MVC DSL Project

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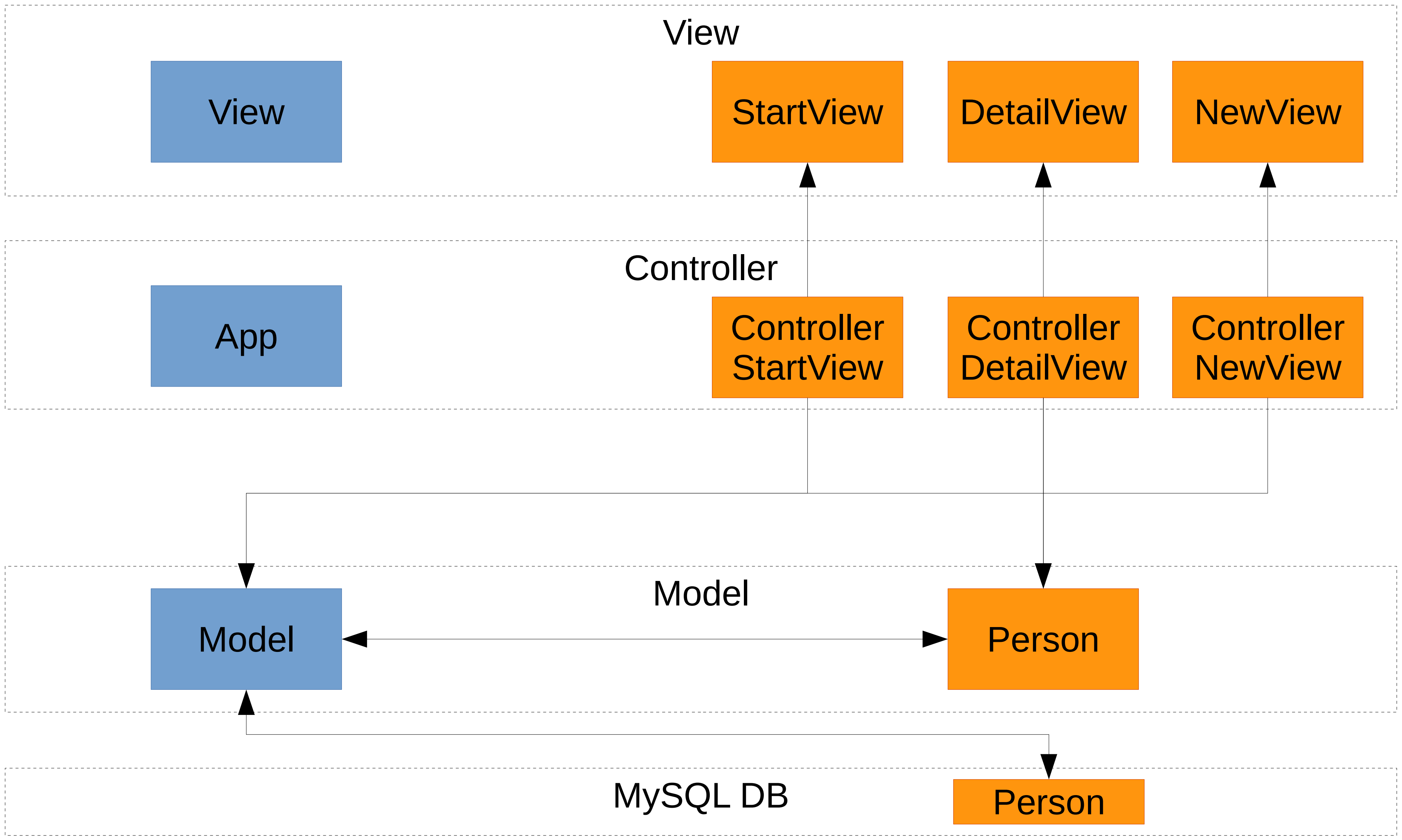
Architecture



Model

- Connect to MySQL DB
- Insert, Update, Delete, Select
- Simple ORM Mapper
- Overloaded operators for common operations

Examples:

```
Person p; Model model

model << p                     // save or update person

model >> p                     // delete person

model[Person]                  // get all persons

from Person where 'id = 3' // select person
```

View

- Views with fields or tables
- Arbitrarily nested views possible
- Builder similar to Groovy SwingBuilder
- JComponents: JTextbox, JLabel, JButton, JTable
- Layout: GridLayout, MatrixGridLayout, Hbox, VBox

View - Example

```
builder.view(id: 'DetailView', padding: 10) {
    matrixGrid(rows: 4, cols: 2) {
        label(text: 'Last Name:', row: 0, col: 0)
        text(id: 'LastNameText', row: 0, col: 1)

        label(text: 'First Name:', row: 1, col: 0)
        text(id: 'FirstNameText', row: 1, col: 1)

        label(text: 'Birthday:', row: 2, col: 0)
        text(id: 'BirthdayText', row: 2, col: 1)

        button(id: 'Back', text: 'Back', row: 3, col: 0)
        button(id: 'Save', text: 'Save', row: 3, col: 1)
    }
}
```

Controller

- Components are addressable by name
- Click and selection events
- Navigation
  - ➔ Forward / Back (view stack)
  - ➔ Pass arguments between controllers

Example:

```
on 'StartView' table 'PersonTable' select { View view, Model model ->
    def JTable table = view['PersonTable']
    def selected = table.getSelectedRow()

    if (selected != -1) {
        def id = table.getValueAt(selected, 0)
        navigate('DetailView', [id: id])
    }
}
```

DEMO

Advantages

- Groovy
  - Rapid prototyping
  - Use of existing libraries (Swing, SQL)
  - Familiar syntax (Java)
- Our project
  - Simple
  - Powerful
  - Extendable

Disadvantages

- Groovy
  - Limited to Groovy syntax support for DSLs
  - Unprecise error messages
- Our project
  - God class „App“
  - Syntactic noise (Initializing Views and Controller)
  - Component names need to be unique

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