IMPLEMENTASI IMK

CSH3E3 #3

Oleh : Tim Dosen KK SIDE

Agenda

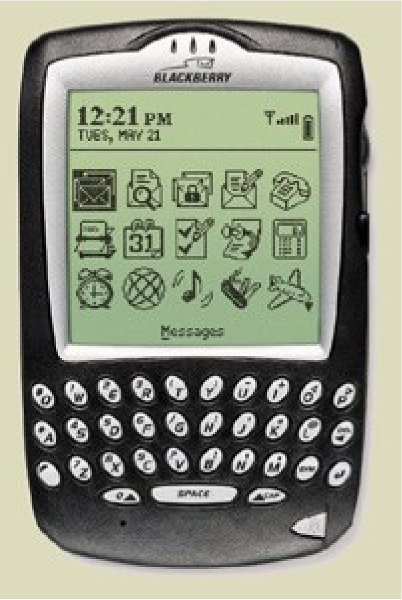
- Media Input Data
- Komponen GUI Windows
- Membuat GUI di Netbeans
- Membuat GUI di DreamWeaver
- Membuat GUI di Visual Studio
- Saatnya berlatih
- Saatnya eksplorasi

Sub Bahasan 1

Media Input Data

Input Implementation Methods

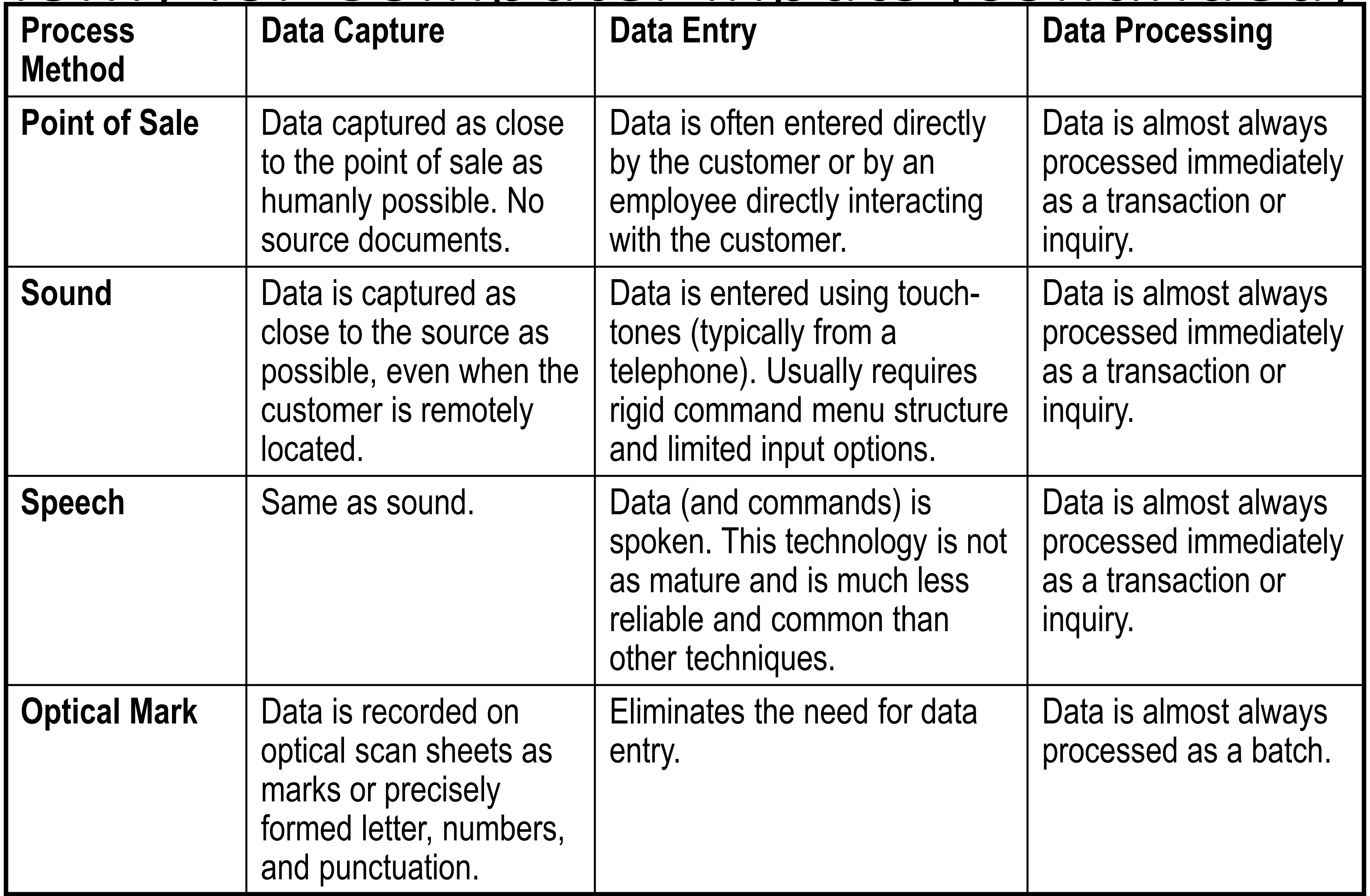
- Keyboard
- Mouse
- Touch Screen
- Point-of-sale terminals
- Sound and speech
- Automatic data capture
  - Optical mark recognition (OMR)
    - Bar codes
  - Optical character recognition (OCR)
  - Magnetic Ink
  - Electromagnetic transmission
  - Smart cards
  - Biometric



Taxonomy for Computer Inputs

Process Method	**Data Capture**	**Data Entry**	**Data Processing**
Keyboard	Data is usually captured on a business form that becomes the source document for input. Data can be collected real-time.	Data is entered via keyboard. This is the most common input method but also the most prone to errors.	OLD: Data can be collected into batch files (disk) for processing as a batch. NEW: Data is processed as soon as it has been keyed.
Mouse	Same as above.	Used in conjunction with keyboard to simplify data entry. Mouse serves as a pointing device for a screen.	Same as above, but the use of a mouse is most commonly associated with online and real-time processing.
Touch Screen	Same as above.	Data is entered o a touch screen display or handheld device. Data entry users either touch commands and data choices or enter data using handwriting recognition.	On PCs, touch screen choices are processed same as above. On handheld computers, data is sorted on the handheld for later processing as a remote batch.

Taxonomy for Computer Inputs (continued)

