

CSE222-505

GROUP-3

General Purpose Library Automation System

REPORT

1-Group Members

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2-Problem Definition

People have always been eager to do things in the easiest way and save time. They do not like doing something if it is complicated and hard to reach. From our point of view, libraries might also seem like a complicated enormous place which one can get lost trying to find information. This is one of the reasons why in today's world the internet is a lot more preferred over libraries. We would like to change that by giving libraries a structure and connecting them with each other so that it is a lot easier for people to find what they need.

Furthermore, we know that libraries do not have enough employees. All the things that needs to be done is usually left to one person only. Therefore employees do not have much time for arranging everything properly all the time. Libraries should have an organized employee system to be able to offer the information easily and quickly.

On the other hand, libraries have functions other than keeping books. There are many cultural activities which are organized by libraries. However not many people are getting the news about these. We would like to develop a system that will announce the activities the libraries organize so that people will not miss out anything and realize the worth of libraries in different areas.

Finally, we would like to add a new feature to libraries and let readers add comments. Readers may want to research about books comments and choose if they want to read them or not. Reading a book without comments can be a waste of time.

In conclusion, libraries have a big potential for searching data and we would like to be able to let people reach the books without spending much time and get the best information about everything by creating an organized library system.

3- Users Of The System

The library system has users such as administrator, library manager, branch employee, janitor, standart reader, premium reader.

Administrator: Administrator manages the system by adding or removing Library Managers and libraries.

Library Manager: Library managers control the library tasks. They can get book demands, add/remove/search books, book categories, librarians and janitors. They can add new tasks for Janitors. Also, they can see the event requests from users and accept/decline them.

Librarian: Librarians can lend, relend, search and demand books.

Janitor: Janitors can list their tasks and mark them as “done”.

Readers : Readers can improve their account to Premium reader. So there are two types of reader:

Standart Reader: Standart readers can register and login. They can search, borrow, return and view info of books. Also they can leave comments for books, see the occupancy rate of libraries, vote for events, view events and participate in events.

Premium Reader: Premium readers have all the features that standart readers has. Additionally they can create an event request and demand new books from the manager.

