

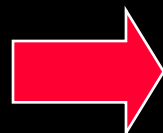
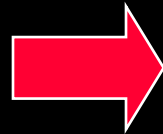
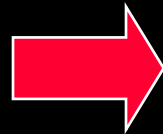
Object-Oriented Analysis and Design

Appendix: Security Mechanism

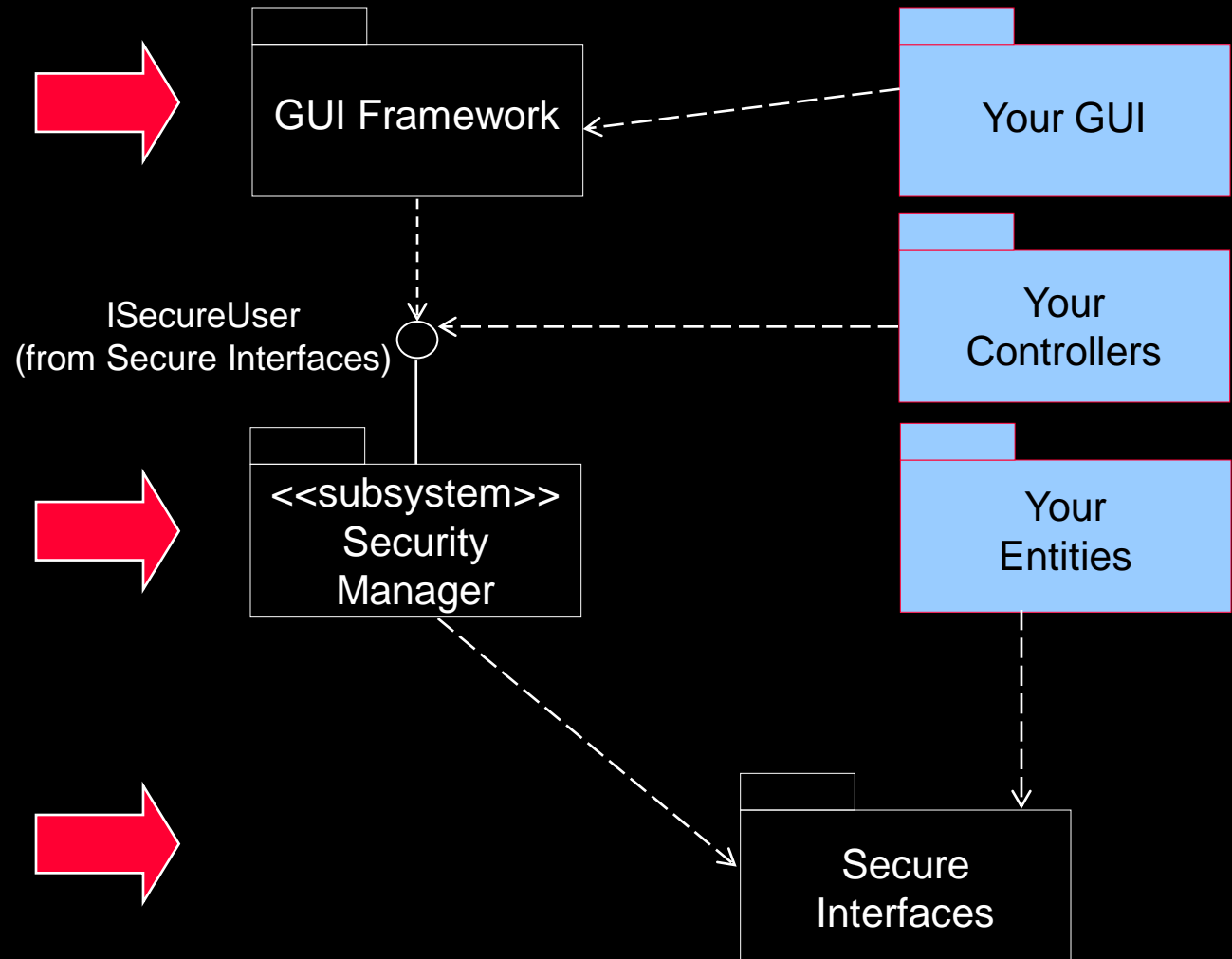
Identify Design Mechanisms - Security Mechanism

