

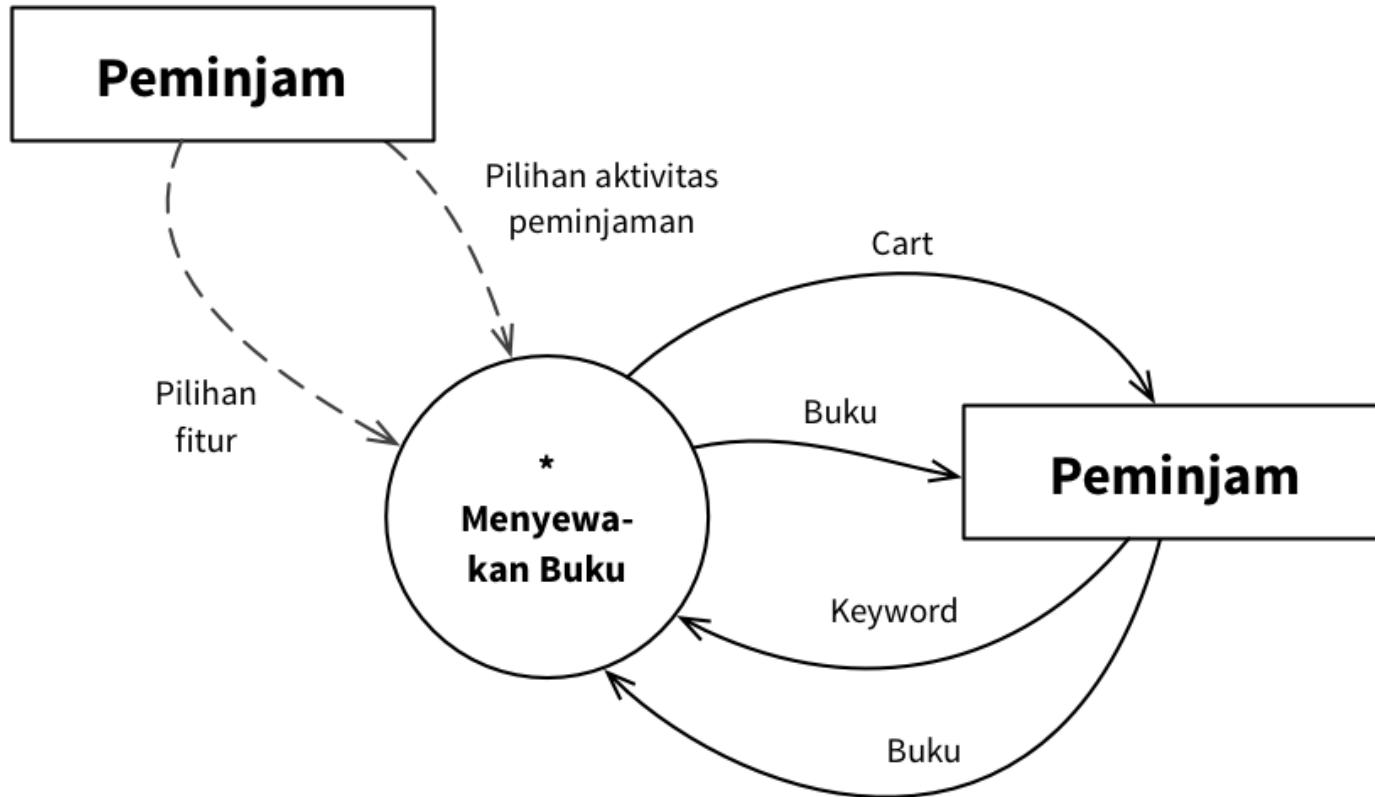


Model to Implementation

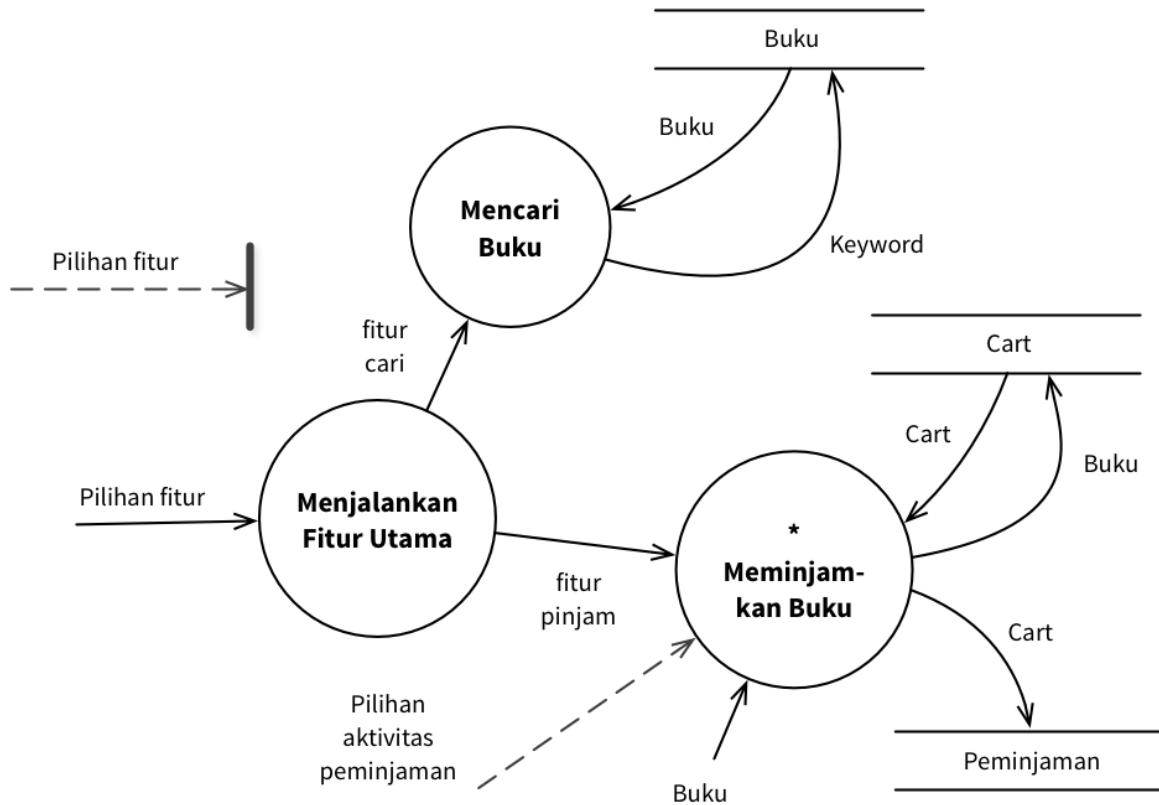
