

SYMBIOSIS INSTITUTE OF COMPUTER  
STUDIES AND RESEARCH

# Object Oriented Analysis and Design

January 31, 2024

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## Topic:

Online Auction System

## Team Members:

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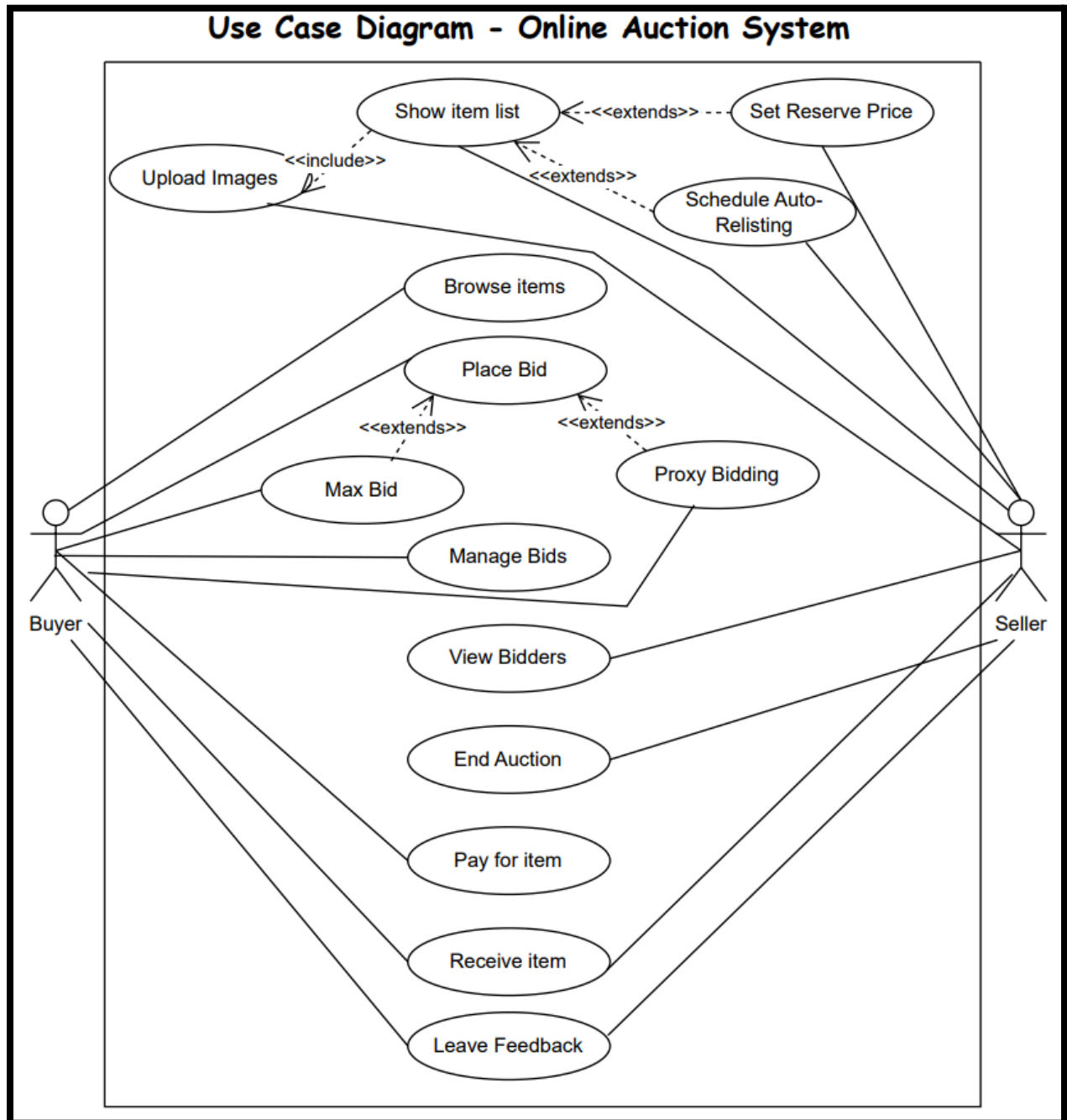
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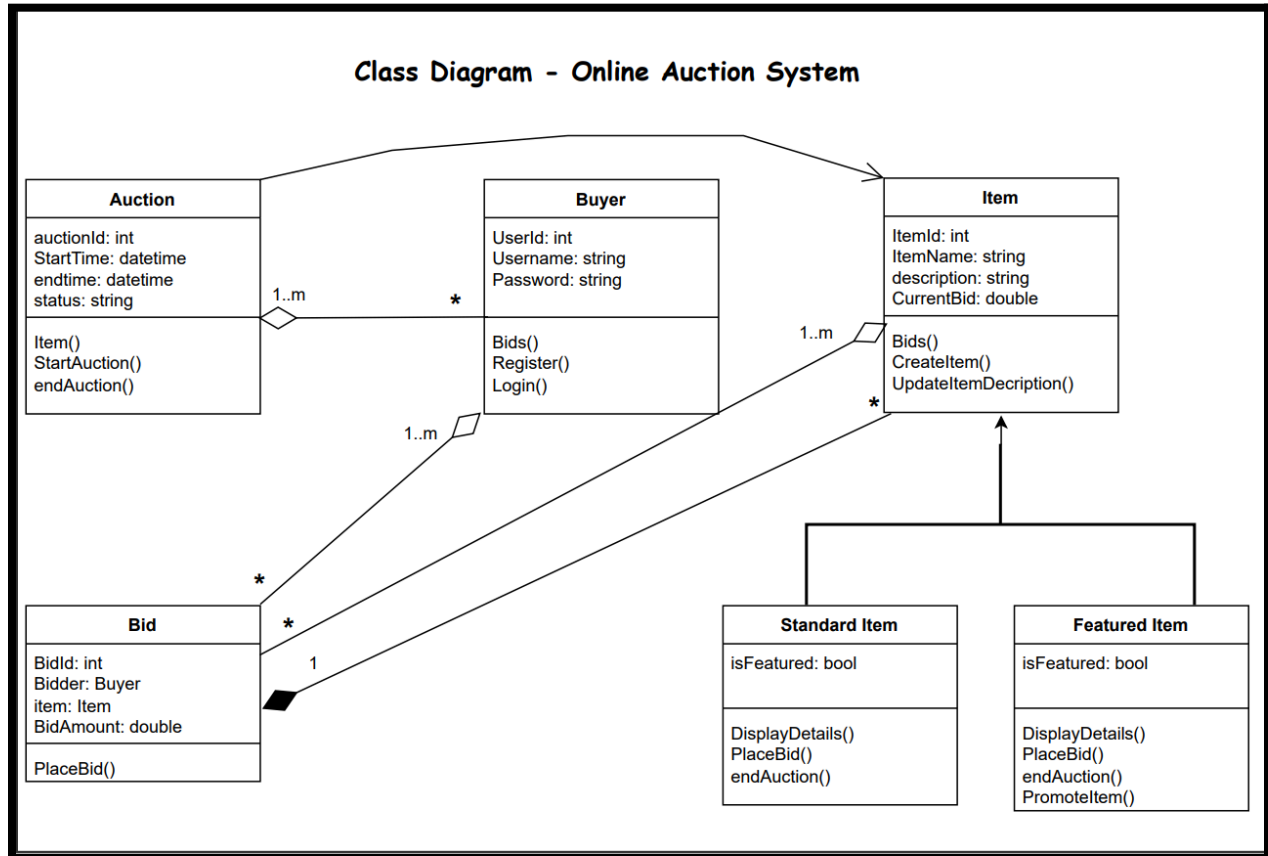
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## Use Case Diagram



