ABSTRACT

By modeling real-world application objects with complex structures, behaviors, and operations described by a schema which is enforced by the hardware/software interface system, various embodiments of the present invention provide rich sub-typing functionality by extending Items (and Item types) using “Extensions” which provide additional data structures (Properties, Relationships, etc.) to already existing Items type structures. Extensions are strongly typed instances that cannot exist independently and must be attached to an Item or a Nested Element. Extensions are also intended to address “multi-typing” issues by enabling the overlap of type instances (e.g., a Document may be a “legal document” as well a “secure document”).