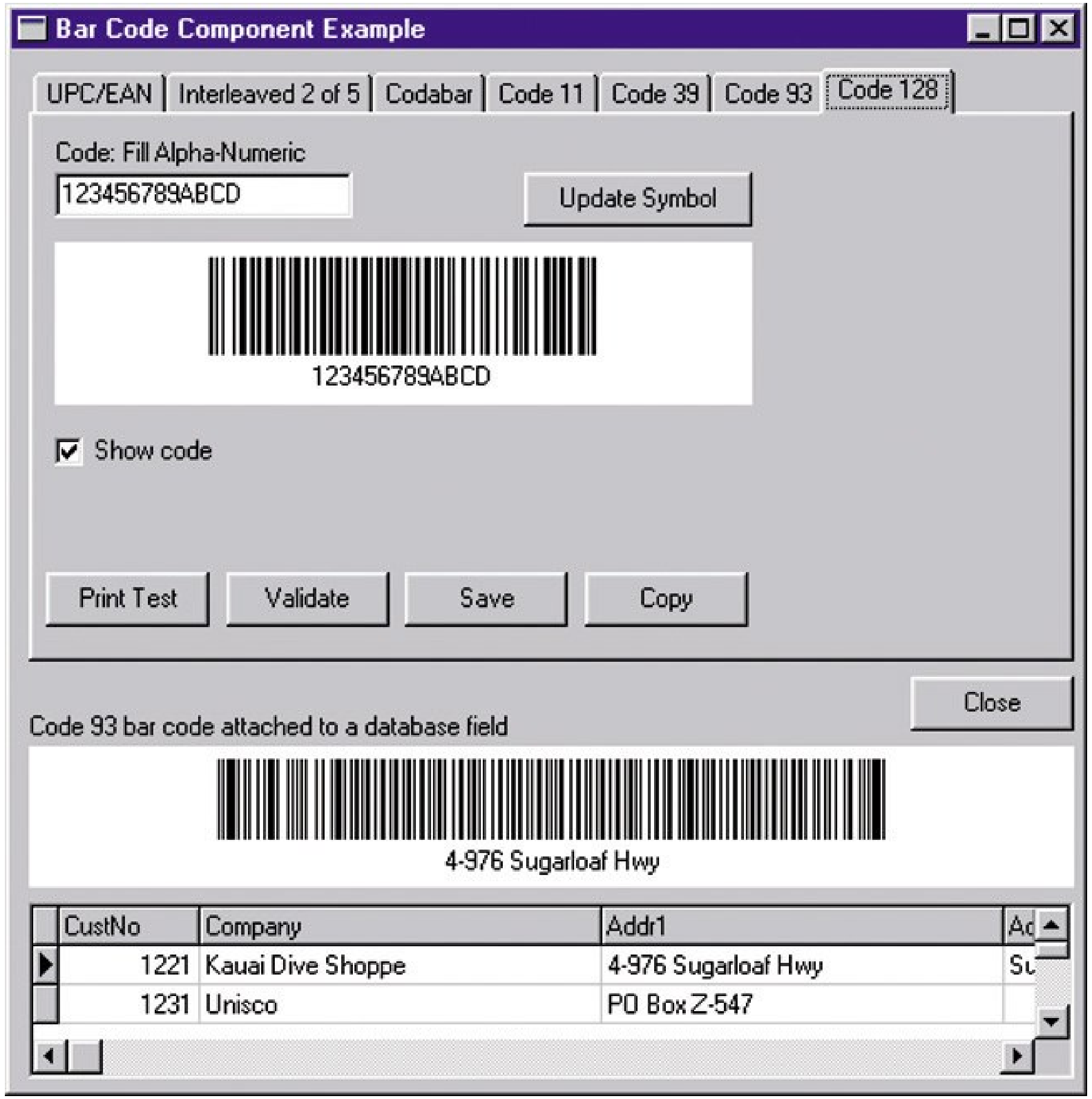


Process Method	Data Capture	Data Entry	Data Processing
Point of Sale	Data captured as close to the point of sale as humanly possible. No source documents.	Data is often entered directly by the customer or by an employee directly interacting with the customer.	Data is almost always processed immediately as a transaction or inquiry.
Sound	Data is captured as close to the source as possible, even when the customer is remotely located.	Data is entered using touch-tones (typically from a telephone). Usually requires rigid command menu structure and limited input options.	Data is almost always processed immediately as a transaction or inquiry.
Speech	Same as sound.	Data (and commands) is spoken. This technology is not as mature and is much less reliable and common than other techniques.	Data is almost always processed immediately as a transaction or inquiry.
Optical Mark	Data is recorded on optical scan sheets as marks or precisely formed letter, numbers, and punctuation.	Eliminates the need for data entry.	Data is almost always processed as a batch.

Taxonomy for Computer Inputs (concluded)

Process Method	Data Capture	Data Entry	Data Processing
Magnetic Ink	Data usually prerecorded on forms that are completed by the customer. The customer records additional information on the form.	A magnetic ink reader reads the magnetized data. The customer-added data must be entered using another input method.	Data is almost always processed as a batch.
Electromagnetic	Data is recorded directly on the object to be described by data.	Data is transmitted by radio frequency.	Data is almost always processed immediately.
Smart Card	Data is recorded directly on a device to be carried by the customer, employee, or other individual that is described by that data.	Data is read by smart card readers.	Data is almost always processed immediately.
Biometric	Unique human characteristics become data	Data read by biometric sensors. Primary applications are security and medical monitoring	Data is processed immediately.

Automatic Identification: Bar Codes



Code: Fill Alpha-Numeric
123456789ABCD

123456789ABCD

☑ Show code

Code 93 bar code attached to a database field

4-976 Sugarloaf Hwy

CustNo	Company	Addr1	Ad
1221	Kauai Dive Shoppe	4-976 Sugarloaf Hwy	Su
1231	Unisco	PO Box Z-547	

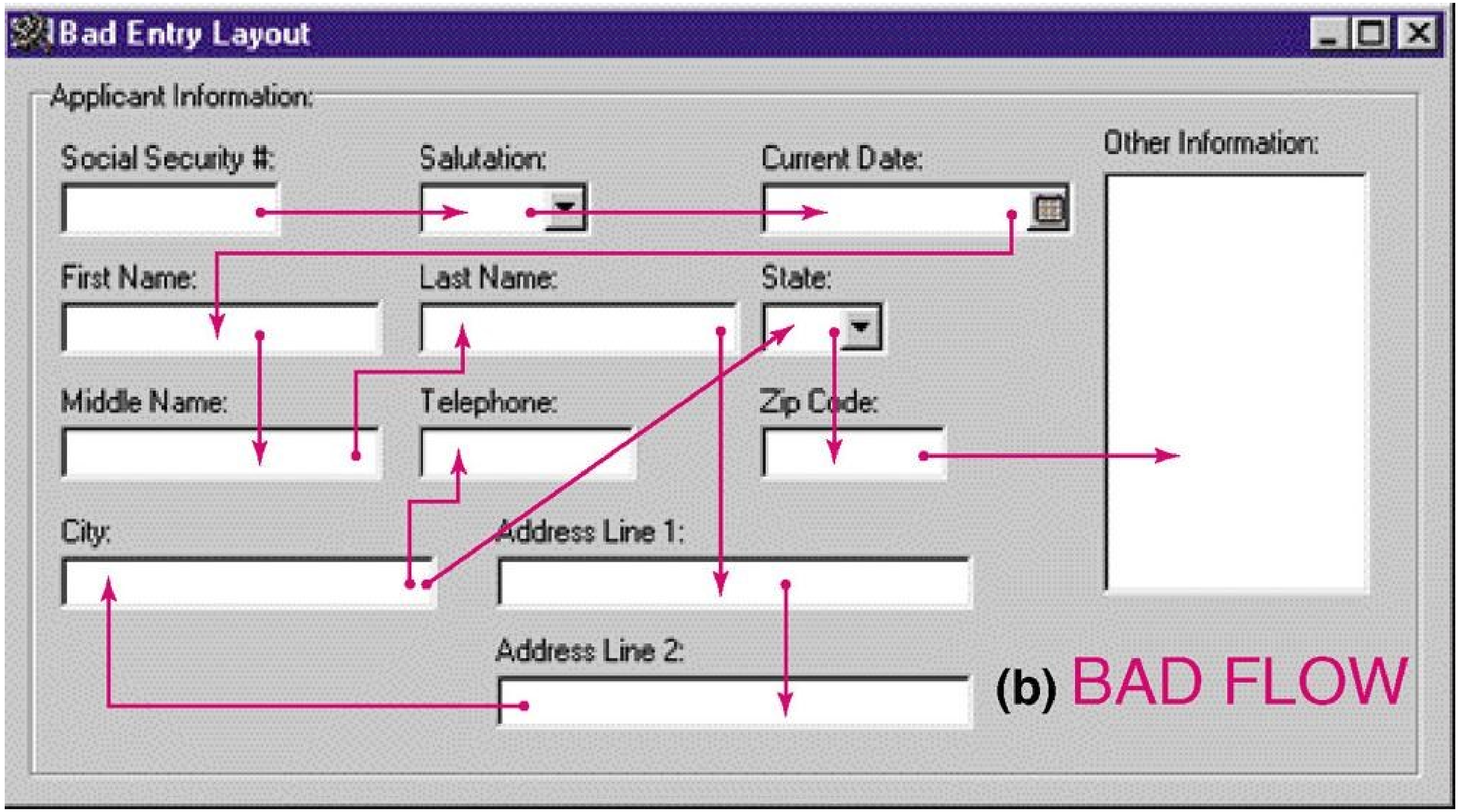
Input Design Guidelines

- Capture only variable data.
  - Not data that can be looked up.
- Do not capture data that can calculated or stored in computer programs as constants.
  - Extended Price, Federal Withholding, etc.
- Use codes for appropriate attributes.

