

Java GUI Programming

AWT/SWING – User Interface

BUILDING USER INTERFACE I (DESIGN AND IMPLEMENTATION)

ERIC Y. CHOU, PH.D.

IEEE SENIOR MEMBER

User Interface



Front-End UI

Components

Layout

Flow

Animation

UX Patterns

Custom Comp.

Dynamic Content

Exceptions

Client Company Name

http://www.averlongcompanyurl.c...

instamatrix

3

11

Jordan Walker

Search...

Home

Clients

We Comply

Adwords Reports

Create New

CLIENT TOOLS

Client Overview

SEO Reports

Social Media Reports

Adwords Reports

Create New

View All

Third List Item Here

Campaigns

Webmaster Tools

MY TOOLS

Dashboard

Tasks

Time Card

Tools

User Manager

123

+

Keyword Rank

123

+

Keyword Rank

123

+

Keyword Rank

123

+

Keyword Rank

123

+

Keyword Rank

123

+

Keyword Rank

WeComply.com

Edit

Preview

35.2k

▲ 19.72%

New Traffic

4,275

▲ 5.04%

Organic Traffic - Google

Avg. Page Views - by Week

27.45%

Avg. Conversion Rate

8m 15s

▼ 3.29%

Time On Site

575

▼ 0.95%

Organic Traffic - Bing

Keyword Rankings

4	7	Compliance Training
91	37	HIPAA Training
3	8	Sexual Harassment Training

Back-End UI

Analytics

Account Mgmt.

Logistics

Sale Strategy

Banking

Tools

SEO

RSS Mgmt.

