

# REQUIREMENTS MODELING

ECII/ECSI 2105 System Analysis

# Recall

- During requirements modeling, systems developers must identify and describe all system requirements.
- A **system requirement** is a characteristic or feature that must be included in an information system to satisfy business requirements and be acceptable to users.
- System requirements serve as benchmarks to measure the overall acceptability of the finished system.
- System requirements fall into five general categories: outputs, inputs, processes, performance, and controls. Typical examples of system requirements for each category are listed in the next slides.

# Output Examples

- ✓ The Web site must report online volume statistics every four hours, and hourly during peak periods.
- ✓ The inventory system must produce a daily report showing the part number, description, quantity on hand, quantity allocated, quantity available, and unit cost of all sorted by part number.
- ✓ The contact management system must generate a daily reminder list for all sales reps.
- ✓ The purchasing system must provide suppliers with up-to-date specifications.
- ✓ The sales tracking system must produce a daily fast-moving-item report, listing all products that exceed the forecasted sales volume grouped by style, color, size, and reorder status.
- ✓ The customer analysis system must produce a quarterly report that identifies changes in ordering patterns or trends with statistical comparisons to the previous four quarters.

# Input Examples

- ✓ Manufacturing employees must swipe their ID cards into online data collection terminals that record labor costs and calculate production efficiency.
- ✓ The department head must enter overtime hours on a separate screen.
- ✓ Student grades must be entered on machine-scannable forms prepared by the instructor.
- ✓ Each input form must include date, time, product code, customer number, and quantity.
- ✓ Data entry screens must be uniform, except for background color, which can be changed by the user.
- ✓ A data entry person at the medical group must input patient services into the billing system.

# Process Examples

- ✓ The student records system must calculate the GPA at the end of each semester.
- ✓ As the final step in year-end processing, the payroll system must update employee salaries, bonuses, and benefits and produce tax data required by the IRS.
- ✓ The warehouse distribution system must analyze daily orders and create a routing pattern for delivery trucks that maximizes efficiency and reduces unnecessary mileage.
- ✓ The human resources system must interface properly with the existing payroll system.
- ✓ The video rental system must not execute new rental transactions for customers who have overdue videos.
- ✓ The prescription system must automatically generate an insurance claim form.

# Performance Examples

- ✓ The system must support 25 users online simultaneously.
- ✓ Response time must not exceed four seconds.
- ✓ The system must be operational seven days a week, 365 days a year.
- ✓ The accounts receivable system must prepare customer statements by the third business day of the following month.
- ✓ The student records system must produce class lists within five hours after the end of registration.
- ✓ The online inventory control system must flag all low-stock items within one hour after the quantity falls below a predetermined minimum

# Control Examples

- ✓ The system must provide logon security at the operating system level and at the application level.
- ✓ An employee record must be added, changed, or deleted only by a member of the human resources department.
- ✓ The system must maintain separate levels of security for users and the system administrator.