## Class Diagram



## Use Case Documentation:

<b>Use Case ID</b>	UC01
<b>Use Case Name</b>	Show item list
<b>Actor</b>	Buyer

<b>Preconditions</b>	<ol style="list-style-type: none"> <li>1) Buyer should access the online auction portal using their login credentials.</li> <li>2) Buyer must search the item for bidding.</li> </ol>
<b>Postconditions</b>	<ol style="list-style-type: none"> <li>1) The buyer can access the list of items with key information.</li> <li>2) The buyer should navigate the item list to select the specific item as per requirement.</li> </ol>
<b>Description</b>	<ol style="list-style-type: none"> <li>1) The buyer can select the items for the list using keywords and filters.</li> <li>2) The System shows the current auction list as per the availability of an item.</li> <li>3) The list contains key information for each item, given below: <ul style="list-style-type: none"> <li>· Title and description: It provides brief information about an item and its features.</li> <li>· Image: It provides a visual representation of an item.</li> <li>· Current Bid: The starting bid of an item is shown along with the highest bid placed for an item if bids have been made.</li> <li>· Time remaining: The time remaining to end an auction is shown.</li> <li>· Seller Information: The Seller information like the name, and address of who is offering the item.</li> </ul> </li> </ol>
<b>Exemptions</b>	<ol style="list-style-type: none"> <li>1) Network error can result in a problem for loading the item.</li> <li>2) If the search criteria are not satisfied, the item will not be shown.</li> <li>3) Permission issues from the seller can result in the viewing of other users.</li> </ol>
<b>Alternate Scenarios</b>	<ol style="list-style-type: none"> <li>1) If an item is not found in the search directory, display no item, and return to the home screen.</li> </ol>

