Cairo University  
Faculty of Computers and Information



**CS251**

**Software Engineering I**

University Library System

Software Analysis

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# Team

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# Document Purpose and Audience

The purpose of this document is to provide a concise overview of the functionality envisioned for the library software we intend to develop. It serves as a summary of our analysis and brainstorming sessions, outlining key features and capabilities expected from the system.

The system target audience is every university member. The target audience to read this document is the project managers, developers, designers, and any other relevant team members.

# System Models

## I. Class diagrams

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Description automatically generated with medium confidence**

| **Class ID** | **Class Name** | **Description & Responsibility** |
| --- | --- | --- |
| C1 | LoginPage | Responsible for displaying a form that contain credentials such as username and password |
| C2 | Authentication Via Google University Account | Responsible for authenticate user data using Google University Account |
| C3 | Authentication Via LoginPage | Responsible for authenticate user data using system login page |
| C4 | BrowseUI | Responsible for showing List Of Available books, Select Book to borrow,search, explore,show list of recommended books |
| C5 | Library Management system | Responsible for storing total no of books, total no of borrowed books by users,total income,storing list of all books,user data,and add books to the library,and pass the user data if needed |
| C6 | borrow | This class have an interface from the certifiedUser Class so we cam access the user’s info. During borrowing and it has some constraints check functions like accumlatedFees , Age and BorrowedBookLimit ,etc |
| C7 | certifieduser | This class includes all the user’s information that will be added during the certification process like the user’s name , email , password,etc. |
| C8 | payment | This class have instances of three classes : certifiedUser , creditCard and RewardPoints so that during the payment it will have access to the user and the credit card’s info and the reward points as it is a method of payment. |
| C9 | rewardpoints | This class have an instance of the CertifiedUser so it can edit the points of a specific user according to its info. |
| C10 | CreditCard | This class include the credentials of the credit card that will be used during the payment method. |
| C11 | return | Responsible for check the period of the borrowed book and inform the user to return the book |

## 

## II. Sequence diagrams

Payment Sequence Diagram:

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Payment Sequence Diagram:

Payment Sequence Diagram:

Borrow Sequence Diagram: A diagram of a company

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## Authentication Sequence Diagram :A diagram of a diagram Description automatically generated

# Ownership Report

|  |  |
| --- | --- |
| **Item** | **Owners** |
| Authentication Sequence diagram | *Mai Hassan* |
| Borrow Sequence Diagram | *Habiba Ayman* |
| Payment Sequence Diagram | *Maria Alfons* |

# +Policy Regarding Plagiarism:

**Students have collective ownership and responsibility of their project. Any violation of academic honesty will have severe consequences and punishment for ALL team members.**

1. تشجع الكلية على مناقشة الأفكار و تبادل المعلومات و مناقشات الطلاب حيث يعتبر هذا جوهريا لعملية تعليمية سليمة
2. ساعد زملاءك على قدر ما تستطيع و حل لهم مشاكلهم فى الكود و لكن تبادل الحلول غير مقبول و يعتبر غشا.
3. أى حل يتشابه مع أى حل آخر بدرجة تقطع بأنهما منقولان من نفس المصدر سيعتبر أن صاحبيهما قد قاما بالغش.
4. قد توجد على النت برامج مشابهة لما نكتبه هنا أى نسخ من على النت يعتبر غشا يحاسب عليه صاحبه.
5. إذا لم تكن متأكدا أن فعلا ما يعد غشا فلتسأل المعيد أو أستاذ المادة.
6. فى حالة ثبوت الغش سيأخذ الطالب سالب درجة المسألة ، و فى حالة تكرار الغش سيرسب الطالب فى المقرر.

# References

* http://www.mhhe.com/engcs/compsci/pressman/graphics/Pressman5sepa/common/cs1/design.pdf

# Authors

* Mostafa Saad and Mohammad El-Ramly (Edited by Mohamed Samir)