Example: Reuse: Security Mechanism

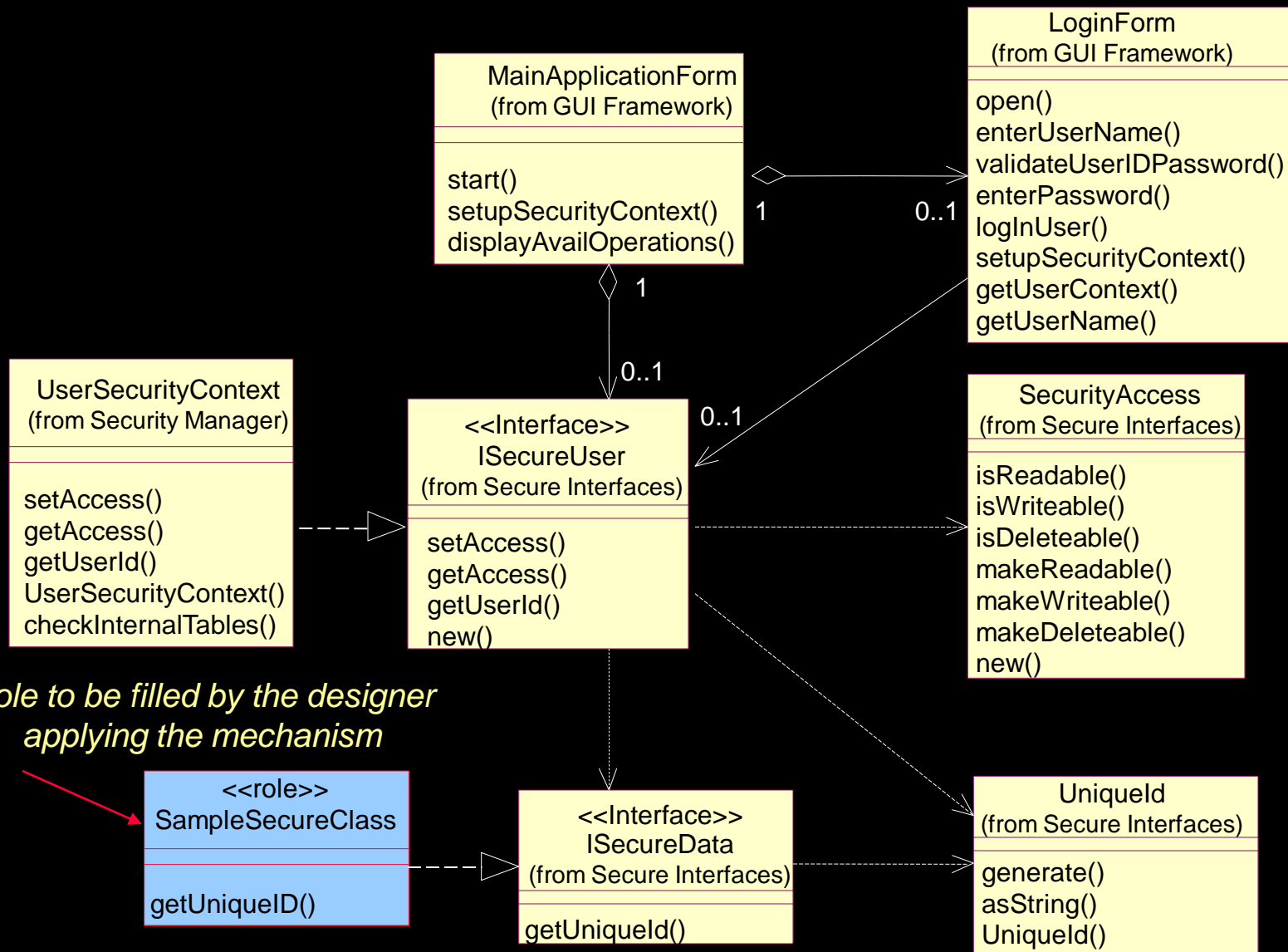
Implementation Model