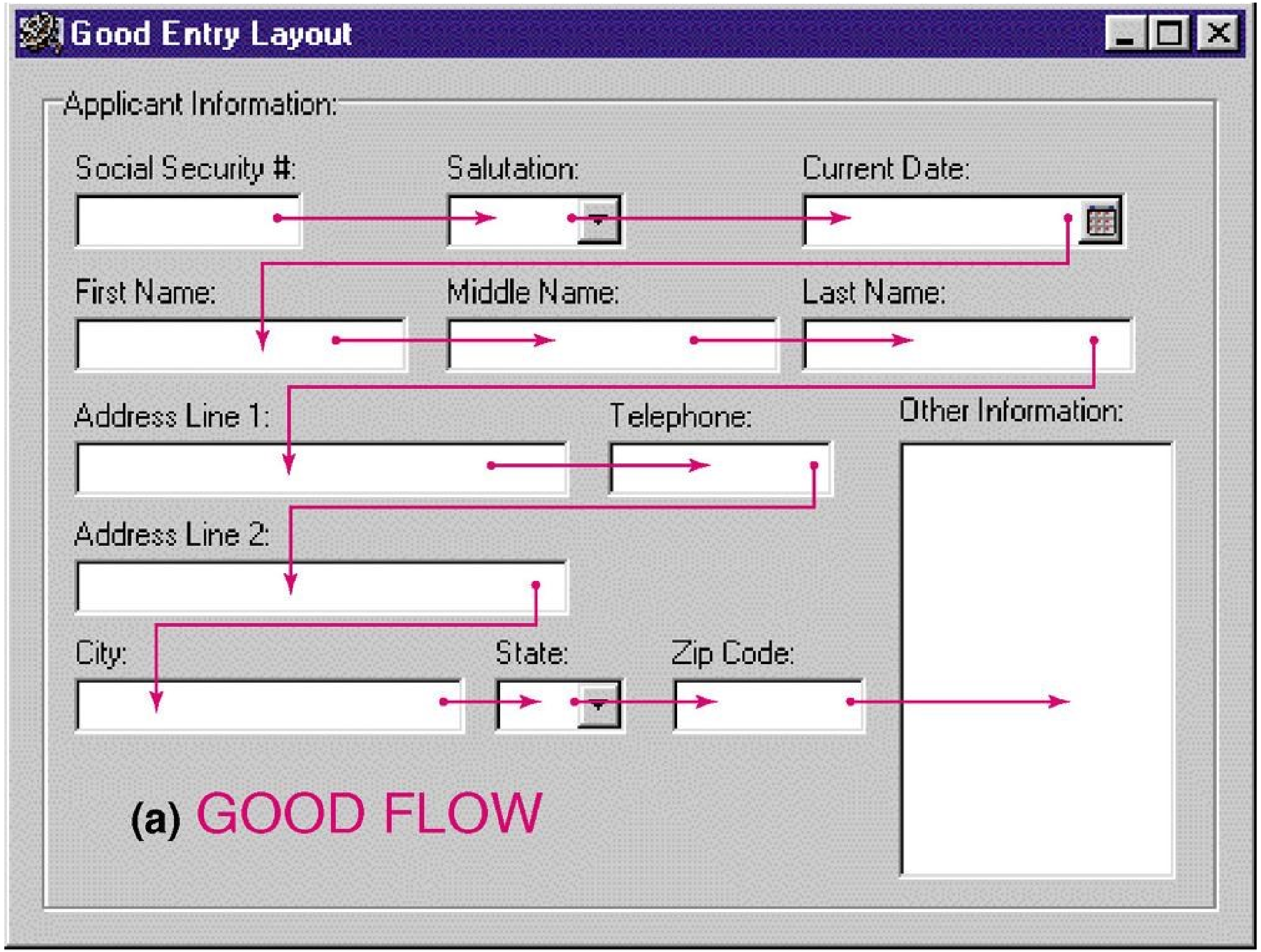
Source Document / Form Design Guidelines

- Include instructions for completing the form.
- Minimize the amount of handwriting.
- Data to be entered (keyed) should be sequenced top-to-bottom and left-to-right.
- When possible use designs based on known metaphors.

Bad Flow in a Form



Good Flow in a Form



Good Entry Layout

Applicant Information:

Social Security #:

Salutation:

Current Date:

First Name:

Middle Name:

Last Name:

Address Line 1:

Telephone:

Other Information:

Address Line 2:

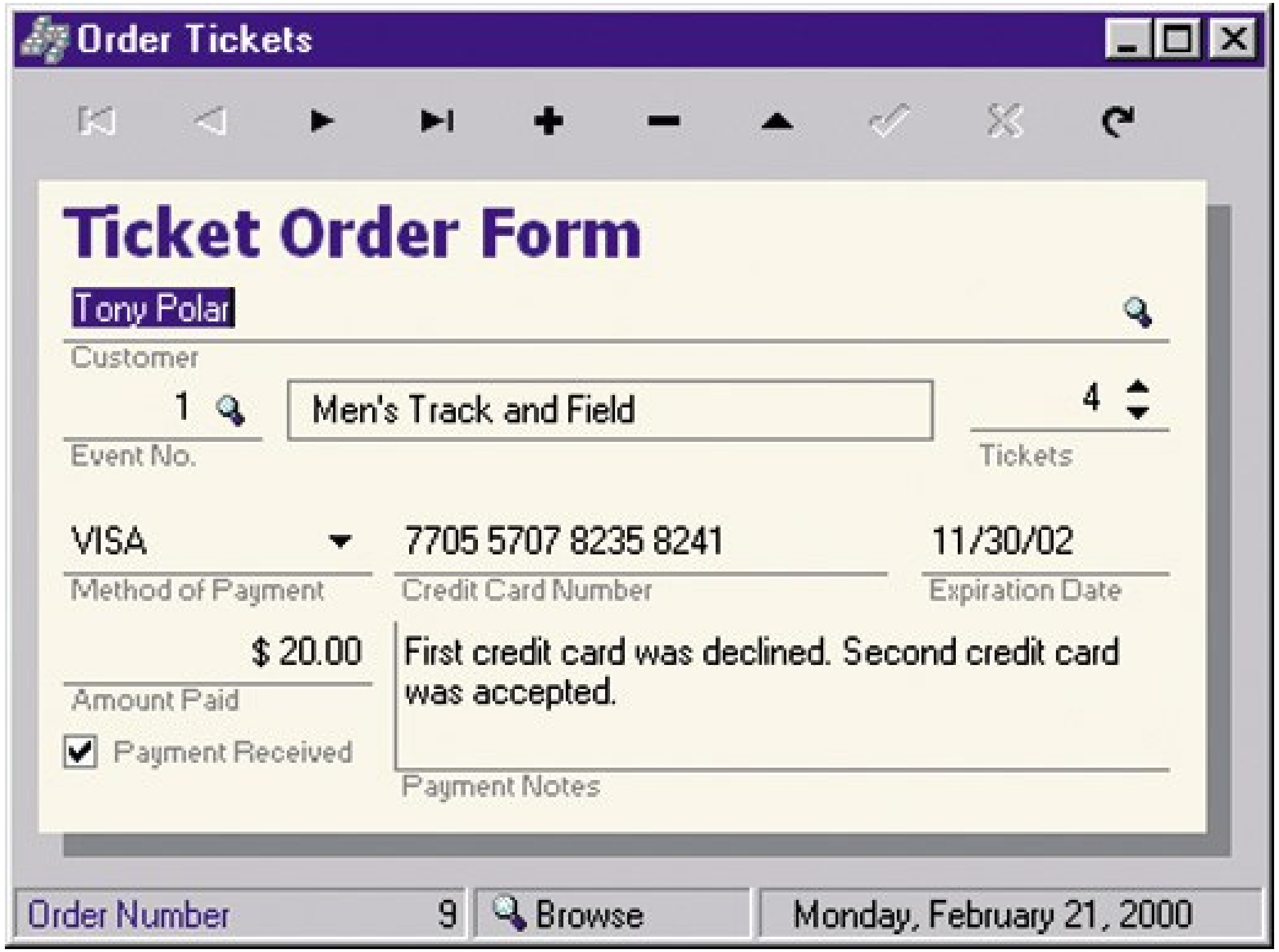
City:

