

LAPORAN TUGAS 1
PEMROGRAMAN BERBASIS WEB - A



Mahasiswa:

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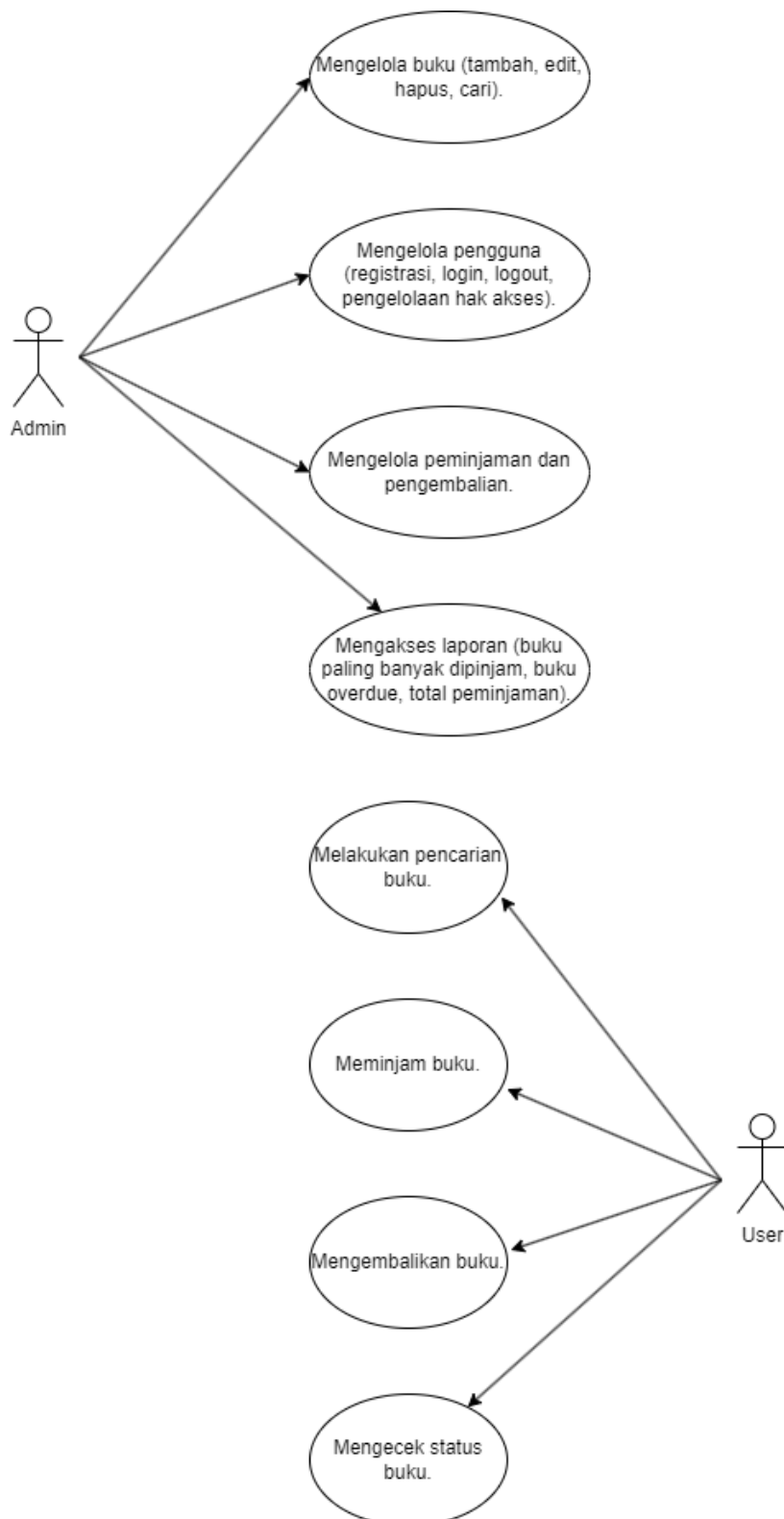