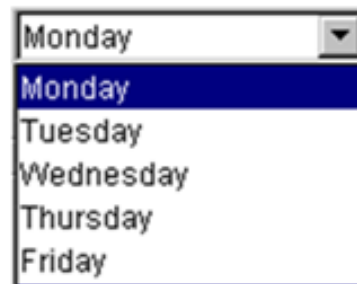
Social Network



GUI Components



Buttons



Combo Box



List



TextField



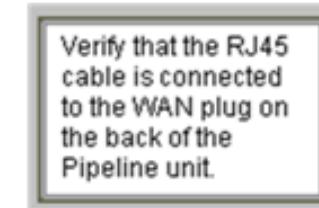
Slider



Menu



Label



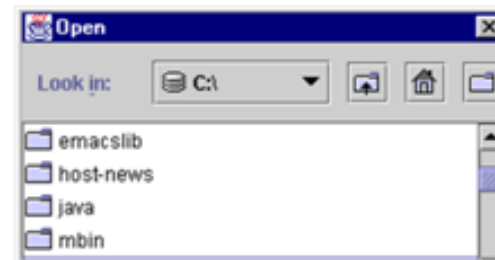
Text Area



Tool Tip



Progress Bar



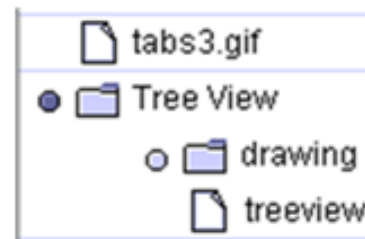
File Chooser



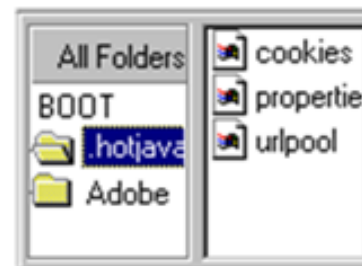
Color Chooser

First Na...	Last Name
Mark	Andrews
Tom	Ball
Alan	Chung
Jeff	Dinkins

Table



Tree



Split Pane



Tabbed Pane

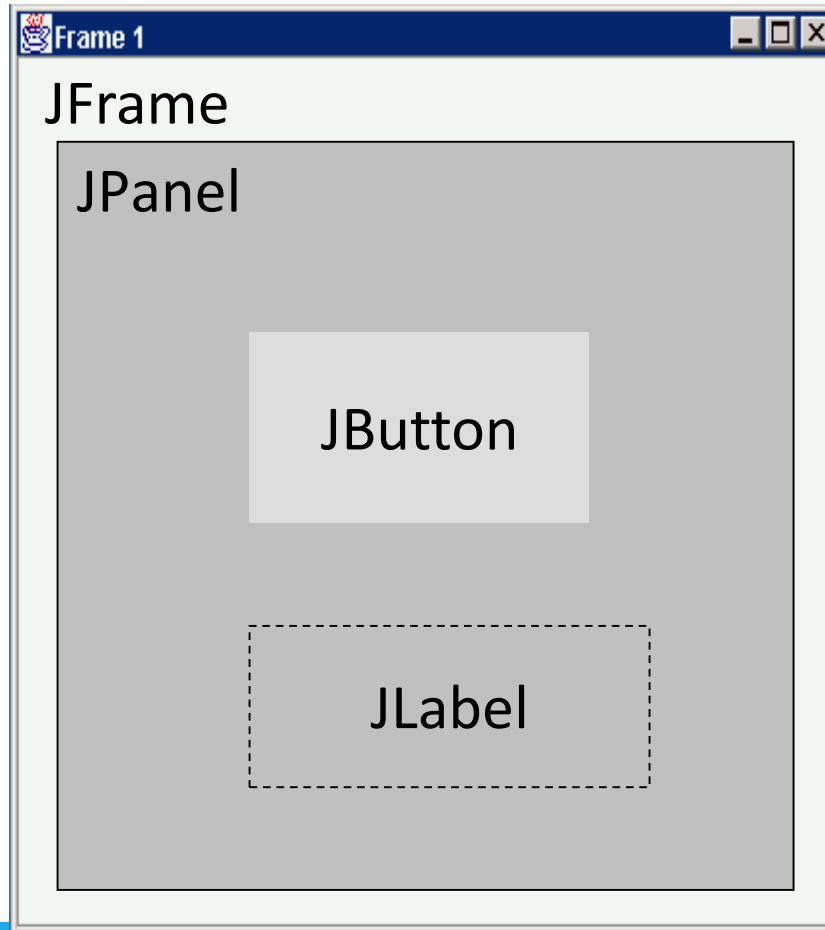
Selections:

- . GUI Package
- . Component
- . Layout
- . Containers
- . Signals (Event)
- . Listeners (Association)
- . Slot (Handler)