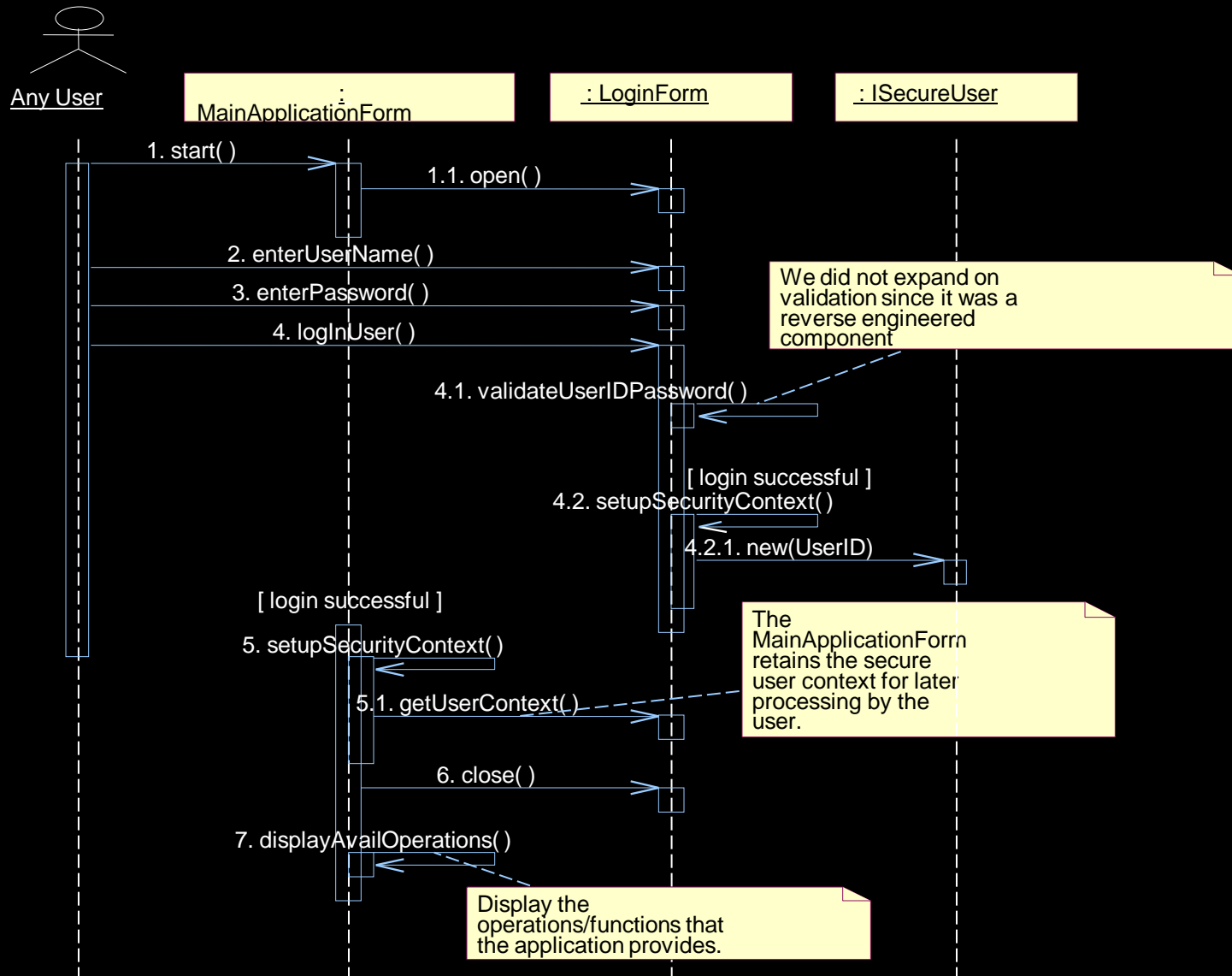
Design Model



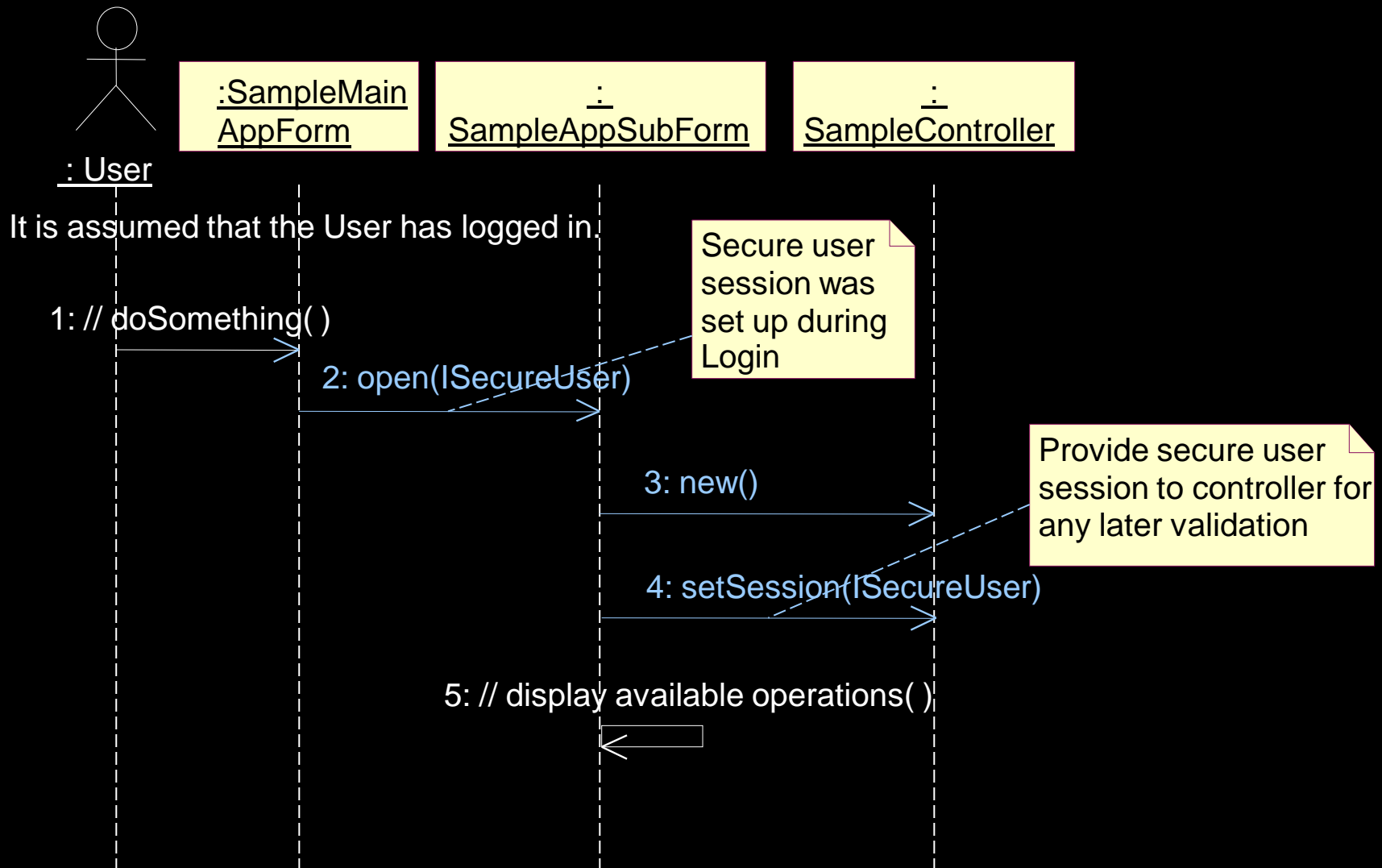
Example: Reuse: Security Mechanism (contd.)



