Library ULM

LibraryDashboard

- book_list: BookList
- user_list: UserList
- loan: Loan

+ display_menu(): void
+ manage_books(): void
+ manage_users(): void
+ manage_loans(): void
+ add_book(): void
+ search_book(): void
+ remove_book(): void
+ view_all_books(): void
+ add_user(): void
+ remove_user(): void
+ view_all_users(): void
+ borrow_book(): void
+ return_book() : void
+ view_user_loans() : void
+ run() : void

BookList

- books: dict[int, Book]
+ total_books: int*

+ add_book(book: Book): void
+ search_book(**kwargs): Book
+ remove_book(book_id: int): void

Loan

- loans: dict[str, List[Book]]

+ borrow_book(username: str, book: Book): void
+ return_book(username: str, book: Book): void
+ user_books_count(username: str): int

UserList

- users: dict[str, User]

+ add_user(user: User): void
+ remove_user(firstname: str): void
+ count_users(): int

Book

- used_ids: list
- book_id: int
- title: str
- author: str
- year: int
- publisher: str
- copies: int
- available_copies: int
- publication_date: str (date)

+ generate_book_id(): int
+ validate_inputs(year, copies, publication_date): void
+ set_title(title): void
+ get_title(): str
+ set_author(author): void
+ get_author(): str
+ set_year(year: int): void
+ get_year(): int
+ set_publisher(publisher): void
+ get_publisher(): str
+ set_copies(copies): void
+ get_copies(): int
+ get_available_copies(): int

User

- usernames: list[str]
- username: str
- firstname: str
- surname: str
- house_number: str
- street_name: str
- postcode: str
- email: str- dob: str

+ check_username(username: str): void
+ get_username(): str
+ get_firstname(): str
+ set_firstname(firstname: str): void
+ get_lastname(): str
+ set_lastname(lastname: str): void
+ get_address(): str
+ set_address(house_number: str, street_name: str, postcode: str): void
+ validate_email(email: str): void
+ get_email(): str
+ set_email(email: str): void
+ validate_dob(dob: str): void
+ get_dob(): str
+ set_dob(dob: str): void