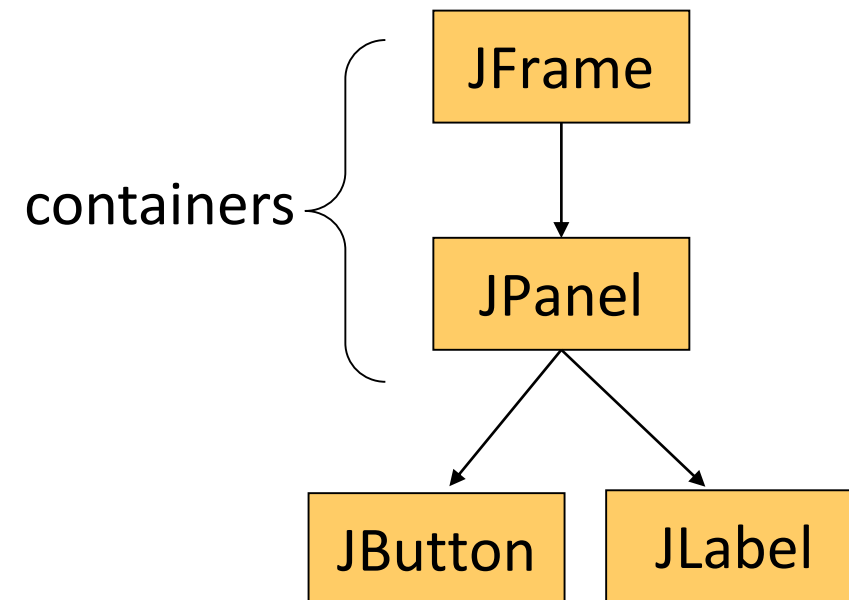


Structural Analysis of an Application GUI

GUI



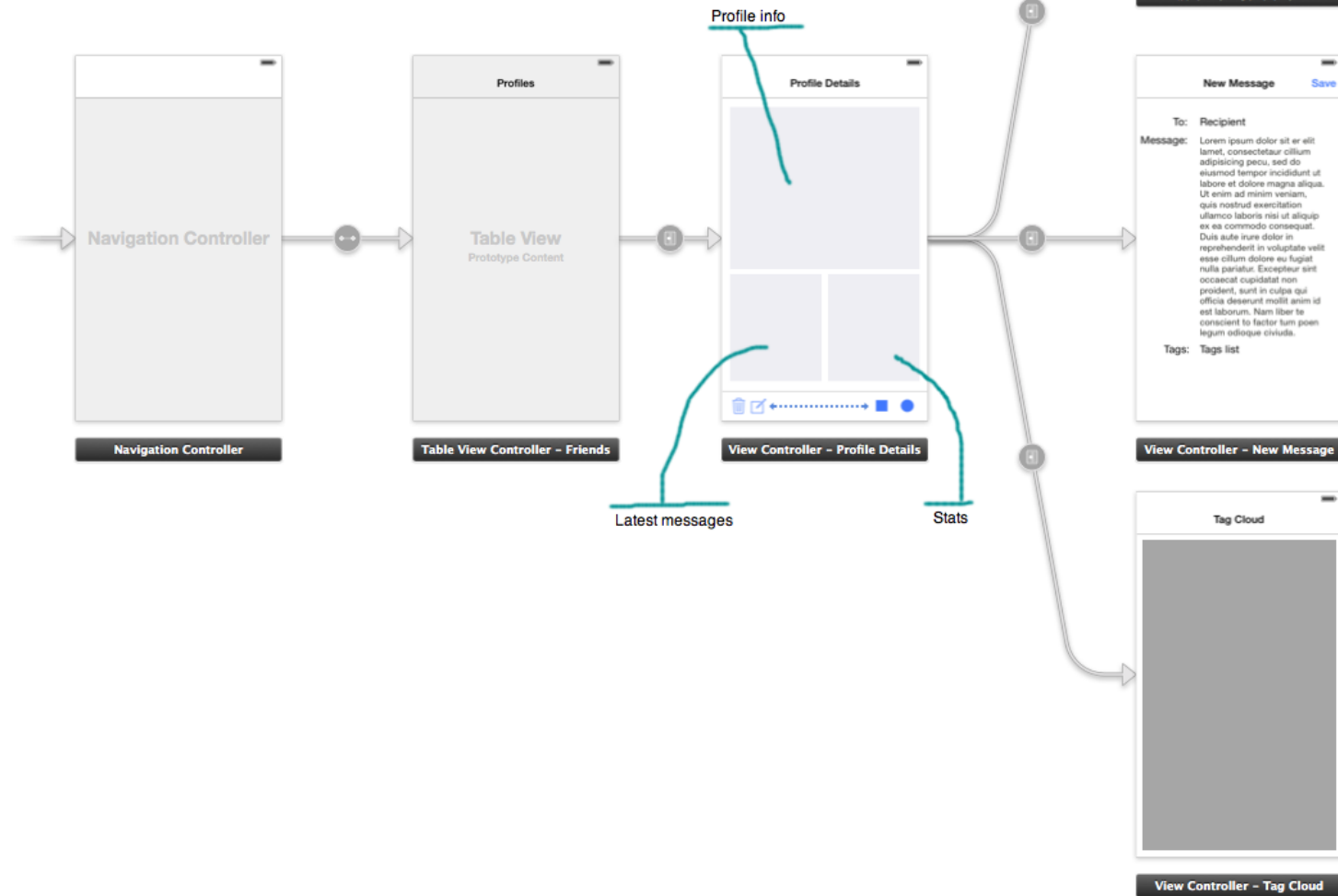
Internal structure





Top-Down Design for GUI

Window(Frame) -> Scene (Panel) -> Container (Layout) -> Component -> Listener





GUI Component Design

- 1) Create it
- 2) Configure it
- 3) Add children (if container)
- 4) Add to parent (if not JFrame)
- 5) Listen to it