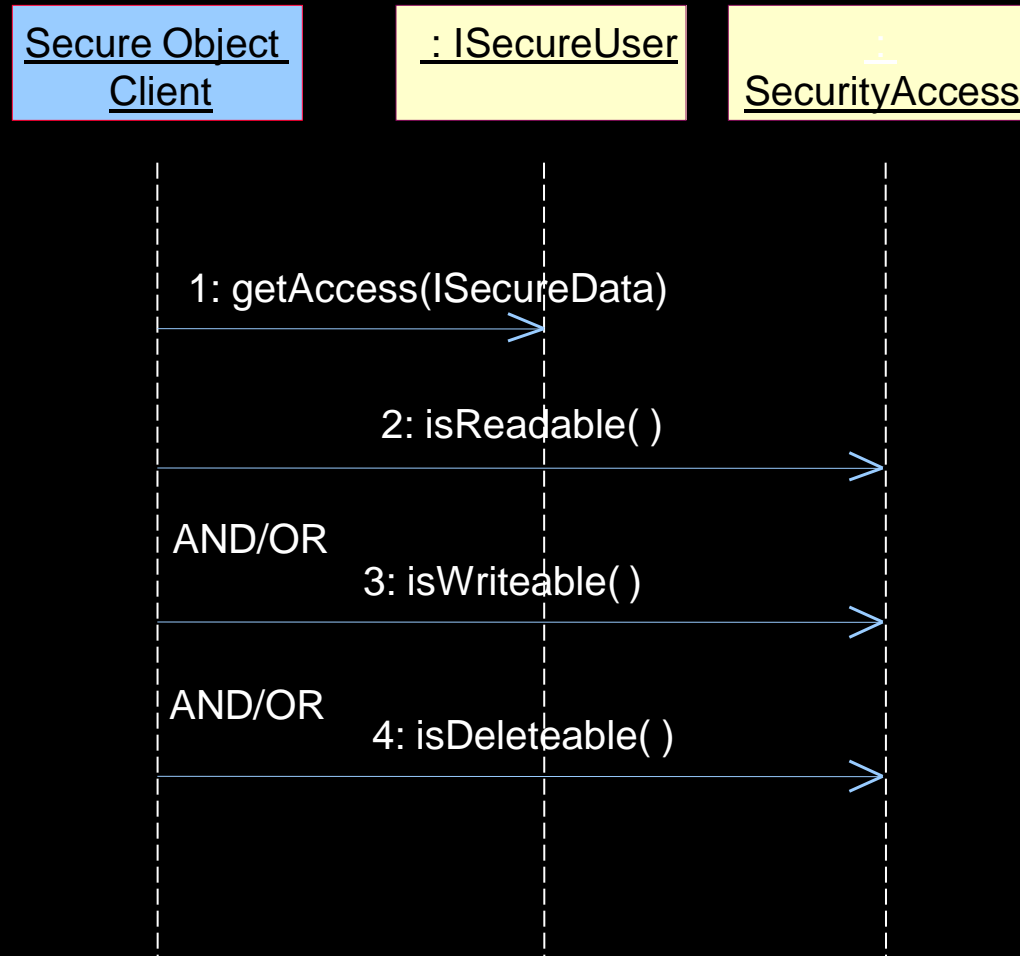
Example: Security Mechanism: Secure User Set-Up at Login