Structured Oriented

Dr. Achmad Arwan S.Kom., M.Kom.

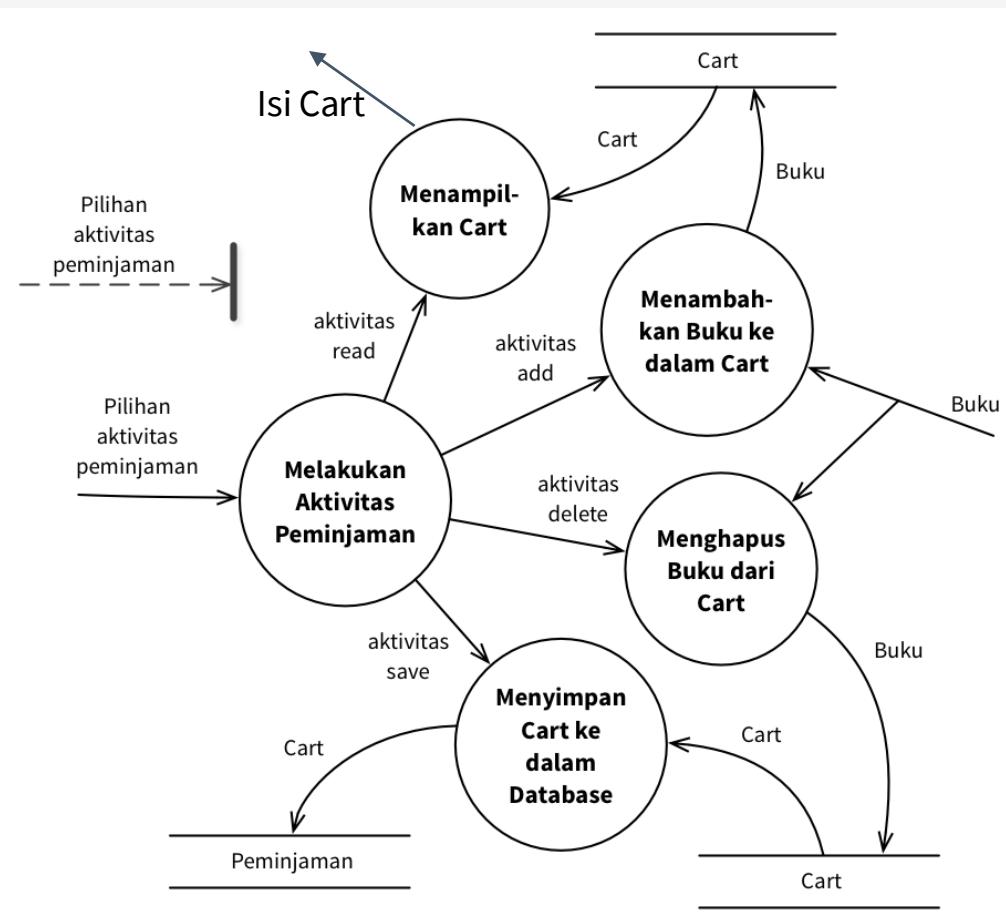
Context Diagram (DFD Lv.0)



