ViaNet Bank ATM
Class Discussion
Case Study
1/16/03

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Introduction

- Identify Actors
- Identify Use Cases
- Identify Classes
- Identify Object Behavior
Identify Actors

- Actor: “An external entity that interacts with the system”.
  - Bank Client - customer who uses the ATM System
  - Bank System - the electronic system that manages accounts
Identify Use Cases

- Use Case: “A complete sequence of related actions initiated by an actor to accomplish a specific goal”.
  - Authenticate Customers
  - Deposit into Checking
  - Deposit into Savings
  - Withdraw from Checking
  - Withdraw from Savings
  - Review Transactions
Use Case Diagram

Authenticate Client

Deposit into Checking

Deposit into Savings

Withdraw from Checking

Withdraw from Savings

Review Transactions

Bank Client

Bank System
Identify Classes

- Class: “A set of objects that share a common structure and a common behavior”.

  - Customer
  - Transaction
    - Deposit
    - Withdraw
  - Account
    - Savings
    - Checking
  - ATM
  - Bank System
Identify Object Behavior

- Object: “A combination of data and logic that represents some real world entity.

- Object Behavior: “A collection of methods that abstractly describes what an object is capable of doing”.
Sequence Diagram

1/16/2003
How Use Cases & Sequence Diagrams Help in Designing Classes

- Use Cases help distinguish one type of object from another
- Use Cases help describe the behavior of the system
- Sequence Diagrams help identify common structure and behavior
- Sequence Diagrams demonstrate how the system’s objects provide that behavior
- Together they help to define the properties and procedures and applicability of its instances
Discussion Points

- How is a sequence diagram different than a flowchart?
- Does this analysis show the advantages of OOAD vs. Structured Design?
- How do we distinguish between the Analysis and Design phases?
- Are separate sequence diagrams for each scenario necessary or can they be incorporated into one for all modeling problems?