Example: Security Mechanism: Secure User Propagation



Example: Security Mechanism: Secure Object Access



Incorporating the Security Mechanism: Steps

- ◆ Provide access to the class libraries needed to implement the Security mechanism
 - *New Security package*
- ◆ Establish main application forms, with associated login forms
 - *Package containing forms dependent on Security GUI Framework package*
 - *Create main application forms* } *Deferred*
- ◆ Have all secure classes realize the ISecureData interface
 - *Package containing core data types dependent on Security Secure Interfaces package*
 - *Add realization relationships* } *Deferred*

Incorporating the Security Mechanism: Steps (cont.)

- ◆ Provide secure user session (ISecureUser) access, where necessary

- *Package containing control classes dependent on Security GUI Framework package*
- *Control classes will need secure user session access*
- *Add setSession(ISecureUser) operation*

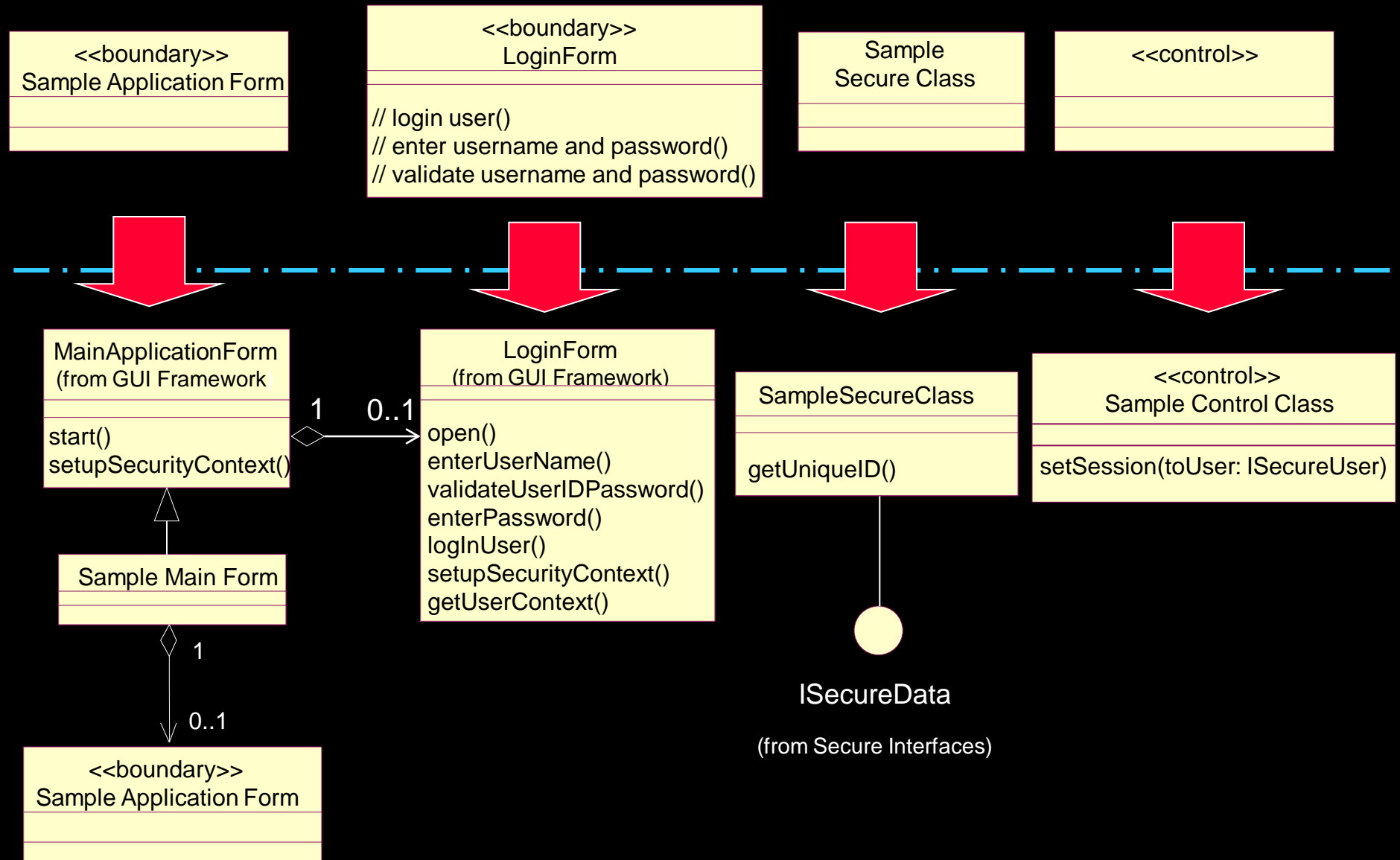
Deferred

- ◆ Create/update interaction diagrams with security processing

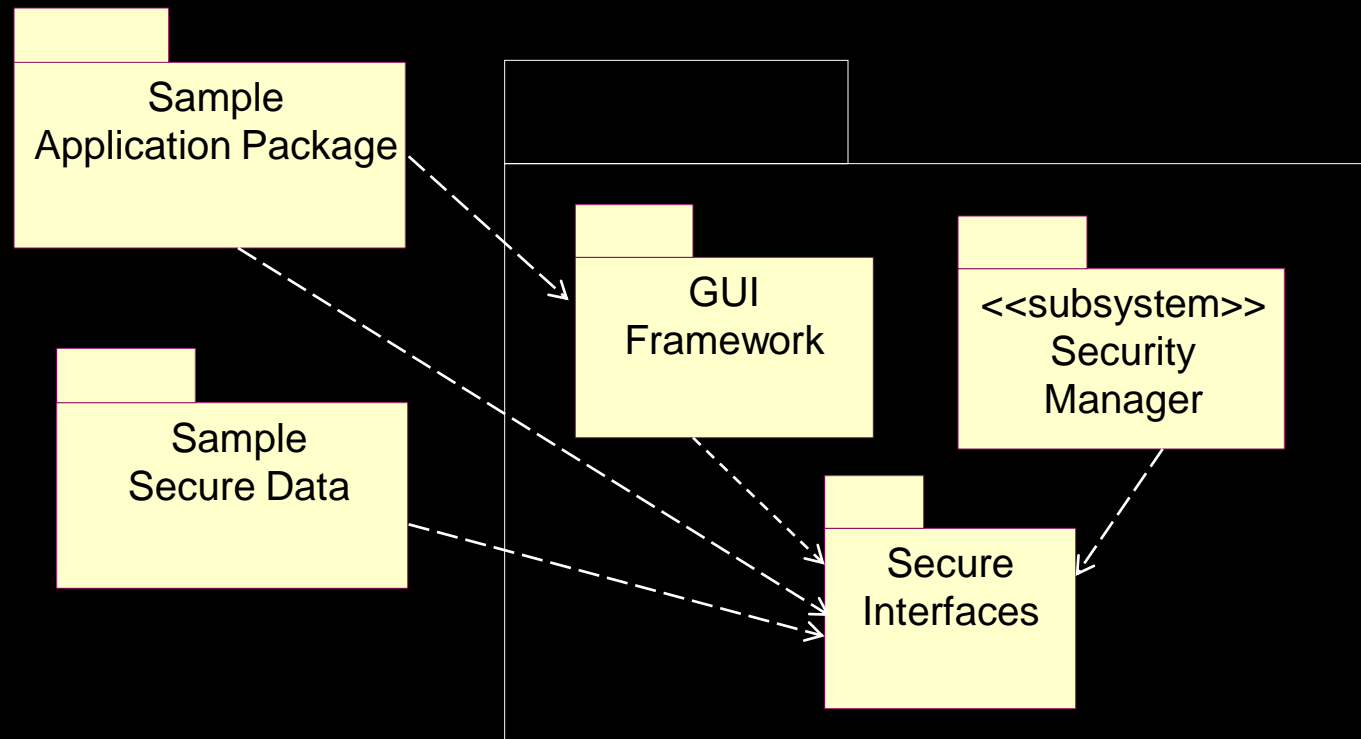
- Secure user set-up (login)
- Secure user propagation (secure user session availability)
- Secure data access (checking access permissions)

Deferred

Example: Incorporating the Security Mechanism: Steps (cont.)



Example: Incorporating the Security Mechanism: Steps (cont.)



Use-Case Design - Incorporating Security Mechanism

Review: Incorporating the Security Mechanism: Steps

- ◆ Provide access to the class libraries needed to implement the Security mechanism
 - ✓ ■ *New Security package*
- ◆ Establish main application forms, with associated login forms
 - ✓ ■ *Package containing forms dependent on Security GUI Framework package*
 - ✓ ■ *Create main application forms*
- ◆ Have all secure classes realize the ISecureData interface
 - *Package containing core data types dependent on Security Secure Interfaces package*
 - *Add realization relationships*