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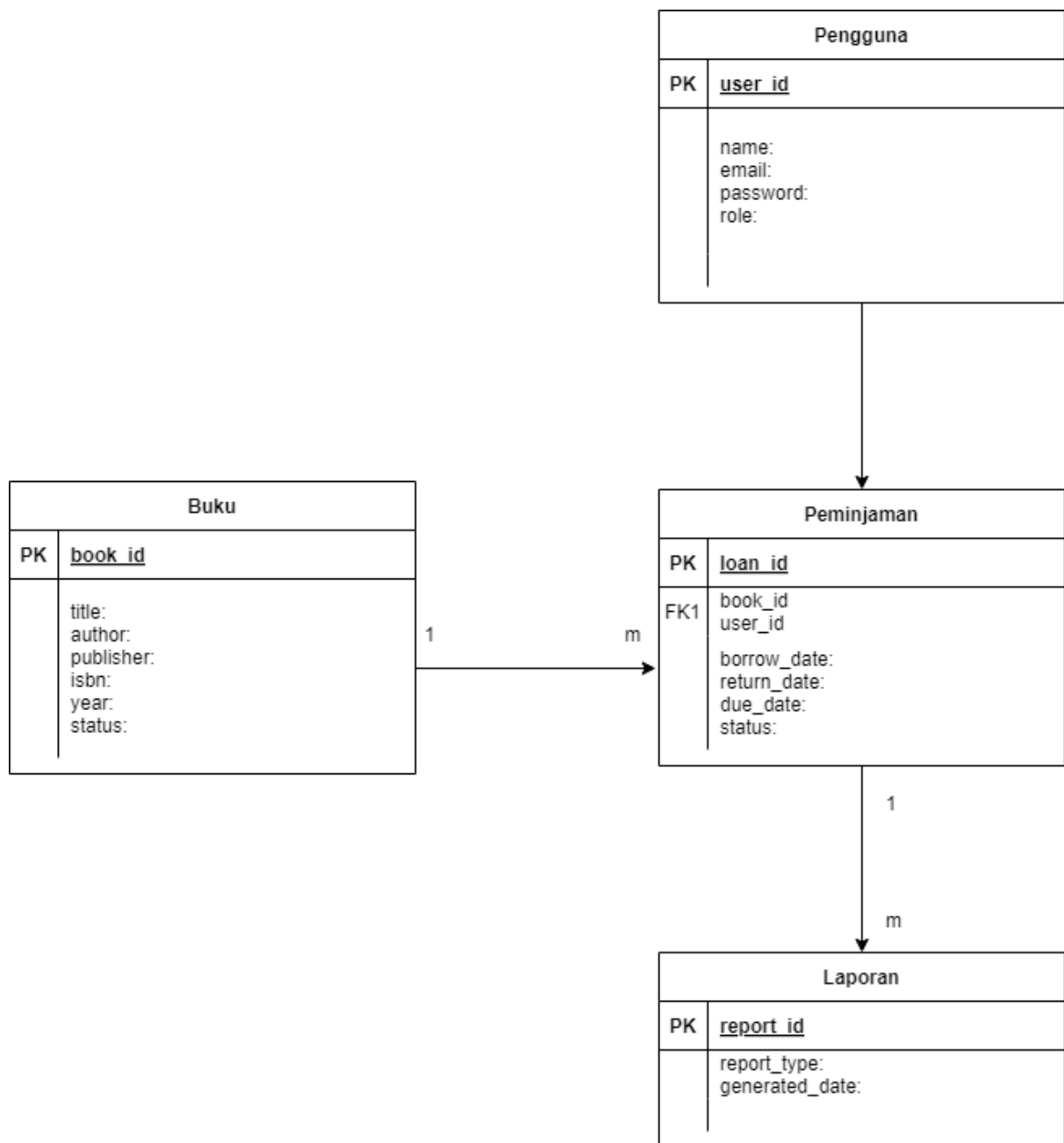
TEKNIK INFORMATIKA
UNIVERSITAS PANCASILA