State:

Zip Code:

(a) GOOD FLOW

Metaphoric Screen Design



Ticket Order Form

Customer: Tony Polar

Event No.: 1

Men's Track and Field

Tickets: 4

Method of Payment: VISA

Credit Card Number: 7705 5707 8235 8241

Expiration Date: 11/30/02

Amount Paid: $ 20.00

☑ Payment Received

Payment Notes: First credit card was declined. Second credit card was accepted.

Order Number 9

Monday, February 21, 2000

Internal Controls for Inputs

- **The number of inputs should be monitored (to minimize risk of lost transactions).**
  - For batch processing
    - Use batch control slips
    - Use one-for-one checks against post-processing detail reports
  - For on-line systems
    - Log each transaction as it occurs to a separate audit file
- **Validate all data**
  - Existence checks
  - Data-type checks
  - Domain checks
  - Combination checks
  - Self-checking digits
  - Format checks

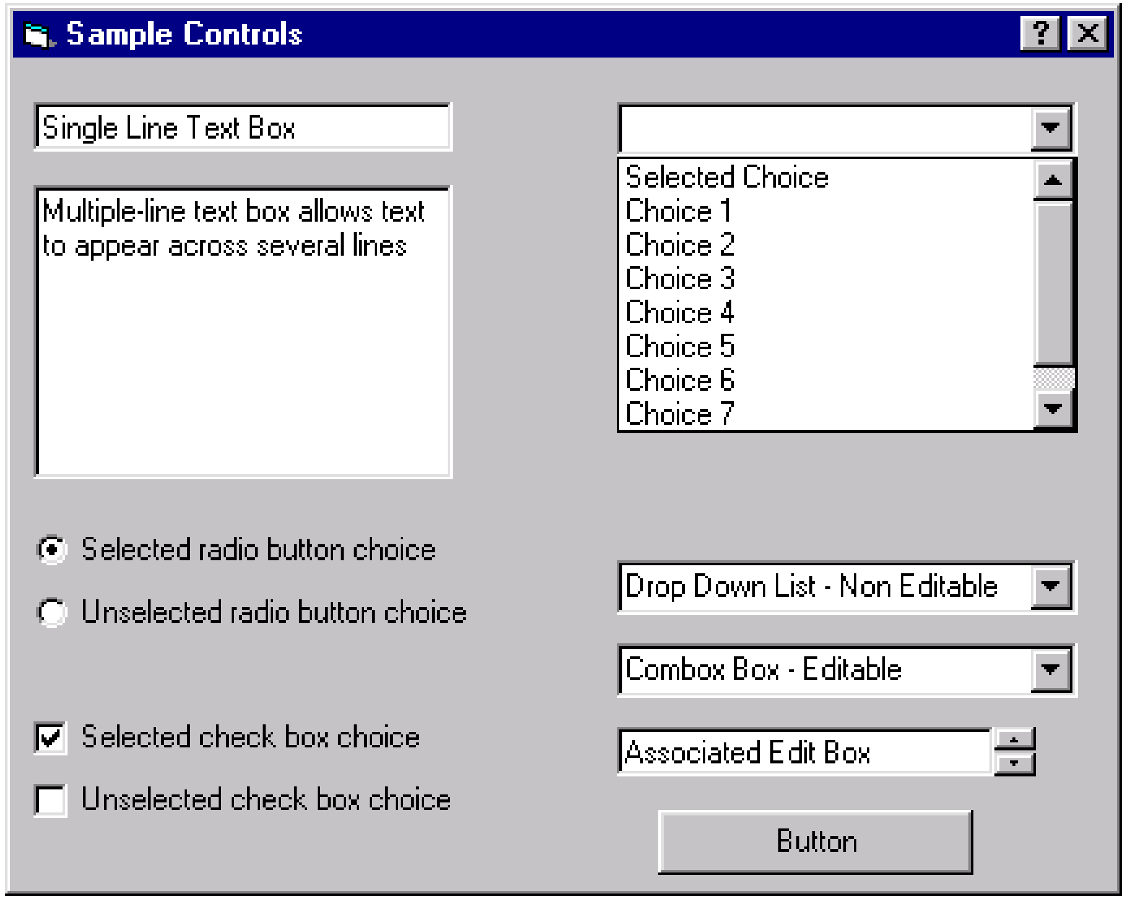
AKAN BANYAK CODING DI SINI

Sub Bahasan 2

Komponen GUI Umum (Windows & Web)

Common GUI Controls (Windows and Web)

- Text boxes
- Radio buttons
- Check boxes
- List boxes
- Drop down lists
- Combination boxes
- Spin boxes
- Buttons