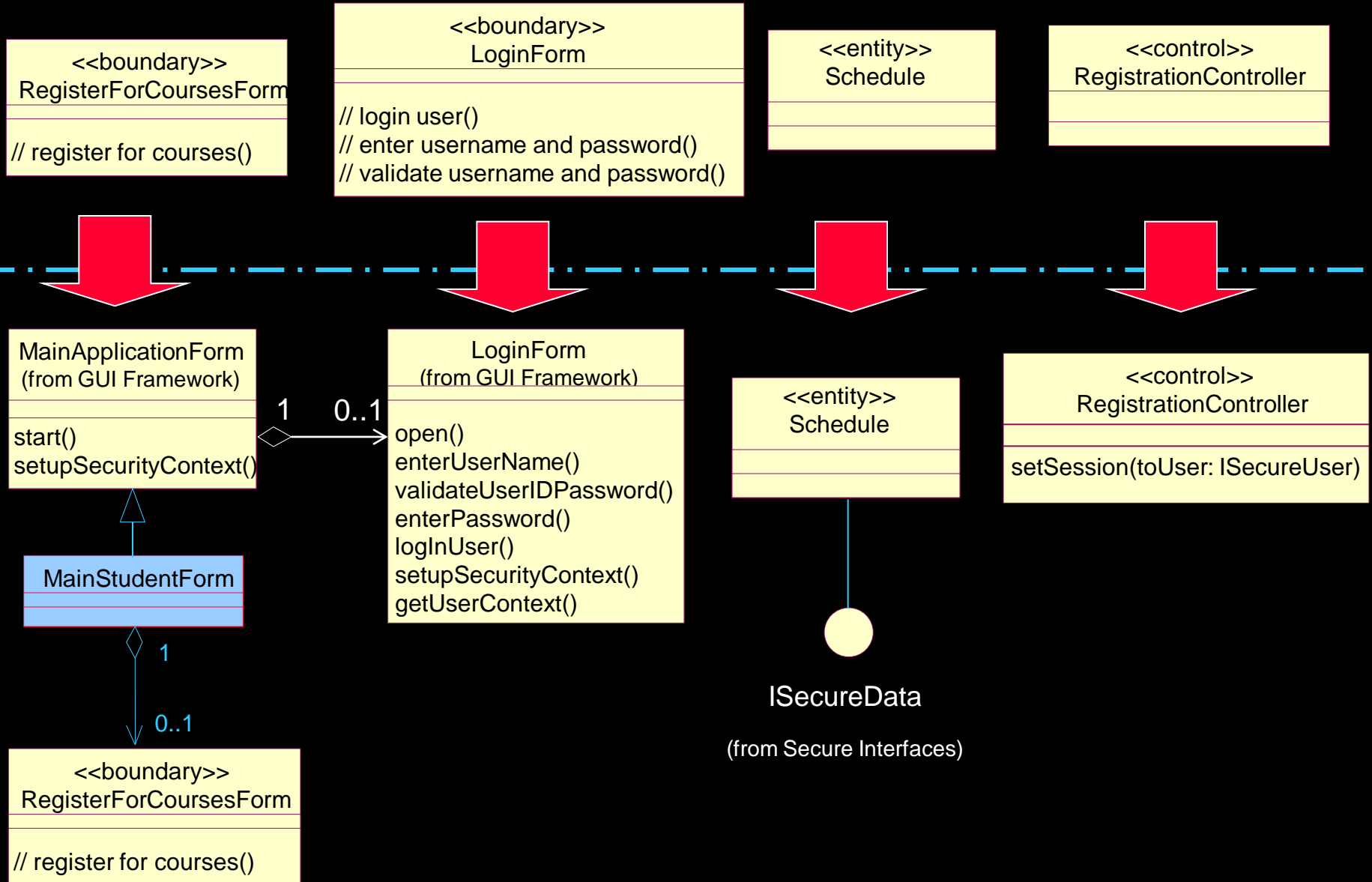
✓ - Done

Review: Incorporating the Security Mechanism: Steps (cont.)

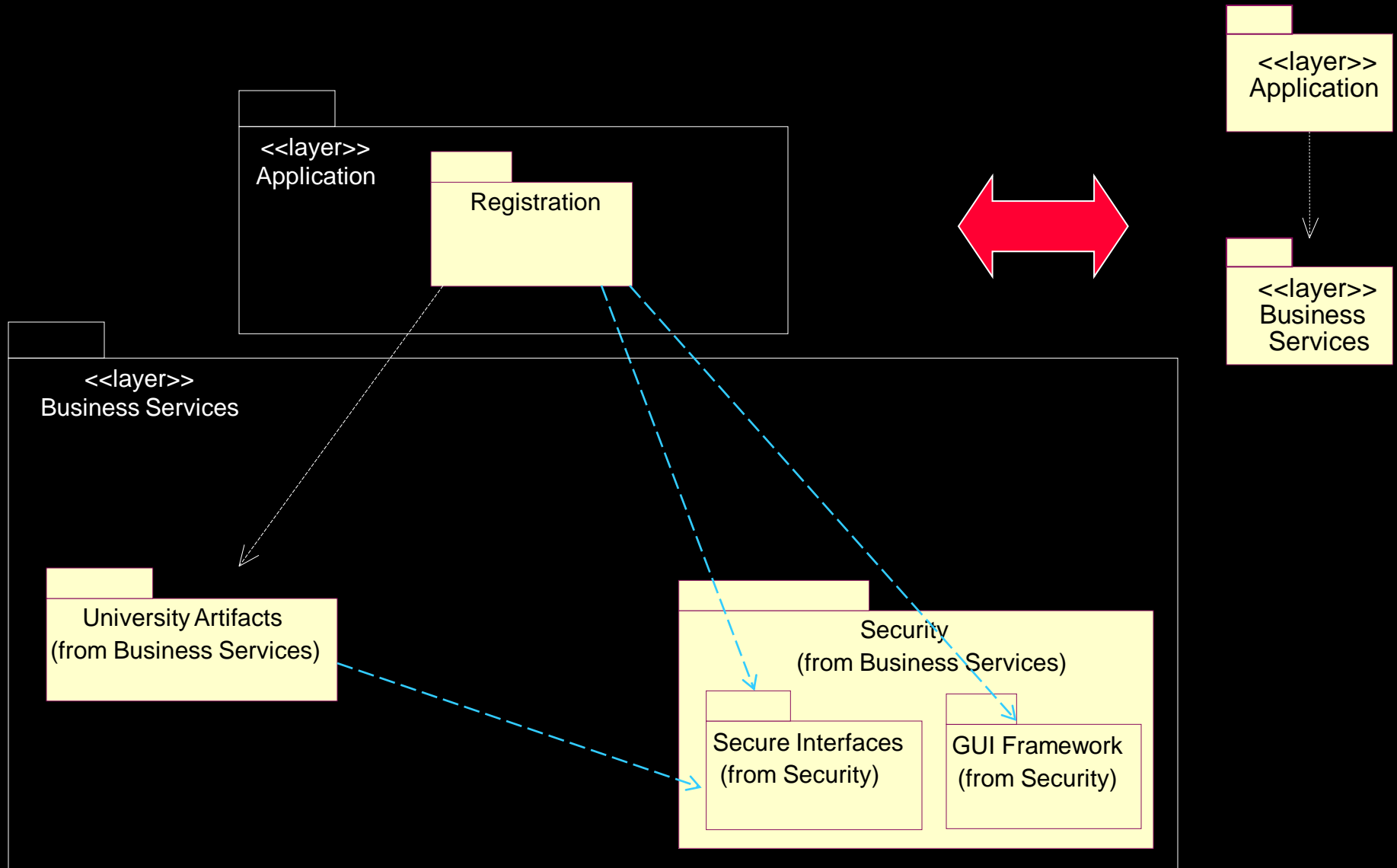
- ◆ Provide secure user session (ISecureUser) access, where necessary
 - ✓
 - *Package containing control classes dependent on Security GUI Framework package*
 - *Control classes will need secure user session access*
 - *Add setSession(ISecureUser) operation*
- ◆ Create/update interaction diagrams with security processing
 - Secure user set-up (login)
 - Secure user propagation (secure user session availability)
 - Secure data access (checking access permissions)

