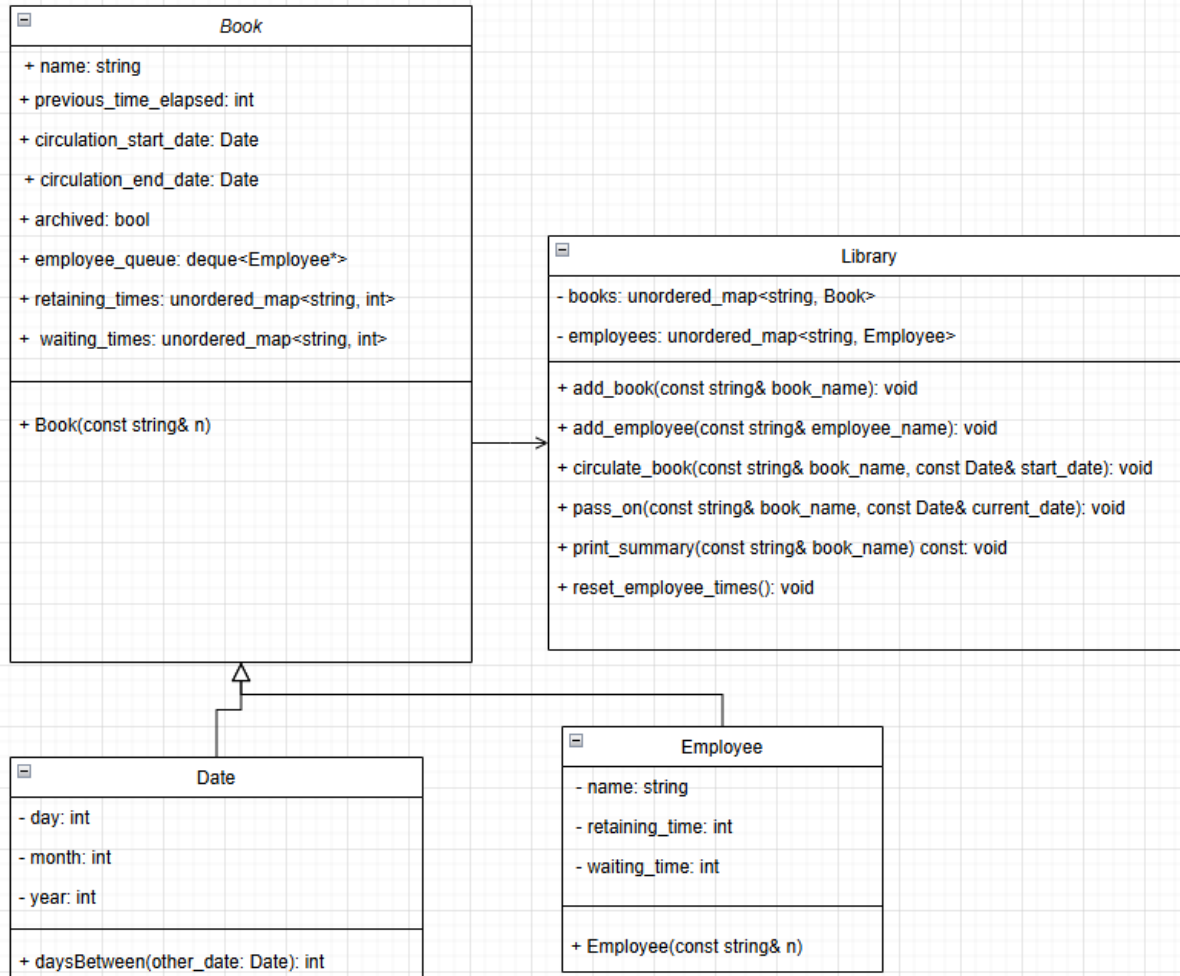


## Johnny Diep: CS303 Project 1B

**Honest Disclaimer:** This project relied heavily and extensively on ChatGPT and was mostly written using it.

**Assumptions:** You can only circulate one book at a time and must reset the employees' times whenever you switch to a different book.

**UML class diagram:**



**Efficiency of algorithms:**

Note: `.at`, `.find`, and `.emplace` methods are  $O(\log N)$

`Add_book(const std::string &book_name)`

- $O(\log N)$

Add\_employee(const std::string &employee\_name)

- $O(\log N)$

Circulate\_book(const std::string &book\_name, const Date &start\_date)

- $O(M + \log N)$

Pass\_on(const std::string &book\_name, const Date &current\_date)

- $O(\log N)$

Print\_summary(const std::string &book\_name)

- $O(M + \log N)$

Reset\_employee\_times()

- $O(N)$

Book(const string &n)

- $O(1)$

daysBetween(other\_date: Date)

- $O(1)$

Employee(const string &n)

- $O(1)$

**Individual Contribution:**

Bymyself

**References:**

ChatGPT