Single Line Text Box

Multiple-line text box allows text to appear across several lines

Selected Choice
Choice 1
Choice 2
Choice 3
Choice 4
Choice 5
Choice 6
Choice 7

● Selected radio button choice

○ Unselected radio button choice

☑ Selected check box choice

□ Unselected check box choice

Drop Down List - Non Editable

Combox Box - Editable

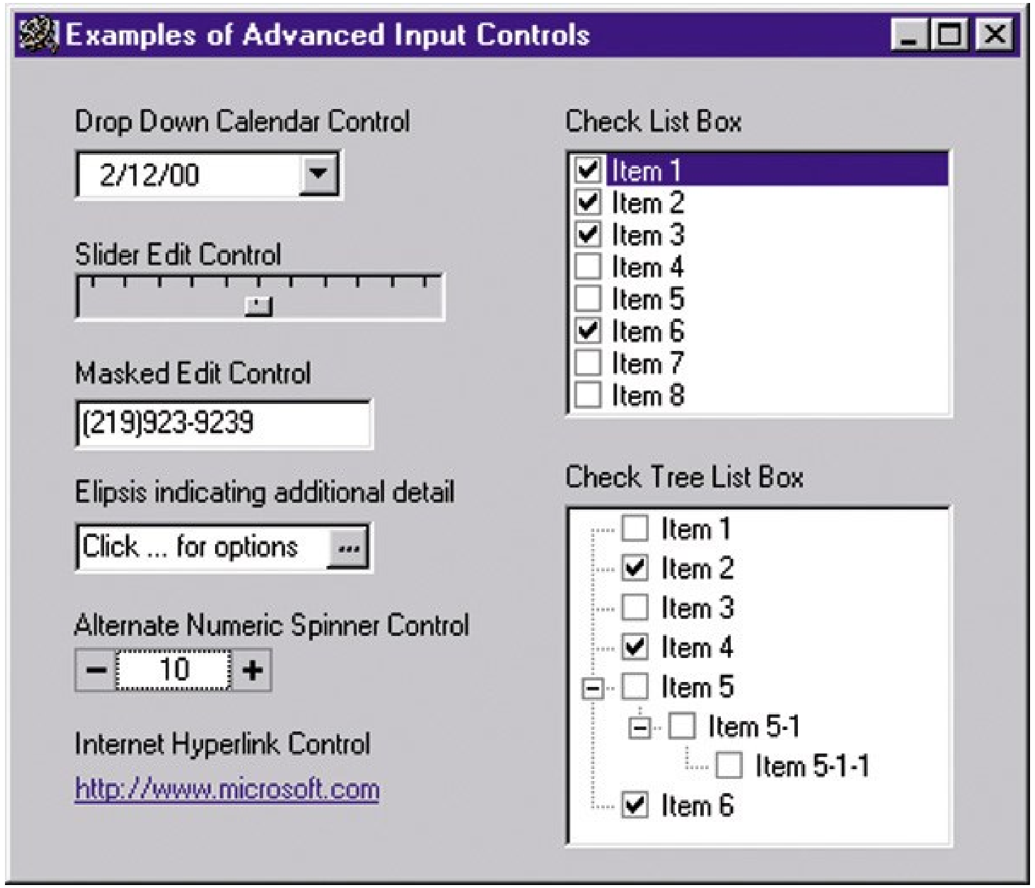
Associated Edit Box

Common GUI Controls Uses

- Text boxes
  - When the input data values are unlimited in scope
- Radio buttons
  - When data has limited predefined set of mutually exclusive values
- Check boxes
  - When value set consists of a simple yes or no value
- List boxes
  - When data has a large number of possible values
- Drop down lists
  - When data has large number of possible values and screen space is too limited for a list box
- Combination boxes
  - To provide user with option of selecting value from a list or typing a value that may or may not appear in the list
- Spin boxes
  - When need to navigate through a small set of choices or directly typing a data value

Advanced Controls (mostly Windows interfaces)

- Drop down calendars
- Slider edit controls
- Masked edit controls
- Ellipsis controls
- Alternate numerical spinners
- Check list boxes
- Check tree boxes



Examples of Advanced Input Controls

Drop Down Calendar Control

2/12/00

Slider Edit Control

Masked Edit Control

(219)923-9239

Elipsis indicating additional detail

Click ... for options

Alternate Numeric Spinner Control

− 10 +

Internet Hyperlink Control

http://www.microsoft.com

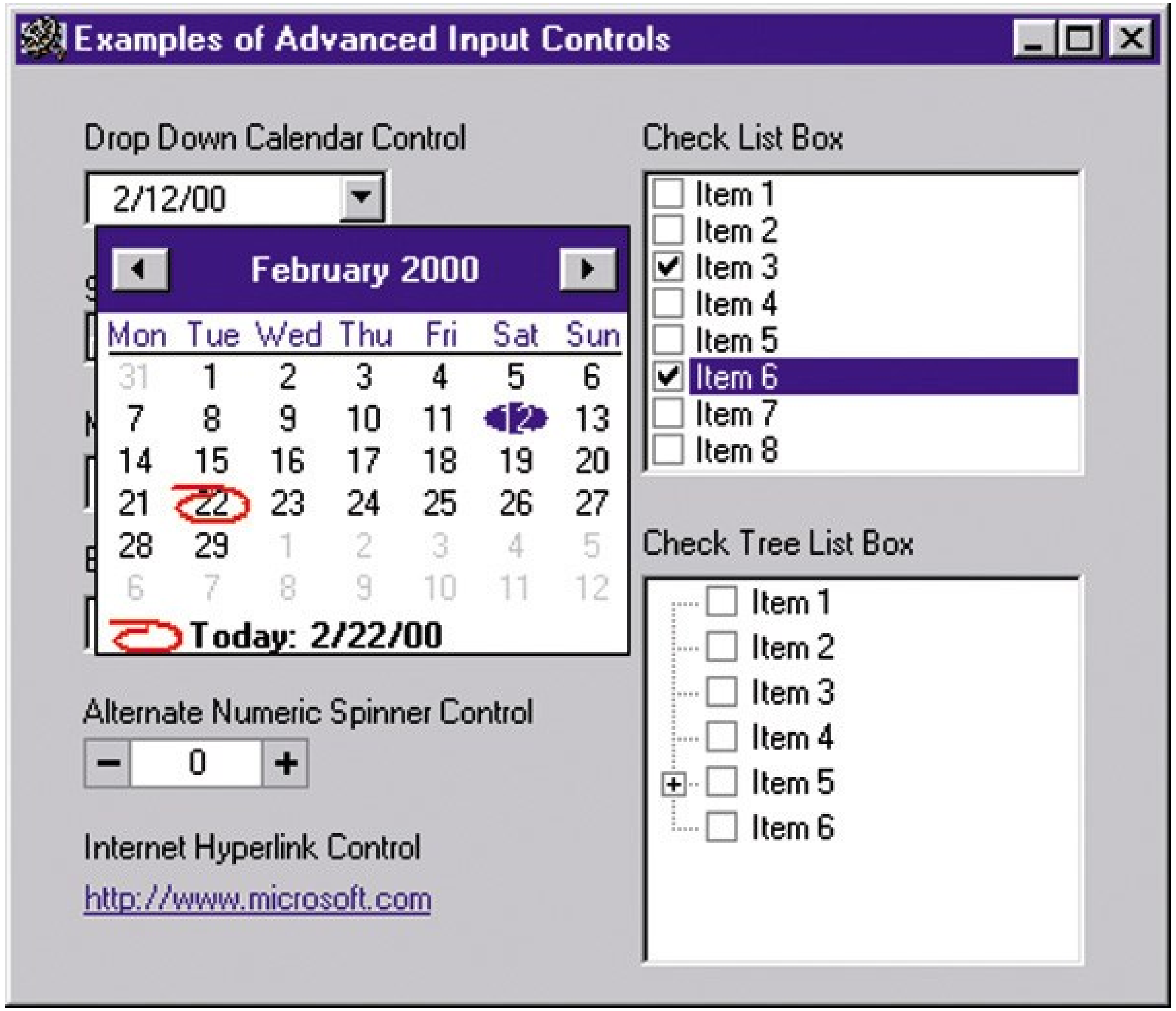
Check List Box

☑ Item 1
☑ Item 2
☑ Item 3
□ Item 4
□ Item 5
☑ Item 6
□ Item 7
□ Item 8

Check Tree List Box

□ Item 1
☑ Item 2
□ Item 3
☑ Item 4
□ Item 5
  □ Item 5-1
    □ Item 5-1-1
☑ Item 6

Advanced Controls (mostly Windows interfaces)



Examples of Advanced Input Controls

Drop Down Calendar Control

2/12/00 ▾

◀ February 2000 ▶

Mon	Tue	Wed	Thu	Fri	Sat	Sun
31	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	1	2	3	4	5
6	7	8	9	10	11	12

Today: 2/22/00

Alternate Numeric Spinner Control

− 0 +

Internet Hyperlink Control

http://www.microsoft.com

Check List Box

- □ Item 1
- □ Item 2
- ☑ Item 3
- □ Item 4
- □ Item 5
- ☑ Item 6
- □ Item 7
- □ Item 8