✓ - Done

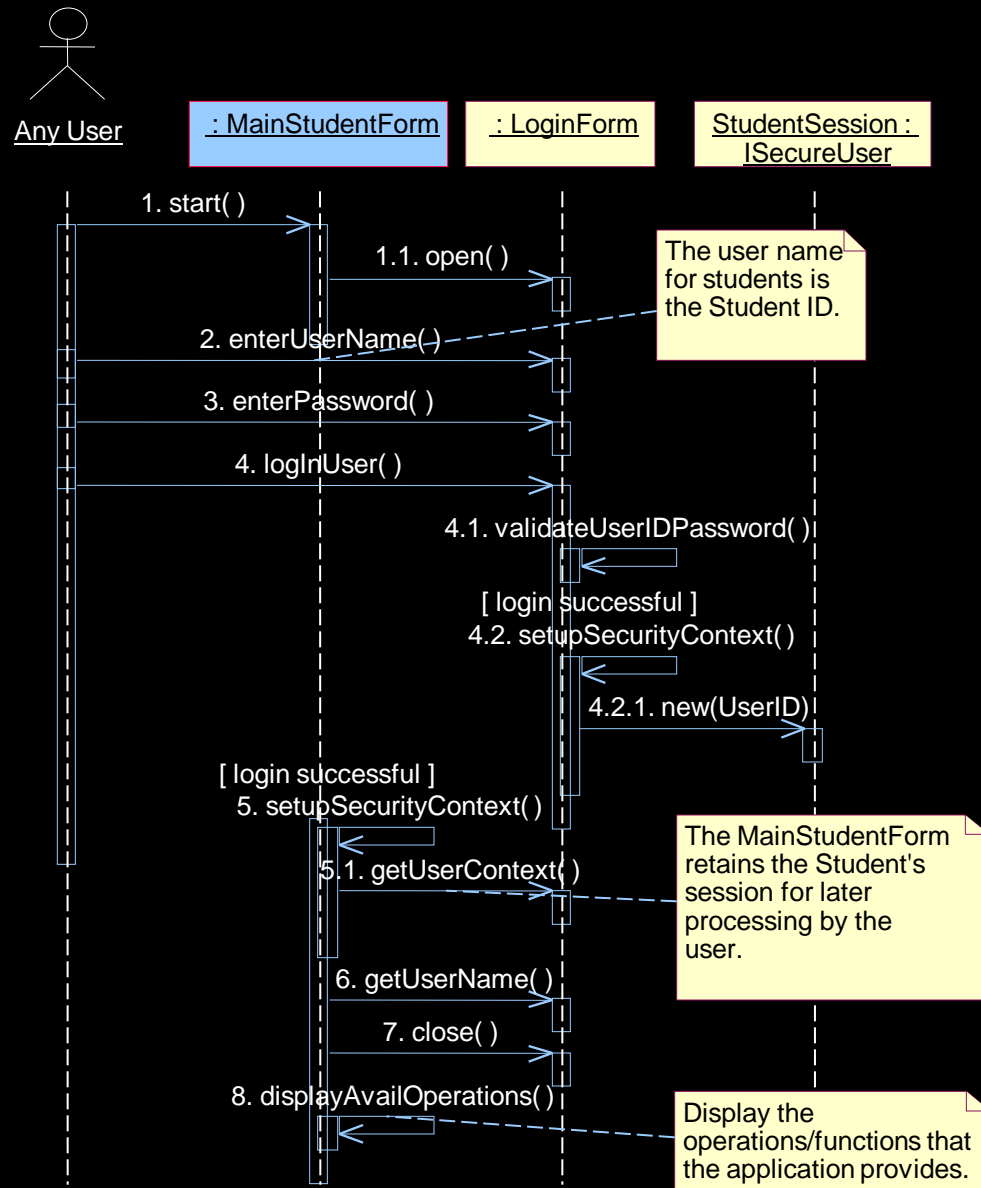
Example: Incorporating the Security Mechanism



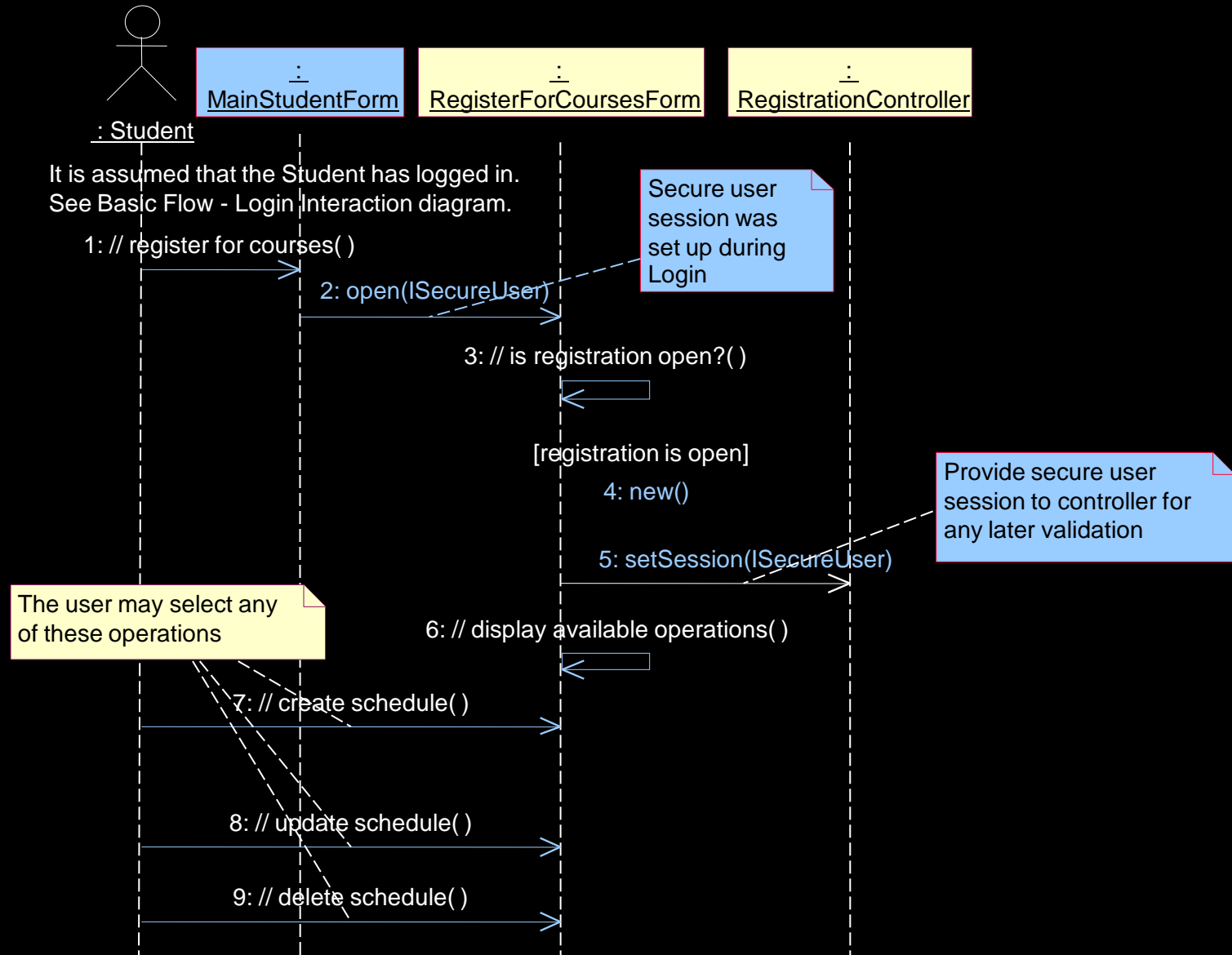
Example: Incorporating the Security Mechanism (cont.)



