

SECD2613

System Analysis and Design



PART V #1

Output, Input and User Interface Design

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■ MAJOR TOPICS

INPUT DESIGN

- Input methods
- Design guidelines

■ INPUT DESIGN

- The quality of system input determines the quality of system output.
- Well-designed input forms, displays, and interactive Web fill-in forms should meet the objectives:
 - effectiveness, accuracy, ease of use, consistency, simplicity, and attractiveness.

INPUT METHODS

- **Batch input:** Data entry is performed on a specified time schedule, such as daily, weekly, monthly, or longer
- **Online data entry**
 - Enables immediate validation and availability of data
 - **Source data automation** combines online data entry and automated data capture using input devices such as **RFID tags**, magnetic data strips, or smartphones
 - Fast and accurate, and minimizes human involvement in the translation process



INPUT METHODS



ADVANTAGES

1.Batch

- offline, by trained personnel, processing- quickly, non-peak times.

2.On-line

- by its owner, as close to their origination as possible, immediate feedback, immediately update.



DISADVANTAGES

1.Batch

- centralized activity, by specially trained personnel, processing- is delayed, delayed input error detected, on-call SA or programmer needed.

2.On-line

- costly, user not well trained, data entry procedure may be lacking, additional control by software, computer loading, slower data

INPUT TECHNOLOGIES: MEDIA AND DEVICES

INPUT MEDIA

- Paper
- Screen
- Microfilm
- Audio

INPUT DEVICES

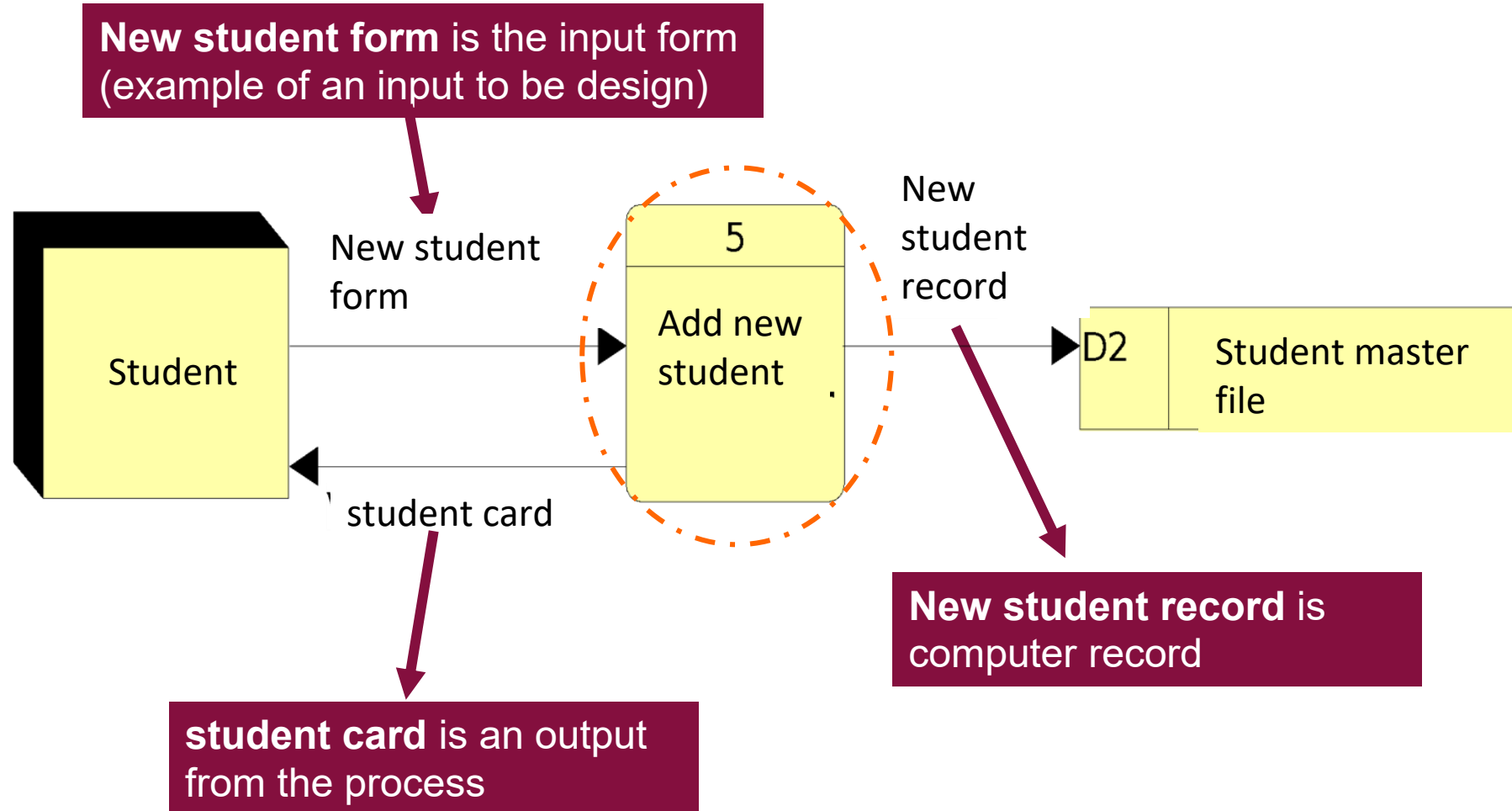
- Keyboard
- MICR(magnetic ink character recognition)
- POS
- ATM
- Mouse
- Biometrics
- Smart Cards