2024

USECASE



ERD



Rancangan class Buku, Pengguna, dan Peminjaman

1. Class Buku

- Mewakili buku dalam sistem perpustakaan.
- Memiliki properti seperti `title`, `author`, `isbn`, dan `status`.
- Metode untuk memeriksa apakah buku tersedia (`isAvailable`).

```
class Buku {  
    // Properties  
    private $book_id;  
    private $title;  
    private $author;  
    private $publisher;  
    private $isbn;  
    private $year;  
    private $status; // "available" or "borrowed"  
  
    // Constructor  
    public function __construct($title, $author, $publisher, $isbn, $year) {  
        $this->title = $title;  
        $this->author = $author;  
        $this->publisher = $publisher;  
        $this->isbn = $isbn;  
        $this->year = $year;  
        $this->status = 'available'; // default status  
    }  
  
    // Getter and Setter Methods  
    public function getBookId() {  
        return $this->book_id;  
    }  
  
    public function getTitle() {  
        return $this->title;  
    }  
  
    public function setTitle($title) {  
        $this->title = $title;  
    }  
  
    public function getAuthor() {  
        return $this->author;  
    }  
  
    public function setAuthor($author) {  
        $this->author = $author;  
    }  
}
```

```

    }

    public function getPublisher() {
        return $this->publisher;
    }

    public function setPublisher($publisher) {
        $this->publisher = $publisher;
    }

    public function getIsbn() {
        return $this->isbn;
    }

    public function setIsbn($isbn) {
        $this->isbn = $isbn;
    }

    public function getYear() {
        return $this->year;
    }

    public function setYear($year) {
        $this->year = $year;
    }

    public function getStatus() {
        return $this->status;
    }

    public function setStatus($status) {
        $this->status = $status;
    }

    // Method untuk cek ketersediaan buku
    public function isAvailable() {
        return $this->status === 'available';
    }
}

```

2. Class Pengguna

- Mewakili pengguna sistem perpustakaan.
- Properti meliputi `name`, `email`, `password`, dan `role`.
- Metode untuk memeriksa apakah pengguna adalah admin (`isAdmin`).

```
class Pengguna {
    // Properties
    private $user_id;
    private $name;
    private $email;
    private $password;
    private $role; // "admin" or "user"

    // Constructor
    public function __construct($name, $email, $password, $role = 'user') {
        $this->name = $name;
        $this->email = $email;
        $this->password = password_hash($password, PASSWORD_BCRYPT); //
encrypt password
        $this->role = $role;
    }

    // Getter and Setter Methods
    public function getUserId() {
        return $this->user_id;
    }

    public function getName() {
        return $this->name;
    }

    public function setName($name) {
        $this->name = $name;
    }

    public function getEmail() {
        return $this->email;
    }

    public function setEmail($email) {
        $this->email = $email;
    }

    public function getPassword() {
        return $this->password;
    }

    public function setPassword($password) {
        $this->password = password_hash($password, PASSWORD_BCRYPT);
    }

    public function getRole() {
```

```

        return $this->role;
    }

    public function setRole($role) {
        $this->role = $role;
    }

    // Method untuk cek apakah pengguna adalah admin
    public function isAdmin() {
        return $this->role === 'admin';
    }
}

```

3. Class Peminjaman

- Mewakili proses peminjaman buku.
- Menghubungkan objek Buku dan Pengguna.
- Metode untuk mengatur proses pengembalian buku (`returnBook`) dan cek apakah peminjaman overdue (`isOverdue`).

```

class Peminjaman {
    // Properties
    private $loan_id;
    private $book; // Object of Buku class
    private $user; // Object of Pengguna class
    private $borrow_date;
    private $due_date;
    private $return_date;
    private $status; // "borrowed", "returned", "overdue"

    // Constructor
    public function __construct(Buku $book, Pengguna $user) {
        $this->book = $book;
        $this->user = $user;
        $this->borrow_date = date('Y-m-d');
        $this->due_date = date('Y-m-d', strtotime('+7 days')); // default due
date: 7 days from borrow date
        $this->status = 'borrowed';
        $this->return_date = null; // initially null
    }

    // Getter and Setter Methods
    public function getLoanId() {
        return $this->loan_id;
    }
}