<b>Use Case ID</b>	UC01
<b>Use Case Name</b>	Show item list
<b>Actor</b>	Seller
<b>Preconditions</b>	<ol style="list-style-type: none"> <li>1) Seller should access the online auction portal using their login credentials.</li> <li>2) Seller must select the item for uploading it for bidding.</li> </ol>
<b>Postconditions</b>	<ol style="list-style-type: none"> <li>1) The seller can access the list of items with key information.</li> <li>2) The seller should navigate the item list to select the specific item as per requirement.</li> </ol>
<b>Description</b>	<ol style="list-style-type: none"> <li>1) The seller can update items for the list using keywords and filters.</li> <li>2) The seller can upload an image for an item.</li> <li>3) The seller can schedule a relisting of an item.</li> <li>4) The list contains key information for each item, given below: <ul style="list-style-type: none"> <li>· Title and description: It provides brief information about an item and its features.</li> <li>· Image: It provides a visual representation of an item.</li> <li>· Current Bid: The starting bid of an item is shown along with the highest bid placed for an item if bids have been made.</li> <li>· Time remaining: The time remaining to end an auction is shown.</li> <li>· Seller Information: The Seller information like the name, and address of who is offering the item.</li> </ul> </li> </ol>
<b>Relationship</b>	<ol style="list-style-type: none"> <li>1) Include: Seller can upload an image for each item listed.</li> <li>2) Extend: Seller can set a schedule for relisting of an item. Seller can set a reverse pricing for any item.</li> </ol>

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<b>Exemptions</b>	<ol style="list-style-type: none"><li>1) Network error can result in a problem for loading the item.</li><li>2) If the item loading criteria are not satisfied, the item will not be shown.</li><li>3) The image cannot be uploaded if it is big.</li></ol>
<b>Alternate Scenarios</b>	<ol style="list-style-type: none"><li>1) If an image is not uploaded, show the message about the size requirement and upload again.</li></ol>

<b>Use Case ID</b>	UC03
<b>Use Case Name</b>	Place Bid
<b>Actor</b>	Buyer
<b>Preconditions</b>	<ol style="list-style-type: none"><li>1) Buyers must login to the system with an adequate balance for purchasing the item.</li><li>2) The auction should be made open for bidding.</li><li>3) The buyer should select the item for bidding.</li></ol>
<b>Postconditions</b>	<ol style="list-style-type: none"><li>1) The buyer places a bid each time until the highest bid is achieved.</li><li>2) The buyer can use max bid or proxy bidding to purchase an item.</li></ol>