TYPES OF INPUT

- Text
- Number
- Selection box
 - Check boxes
 - Radio button
 - On-screen list boxes
 - Drop-down list boxes
 - Combo-boxes
 - Slider

FROM DFD TO INPUT DESIGN

Process 5 must contain a user interface, an input screen in this example.




FROM DFD TO INPUT DESIGN

Example of user interface (input screen) for
Process 5

Student Details (Total: 316)

Information

[Plans](#)
[Notes](#)
[History](#)
[Medical Alerts](#)
[Tab Updates](#)
[Mailing Lists](#)



Member Since

Active Plans

On Tab

€0.00

Date of Birth

Country

United States

State

New York

Postal Code

City

Address

Mobile #

Phone #

Work #

Email

Gender

Parent Account

Referral Type

Select Referral Method ...

Referred by Name

Flash Note

☐ Disclaimer
☐ Don't send automated emails
☐ Excluded from payroll

Emergency Contact

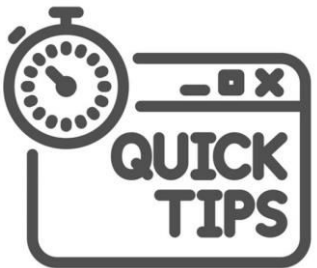
Name

Relation

■ INPUT FORM DESIGN GUIDELINES



- What system analyst should do to have a good form design?
- To design a good form,
 - Make forms easy to fill out
 - Ensure that forms meet the purpose for which they are designed
 - Design forms to assure accurate completion
 - Keep forms attractive



Check out cool input design from this website : [Medium.com](https://medium.com)

INPUT FORM DESIGN GUIDELINES

- To make forms easy to fill out, the following techniques are used:

1

Design forms with proper flow, from left to right and top to bottom.



