

COMP0178: Database Fundamentals

Auction website coursework report

Group 3

Junming Hu

Jaiming Zhang

Arjun Bahra

Arei Mohammed

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# Introduction

This goal of this project is to create an auction system website using fundamental database and website creation techniques. This auction system will allow users to perform basic tasks such as registering themselves as a buyer and seller, posting an item for auction and bidding on items. The functioning database system used WAMPServer or XAMPP for the database creation. A partial functional front end was provided, however there was minimal functionality. The website development consisted primarily of PHP, Bootstrap and MySQL for the database back-end development.

The main website features include registering to the auction website as a user, both as a buyer and a seller simultaneously. Users being able to post a new auction for an item they want to sell with a starting price and reserve price. A listing browse page where any user can search for listen items up for auction. A recommended page where similar items are recommended to the user based on their bidding and viewing history and a watchlist feature which allows users to save an auction they are interested in bidding on at another time.

# ER Diagram

# The database schema

|  |  |
| --- | --- |
| Users | |
| Key | Description |
| id | Primary key that is unique to each user |
| username | The username the user uses to sign up |
| email\_address | Users email address |
| address | Users home address |
| post\_code | Users post code |
| password | Users password used to sign in |
| is\_active | User account active status |

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| --- | --- |
| tbl\_listings | |
| Key | Description |
| listing\_id | Unique id that represents each listing |
| title | Title of the auction |
| details | Details and description of the listing |
| category\_id | The category of the item being listed |
| starting\_price | The starting price of the listing |
| reserve\_price | The reserve price of the listing |
| end\_date | The date the auction ends |
| user\_id | Id of the user that lists the item |
| is\_active | The listing is active to view |
| created\_at | The time the listing was created |
| deleted\_at | The time the listing was deleted |

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| --- | --- |
| biding | |
| Key | Description |
| bid\_id | Unique bid id |
| listing\_id | Which listing was bid on |
| user\_id | Which user bid on the item |
| biding\_price | The amount of the bid |
| biding\_time | The time the bid was places |

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| watchlist | |
| Key | Description |
| user\_id | The user that watched the item |
| listing\_id | The listing that is being watched |

# Database relationship table

# Queries

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| Browse.php |
| $query = "SELECT tbl\_listings.listing\_id, tbl\_listings.title, tbl\_listings.details, MAX(biding.biding\_price), tbl\_listings.starting\_price, tbl\_listings.end\_date FROM tbl\_listings LEFT JOIN biding ON tbl\_listings.listing\_id=biding.listing\_id WHERE title IS NOT NULL"; |
| List listing\_id, title, details, starting\_price, end\_date and maximum bidding price for listings which have a non-null title |

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| Browse.php |
| $query = "SELECT tbl\_listings.listing\_id, tbl\_listings.title, tbl\_listings.details, MAX(biding.biding\_price), tbl\_listings.starting\_price, tbl\_listings.end\_date FROM tbl\_listings LEFT JOIN biding ON tbl\_listings.listing\_id=biding.listing\_id WHERE title LIKE '%$keyword%'"; |
| List listing\_id, title, details, starting\_price, end\_date and maximum bidding price for listings whose title includes the value of $keyword. |

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| Browse.php |
| $query\_result = $query . " GROUP BY tbl\_listings.listing\_id ORDER BY (CASE WHEN (tbl\_listings.end\_date > CURRENT\_TIMESTAMP) THEN TIMEDIFF(tbl\_listings.end\_date,CURRENT\_TIMESTAMP) ELSE ADDTIME((TIMEDIFF(CURRENT\_TIMESTAMP, tbl\_listings.end\_date)),\"10000:0:0\") END) LIMIT $results\_per\_page"; |
| Sort the columns listed in $query by end date of auctions |

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| Browse.php |
| $query\_result = $query . " GROUP BY tbl\_listings.listing\_id ORDER BY (CASE WHEN MAX(biding.biding\_price) IS NULL THEN tbl\_listings.starting\_price ELSE MAX(biding.biding\_price) END) LIMIT $results\_per\_page"; |
| Sort the colunms listed in $query by latest prices of auctions in ascending order |

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| Browse.php |
| $query\_result = $query . " GROUP BY tbl\_listings.listing\_id ORDER BY (CASE WHEN MAX(biding.biding\_price) IS NULL THEN tbl\_listings.starting\_price ELSE MAX(biding.biding\_price) END) DESC LIMIT $results\_per\_page"; |
| Sort the columns listed in $query by latest prices of auctions in descending order |