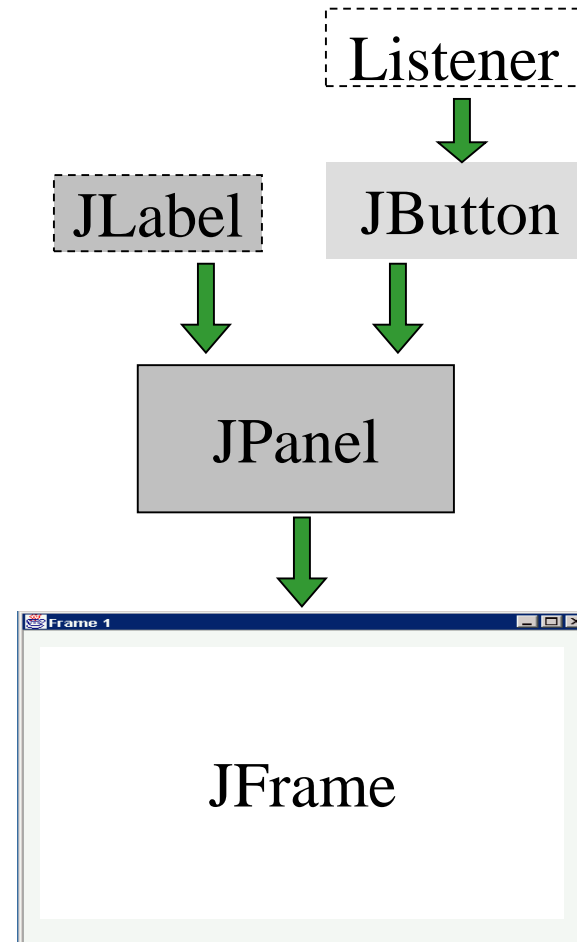
order
important

A black arrow pointing downwards, indicating the sequence of steps in the GUI component design process.

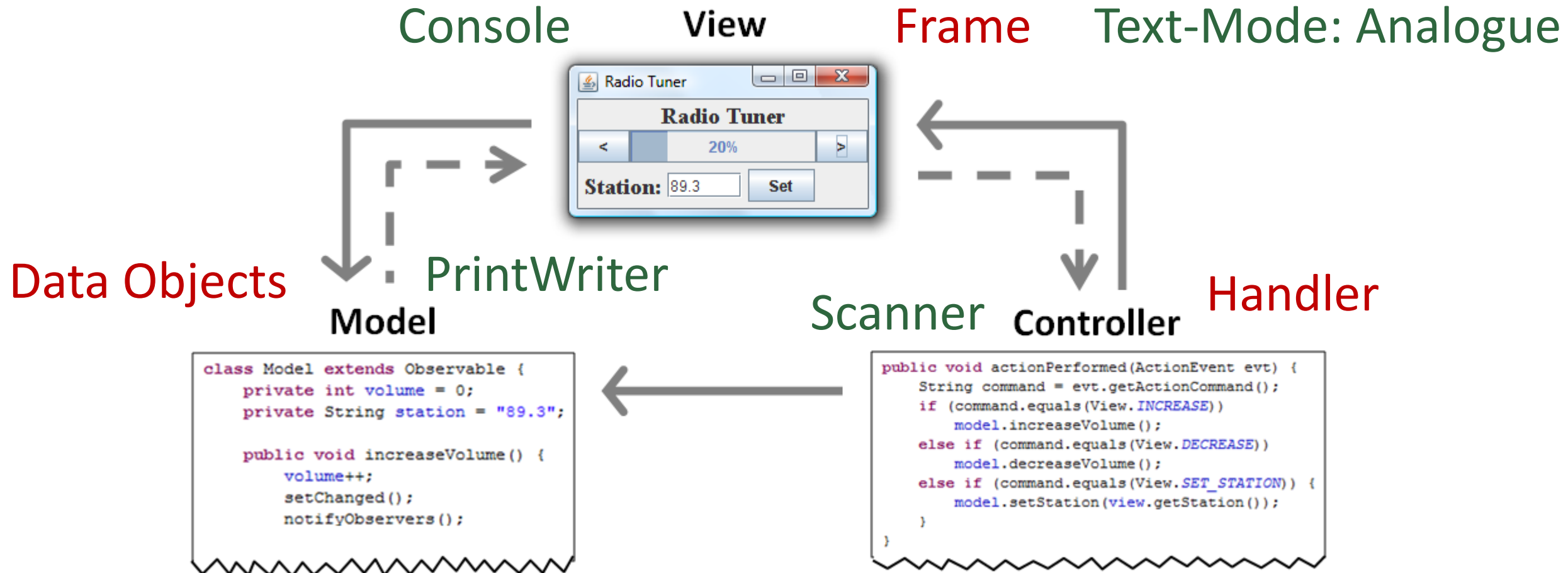


Bottom-up Implementation

- **Create:**
 - Frame
 - Panel
 - Components
 - Listeners
- **Add: (bottom up)**
 - listeners into components
 - components into panel
 - panel into frame