Data Flow Diagram Lv.1

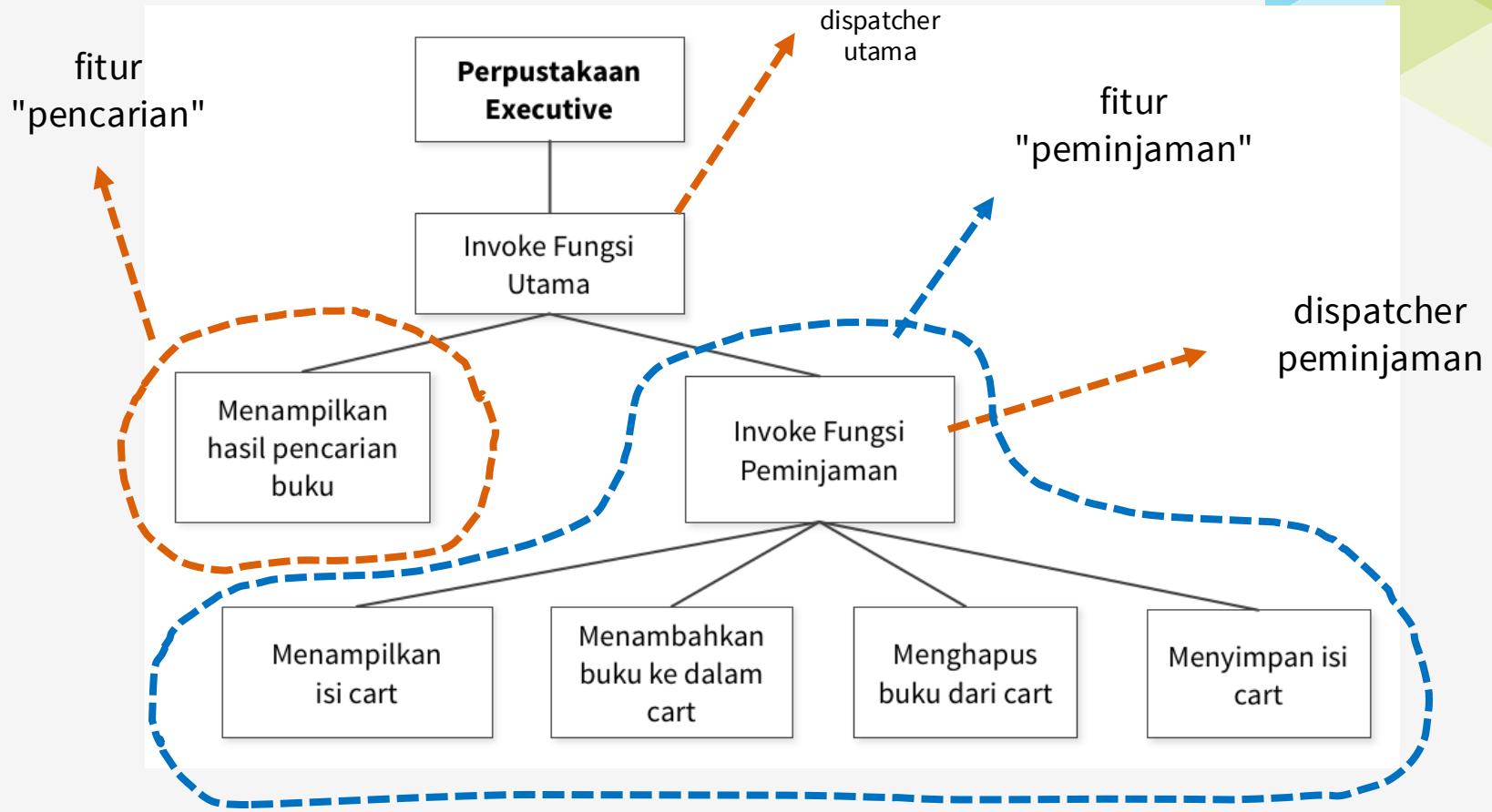


Data Flow Diagram Lv.2



Implementasi Transaction Mapping

Transaction Mapping