4- Requirements

4.1 Functional Requirements

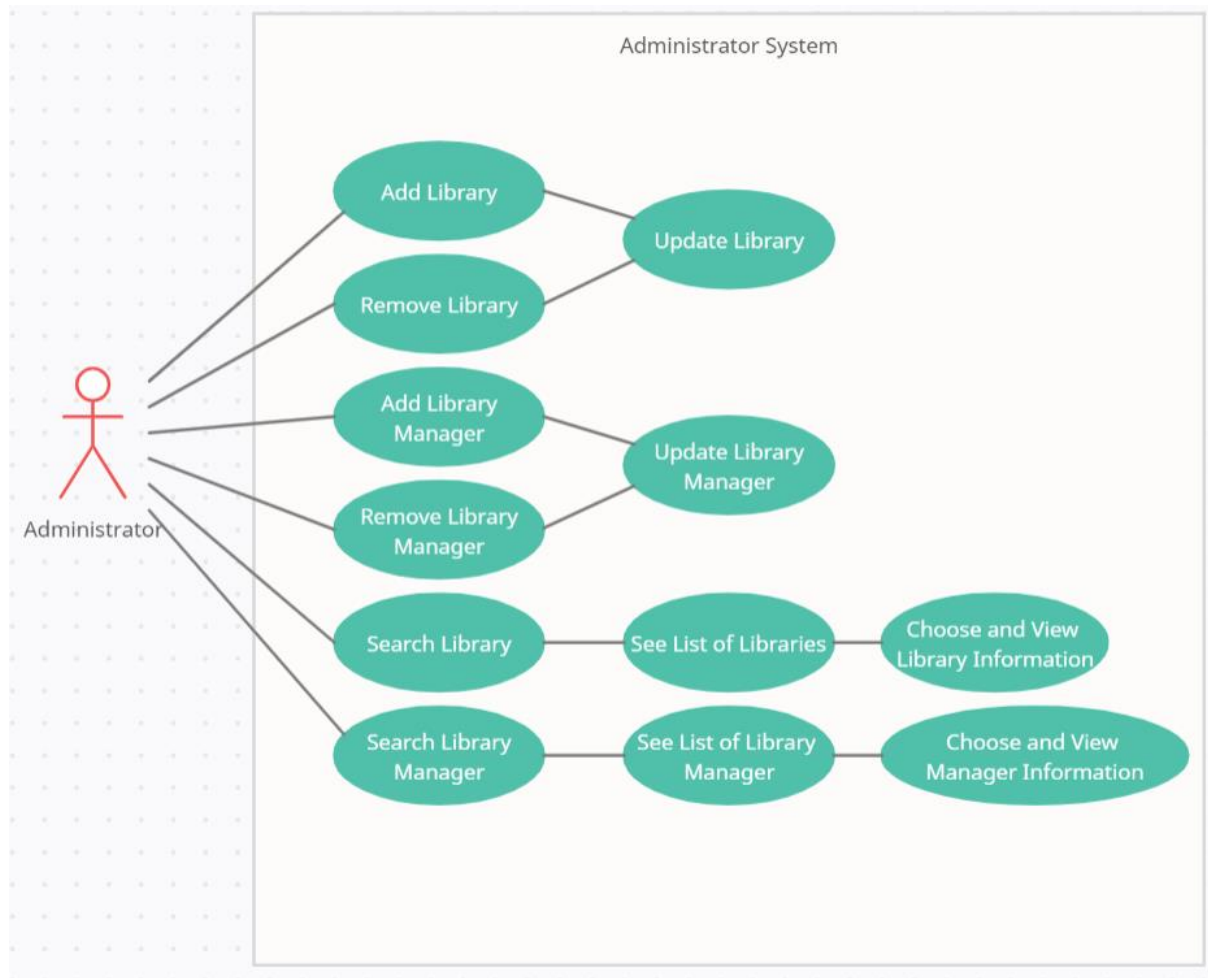
Requirement ID	Description of the requirement
FR1	Administrator is able to add and remove Library Managers and Libraries.
FR2	Administrator is able to search for Library Managers and Libraries.
FR3	Administrator is able to update Library and Manager info.
FR4	Library manager is able to add and remove books.
FR5	Library manager is able to add and remove book categories.
FR6	Library manager is able to add and remove librarians.
FR7	Library manager is able to add and remove janitors.
FR8	Library manager is able to add new tasks for janitors.
FR9	Library manager is able to get book demands.
FR10	Library manager is able to list event requests and accept/decline them.
FR11	Library manager is able to search for books.
FR12	Library manager is able to search for book categories.
FR13	Library manager is able to search for librarians.
FR14	Library manager is able to search for janitors.
FR15	Librarian is able to demand new books.
FR16	Librarian is able to demand stock for an existing book.
FR17	Librarian is able to lend, and relend books.
FR18	Librarian is able to search for books.
FR19	Janitor is able to list their tasks and mark them as “done”.
FR20	Standart Reader is able to register and login.
FR21	Standart Reader is able to search for books.
FR22	Standart Reader is able to borrow and return books.
FR23	Standart Reader is able to view book information(stock,name etc).
FR24	Standart Reader is able to see the occupancy rate of libraries.
FR25	Standart Reader is able to leave comments for books.
FR26	Standart Reader is able to view events.
FR27	Standart Reader is able to vote for events.
FR28	Standart Reader is able to participate in events.
FR29	Premium Reader is able to register and login.
FR30	Premium Reader is able to search for books.
FR31	Premium Reader is able to borrow and return books
FR32	Premium Reader is able to view book information(stock,name etc).
FR33	Premium Reader is able to see the occupancy rate of libraries.
FR34	Premium Reader is able to leave comments for books.
FR35	Premium Reader is able to view events
FR36	Premium Reader is able to vote for events.
FR37	Premium Reader is able to participate in events.
FR38	Premium Reader is able to create a new event request.
FR39	Premium Reader is able to demand new books