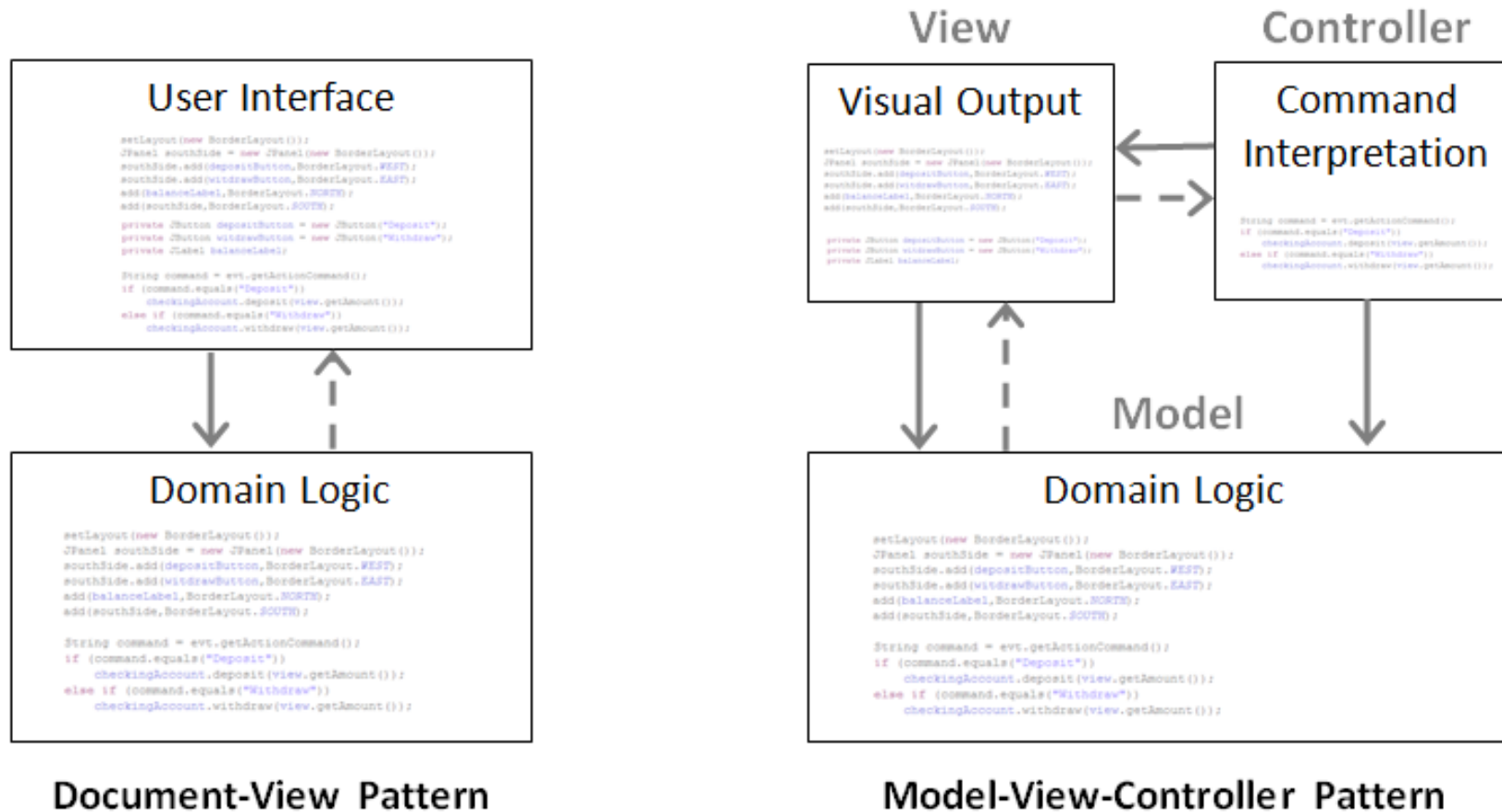


GUI Design Pattern (Model-View-Controller)