```

```

public function getBook() {
    return $this->book;
}

public function getUser() {
    return $this->user;
}

public function getBorrowDate() {
    return $this->borrow_date;
}

public function getDueDate() {
    return $this->due_date;
}

public function getReturnDate() {
    return $this->return_date;
}

public function getStatus() {
    return $this->status;
}

public function setStatus($status) {
    $this->status = $status;
}

// Method untuk memproses pengembalian buku
public function returnBook() {
    $this->return_date = date('Y-m-d');
    if ($this->return_date > $this->due_date) {
        $this->status = 'overdue';
    } else {
        $this->status = 'returned';
    }
    $this->book->setStatus('available'); // set book status to available
}

// Method untuk cek apakah peminjaman overdue
public function isOverdue() {
    if ($this->status === 'borrowed' && date('Y-m-d') > $this->due_date) {
        $this->status = 'overdue';
        return true;
    }
    return false;
}

```

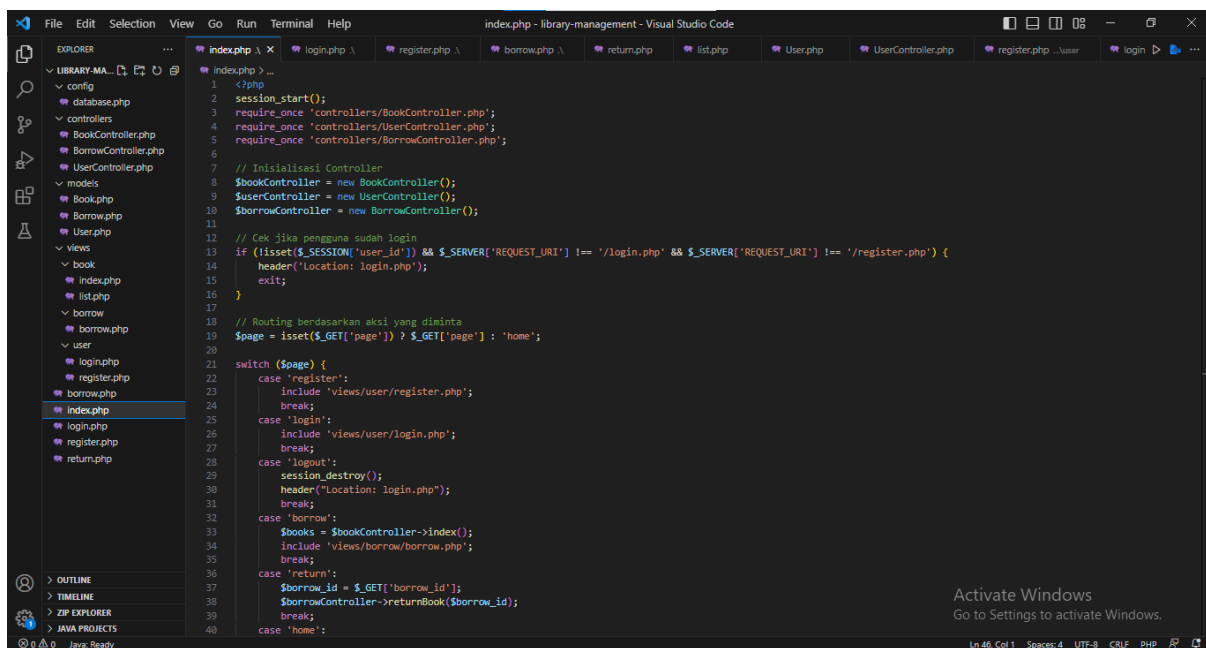


```
}
```

Interaksi Antar Class

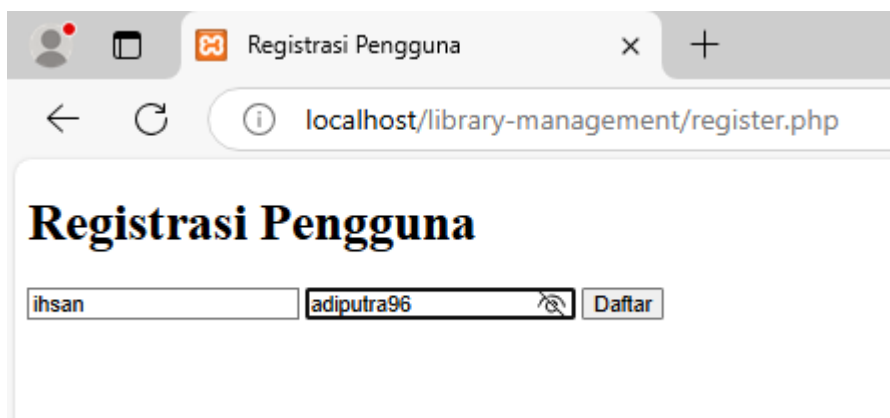
Peminjaman menghubungkan Pengguna dengan Buku. Saat pengguna meminjam buku, status buku berubah menjadi `borrowed`, dan ketika buku dikembalikan, status buku kembali menjadi `available`.

DOKUMENTASI



```
1 <?php
2 session_start();
3 require_once 'controllers/BookController.php';
4 require_once 'controllers/UserController.php';
5 require_once 'controllers/BorrowController.php';
6
7 // Inisialisasi Controller
8 $bookController = new BookController();
9 $UserController = new UserController();
10 $borrowController = new BorrowController();
11
12 // Cek jika pengguna sudah login
13 if (!isset($_SESSION['user_id']) && $_SERVER['REQUEST_URI'] !== '/login.php' && $_SERVER['REQUEST_URI'] !== '/register.php') {
14     header('Location: login.php');
15     exit;
16 }
17
18 // Routing berdasarkan aksi yang diminta
19 $page = isset($_GET['page']) ? $_GET['page'] : 'home';
20