4.2 Non-Functional Requirements

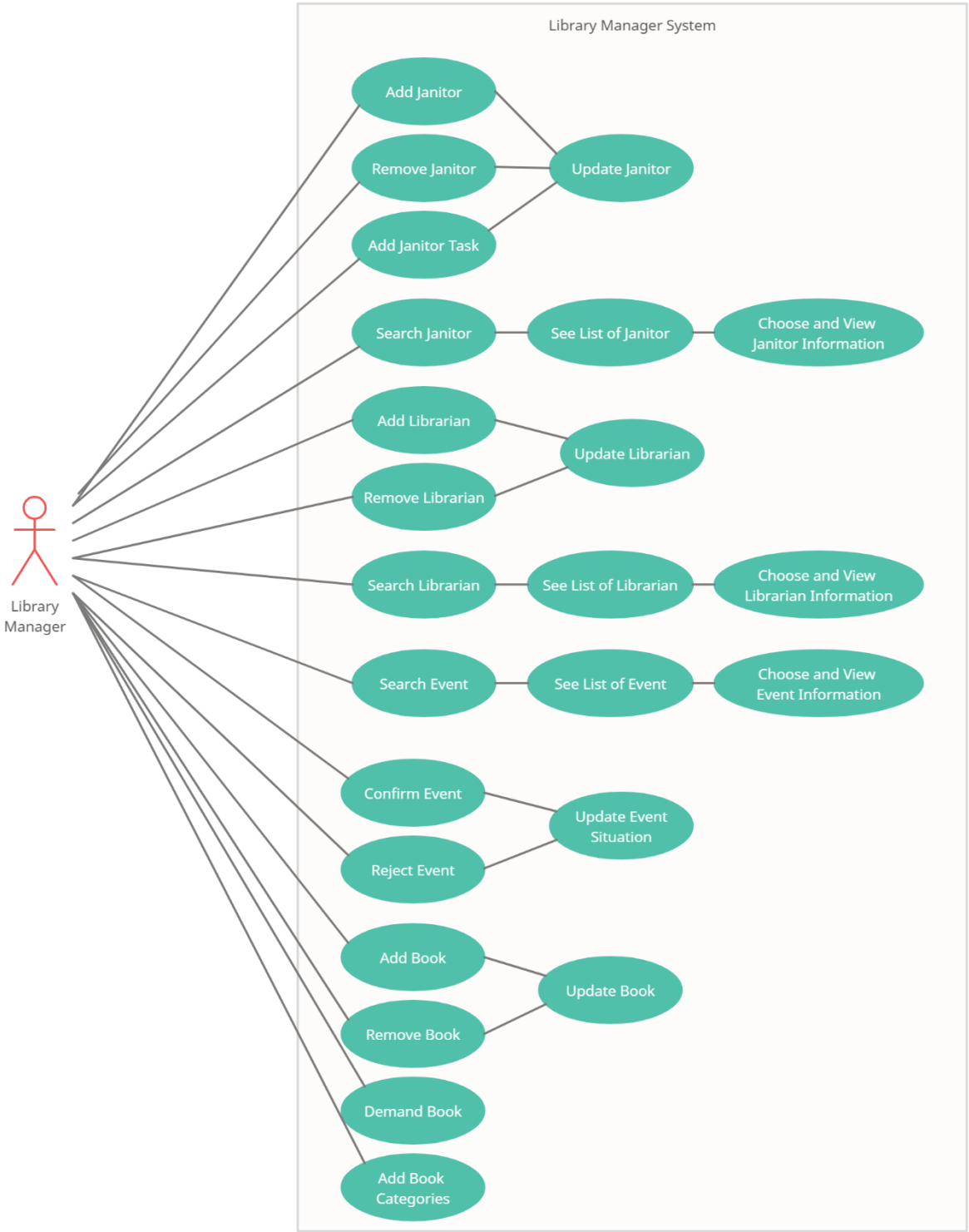
Requirement ID	Description of the requirement
NFR1	JavaSE13 or higher should be installed and running properly.
NFR2	System can operate on any hardware. The user is not in charge of any leaks in security if user decides to change their hardware or their operating system.
NFR3	System is user-friendly so a new user can learn easily.
NFR4	Libraries which installs this automation system on their libraries should inform the Administrator about their library capacity (employees, books, maximum readers etc.).
NFR5	Initial installation of the system should be done by professionals.