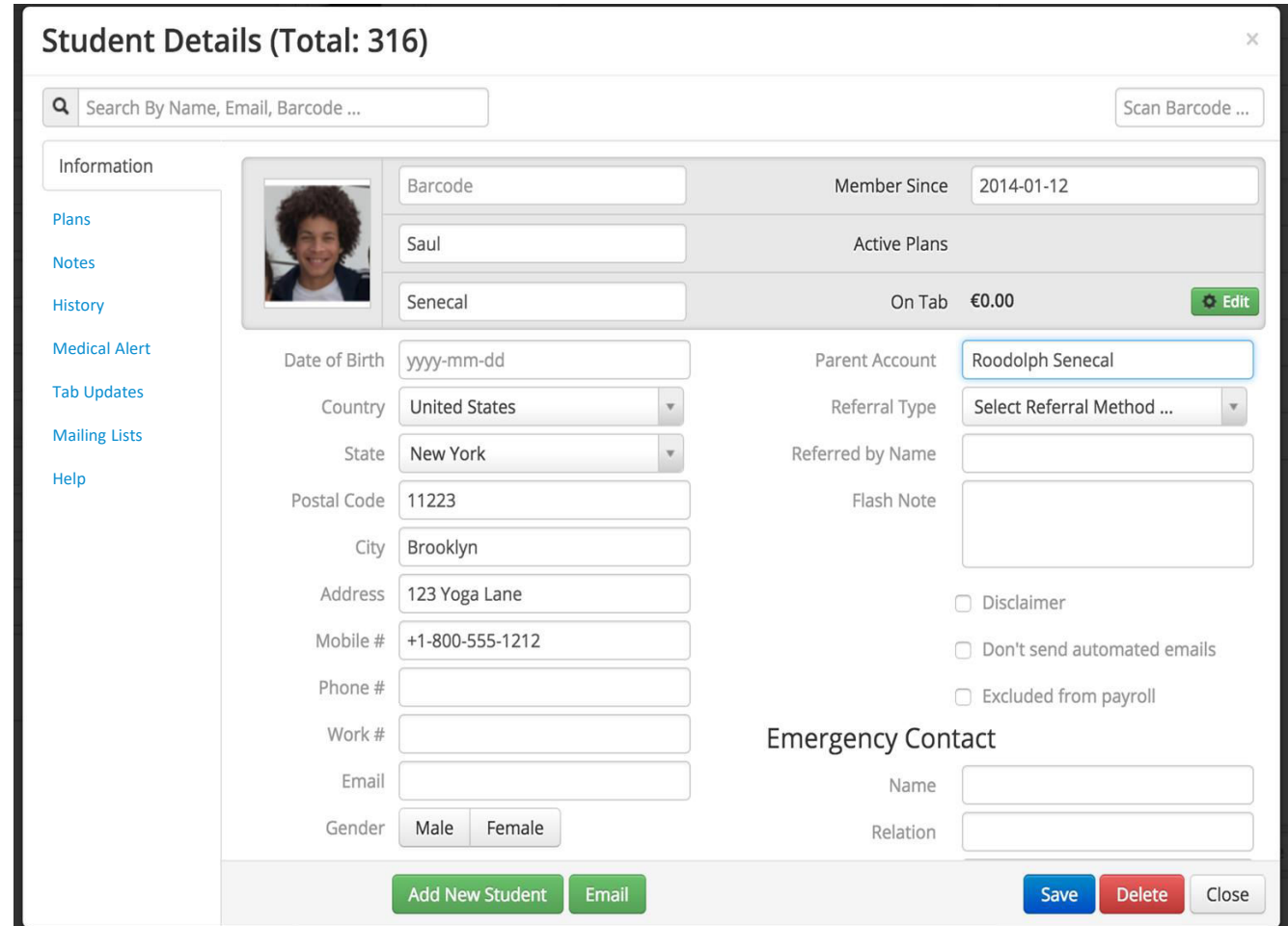
2

Group information logically: heading, identification and access, instructions, body, signature and verification, totals, and comments.



3

Provide people with clear captions.
Captions tell the person completing the form what to put on a blank line, space, or box.




Student Details (Total: 316)

Search By Name, Email, Barcode ... Scan Barcode ...

Information

- Plans
- Notes
- History
- Medical Alert
- Tab Updates
- Mailing Lists
- Help

Student Profile:

- 
- Barcode:
- Member Since: 2014-01-12
- Name: Saul
- Active Plans: Senecal
- On Tab: €0.00 Edit

Personal Information:

- Date of Birth:
- Country:
- State:
- Postal Code:
- City:
- Address:
- Mobile #:
- Phone #:
- Work #:
- Email:
- Gender: ☐ Male ☐ Female

Account Information:

- Parent Account:
- Referral Type:
- Referred by Name:
- Flash Note:

Emergency Contact:

- Name:
- Relation:

Options:

- ☐ Disclaimer
- ☐ Don't send automated emails
- ☐ Excluded from payroll

Actions: Add New Student Email Save Delete Close

■ INPUT FORM DESIGN GUIDELINES



- How to reduce error rate?
 - To reduce error rates associated with data collection, the forms should be designed to assure accurate completion.
 - In other words, design forms to make people do the right thing with the form.
 - Reduce input details/volume to be entered
- How to encourage people to complete form?
 - Systems analysts should keep forms attractive.
 - To be more attractive, forms should look uncluttered, and elicit information in the expected order.
 - Aesthetic forms or usage of different fonts within the same form can help make it more attractive.

