## **Business Logic Constraints:**

**BuzzBid User**

* New Users to BuzzBid must register first.
* Users who have registered but have forgotten their password will not be able to log in. No password recovery feature is available.
* Users can only be granted administrative rights by the database administrator manually updating the database.

**BuzzBid Auctions**

* Item categories can be changed and updated by the database administrator.
* Bids may not be under an Auction’s starting bid amount.
* Winning bid must meet the minimum sale price of an auction. Otherwise, the highest bidder will not be considered the winner.
* Bids may not be greater than the Get It Now price, if it exists.
* A User who listed an item may not bid on that item. That user can edit an item’s description.
* Completed and canceled Auctions cannot be edited or bid on.
* A User who won an auction may rate the item, and may then delete that rating.

# View Item

### Task Decomp

**Lock Types:** 3 read-only lookups of Item Details, Auction Details, and Bids for an item

**Number of Lock:** Several different schema constructs are needed

**Enabling Conditions:** All 3 are enabled by viewing an item

**Frequency:** Low - all 3 have the same frequency

**Consistency (ACID):** is not critical, even if item is edited/purchased while user is

viewing it

**Subtasks:** all subtasks must be done, but can be done in parallel. Mother task is

required to coordinate subtasks. Order is not necessary.

Abstract Code

* User clicked on Item Name from **Item Results**:
* Run the **View Item** task: query information about the item, the details of the auction, and the bids on the item (if any), where itemId is the ID of the item in question from the HTTP session.
  + Find the current Item using the Item.itemId; display the itemId, itemName, description, category, condition, and if the item is returnable.
  + Find the Auction associated with the item using the Item’s itemId and the username of the RegularUser who listed the item; display the getItNowPrice, auctionEnd, minSalePrice, and startingBid. Display winner and cancelReason, if applicable.
  + For each Bid on the Auction:
    - Display bidAmount, timeOfBid, and the username of the RegularUser who made the bid.
    - Bids are displayed ordered by the latest timeOfBid
* Upon:
  + Click ***Close*** button - Jump to the **Item Results** task.
  + Click ***Edit Description*** link: Jump to the **Edit Item** task.
  + Click ***View Ratings*** link: Jump to the **Item Rating** task.
  + Click ***Get It Now*** button: Jump to the **Buy Item** task.
  + Click ***Bid On This Item*** button: Jump to the **Buy Item** task.
  + Click ***Cancel This Auction***button: Jump to the **Cancel Item** task.

Edit Item

Task Decomp

**Lock Types:** 1 write to database if Item’s description is updated.

**Number of Lock:** Single

**Enabling Conditions:** Enabled when clicking on ***Edit Description*** link and saving a

new itemDescription.

**Frequency:** Low

**Consistency (ACID):** is not critical, even if users are viewing the item.

**Subtasks:** Mother task is not needed. No decomposition needed.

Abstract Code

* User that listed Item clicked on the ***Edit Description*** link:
* Display pop-up allowing user to enter new itemDescription
  + When ***Save*** button is clicked:
    - Update the Item’s itemDescription
    - Close pop-up window.

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# Buy Item

Task Decomp

**Lock Types:** 1 write to database when a User purchases the item

**Number of Lock:** Single

**Enabling Conditions:** Enabled when a User bids on an Item, or clicks on the ***Get It Now*** button link.

**Frequency:** Low

**Consistency (ACID):** is not critical, even if users are viewing the item.

**Subtasks:** Mother task is not needed. No decomposition needed.

#### Abstract Code

* User can purchase Item by:
  + Bidding:
    - If there are no other Bids on the Item, then bidAmount must be greater than or equal to Auction’s startingBid
    - Else, User’s bidAmount must be greater than the current highest Bid
    - bidAmount must be less than the Auction’s getItNowPrice. If bidAmount is greater than the getItNowPrice, then display an error message suggesting the User click on the ***Get It Now*** button instead of bidding.
  + Get It Now: User clicks on the ***Get It Now*** button, which ends the Auction immediately and sets User’s username as the Auction’s winner.

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# Cancel Item

Task Decomp

**Lock Types:** 1 write to database if Item is canceled and a cancelReason is provided,

and auctionEnd is updated to the DateTime of the cancellation.

**Number of Lock:** Single

**Enabling Conditions:** Enabled when clicking on ***Cancel This Auction*** button.

**Frequency:** Low

**Consistency (ACID):** is not critical, even if users are viewing the item.

**Subtasks:** Mother task is not needed. No decomposition needed.

Abstract Code

* Administrative User clicked on the ***Cancel This Auction*** button:
* Prompt for cancellationReason with pop-up window
  + On clicking the Cancel button:
    - Auction ends immediately, and the auctionEnd date is set to the date and time of cancellation.
    - Optional cancellationReason is stored in the database.
    - Close pop-up window.