “rare”.
   5. Name: Update Book  
      Description: The manager prompt the system to update details of the book such as missing information or wrong information, or number of available copies.
   6. Name: Register Library  
      Description: A manager adds new library to the system, including their details and conditions for book loans between libraries.
   7. Name: Track Book Borrowing Status  
      Description: The Manager prompt the system to view the status of a given book borrowing, The system shows if borrowed or available.
   8. Name: View Book Borrowing History  
      Description: The Manager prompt the system to view the Borrowing History of a given book. The system provides a list of the borrowing history of the book in the library.
   9. Name: View Inter-Library Loans  
      Description: The Manager prompt the system to view all books borrowed from other libraries by users of the library, or any book borrowed from this library by other library users.
   10. Name: Update Suppliers  
       Description: Update the list of book suppliers, including contact information and details of books supplied.
   11. Name: Update From Supply  
       Description: When a given supply arrives, The admin uploads the supply content to the system. The system updates it’s data base based on the information given in the supply content.
   12. Name: Manage Supplier Services  
       Description: The Manager Schedule and track additional services provided by suppliers, such as lectures or workshops.
   13. Name: Send Notification to Customers  
       Description: Manager prompt the system to send updates and reminders to customers regarding their borrowed books, including return dates.
2. Library Customer
   1. Name: Register with Library  
      Description: Create an account with the library by providing personal details and login credentials.
   2. Name: Log in  
      Description: A customer inputs their credentials on the system login page. The system verifies the credentials: it displays an error message if they are invalid, or grants access to the user customer if they are valid.
   3. Name: Log out  
      Description: A customer initiates a logout request. The system logs them out and redirects them to the main page.
   4. Name: Browse Book Catalog  
      Description: The customer prompt the system to access and search through the library’s catalog of available books.
   5. Name: Borrow Book  
      Description: The customer request to borrow a book through the system, handled by an external software system.
   6. Name: Return Book  
      Description: The customer request to return a borrowed book to the library, updating the book’s availability status.
   7. Name: Cancel Book Borrowing  
      Description: The customer request to cancel a pending or active book borrowing request.
   8. Name: Update Personal Details  
      Description: The customer request to modify personal account information, such as email address or phone number.
3. External Software System
   1. Name: Process Borrowing Requests  
      Description: Handle the borrowing transactions initiated by library patrons.
   2. Name: Send Borrowing Reminders  
      Description: Initiate and send an automatic email reminders for upcoming book return dates.
4. External Suppliers
   1. Name: Provide Supply  
      Description: The supplier indicates that a supply of books has been sent to the library. The manager is prompt with an incoming supply.
   2. Name: Provide Services  
      Description: The supplier sends optional additional services, such as lectures or workshops, which are tracked by the library system.
5. Other Libraries
   1. Name: Request Books  
      Description: Request to borrow books from other libraries through the system.
   2. Name: Return Books  
      Description: Return books borrowed from other libraries, ensuring proper updates in the system.

**שאלה 4**

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