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# Kebutuhan Perangkat Lunak

# User Experience Model

## Use Case Menampilkan Daftar Device Bermasalah

### Identifikasi Screen, Compartement Screen, dan Form

### Storyboard Menampilkan Daftar Device Bermasalah

## Use Case Menambah Device

### Identifikasi Screen, Compartement Screen, dan Form

### Storyboard Menambah Device

## Use Case Mengedit Device

### Identifikasi Screen, Compartement Screen, dan Form

### Storyboard Mengedit Device

## Use Case Menghapus Device

### Identifikasi Screen, Compartement Screen, dan Form

### Storyboard Menghapus Device

## Navigational Path

### Navigational Path Use Case Menampilkan daftar device bermasalah

### Navigational Path Use Case Menambah Device

### Navigational Path Use Case Mengedit Device

### Navigational Path Use Case Menghapus Device

# Model Analisis

## Realisasi Use Case Tahap Analisis

### Use Case Menampilkan Daftar Use Case Bermasalah

#### Identifikasi Kelas Analisis

|  |  |  |
| --- | --- | --- |
| ***No*** | ***Nama Kelas*** | ***Jenis Kelas***  ***(Interface, Control, Entity)*** |
|  |  |  |
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#### Sequence Diagram

#### Diagram Kelas Analisis

### Use Case Menambah Device

#### Identifikasi Kelas Analisis

|  |  |  |
| --- | --- | --- |
| ***No*** | ***Nama Kelas*** | ***Jenis Kelas***  ***(Interface, Control, Entity)*** |
|  |  |  |
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#### Sequence Diagram

#### Diagram Kelas Analisis

### Use Case Mengedit Device

#### Identifikasi Kelas Analisis

|  |  |  |
| --- | --- | --- |
| ***No*** | ***Nama Kelas*** | ***Jenis Kelas***  ***(Interface, Control, Entity)*** |
|  |  |  |
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#### Sequence Diagram

#### Diagram Kelas Analisis

### Use Case Menghapus Device

#### Identifikasi Kelas Analisis

|  |  |  |
| --- | --- | --- |
| ***No*** | ***Nama Kelas*** | ***Jenis Kelas***  ***(Interface, Control, Entity)*** |
|  |  |  |
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#### Sequence Diagram

#### Diagram Kelas Analisis

## Diagram Menghapus Device

## Pemetaan Model Analisis dan Model UX

|  |  |
| --- | --- |
| **Kelas Boundary** | **Model UX** |
|  |  |

# Model Perancangan

## Realisasi Use Case Tahap Perancangan

### Use Case Menampilkan Daftar Device Bermasalah

#### Identifikasi Elemen WAE - Logical View

|  |  |  |
| --- | --- | --- |
| ***No*** | ***Nama Elemen Lojik WAE*** | ***Stereotype*** |
| *1* | *MapView* | *Client Page* |
| *2* | *MapController* | *Server Page* |
| *3* | *DeviceController* | *Server Page* |
| *4* | *NotificationController* | *Server Page* |

#### Identifikasi Kelas Perancangan

|  |  |  |
| --- | --- | --- |
| ***No*** | ***Nama Kelas Perancangan*** | ***Nama Kelas Analisis Terkait*** |
| *1* | *MapView* | *Map* |
| *2* | *MapController* | *Map* |
| *3* | *DeviceController* | *DeviceControl* |
| *4* | *NotificationController* | *DeviceControl* |
| *5* | *Device* | *Device* |

#### Sequence Diagram



#### Diagram Kelas Perancangan

**

#### Identifikasi Elemen WAE Component View



|  |  |  |
| --- | --- | --- |
| ***Nama Komponen*** | ***Elemen Logical View*** | ***Jenis*** |
| *device.php* | *Device* | *Entity Class* |
| *device-controller.php* | *DeviceController* | *Dynamic Page* |
| *notification-controller.php* | *NotificationController* | *Dynamic Page* |
| *map-controller.php* | *MapController* | *Dynamic Page* |
| *map-view.php* | *MapView* | *Static Page* |

### Use Case Menambah Device

#### Identifikasi Elemen WAE - Logical View

|  |  |  |
| --- | --- | --- |
| ***No*** | ***Nama Elemen Lojik WAE*** | ***Stereotype*** |
| *1* | *MapView* | *Client Page* |
| *2* | *MapController* | *Server Page* |
| *3* | *DeviceController* | *Server Page* |
| *4* | *GroupController* | *Server Page* |
| *5* | *AddDevice* | *HTML Form* |

