Library Management System

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# Project Description

This program is a library management system. Initially, libraries were solely for storing collections of books, providing space for reading them, and loaning them out. Because of this, the library system’s main functions would be to help manage and facilitate these collections for easier access, and to keep track of and facilitate the loaning transactions. Many libraries have expanded beyond just books and loaning services, and many have become study spaces, research centers, free internet sources, maker spaces, or general community hubs; So the systems that support these libraries should also expand to facilitate these new library operations.

Being able to use the library computers, not just to search for and rent out books, but also to make new events, appointments with librarians, renting out quiet study spaces. Being able to do the as many as the above operations remotely is also an important function that allows the library to be more than just a building. Though there are still many who go to libraries to browse, many others go for a specific purpose, and if one can determine before visiting, whether the book is in circulation at a specific library, it prevents unnecessary visits.

# Use Cases

## Use Case #1

Actors: Joe (card holder), Belmont Public Library (library)

Joe is a resident in the Belmont neighborhood, and frequently visits the Belmont public library. He often browses the catalog on the library computers and decides on which books to read based on how interesting their titles are. He sometimes borrows books to take home with him when he leaves. Sometimes Joe takes a long time to finish the borrowed books, so he requests an extension to borrow the books for longer.

## Use Case #2

Actors: Angel (CSM student), College of San Mateo Library (library)

Angel uses the 3D printer at the CSM Library. He remotely sends the appropriate files to Jesse, the librarian. Jesse receives the files, and upon confirmation, sends them to the 3D printer to be printed. Angel comes to pick up the project and realizes that the wrong file was printed. Angel logs into the library computer and downloads the correct file from online.

## Use Case #3

Actors: Lester (card holder), Connor (child), Belmont Public Library (library)

Lester drops off his son, Connor, at the Belmont Public Library every Saturday after lunch. Connor attends a weekly book club, and wants to participate in a new one that’s just starting up, but the system requires his guardian to sign off, since Connor is a minor.

Lester can remotely sign Connor up for the event, allowing him to participate in the new event.

## Use Case #4

Actors: Javier (librarian), Belmont Public Library (library)

Javier is a librarian at the Belmont Public Library. A set of books is being delivered for the library. Javier wants to sign off on the delivery and record each of the new books into the library’s catalog.

## Use Case #5

Actors: Janice (card holder), Belmont Public Library (library)

Janice wants to organize a new event at the library. She wants to make the event open for non-card holders.

## Use Case #6

Actors: Milton (non-card holder), Belmont Public Library (library)

Milton is visiting many libraries for a research project. Since he is not a card holder at the Belmont Public Library, he needs to register for a card to access the computers. The system first requires Milton to input his address, so it can determine if he is a resident.

# Database Requirements

## Users

### Users can have many things.

### Users can also be different kinds of users.

## Companies

## Objects

# Database Requirements

# Entity Descriptions

# Entity Relationship Diagram