5-Use-Case Diagrams

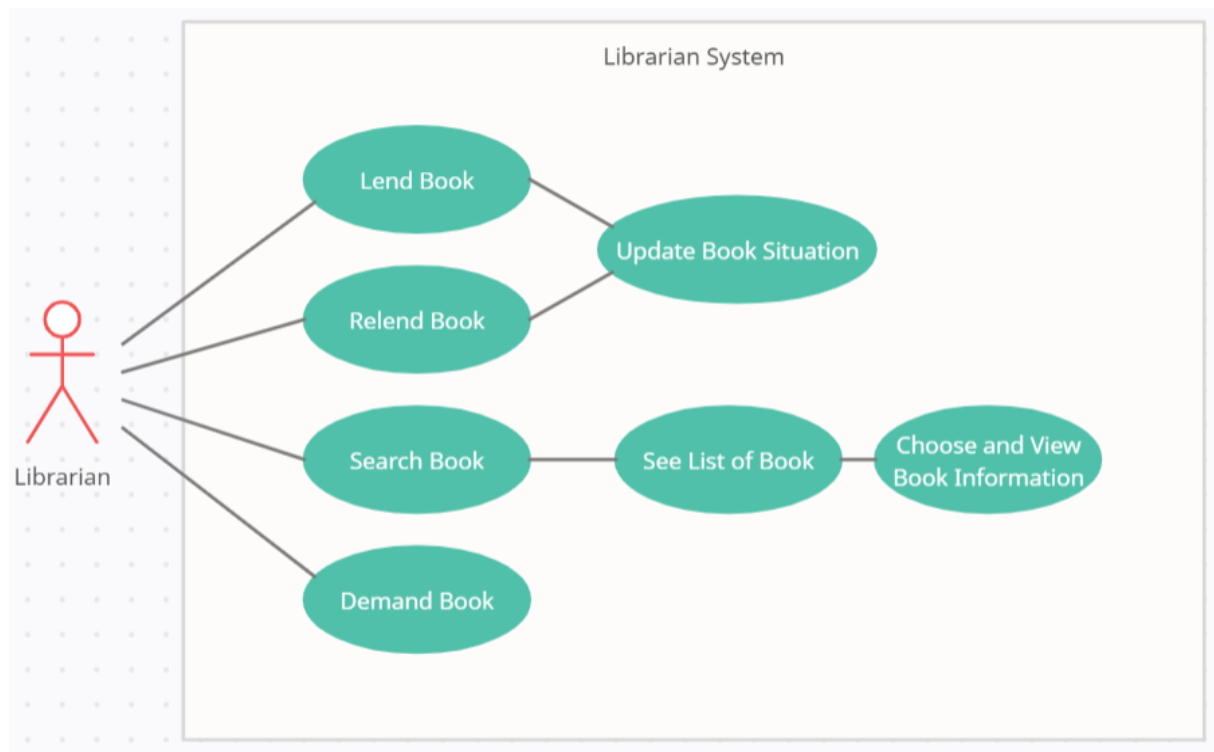
5.1 Administrator Diagram



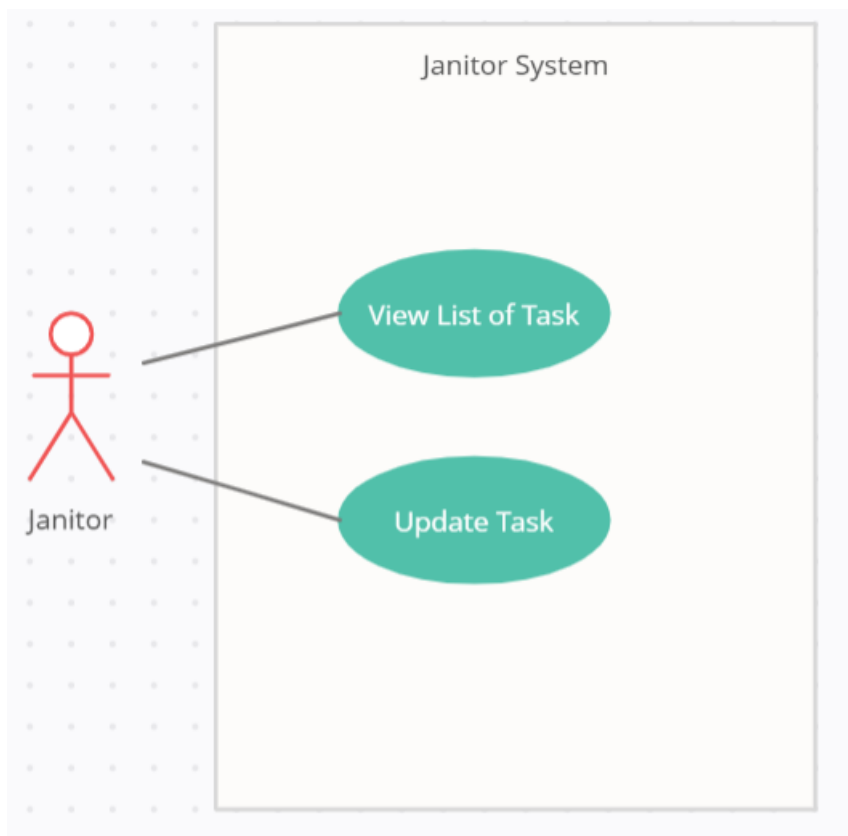