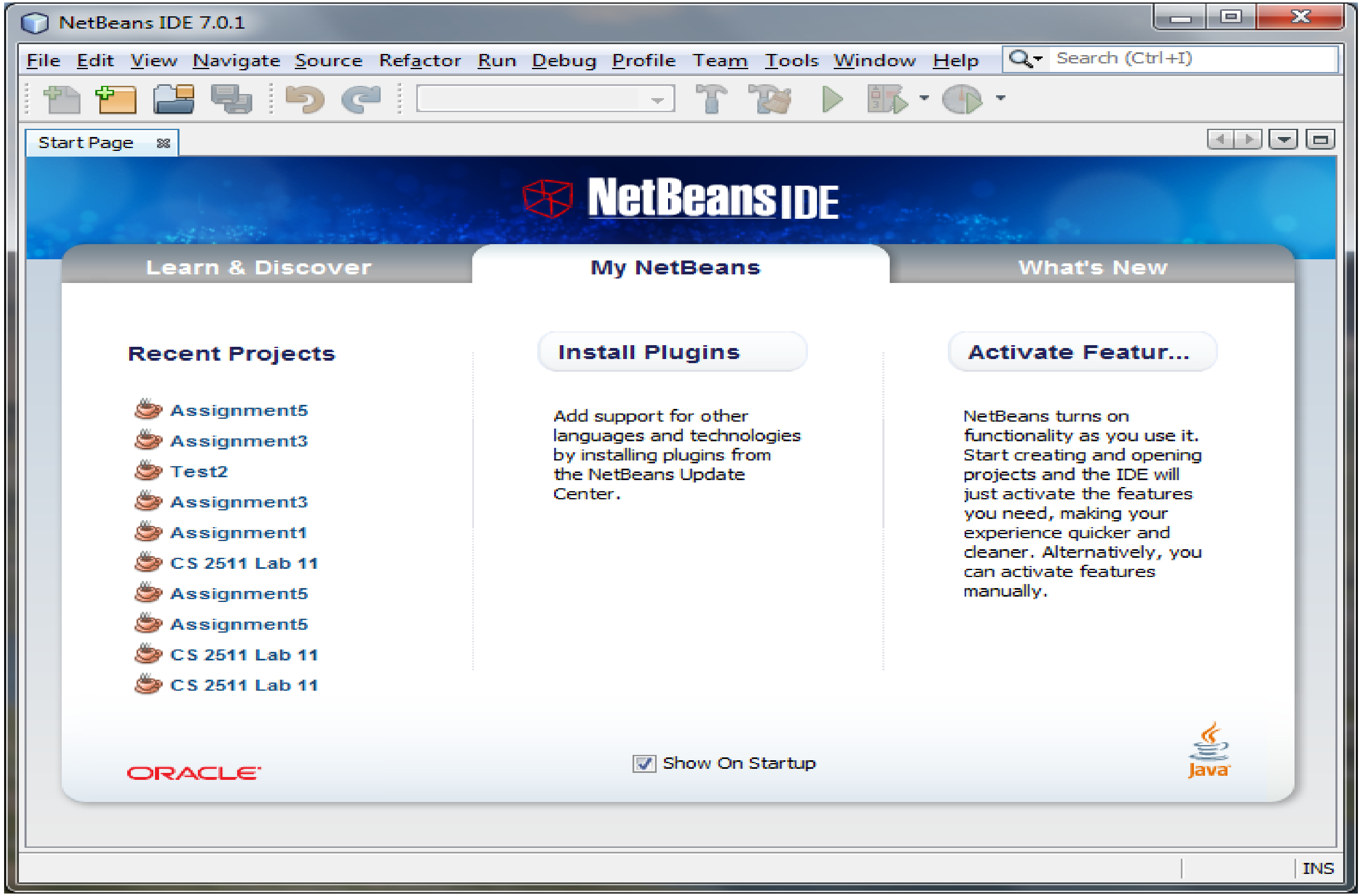
Check Tree List Box

- □ Item 1
- □ Item 2
- □ Item 3
- □ Item 4
- ⊞ □ Item 5
- □ Item 6

Sub Bahasan 3

GUI in Netbeans

Membuat GUI di Netbeans



Recent Projects

- Assignment5
- Assignment3
- Test2
- Assignment3
- Assignment1
- CS 2511 Lab 11
- Assignment5
- Assignment5
- CS 2511 Lab 11
- CS 2511 Lab 11

Install Plugins

Add support for other languages and technologies by installing plugins from the NetBeans Update Center.

Activate Featur...

NetBeans turns on functionality as you use it. Start creating and opening projects and the IDE will just activate the features you need, making your experience quicker and cleaner. Alternatively, you can activate features manually.

☑ Show On Startup

Exercise 1: Creating a Project

The first step is to create an IDE project for the application that we are going to develop. We will name our project NumberAddition.

- Choose File > New Project. Alternatively, you can click the New Project icon in the IDE toolbar.
- In the Categories pane, select the Java node. In the Projects pane, choose Java Application. Click Next.
- Type NumberAddition in the Project Name field and specify a path, for example, in your home directory, as the project location.
- (Optional) Select the Use Dedicated Folder for Storing Libraries checkbox and specify the location for the libraries folder. See Sharing a Library with Other Users in Developing Applications with NetBeans IDE for more information.
- Deselect the Create Main Class checkbox if it is selected.
- Click Finish.

Exercise 2: Building the Front End

- To proceed with building our interface, we need to create a Java container within which we will place the other required GUI components. In this step we'll create a container using the JFrame component. We will place the container in a new package, which will appear within the Source Packages node.

Create a JFrame container

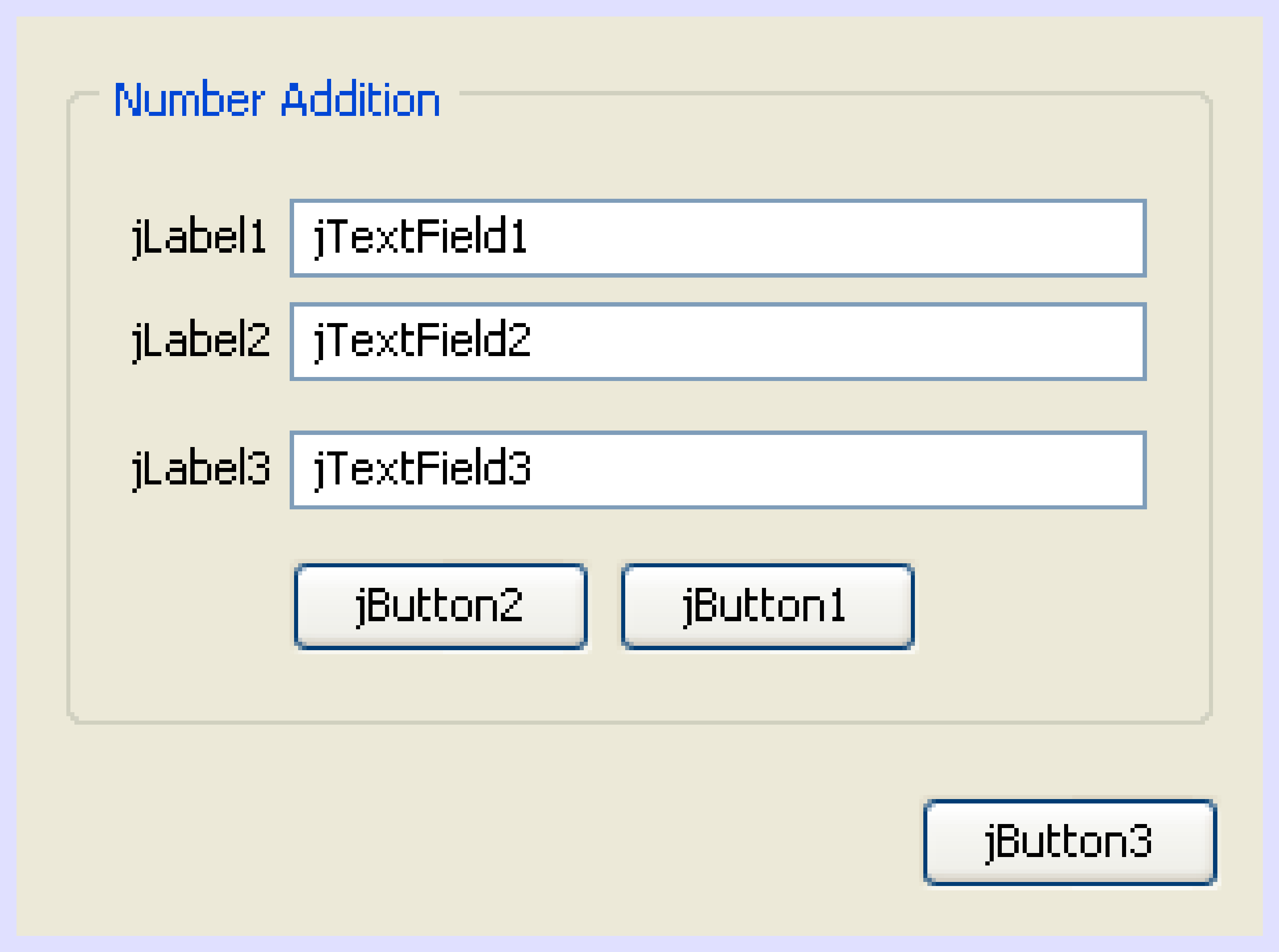
- In the Projects window, right-click the NumberAddition node and choose New > Other.
- In the New File dialog box, choose the Swing GUI Forms category and the JFrame Form file type. Click Next.
- Enter NumberAdditionUI as the class name.
- Enter my.numberaddition as the package.
- Click Finish.