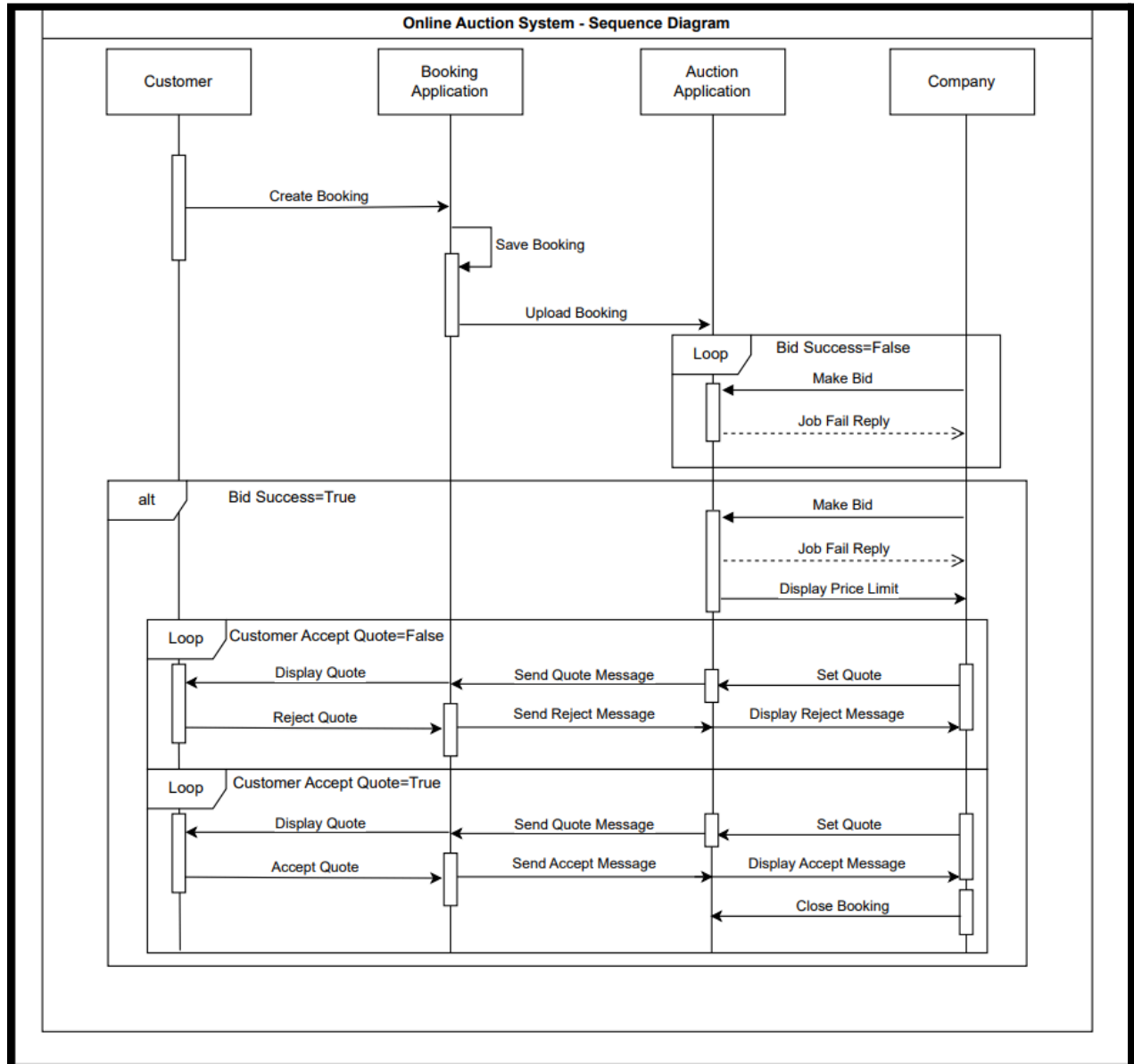
<b>Description</b>	<ol style="list-style-type: none"> <li>1) The buyer can view the item details after selecting the item for bidding.</li> <li>2) The buyer can enter a greater bid than the current bid.</li> <li>3) The System verifies the buyer information and balance for making the bid.</li> <li>4) The buyer can select: <ul style="list-style-type: none"> <li>· Set a max bid: the buyer can set a maximum bidding amount and the system will bid on their behalf until the amount is equal to the current bid.</li> <li>· Proxy Bidding: the buyer can set an amount to increase it from the current bid and place a bid until the highest bidding is achieved or results in winning the auction.</li> </ul> </li> </ol>
<b>Relationship</b>	<ol style="list-style-type: none"> <li>1) Extend: The buyer gets two additional automatic bidding processes. <ul style="list-style-type: none"> <li>· Set a max bid: It helps automate the bid in the specified range.</li> <li>· Proxy bidding: It helps to remain competitive in bidding.</li> </ul> </li> </ol>
<b>Exemptions</b>	<ol style="list-style-type: none"> <li>1) Network error can result in a problem for placing the bid.</li> <li>2) Removal of an item from the seller can terminate the bidding process.</li> <li>3) Rejection of buyer bid happens if it is lower than the current bid or insufficient balance.</li> </ol>
<b>Alternate Scenarios</b>	<ol style="list-style-type: none"> <li>1) Technical issues can terminate the buyer bidding process.</li> <li>2) Bidding cannot be place with one buyer until the seller is satisfied.</li> </ol>