5.2 Library Manager Diagram



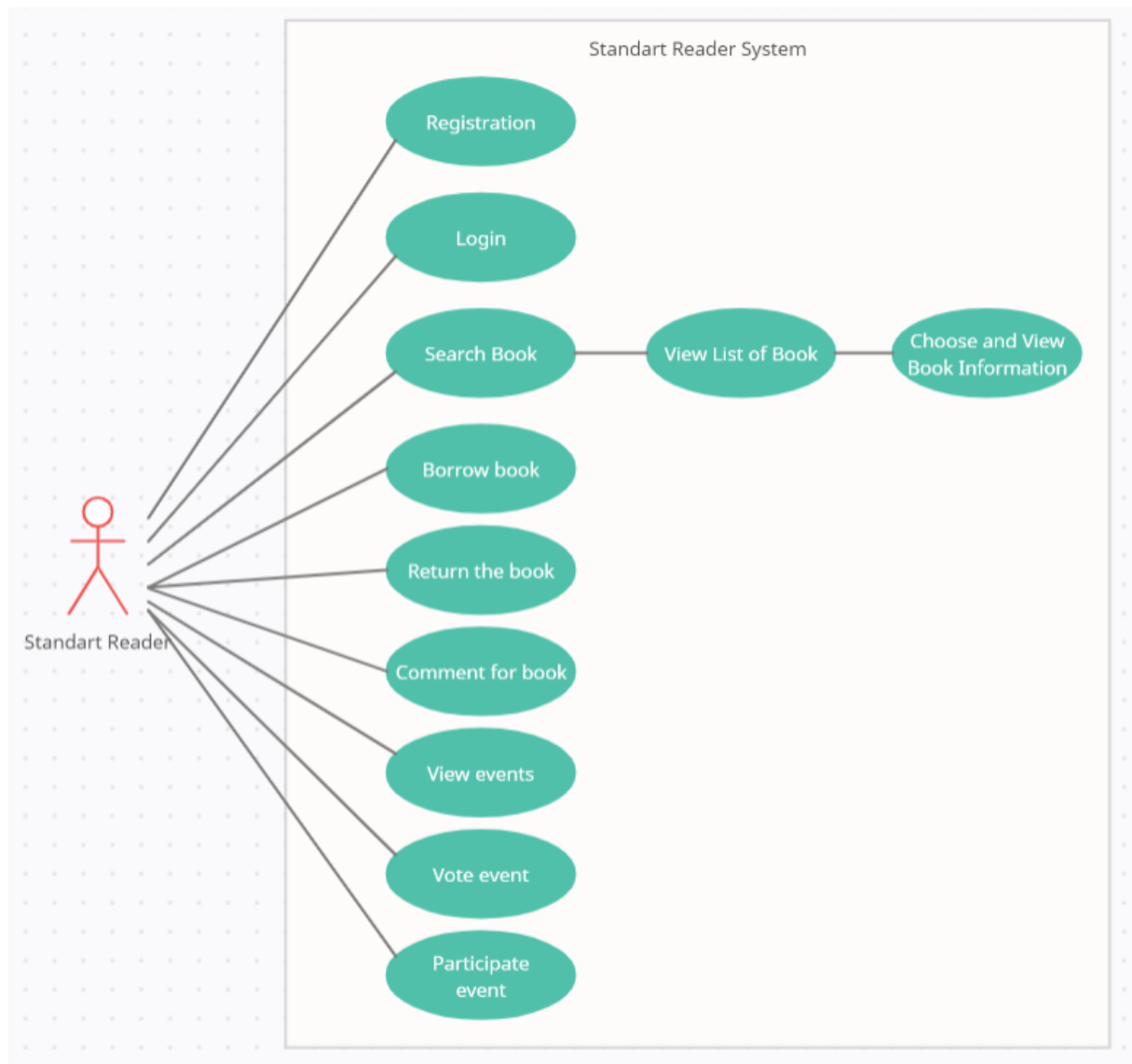
5.3 Librarian Diagram