#### Identifikasi Kelas Perancangan

|  |  |  |
| --- | --- | --- |
| ***No*** | ***Nama Kelas Perancangan*** | ***Nama Kelas Analisis Terkait*** |
| *1* | *MapView* | *Map* |
| *2* | *MapController* | *Map* |
| *3* | *DeviceController* | *DeviceControl* |
| *4* | *GroupController* | *GroupControl* |
| *5* | *Device* | *Device* |
| *6* | *Group* | *Group* |

#### Sequence Diagram



#### Diagram Kelas Perancangan

**

#### Identifikasi Elemen WAE Component View



|  |  |  |
| --- | --- | --- |
| ***Nama Komponen*** | ***Elemen Logical View*** | ***Jenis*** |
| *device.php* | *Device* | *Entity Class* |
| *group.php* | *Group* | *Entity Class* |
| *device-controller.php* | *DeviceController* | *Dynamic Page* |
| *group-controller.php* | *GroupController* | *Dynamic Page* |
| *map-controller.php* | *MapController* | *Dynamic Page* |
| *map-view.php* | *MapView* | *Static Page* |
| *device-form.php* | *AddDevice* | *HTML Form* |

### Use Case Mengedit Device

#### Identifikasi Elemen WAE - Logical View

|  |  |  |
| --- | --- | --- |
| ***No*** | ***Nama Elemen Lojik WAE*** | ***Stereotype*** |
| *1* | *MapView* | *Client Page* |
| *2* | *MapController* | *Server Page* |
| *3* | *DeviceController* | *Server Page* |
| *4* | *GroupController* | *Server Page* |
| *5* | *EditDevice* | *HTML Form* |

#### Identifikasi Kelas Perancangan

|  |  |  |
| --- | --- | --- |
| ***No*** | ***Nama Kelas Perancangan*** | ***Nama Kelas Analisis Terkait*** |
| *1* | *MapView* | *Map* |
| *2* | *MapController* | *Map* |
| *3* | *DeviceController* | *DeviceControl* |
| *4* | *GroupController* | *GroupControl* |
| *5* | *Device* | *Device* |
| *6* | *Group* | *Group* |

#### Sequence Diagram



#### Diagram Kelas Perancangan

**

#### Identifikasi Elemen WAE Component View



|  |  |  |
| --- | --- | --- |
| ***Nama Komponen*** | ***Elemen Logical View*** | ***Jenis*** |
| *device.php* | *Device* | *Entity Class* |
| *group.php* | *Group* | *Entity Class* |
| *device-controller.php* | *DeviceController* | *Dynamic Page* |
| *group-controller.php* | *GroupController* | *Dynamic Page* |
| *map-controller.php* | *MapController* | *Dynamic Page* |
| *map-view.php* | *MapView* | *Static Page* |
| *device-form.php* | *AddDevice* | *HTML Form* |

### Use Case Menghapus Device

#### Identifikasi Elemen WAE - Logical View

|  |  |  |
| --- | --- | --- |
| ***No*** | ***Nama Elemen Lojik WAE*** | ***Stereotype*** |
| *1* | *MapView* | *Client Page* |
| *2* | *MapController* | *Server Page* |
| *3* | *DeviceController* | *Server Page* |
| *4* | *GroupController* | *Server Page* |

#### Identifikasi Kelas Perancangan

|  |  |  |
| --- | --- | --- |
| ***No*** | ***Nama Kelas Perancangan*** | ***Nama Kelas Analisis Terkait*** |
| *1* | *MapView* | *Map* |
| *2* | *MapController* | *Map* |
| *3* | *DeviceController* | *DeviceControl* |
| *4* | *GroupController* | *GroupControl* |
| *5* | *Device* | *Device* |
| *6* | *Group* | *Group* |

#### Sequence Diagram



#### Diagram Kelas Perancangan

**

#### Identifikasi Elemen WAE Component View



|  |  |  |
| --- | --- | --- |
| ***Nama Komponen*** | ***Elemen Logical View*** | ***Jenis*** |
| *device.php* | *Device* | *Entity Class* |
| *group.php* | *Group* | *Entity Class* |
| *device-controller.php* | *DeviceController* | *Dynamic Page* |
| *group-controller.php* | *GroupController* | *Dynamic Page* |
| *map-controller.php* | *MapController* | *Dynamic Page* |
| *map-view.php* | *MapView* | *Static Page* |

## Perancangan Detil Kelas

|  |  |  |
| --- | --- | --- |
| ***No*** | ***Nama Kelas Perancangan*** | ***Nama Kelas Analisis Terkait*** |
|  |  |  |
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### Kelas MapView