The IDE creates the NumberAdditionUI form and the NumberAdditionUI class within the NumberAddition application, and opens the NumberAdditionUI form in the GUI Builder. The my.NumberAddition package replaces the default package.

Adding Components: Making the Front End

- Next we will use the Palette to populate our application's front end with a JPanel. Then we will add three JLabels, three JTextFields, and three JButtons. If you have not used the GUI Builder before, you might find information in the Designing a Swing GUI in NetBeans IDE tutorial on positioning components useful.

- Once you are done dragging and positioning the aforementioned components, the JFrame should look something like the following screenshot.


Number Addition
jLabel1
jTextField1
jLabel2
jTextField2
jLabel3
jTextField3
jButton2
jButton1
jButton3

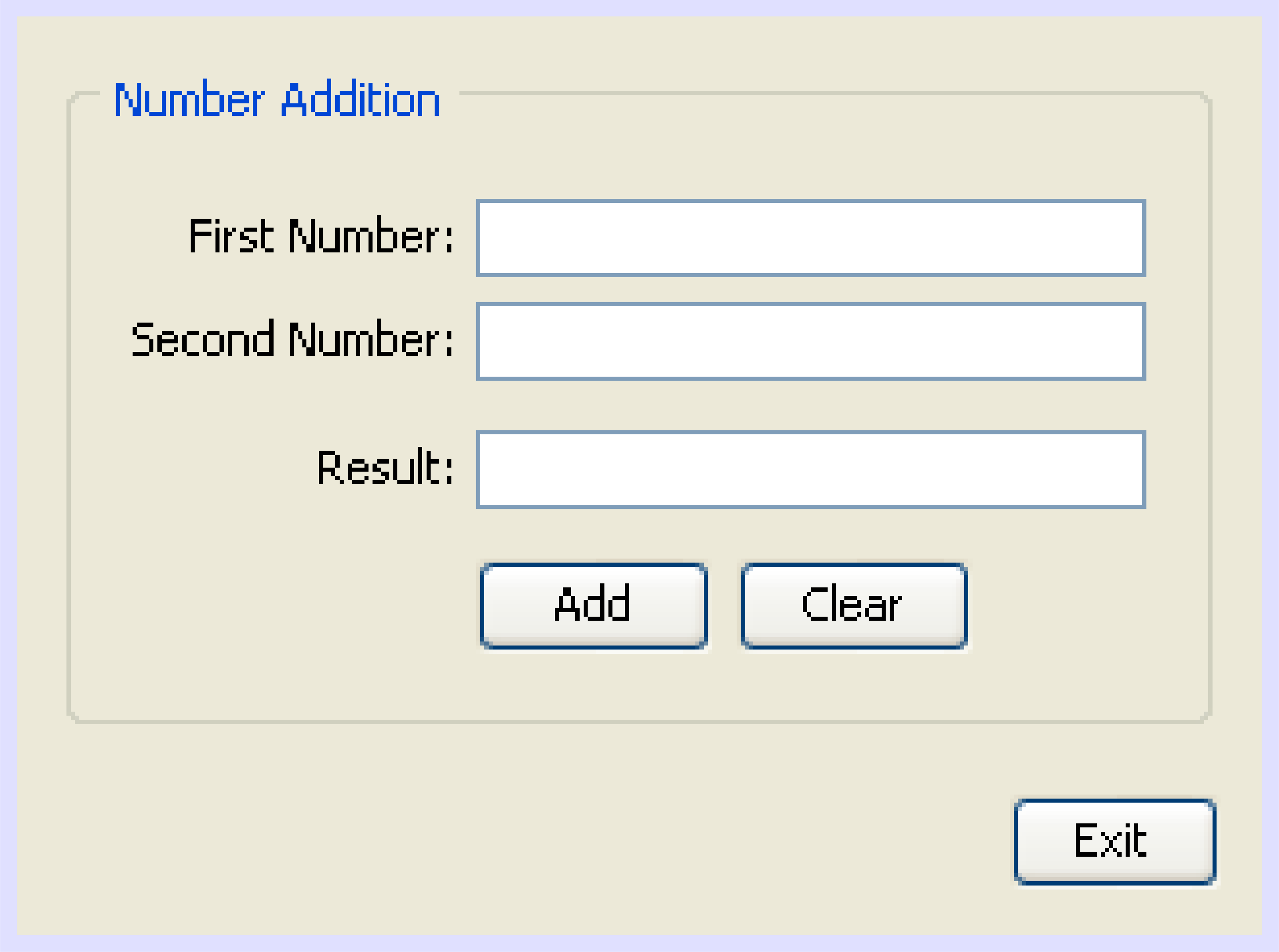
If you do not see the Palette window in the upper right corner of the IDE, choose Window > Palette.

- Start by selecting a Panel from the Swing Containers category on Palette and drop it onto the JFrame.
- While the JPanel is highlighted, go to the Properties window and click the ellipsis (...) button next to Border to choose a border style.
- In the Border dialog, select TitledBorder from the list, and type in Number Addition in the Title field. Click OK to save the changes and exit the dialog.
- You should now see an empty titled JFrame that says Number Addition like in the screenshot. Look at the screenshot and add three JLabels, three JTextFields and three JButtons as you see above.

Renaming the Components

In this step we are going to rename the display text of the components that were just added to the JFrame.