Implementasi Executive dan Fitur

- Struktur direktori

Perpustakaan/cari.php

/pinjam/read-cart.php

/add-cart.php

/delete-cart.php

/save-cart.php

/pinjam.php

/fitur.php

proses

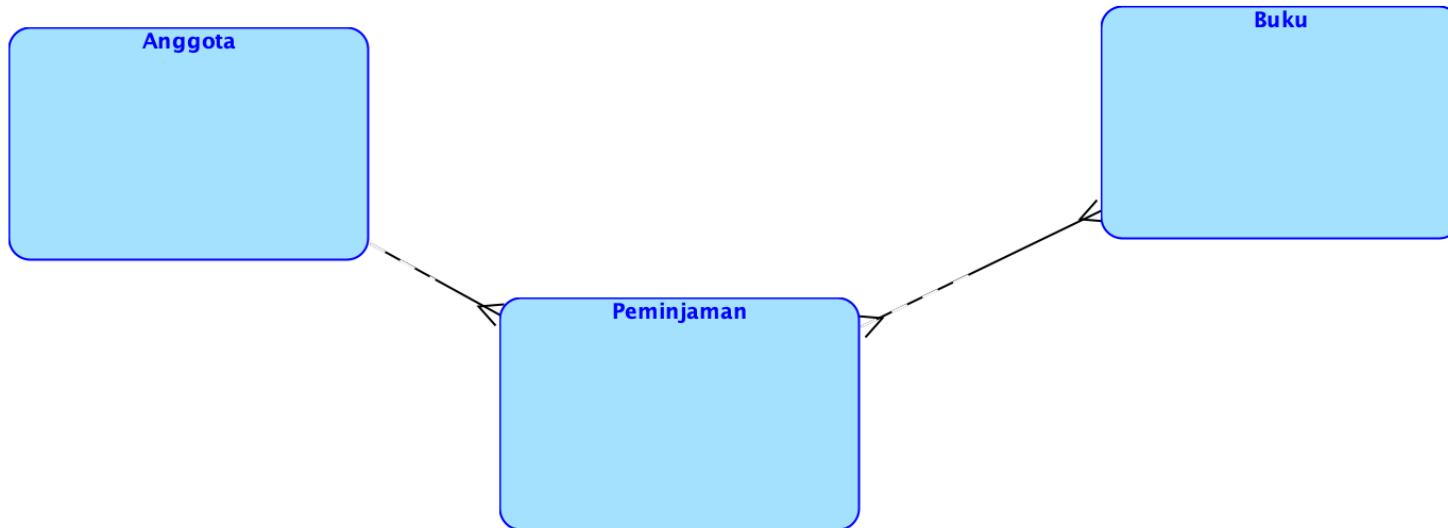
dispatcher

Implementasi Data

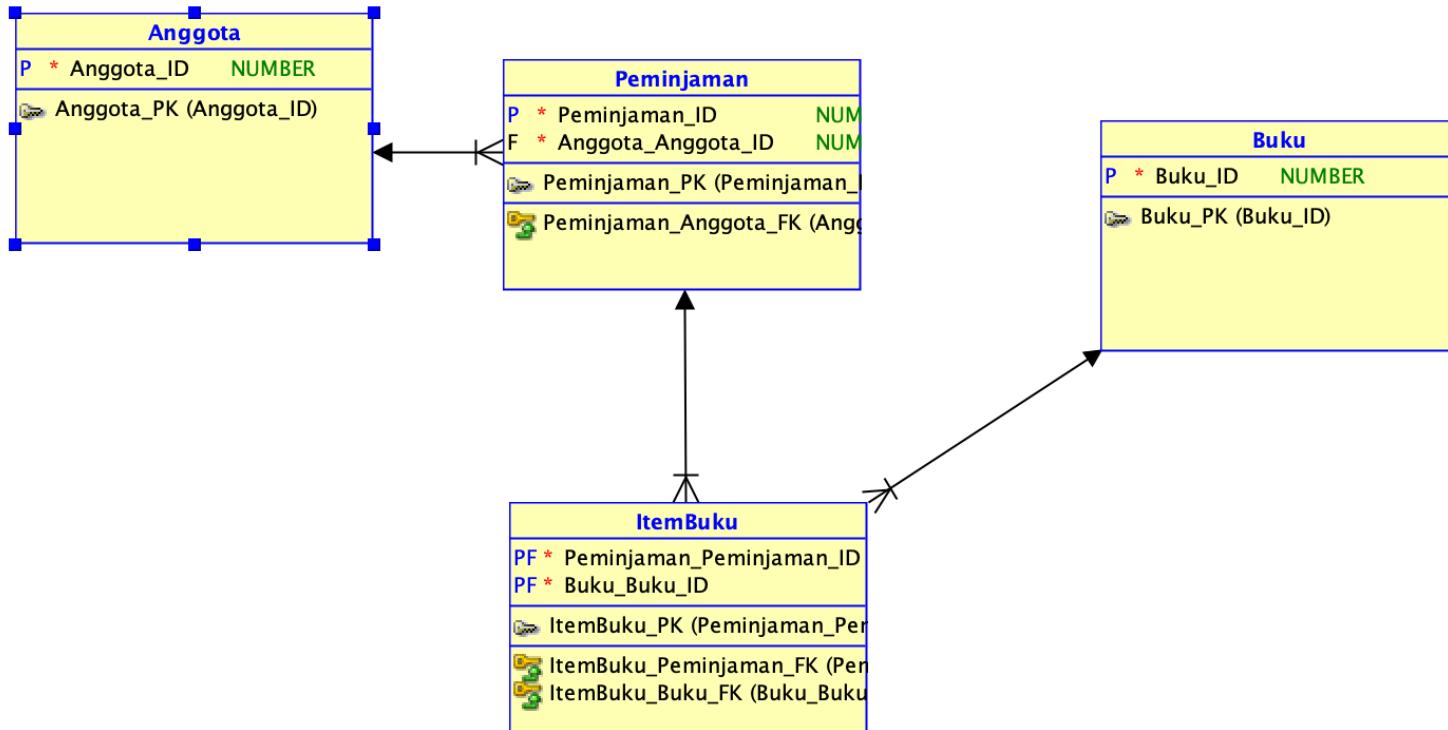
Implementasi Diagram ER: Where To Look?