*Nama Kelas : MapView*

|  |  |  |
| --- | --- | --- |
| ***Nama Operasi*** | ***Visibility***  ***(private, public)*** | ***Keterangan*** |
| *getList()* | *Public* | *Mengirim sinyal untuk menampilkan list pada notifikasi* |
| *getDeviceId()* | *Public* | *Mengirim sinyal dengan memilih salah satu device* |
| *showForm()* | *Pulbic* | *Menampilkan form add /edit* |
| *deleteDevice()* | *Public* | *Sinyal untuk menghapus Device* |
| ***Nama Atribut*** | ***Visibility***  ***(private, public)*** | ***Tipe*** |
| *-* | *-* | *-* |

### Kelas MapController

*Nama Kelas: MapController*

|  |  |  |
| --- | --- | --- |
| ***Nama Operasi*** | ***Visibility***  ***(private, public)*** | ***Keterangan*** |
| *showMapDevice()* | *Pulbic* | *Membangun Peta dengan device-device yang ada* |
| *showSelectedMapDevice()* | *Public* | *Menampilkan Peta dengan fokus satu device* |
| *buildMap* | *Public* | *Membangun Peta* |
|  |  |  |
| ***Nama Atribut*** | ***Visibility***  ***(private, public)*** | ***Tipe*** |
| *-* | *-* | *-* |

### Kelas AuthController

*Nama Kelas: AuthController*

|  |  |  |
| --- | --- | --- |
| ***Nama Operasi*** | ***Visibility***  ***(private, public)*** | ***Keterangan*** |
|  |  |  |
| ***Nama Atribut*** | ***Visibility***  ***(private, public)*** | ***Tipe*** |
| *Web* | *private* | *string* |
|  |  |  |

### Kelas GroupController

*Nama Kelas: GroupController*

|  |  |  |
| --- | --- | --- |
| ***Nama Operasi*** | ***Visibility***  ***(private, public)*** | ***Keterangan*** |
| *groupQuery()* | *Public* | *Membuat query database untuk entity group* |
| *groupUpdate()* | *Public* | *Mengirim group list untuk diupdate pada entity group* |
| ***Nama Atribut*** | ***Visibility***  ***(private, public)*** | ***Tipe*** |
|  |  |  |

### Kelas DeviceController

*Nama Kelas: DeviceController*

|  |  |  |
| --- | --- | --- |
| ***Nama Operasi*** | ***Visibility***  ***(private, public)*** | ***Keterangan*** |
| *deviceQuery()* | *Public* | *Membuat query database untuk entity device* |
| *deviceUpdate()* | *Public* | *Mengirim group list untuk diupdate pada entity group* |
| ***Nama Atribut*** | ***Visibility***  ***(private, public)*** | ***Tipe*** |
|  |  |  |

### Kelas Group

*Nama Kelas : Group*

|  |  |  |
| --- | --- | --- |
| ***Nama Operasi*** | ***Visibility***  ***(private, public)*** | ***Keterangan*** |
|  |  |  |
| ***Nama Atribut*** | ***Visibility***  ***(private, public)*** | ***Tipe*** |
| *groupId* | *Private* | *Integer* |
| *name* | *Private* | *String* |
| *longlat* | *Private* | *Point* |

### Kelas Device

*Nama Kelas : Device*

|  |  |  |
| --- | --- | --- |
| ***Nama Operasi*** | ***Visibility***  ***(private, public)*** | ***Keterangan*** |
|  |  |  |
| ***Nama Atribut*** | ***Visibility***  ***(private, public)*** | ***Tipe*** |
| *deviceId* | *Private* | *Integer* |
| *groupId* | *Private* | *Integer* |
| *longlat* | *Private* | *Point* |

### Kelas NotificationController

*Nama Kelas : NotificationController*

|  |  |  |
| --- | --- | --- |
| ***Nama Operasi*** | ***Visibility***  ***(private, public)*** | ***Keterangan*** |
| *getDeviceList()* | *Public* | *Mengambil daftar device yang tersedia* |
| *showDevicePanel()* | *Public* | *Membentuk panel daftar device pada halaman client* |
| *setMapDevice()* | *Public* | *Memberi sinyal untuk menampilkan suatu device pada peta* |
| ***Nama Atribut*** | ***Visibility***  ***(private, public)*** | ***Tipe*** |
|  |  |  |

### Kelas Login

*Nama Kelas : Login*

|  |  |  |
| --- | --- | --- |
| ***Nama Operasi*** | ***Visibility***  ***(private, public)*** | ***Keterangan*** |
|  |  |  |
| ***Nama Atribut*** | ***Visibility***  ***(private, public)*** | ***Tipe*** |
|  |  |  |