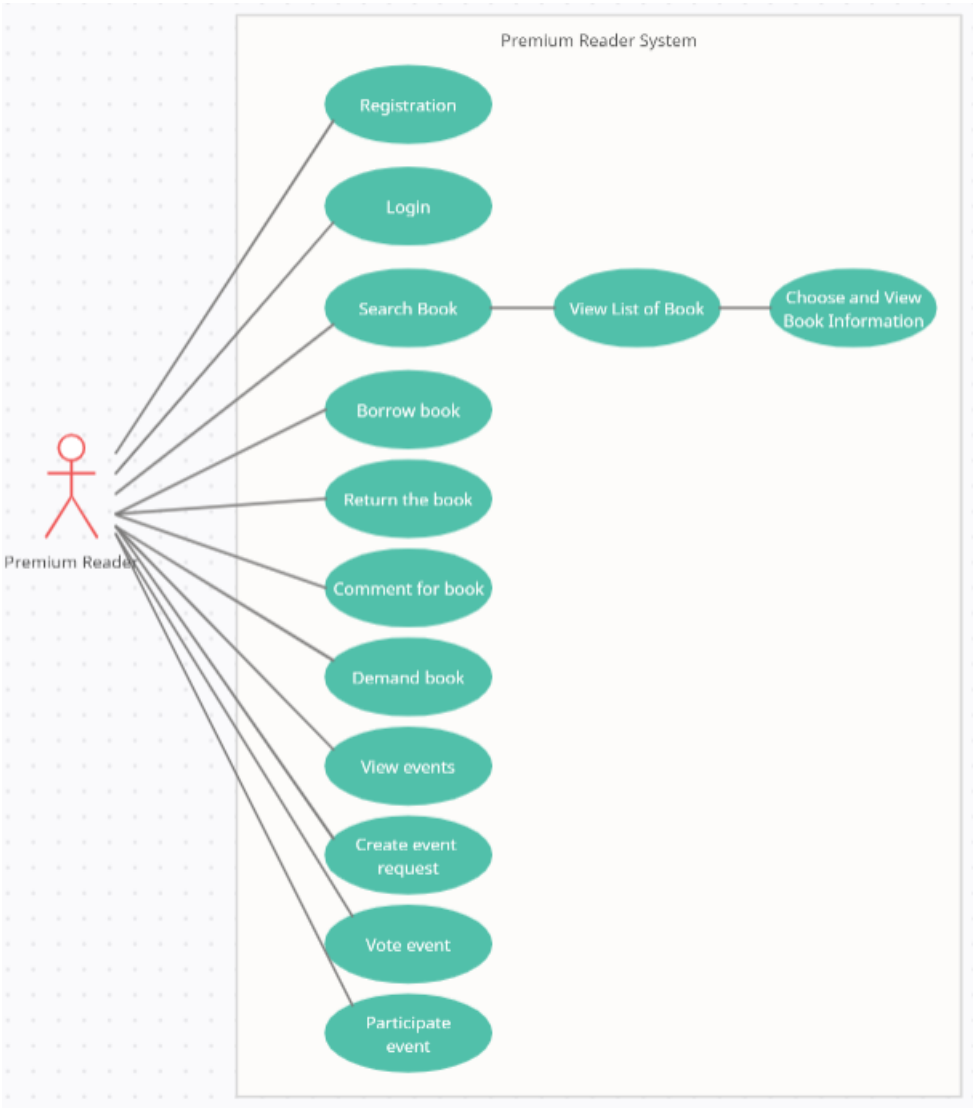
5.4 Janitor Diagram



5.5 Standart Reader Diagram

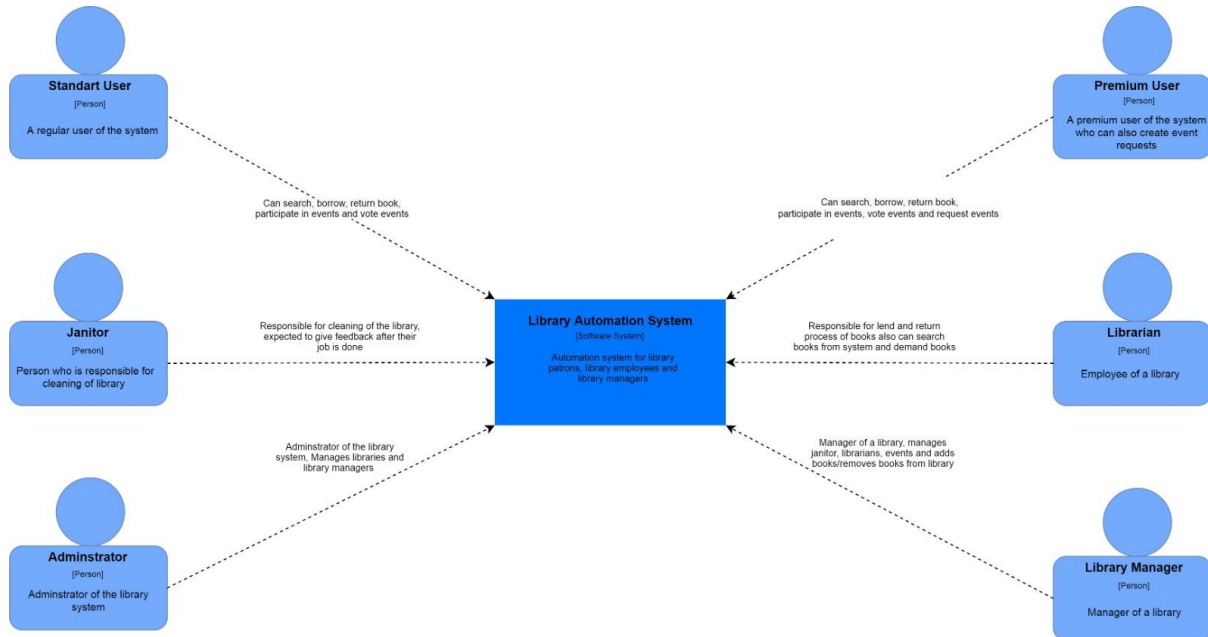


5.6 Premium Reader Diagram



6- C4 Models

6.1 System Context Diagram



6.2 Container Diagram