- Data Dictionary
- Data Definition
- ER Diagram: Logical
- ER Diagram: Physical

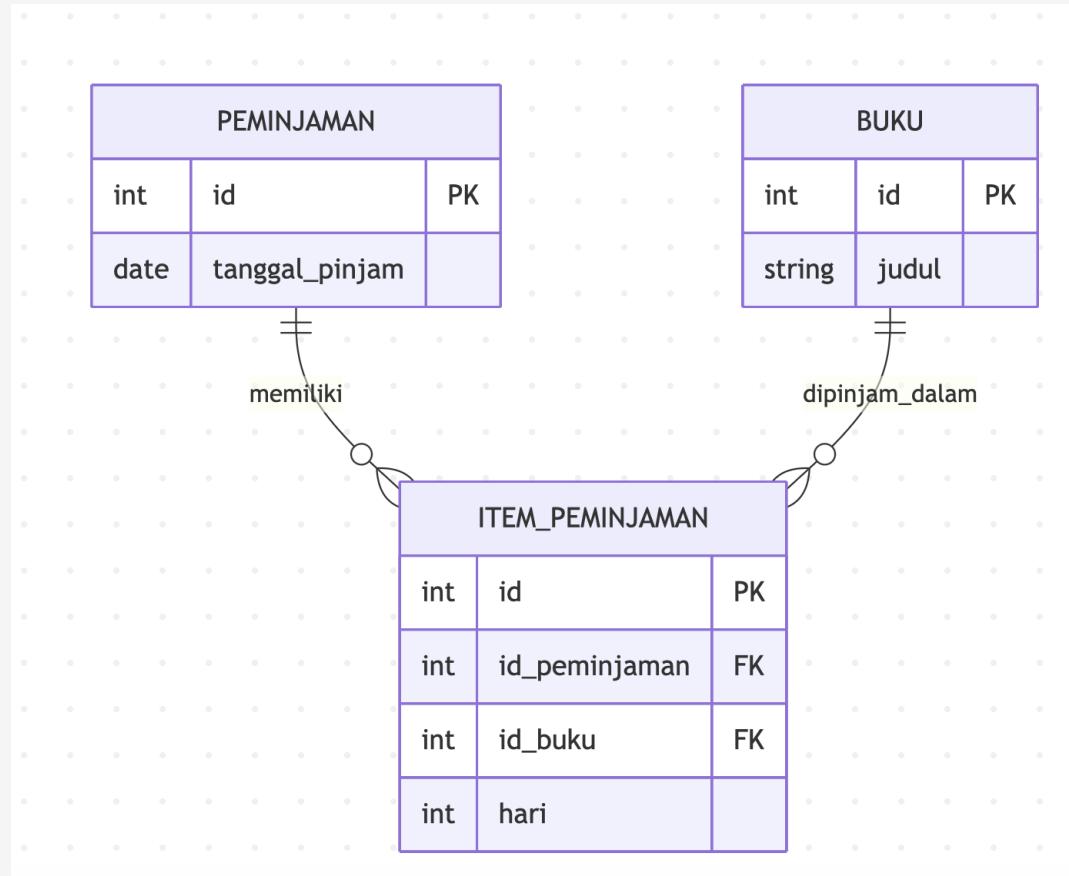
ER Diagram: Logical



ER Mapping



ER Diagram: Physical



DDL: Buku, Peminjaman

```
-- Table `perpustakaan`.`peminjaman`
```

```
CREATE TABLE IF NOT EXISTS `perpustakaan`.`peminjaman` (
    `id` INT NOT NULL AUTO_INCREMENT,
    `tanggal` DATE NULL,
    PRIMARY KEY (`id`)
) ENGINE = InnoDB;
```

```
-- Table `perpustakaan`.`buku`
```

```
CREATE TABLE IF NOT EXISTS `perpustakaan`.`buku` (
    `id` INT NOT NULL AUTO_INCREMENT,
    `judul` VARCHAR(100) NULL,
    PRIMARY KEY (`id`)
) ENGINE = InnoDB;
```

DDL: Dipinjam

```
CREATE TABLE IF NOT EXISTS `perpustakaan`.`dipinjam` (
  `peminjaman_id` INT NOT NULL,
  `buku_id` INT NOT NULL,
  `hari` INT(2) NOT NULL,
  PRIMARY KEY (`peminjaman_id`, `buku_id`),
  INDEX `fk_peminjaman_has_buku_buku1_idx` (`buku_id` ASC),
  INDEX `fk_peminjaman_has_buku_peminjaman_idx` (`peminjaman_id` ASC),
  CONSTRAINT `fk_peminjaman_has_buku_peminjaman`
    FOREIGN KEY (`peminjaman_id`)
    REFERENCES `perpustakaan`.`peminjaman` (`id`)
    ON DELETE CASCADE
    ON UPDATE CASCADE,
  CONSTRAINT `fk_peminjaman_has_buku_buku1`
    FOREIGN KEY (`buku_id`)
    REFERENCES `perpustakaan`.`buku` (`id`)
    ON DELETE CASCADE
    ON UPDATE CASCADE
) ENGINE = InnoDB;
```

Implementasi Process Specification (PSPEC)

Implementasi Proses: PSPEC

- PSPEC - Mencari Buku

- Data Input

- Keyword (Text)