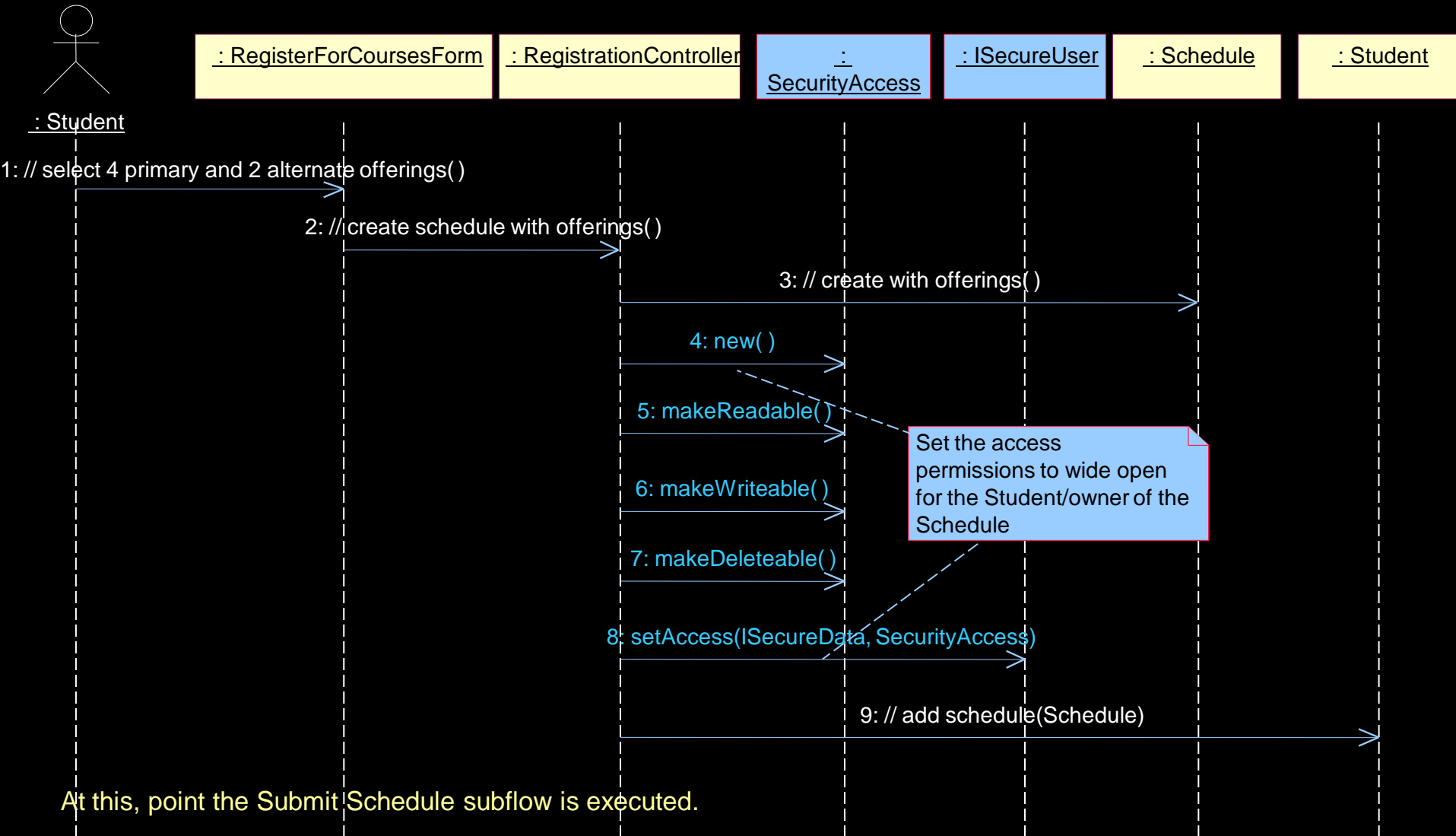
Example: Incorporating the Security Mechanism: Secure User Set-Up



Example: Incorporating the Security Mechanism: Secure User Propagation



Example: Incorporating the Security Mechanism: Secure Data Access



Example: Incorporating the Security Mechanism: VOPC