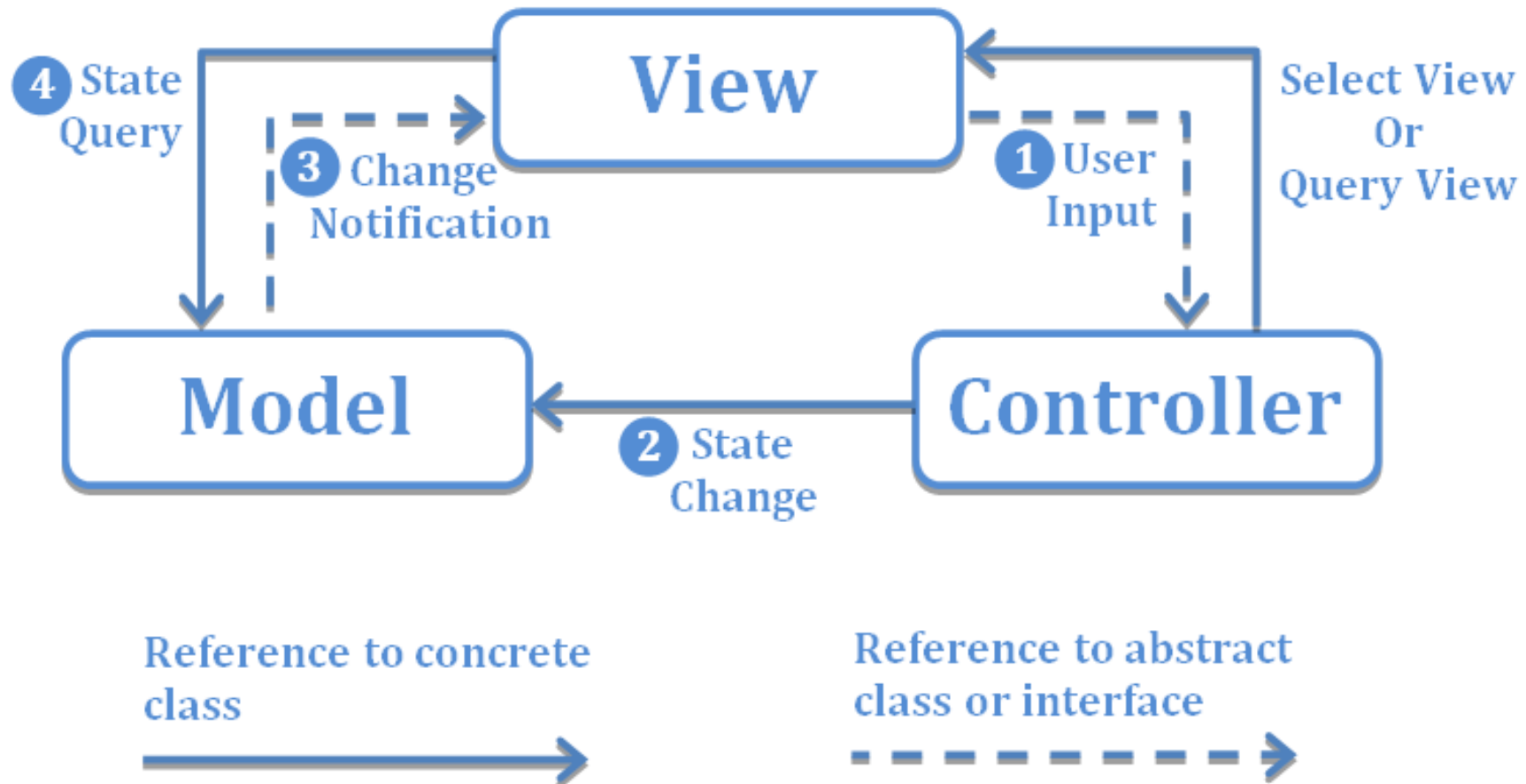


Various GUI Design Patterns





Model-View-Controller (MVC)





Design Patterns