- Data Output

- Daftar buku yang judul bukunya mengandung Keyword

- Algoritme

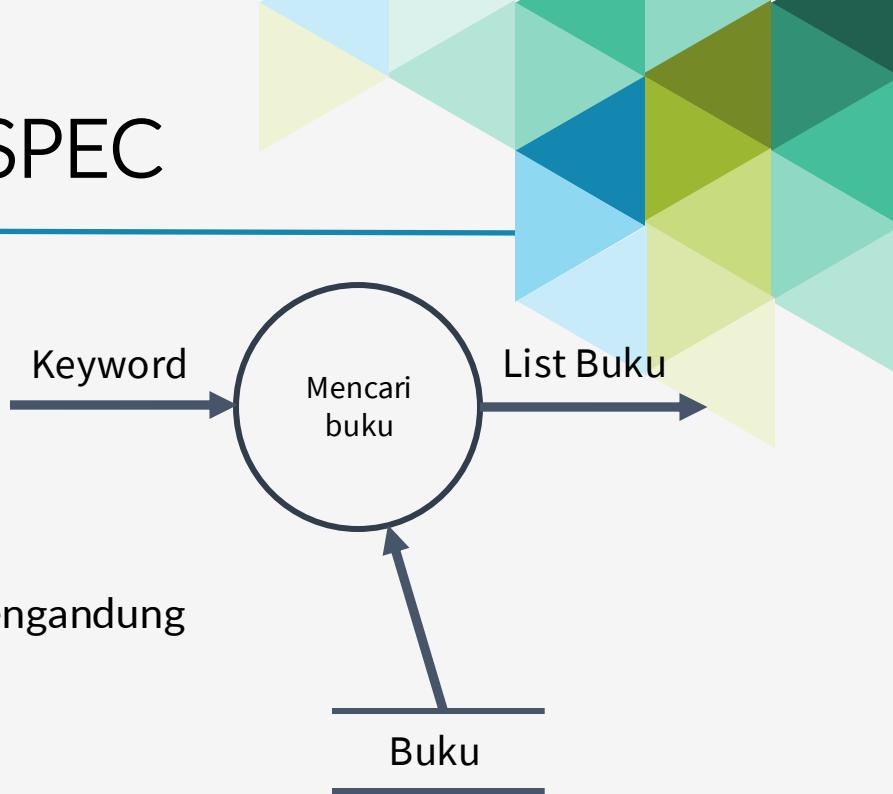
```
keyword = INPUT(keyword)
```

```
connect to DB
```

```
result = SELECT id, judul FROM buku WHERE judul LIKE '%keyword%'
```

```
close DB connection
```

```
tampilkan result dalam format tabel
```



Implementasi Proses: PSPEC

```
function cari( $keyword ) {  
    $link = mysqli_connect(  
        "127.0.0.1", "my_user", "my_password", "my_db");  
  
    $query =  
        "SELECT id, judul FROM buku WHERE judul LIKE '%keyword%'";  
  
    $result = mysqli_query( $link, $query );  
  
    while ( $row = mysqli_fetch_array( $result ) ) {  
        $listbuku[ ] = $row;  
    }  
  
    mysqli_close( $link );  
  
    return $listbuku;  
}
```

Implementasi Dispatcher (CSPEC)

Implementasi Dispatcher: CSPEC



CSPEC – Fitur Utama

Fitur	Cari Buku	Menampilkan Cart Peminjaman
N/A	1	0
cari	1	0
pinjam	0	1

CSPEC – Fitur Peminjaman

Fitur	Menampilkan Cart	Menambahkan Buku ke dalam Cart	Menghapus Buku dari Cart	Menyimpan Cart ke Database
N/A	1	0	0	0
read	1	0	0	0
add	0	1	0	0
delete	0	0	1	0
save	0	0	0	1

Dispatcher Peminjaman

CSPEC: Peminjaman

```
include read-cart.php;  
include add-cart.php;  
include delete-cart.php;  
include save-cart.php;
```

```
$fitur = $_GET['fitur'];  
switch($fitur) {  
    case 'add':  
        $idbuku = $_GET['idbuku'];  
        add($idbuku); break;  
    case 'delete':  
        $idbuku = $_GET['idbuku'];  
        delete($idbuku); break;  
    case 'save': save(); break;  
    case 'read':  
    default: read(); break;  
}
```

