asynchronous, such as challenge-response password tokens. This pattern helps you to address the design issues involved in OTP token I&A and to define a mechanism that will satisfy I&A requirements.

Smart Card

The 'smart' card token is typically a plastic card in which an integrated circuit chip is embedded, which gives it both data storage and computational capability. It has many potential uses, one of which is to authenticate the identity of the card holder. This pattern helps you to address the design issues involved in smart card I&A and to design a smart card that will satisfy I&A requirements.

Unregistered Users I&A Requirements

In some cases a modest level of I&A is needed when a preceding registration step is not possible or not cost-effective. A common approach in these cases is to use 'functional' information about the person, that is, information that was acquired in the normal course of business. Such information usually includes both public items, such as name or e-mail address, and private items or secrets, such as the individual's mother's maiden name. This pattern helps you to define the requirements for I&A when pre-registration is not used.

Actor Registration

Most I&A approaches involve identifying and authenticating an actor against a previously-established known record. Determining how the known record is established is the function of actor registration. This pattern helps you to design a registration mechanism for an actor or user. The type of information recorded depends on the I&A mechanism used. For example, if you are using an ID and password mechanism, then you need to define a user account ID and establish a password. If you are using signature verification, you need to capture user signature samples. This pattern covers the more common types of I&A mechanisms, such as those identified in this book.

5.3 Access Control Model Patterns

High-level models represent the security policies of the enterprise. These models define security constraints at an architectural level, the application level, and are enforced by the lower levels. None of the patterns that describe the models have dynamics sections, because they are purely declarative. REFERENCE MONITOR (256) brings dynamics for evaluating requests according to the constraints defined by the declarative models. We also provide ROLE RIGHTS DEFINITION (259), to help in finding the rights associated with roles in an RBAC model.