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<b>Use Case ID</b>	UC06
<b>Use Case Name</b>	End Auction
<b>Actor</b>	Seller
<b>Preconditions</b>	<ol style="list-style-type: none"><li>1) The auction must be active, and one buyer has been selected.</li><li>2) The seller must be the owner of the listed item in the auction.</li></ol>
<b>Postconditions</b>	<ol style="list-style-type: none"><li>1) The status of the auction is updated to the buyer.</li><li>2) The auction should be concluded.</li></ol>
<b>Description</b>	<ol style="list-style-type: none"><li>1) The seller can view the list of active auction details.</li><li>2) The seller can view the highest bidding amount and buyer.</li><li>3) The seller can close the auction if he removes the item.</li><li>4) The system monitors the timer to end the auction.</li><li>5) The seller sends the payment information to the buyer.</li></ol>
<b>Exemptions</b>	<ol style="list-style-type: none"><li>1) Technical issues cannot help the system to complete end requests.</li><li>2) Untimely, termination of the auction can result in buyer discomfort in the bidding process.</li></ol>
<b>Alternate Scenarios</b>	<ol style="list-style-type: none"><li>1) Technical issues can terminate the buyer payment process.</li><li>2) The seller may not be able to end the auction if the bidding is active.</li></ol>

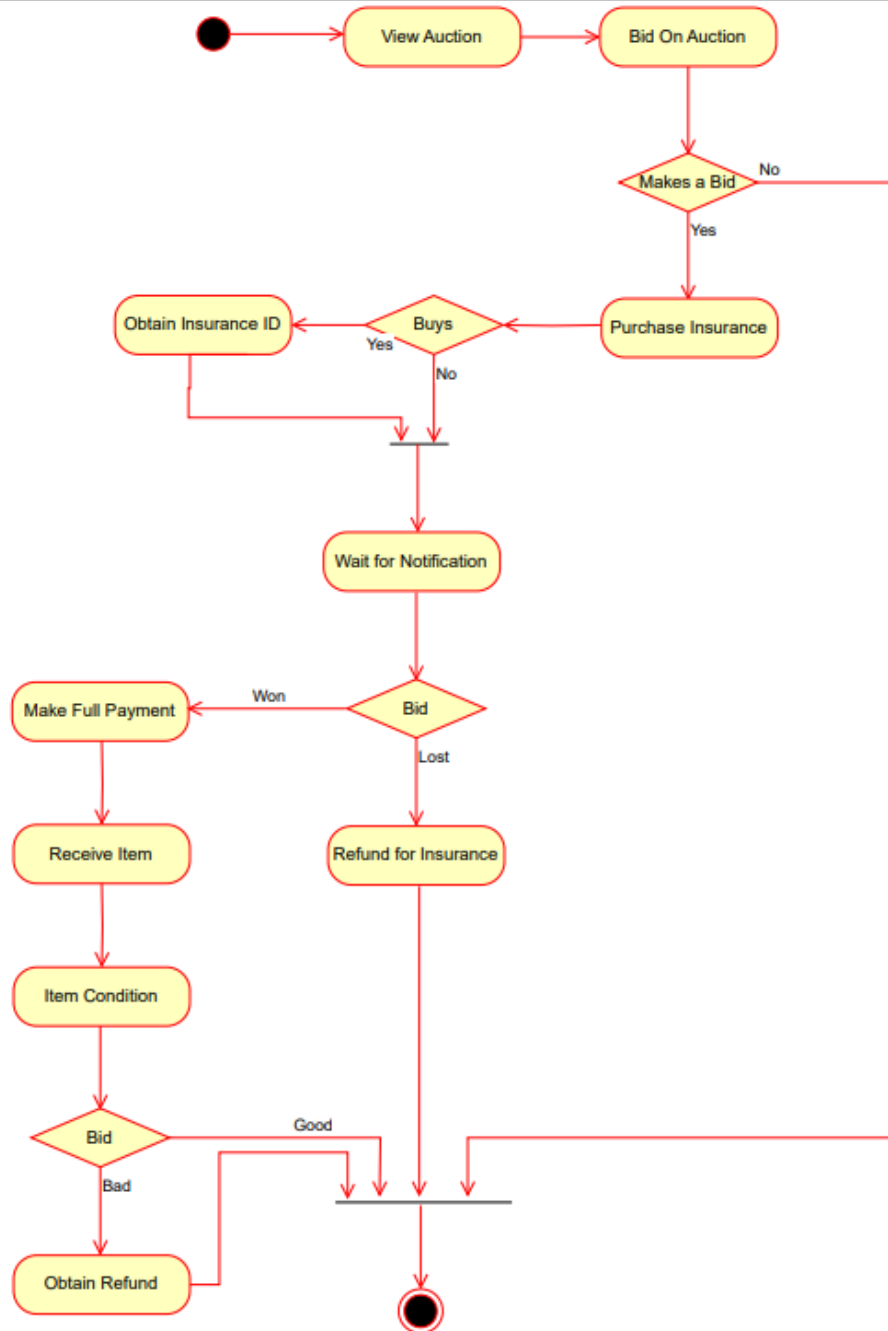


## Activity Diagram



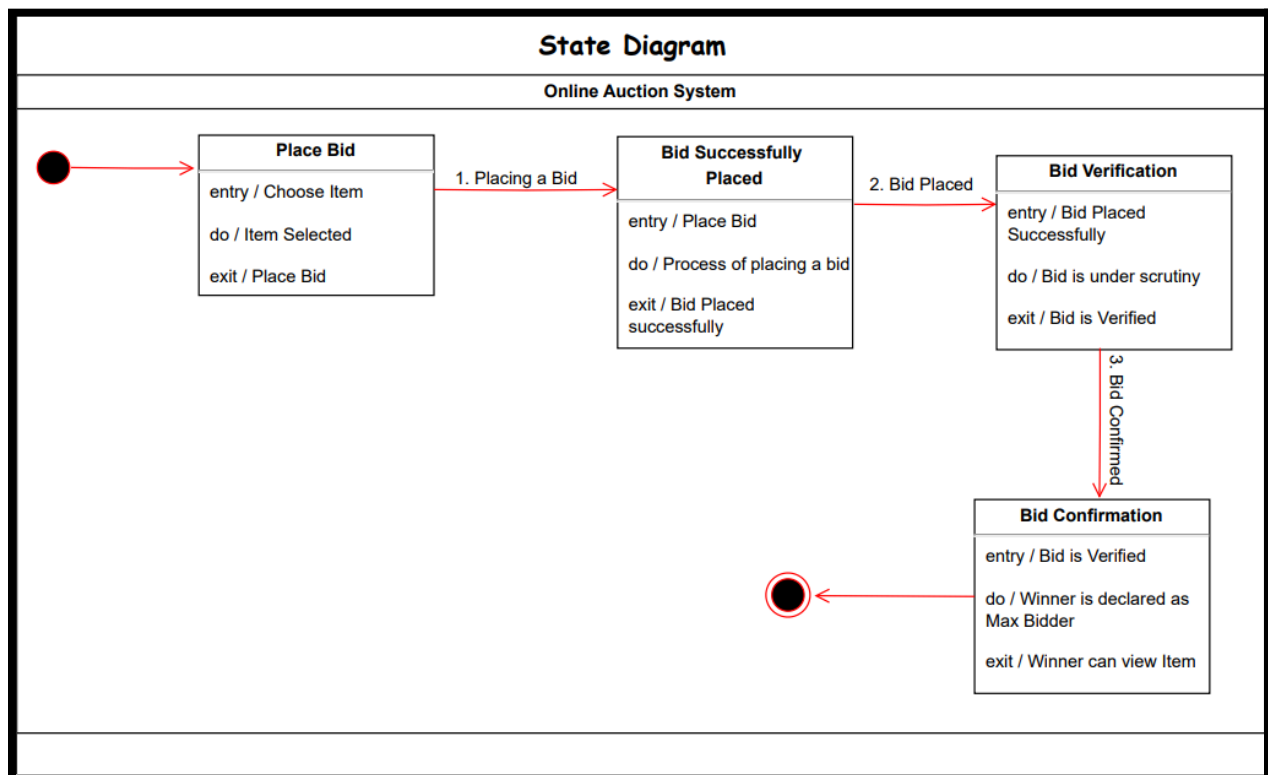
## Activity Diagram

Online Auction System



Above Activity Diagram provides the information of various activities involved between Buyer & Seller.

## State Diagram



Above Diagram provides explicit information about the use case **Place Bid** along with various states involved during the process.

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THANKS

A decorative graphic in the bottom right corner consisting of several overlapping triangles and squares in shades of pink and red, creating a modern, abstract look.