Dispatcher Fitur Utama

CSPEC: Fitur Utama

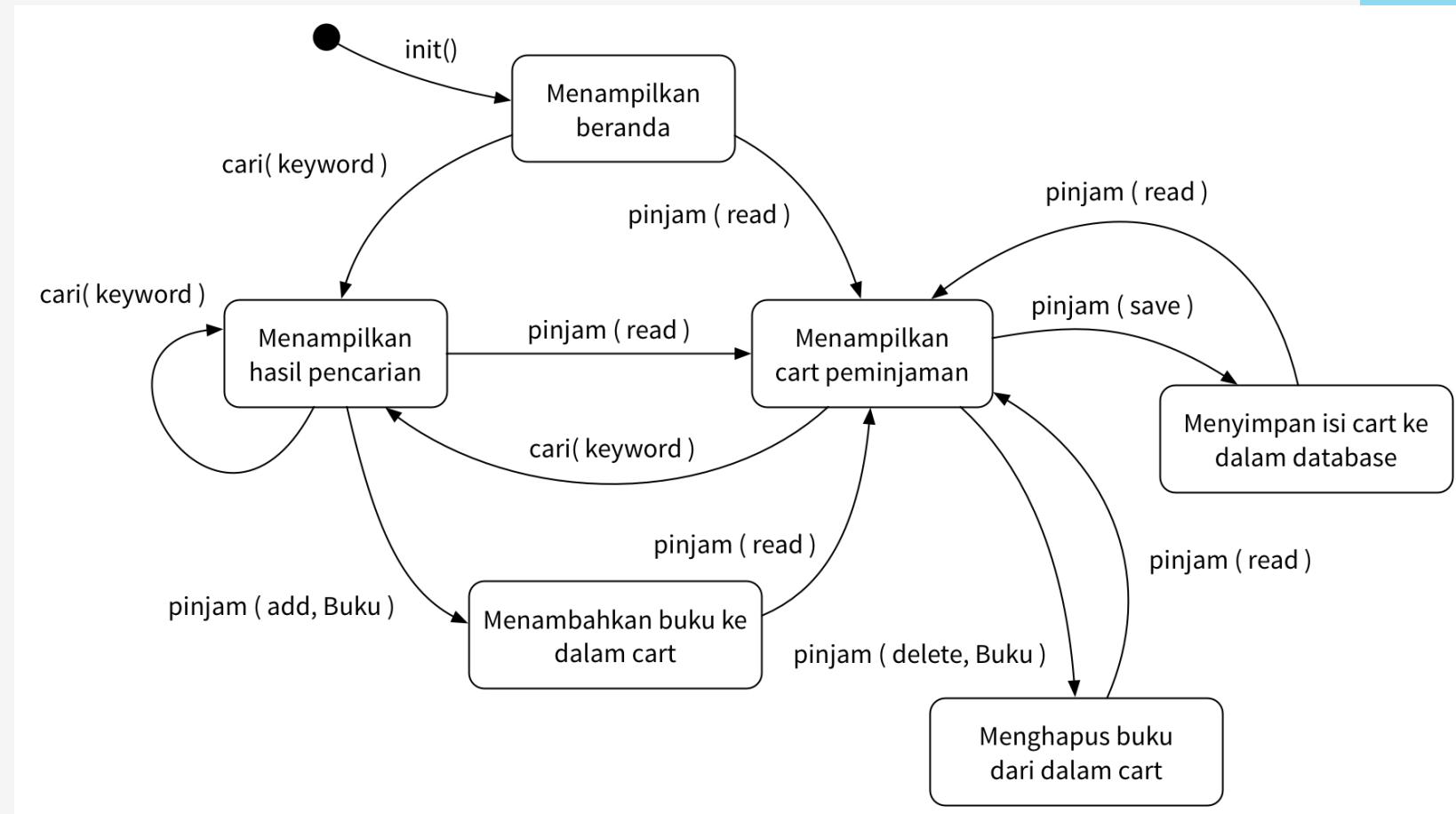


```
include cari.php;  
  
$fitur = $_GET['fitur'];  
switch($fitur) {  
    case 'pinjam':  
        header('location:pinjam/pinjam.php?fitur=read');  
        exit;  
    case 'cari':  
    default:  
        $keyword = $_GET['keyword'];  
        $listbuku = cari( $keyword );  
        display( $listbuku ); // fungsi untuk menampilkan buku  
        break; // dalam bentuk tabel  
}
```

Alikan ke dispatcher peminjaman

Implementasi State Transition Diagram

State Transition Diagram



Modifikasi Dispatcher Peminjaman: State Transition

```
...
switch($fitur) {
    case 'add':
        $idbuku = $_GET['idbuku'];
        add($idbuku);
        header('location:pinjam.php?fitur=read');
        exit;
    ...
}
```



Selesai eksekusi
penambahan buku ke
cart, alihkan ke fitur
membaca cart

Run and Test

Ada Pertanyaan

https://gitlab.com/ies5/perpustakaan_terstruktur