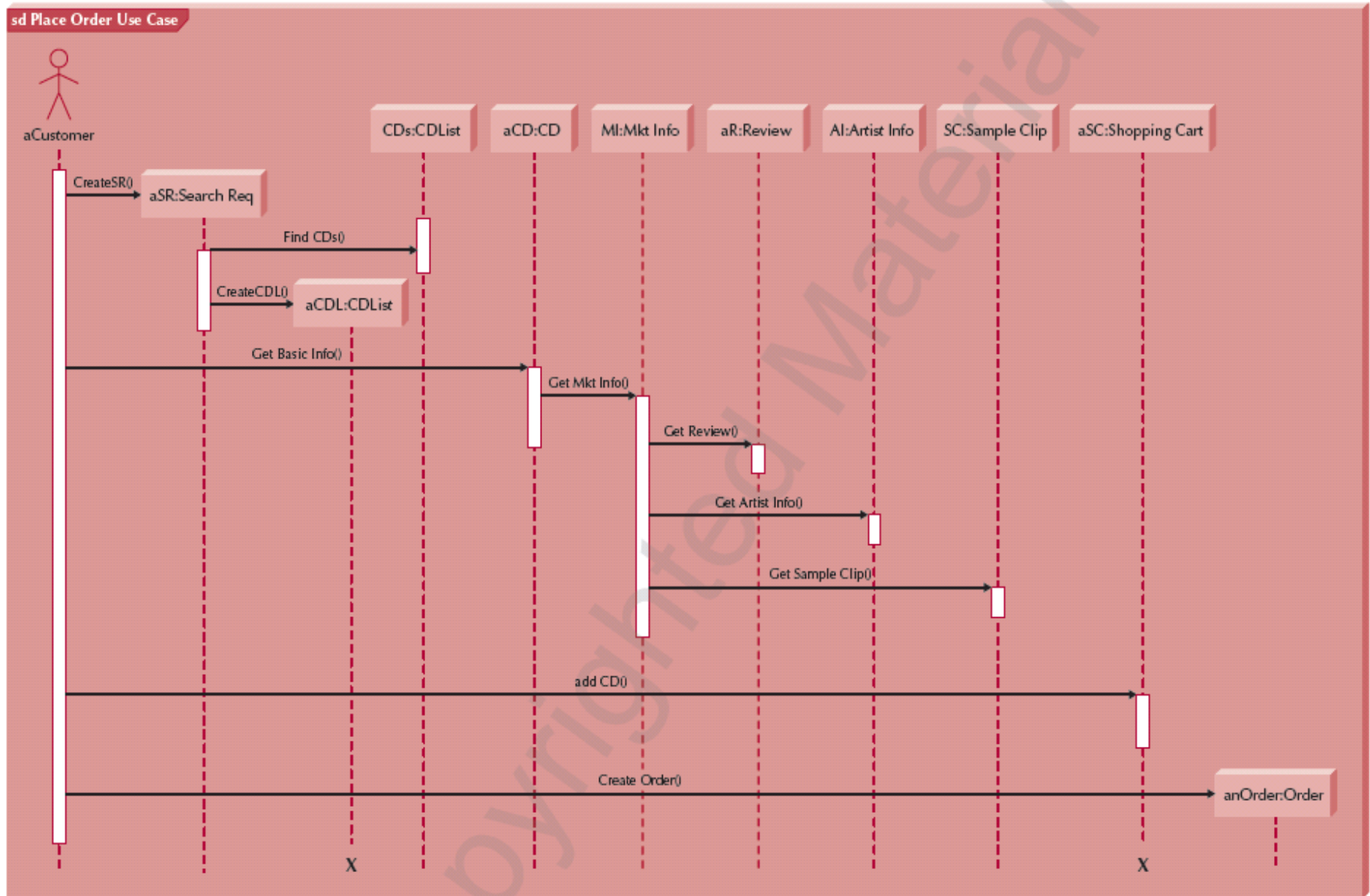


Example: CD Selections

Normal Flow of Events:

1. **Customer** submits a search request to the system.
2. The system provides the **customer** a list of recommended CDs.
3. The **customer** chooses one of the CDs to find additional information.
4. The system provides the **customer** with basic information & CD Reviews
5. The **customer** calls the **maintain order use case**.
6. The **customer** iterates over 3 through 5 until finished shopping.
7. The **customer** executes the **checkout use case**.
8. The **customer** leaves the website.

Sequence Diagram for the Places Order Use Case



Communication Diagrams

- provide a view of the dynamic aspects of an OO system.
- very useful to show process patterns
 - i.e., patterns of activity that occur over a set of collaborating classes.
- A communication diagram
 - an object diagram that shows message passing relationships instead of aggregation or generalization associations.
- Communication diagrams
 - emphasize the flow of messages through a set of objects
- Sequence diagrams
 - focus on the time ordering of the messages being passed.

CRUD Analysis

- It tests data model like (class data) or datastores against operation/process model like the methods of the class diagram or the processes in level1 and level2 etc in DFD
- One can discover missed information or incomplete usecase, requirements etc
 - It is a matrix in which each interaction among objects is labeled with a letter for the type of interaction:
 - C for Create,
 - R for Read or Reference,
 - U for update,
 - D for Delete.
- In an OO approach, a class-by-class matrix is used
- In DFD processes-by-datastores matrix is used

Building a Communication Diagram

- For example in the previous figure, an instance of SearchReq created an instance of CDList.
 - As such, assuming a Row:Column ordering, a “C” would be placed in the cell SearchReq:CDList.
 - Also, an instance of CD references an instance of MktInfo. In this case, an “R” would be placed in the CD:Mkt- Info cell.
- The following figure shows the CRUD matrix based on the Place Order use case.

	Customer	SearchReq	CDList	CD	Mkt Info	Review	Artist Info	Sample Clip	Shopping Cart	Order
Customer		R							U	C
SearchReq			CR							
CDList										
CD					R					
Mkt Info						U	U	U		
Review										
Artist Info										
Sample Clip										
Shopping Cart										
Order										