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| Browse.php |
| $temp[1] = "COUNT(DISTINCT tbl\_listings.listing\_id)” |
| To count the number of unique listing\_id values in listing table |

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| create\_auction\_result.php |
| $insertQuery = "insert into tbl\_listings(title,details,category\_id,starting\_price,reserve\_price,end\_date,user\_id,is\_active,created\_at) values('$txtTitle','$txtDetails',$ddCategory,'$txtStartPrice','$txtReservePrice','$txtEndDate',$user\_id, 1, '$curdate')"; |
| Intert a new auction with information: $txtTitle','$txtDetails',$ddCategory,'$txtStartPrice','$txtReservePrice','$txtEndDate',$user\_id, 1, '$curdate' |

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| Header.php |
| $checkUsername = $mysqli->query("select \* from users where username = '$username' limit 1"); |
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| Listing.php |
| $getListingQuery = "select \* from tbl\_listings where listing\_id = $item\_id"; |
| List the auction whose listing id is equal to the value of $item\_id |

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| mybid.php |
| $getUserbidingQuery = "SELECT \* FROM tbl\_listings WHERE EXISTS(SELECT \* FROM biding WHERE tbl\_listings.listing\_id = biding.listing\_id AND user\_id = $user\_id)"; |
| List the auctions the user with $user\_id has bid |

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| mybid.php |
| $getBidingNumQuery = "SELECT COUNT(\*) from biding WHERE listing\_id = $listingone"; |
| Count the number of auction whose listing\_id is $listingone |

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| mybid.php |
| $$CheckBidQuery = "SELECT \* FROM biding WHERE user\_id = $user\_id and listing\_id = $listingone"; |
| List the biddings on the auction $listingone from user with $user\_id |

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| mybid.php |
| $YourMaxBidingQuery = "SELECT MAX(biding\_price) FROM biding WHERE user\_id = $user\_id and listing\_id = $listingone"; |
| List the max biding price which the user with id $user\_id has made for the auction $listingone |

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| mylisings.php |
| $getUserListingQuery = "select \* from tbl\_listings where user\_id = $user\_id"; |
| List the auctions created by user with id $user\_id |

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| mylisings.php |
| $getBidingNumQuery = "SELECT COUNT(\*) from biding WHERE listing\_id = $listingone"; |
| List the num of bidings on the auction with listing\_id $listingone |

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| mywatchlist.php |
| $watchlist\_listing\_query = "SELECT \* FROM tbl\_listings as listings WHERE listings.listing\_id IN (SELECT listing\_id FROM watchlist WHERE user\_id = $id) LIMIT $results\_per\_page"; |
| List the auctions whose lising\_id is added to watchlist by user with id $id |

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| mywatchlist.php |
| $num\_watchlist\_query = "SELECT COUNT(listing\_id) FROM watchlist WHERE user\_id = $id"; |
| Count the number of auctions which user with id $id has added |

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| mywatchlist.php |
| $count\_bid\_query = "SELECT COUNT(\*) FROM biding WHERE listing\_id = {$row['listing\_id']}"; |
| Count the number of biddings on the auction whose lising\_id is $row['listing\_id'] |

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| mywatchlist.php |
| $top\_bid\_query = "SELECT MAX(biding\_price) FROM biding WHERE listing\_id = {$row['listing\_id']}"; |
| Find the highest biding price for the auction whose listing\_id is $row['listing\_id'] |

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| place\_bid.php |
| $UpdateNewBidQuery = "UPDATE tbl\_listings SET starting\_price = $biding\_price WHERE listing\_id = $listing\_id"; |
| Update the latest starting price as the highest biding price |

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| place\_bid.php |
| $getbiding\_query = "Insert into biding(listing\_id,user\_id,biding\_price,biding\_time) VALUES($listing\_id,$user\_id,$biding\_price,'$biding\_time')"; |
| Create a data row for a new bidding with its information |

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| register.php |
| $registerQuery = "INSERT INTO users (username, email\_address, address, post\_code, password, is\_active) VALUES ('$username', '$email\_address', '$address', '$post\_code', '$password', 1)"; |
| Create a data row for new users with its information |

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| watchlist\_funcs.php |
| $add\_to\_watch\_query = "INSERT INTO watchlist VALUES ($user\_id, $item\_id[0])"; |
| Add the auction with itemid $item\_id[0] into the watchlist of user with id $user\_id |

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| watchlist\_funcs.php |
| $remove\_watch\_query = "DELETE FROM watchlist WHERE user\_id = $user\_id AND listing\_id = $item\_id[0]"; |
| Remove the auction with itemid $item\_id[0] from the watchlist of user with id $user\_id |