21 switch ($page) {
22     case 'register':
23         include 'views/user/register.php';
24         break;
25     case 'login':
26         include 'views/user/login.php';
27         break;
28     case 'logout':
29         session_destroy();
30         header('Location: login.php');
31         break;
32     case 'borrow':
33         $books = $bookController->index();
34         include 'views/borrow/borrow.php';
35         break;
36     case 'return':
37         $borrow_id = $_GET['borrow_id'];
38         $borrowController->returnBook($borrow_id);
39         break;
40     case 'home':
```

Manajemen Pengguna, Registrasi akun, lalu langsung diarahkan ke halaman login.



Registrasi Pengguna

← → ⓘ localhost/library-management/register.php

Registrasi Pengguna

Pengelolaan koleksi buku, Tambah buku akan masuk ke koleksi buku.

Library Management

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localhost/library-management/index.php

Koleksi Buku

| Judul | Pengarang | Tahun | Aksi |
|---------------|-----------|-------|-----------------------|
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Tambah Buku

Judul

Pengarang

Tahun

Tambah Buku

Tampilan Peminjaman Buku.

Library Management

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localhost/library-management/index.php

Koleksi Buku

| Judul | Pengarang | Tahun | Aksi |
|---------------|-----------|-------|-----------------------|
| Usahawan Muda | Esan | 2024 | Hapus |

Tambah Buku

Judul

Pengarang

Tahun

Tambah Buku

Daftar Buku

[Pinjam Buku](#) | [Logout](#)

| ID | Judul | Pengarang | Tahun | Aksi |
|----|-------|-----------|-------|------|
|----|-------|-----------|-------|------|

Library Management

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localhost/library-management/index.php?page=borrow

Koleksi Buku

| Judul | Pengarang | Tahun | Aksi |
|---------------|-----------|-------|-----------------------|
| Usahawan Muda | Esan | 2024 | Hapus |

Tambah Buku

Peminjaman Buku

Pilih Buku:

▼

Pinjam Buku