### Kelas AddGroup

*Nama Kelas : AddGroup*

|  |  |  |
| --- | --- | --- |
| ***Nama Operasi*** | ***Visibility***  ***(private, public)*** | ***Keterangan*** |
|  |  |  |
| ***Nama Atribut*** | ***Visibility***  ***(private, public)*** | ***Tipe*** |
|  |  |  |

### Kelas EditGroup

*Nama Kelas : EditGroup*

|  |  |  |
| --- | --- | --- |
| ***Nama Operasi*** | ***Visibility***  ***(private, public)*** | ***Keterangan*** |
|  |  |  |
| ***Nama Atribut*** | ***Visibility***  ***(private, public)*** | ***Tipe*** |
|  |  |  |

### Kelas AddDevice

*Nama Kelas : AddDevice*

|  |  |  |
| --- | --- | --- |
| ***Nama Operasi*** | ***Visibility***  ***(private, public)*** | ***Keterangan*** |
| *getDevice()* | *Public* | *Mengambil daftar device dan menampilkannya pada drop down device* |
| *getGroup()* | *Public* | *Mengambil daftar group dan menampilkannya pada drop down group* |
| *submitForm()* | *Public* | *Mengirimkan hasil pengisian form untuk diproses* |
| ***Nama Atribut*** | ***Visibility***  ***(private, public)*** | ***Tipe*** |
|  |  |  |

### Kelas EditDevice

*Nama Kelas : EditDevice*

|  |  |  |
| --- | --- | --- |
| ***Nama Operasi*** | ***Visibility***  ***(private, public)*** | ***Keterangan*** |
| *getDevice()* | *Public* | *Mengambil daftar device dan menampilkannya pada drop down device* |
| *getGroup()* | *Public* | *Mengambil daftar group dan menampilkannya pada drop down group* |
| *submitForm()* | *Public* | *Mengirimkan hasil pengisian form untuk diproses* |
| ***Nama Atribut*** | ***Visibility***  ***(private, public)*** | ***Tipe*** |
|  |  |  |

## Perancangan Antarmuka

### Halaman Utama

Halaman utama berisi *form login* bagi user yang telah terdaftar dan *link* menuju halaman pendaftaran *user login*, menangani kasus jika *user* lupa *password* (*use case* Terima Password).

### Halaman Lupa *Password*

Halaman yang ter-*direct* jika pengguna menekan “*forgot your password?*” pada halaman utama (pada *form login*). *Use case* yang terdapat pada halaman ini adalah *use case* Terima Password.

### Halaman Pendaftaran *User Login*

Halaman pendaftaran *user login* yang berisi *use case* Daftar.

### Halaman *List Account* yang Dimiliki *User*

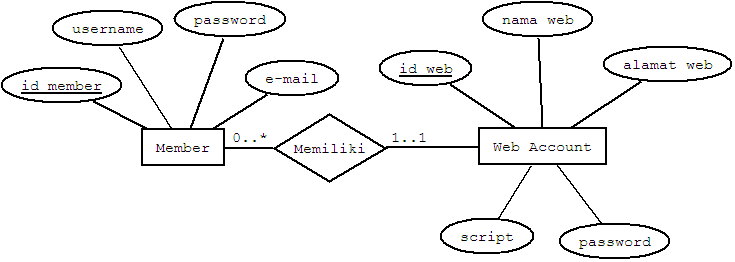
Halaman setelah *login* *user* berhasil, berisi *list* *account* yang dimiliki oleh *user.* Terdapat tombol *Add* untuk menambah *account* pada *list* yang tersedia, serta tombol *delete* untuk menghapus *account* yang tidak diinginkan. *Use case* yang ditangani antara lain Download Account dan Direct Login.

### Halaman Penambahan *Account*

Ketika tombol *Add* diklik, akan muncul *form* untuk menambahkan *account* pada *list account*, sementara halaman *List Account* akan memudar (*blur*). *Use case* yang ditangani yaitu *use case* Memasukkan Account.

## Perancangan Representasi Persistensi Kelas

### Entitiy Relationship Diagram



Entitiy Relationship Diagram di atas menggambarkan relasi antara dua entitas yaitu member dan web account. Member dapat memiliki banyak web account yang disimpan. Sedangkan Web Account harus dimiliki Member.

### Skema Basis Data



Skema basis data di atas dihasilkan dari ERD yang telah dibuat. Web Account memiliki foreign key id\_member karena berhubungan many to one dengan entitas member.

### Traceability

Berikut traceability tabel dengan entity :

|  |  |
| --- | --- |
| **Nama Entity** | **Nama Tabel Implementasi** |
| Member | Member |
| Web Account | Web Account |