

Corrections to *Process for System Architecture and Requirements Engineering* [ISBN: 0-932633-41-2], Figures 3.15 and 3.16 (pp. 59, 61). These figures replace those that appear in the first print run of the book. Copyright © 2000 by Derek Hatley, Peter Hruschka, and Shams Pirbhai. All rights reserved. Contact Dorset House Publishing, (800) 342-6657, (212) 620-4053, info@dorsethouse.com.

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|---|---|
| Boundary: The box(es) that house the cruise control system to be installed into a car. | |
| Information Processing Subsystems | Material/Energy Processing Subsystems |
| User Interface: Subsystem to accept and interpret keyboard, switch inputs, and brake pedal action from the driver and to display cruise control status. | User Interface: N.A.: There is no direct material/energy exchange with drivers in this system. |
| Input Decoder: Device(s) and processor to convert shaft rotation into speed measurement. | Input Converter: N.A.: No material or (useful) energy is received by the cruise control system. |
| Functional Transformer: Processor that captures and maintains the desired speed, receives measured speed, and computes speed error. | Producer: Device that converts desired speed into physical motion to operate throttle. |
| Memory: Processor that retains desired speed and speed conversion factor(s). | Storage: N.A.: No material or energy is stored by the cruise control system. |
| Decider: The state machine that identifies the state of the cruise control—off, enabled, cruising, calibration, and so on. | |
| Output Encoder: Processor that converts speed error into desired throttle position. | Output Converter: Device that converts desired throttle position into throttle linkage motion. |
| Support: Processor that establishes the conversion factors for shaft rotation. | Supporter: The fail-safe mechanism on the throttle linkage. |

Figure 3.15: Subsystems of a Cruise Control System.

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|---|---|
| Boundary: Any protective enclosure for the organization or group: buildings, fences, walls, partitions, and so on. | |
| Information Processing Subsystems | Material/Energy Processing Subsystems |
| User Interface: People responsible for determining market needs and communicating with potential customers. | User Interface: The facilities that allow users to bring or receive goods (or energy) to or from the organization: receptionist; customer service department. |
| Input Decoder: Marketing and sales staff, program office, management in charge of market (customer) interface, legal department, language translators, cryptographers, technical and scientific researchers, and other interpreters of marketplace or technology. | Input Converter: Those who perform tasks such as receiving incoming materials, unpacking them, inspecting them, preparing them for internal use, and transferring them to the stock room or directly to manufacturing. Typically, the receiving department. |
| Functional Transformer: All persons or groups using information to produce new information: design engineers, product planners, information project teams, DP department, and so on. | Producer: All persons, groups, or machinery producing goods or services to be delivered to customers: factory production staff, assembly lines, nurses, and so on. |
| Memory: Filing department, bookkeeping/accounting department, librarians, computers, file cabinets, secretaries. | Storage: Supply cabinets, equipment rooms, stock rooms, warehouse, holding areas, waiting areas. |
| Decider: Board of directors, company management committee, R & D board, project leaders, supervisors. | |
| Output Encoder: Marketing literature producers, document writers, users manual writers, publications department. | Output Converter: Shipping department, delivery people, installers. |
| Support: Salary review committee, facilities design staff, payroll processing staff, project metrics measurement staff. | Supporter: Janitors, cafeteria staff, accounting personnel, and so on. |

Figure 3.16: A Template for an Organization That Builds Deliverable Systems.