

Advance Programming Techniques (APT)

Lecture # 26

Ehtisham Rasheed

Department of Computer Science
University of Gurjat, Gurjat

Masked TextBox

- In many applications, users must enter data in a specific format—such as phone numbers, CNIC numbers, dates, time, postal codes, etc
- A regular TextBox allows *any* characters, which can lead to invalid input
- **MaskedTextBox** is a specialized control in WinForms that allows you to enforce a format on user input
- Provides a visual template for data entry
- It uses a **mask** — a pattern that defines what the user can type

Why Use a MaskedTextBox?

- Prevents invalid input
- Guides users while typing
- Ensures consistent formatting
- Reduces validation code
- Improves user experience
- Useful for CRUD forms (data entry)

Mask Characters (Most Important Part)

Character	Meaning	Example
0	Digit (0-9) required	000-0000 → 123-4567
9	Digit (0-9) optional	999-9999 → 123-4567 or 12-3456
#	Optional digit, space or +/-	### → +12 or 123
L	Required letter (a-z, A-Z)	LLL → ABC
?	Letter optional	??? → AB or ABC
A	Alphanumeric required	AAA → A12
a	Alphanumeric optional	aaa → A1 or A12
&	Any character required	&&& → A1#
C	Any character optional	CCC → Ab2
.	Decimal placeholder	000.00 → 123.45
,	Thousands separator	0,000 → 1,234
:	Time separator	00:00 → 12:30
/	Date separator	00/00/0000 → 12/25/2023

Input Mask Examples

Type	Pattern	Explanation
Phone Number	(999) 000-0000	Area code optional, rest required
Pakistan CNIC	00000-0000000-0	All required
Date	00/00/00	
Time	00:00	
Postal Code	00000	
License Plate	AAA-0000	Alphabets and numbers required
IP Address	099.099.099.099	

Important Properties

- Mask
- PromptChar
- AllowPromptAsInput
- PasswordChar
- HidePromptOnLeave
- BeepOnError
- TextMaskFormat

MaskedTextBox Events

- MaskInputRejected
- TypeValidationCompleted