|  |  |
| --- | --- |
| Abstract  User  Administrator, Shopper | |
| Browse  Search  Name  Password  ID  Store | Store  Product |

|  |  |
| --- | --- |
| User  Administrator | |
| Add Product Req.  Modify Product Req.  Add Category Req.  List Categories | Store  Product |

|  |  |
| --- | --- |
| User  Shopper | |
| Add to cart  Remove from cart  View Cart  Check Out  Buy It Now  View Invoices  Cart  Past Invoices | Store  Product  Invoice |

|  |  |
| --- | --- |
| Product | |
| Modify product  Image  ID  Description  Category  Available Quantity  Stock in Dist. Center  Price | Category |

|  |  |
| --- | --- |
| Store | |
| Add user  Add product  Create new user  Login user  Logout user  Authenticate user  List Products  Modify Product  List Categories  Add Category  Modify Category  Authenticate Purchase  User List  Product List | Administrator  Shopper  Product  Category  DBManager |

|  |  |
| --- | --- |
| Invoice | |
| Order ID  Order Timestamp  List of products  Quantity per product  Price per product  Shipping Costs | Product  Graph  City |

|  |  |
| --- | --- |
| Category | |
| ID Number  Name |  |

|  |  |
| --- | --- |
| DBManager | |
| Display current users, products, categories, and cities  Update existing user, products, and categories, and write to CSV  Add User to CSV file  Add Product to CSV  Add Category to CSV  Add City to CSV | Store  User  Shopper  Administrator  Product  Category  Graph  City |

|  |  |
| --- | --- |
| Graph | |
| Calculate shortest distance to Distribution centres  Calculate shortest route and cost for route  List of cities | Store  City |

|  |  |
| --- | --- |
| City | |
| Display edges for each city  Name  Distribution boolean | Store  Graph |