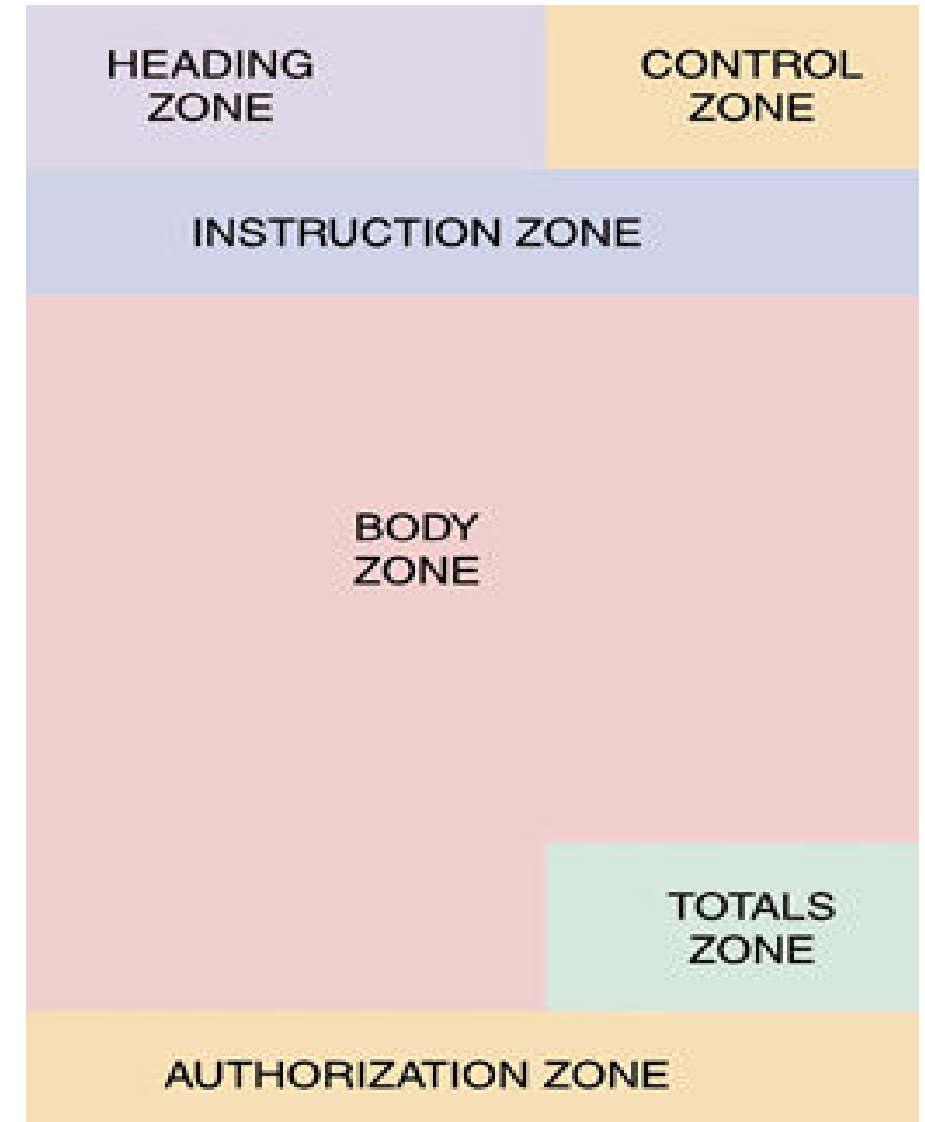
■ GUIDELINES TO DESIGN A GOOD DISPLAY SCREEN

- To design a good display screen, systems analysts need to keep the following guidelines in mind:
 - keep the display simple.
 - keep the display presentation consistent.
 - facilitate user movement among display screens.
 - create an attractive display screens and pages.

DIVIDE THE SCREEN

To keep display screens simple:

1. Systems analysts may divide the screen into 3 sections:
 - Heading
 - Body
 - Comments and instructions.
2. Displaying a few necessary basic commands using windows or hyperlinks
3. For the occasional user, only 50% of the screen should contain useful information.



Guideline Zone

EXAMPLE: INPUT FORM SCREEN DESIGN

Delivery

123 Main St

Apt, suite, etc. (optional)

Menu

☐
Cheeseburger

\$8.99

With lettuce and tomato

☐
Pepperoni Pizza

\$12.99

12" size

☐
Salad

\$7.99

Mixed greens, croutons, dressing

☐
Soft Drink

\$1.99

20 oz cup

Place Order

Cheeseburger

- 1 +

Fries

- 0 +

Soda

- 0 +

Order Summary

\$5,99

Delivery Address

123 Main St

Payment

..... 1234

Place Order

Course Registration

Select Courses

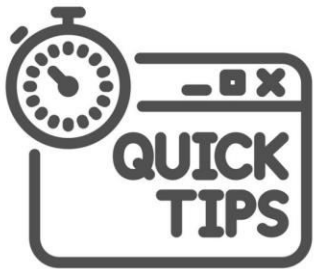
- ☐ Biology
- ☐ History
- ☐ Mathematics
- ☐ Physics

Date of Birth

Program

■ HOW TO MAKE SCREENS MORE ATTRACTIVE?

- Systems analysts may use
 - different thicknesses of separation lines between subcategories, blinking cursors, pictorial icons, on-screen representations symbolizing computer actions, different combinations of colors, and different type fonts.
- Icons are used in graphical screens to run programs and execute commands.
- Graphical User Interfaces (GUI) are used in conjunction with a mouse for making selections and entering data.



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Thank You

update: August 2019 (sharinhh)

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