- Double-click jLabel1 and change the text property to First Number:.
- Double-click jLabel2 and change the text to Second Number:.
- Double-click jLabel3 and change the text to Result:.
- Delete the sample text from jTextField1. You can make the display text editable by right-clicking the text field and choosing Edit Text from the popup menu. You may have to resize the jTextField1 to its original size. Repeat this step for jTextField2 and jTextField3.
- Rename the display text of jButton1 to Clear. (You can edit a button's text by right-clicking the button and choosing Edit Text. Or you can click the button, pause, and then click again.)
- Rename the display text of jButton2 to Add.
- Rename the display text of jButton3 to Exit.
- Your Finished GUI should now look like the following screenshot


Number Addition
First Number:
Second Number:
Result:
Add
Clear
Exit

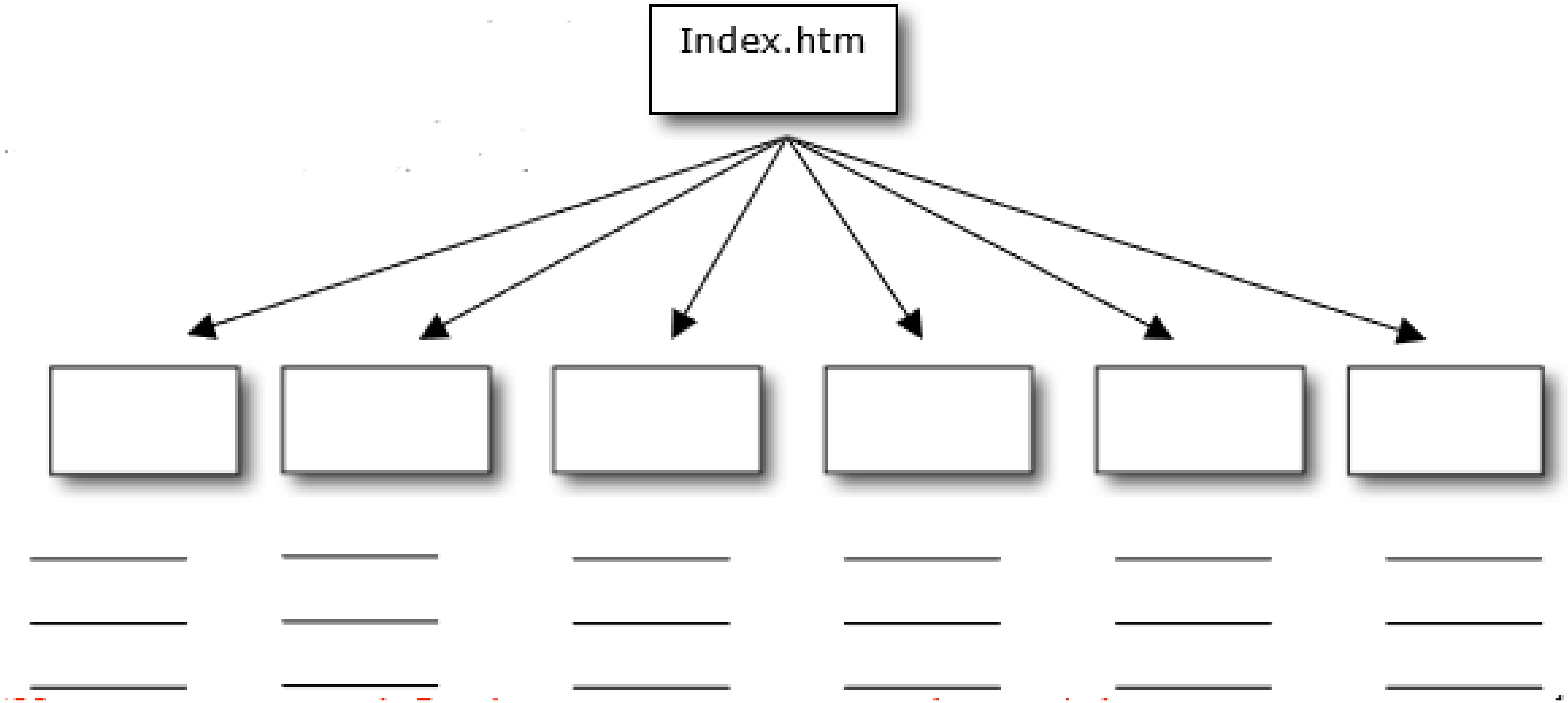
Sub Bahasan 4

Membuat GUI di DreamWeaver

Site Structure

- All the files that you want to use in your website must be put into a single directory or folder, that is to say stored in one area of your computer.
- Similar content should be grouped together to make it easier to find later. For example all you images should be put into the same folder.
- Folders don’t add any size to your Website, they just help you organize the content in it

Perhatikan kembali Peta Navigasi Halaman Web



Pelajari Tutorial DreamWeaver berikut

- PDF Tutorial DreamWeaver

Sub Bahasan 5. Membuat GUI di Visual Studio

PDF Tutorial Visual Studio

Sub Bahasan 6. LATIHAN DI KELAS

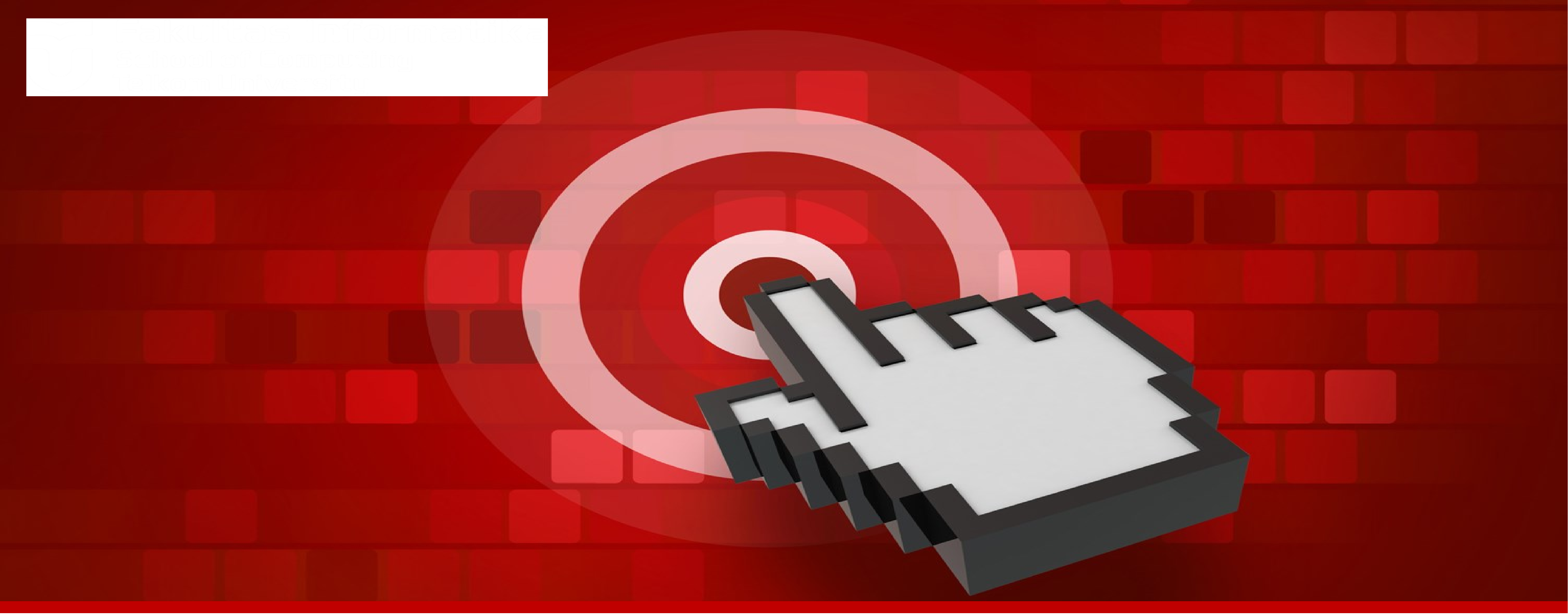
- Buat IMK di salah satu IDE

Sub Bahasan 7. TUGAS MINGGUAN

- Buat semua IMK Aplikasi Anda
- Simpan di file yang terpisah dari Tugas Sebelumnya
- Simpan di akun GitHub Kelompok Anda yang sama dengan tugas sebelumnya
- Kirimkan URL Hasil Tugas ke email dosen

Referensi

- System Analysis and Design Methods – Whitten Bentley
- http://www.netbean.org
- http://www.dreamweaver.org
- http://www.visualstudio.com



THANK YOU