

DBMS - Fall 2023

(Final Project)

Website for a Real Estate Agency

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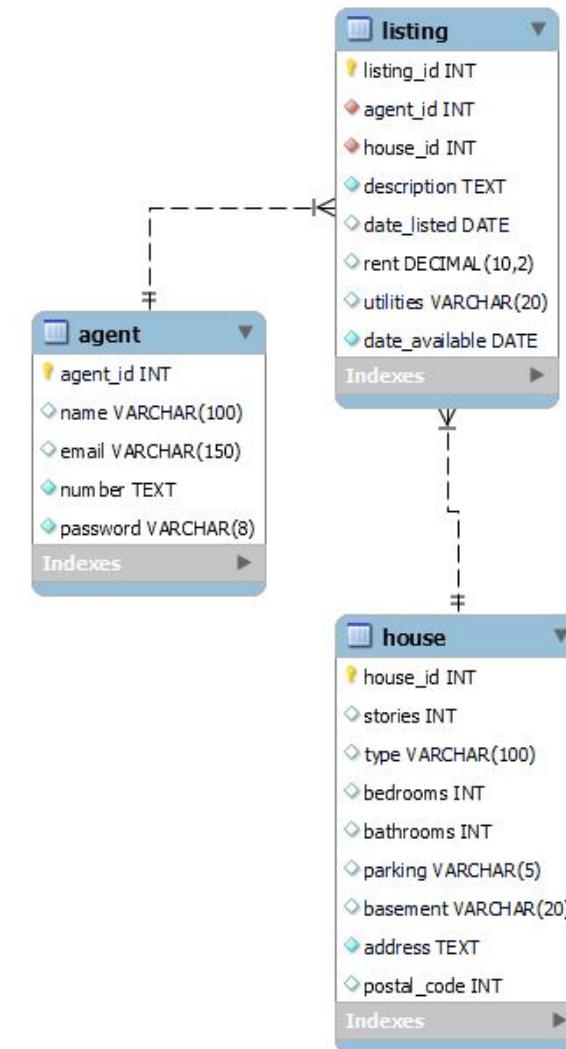
Main Purpose

The intention of this project is to create a website for a real estate agency that allows the agents under that agency to access and manipulate their current house listings



DB Schema & Server Side Error-handling

- The creation of these tables was done with the appropriate constraints added and tailored for each attribute where it's needed
- This ensured server-side error handling





Main Functionalities (CRUD)

The main functionalities of this project are comprised of the following:

The real estate agent with a unique agent ID will be able to

- Login
- View the listings (associated with their specific agent ID)
- Search those listings
- Update these listings
- Add to these listings
- Delete from these listings



Login Page

Signed in

localhost:3000/login

Welcome to ANA Real Estate Agents' Portal!



Please Log in to continue

Username:

Password:



Main Menu

Sign in

Search Listings

localhost:3000/main

Main Menu



Options

Listings: [View my listings](#)

Search: [Search my listings](#)

Add: [Add a new listing](#)

Update: [Update an existing listing](#)

Delete: [Delete a listing](#)

View Listings

localhost:3000/listings

localhost:3000/listings

LISTING_ID **HOUSE_ID** **ADDRESS** **POSTAL_CODE** **DESCRIPTION** **DATE_LISTED** **RENT** **UTILITIES** **DATE_AVAILABLE**

1759	9102	3333 Cabell Road, Philadelphia, PA	19154	2 Bedroom 1 Bath complete remodel. Updated kitchen: center island, New cabinets, New appliances, Granite counter tops. Great views of the backyard from the kitchen and breakfast room windows! Remodel and new appliances 2023. Open concept. Vaulted Living area. Tall baseboards through out, and New Luxury Vinyl plank flooring. New windows to help keep your utility bills down, hot water heater. HVAC recently services and new AC outside unit (condenser) installed. Large backyard. Close to Six Flags, Hurricane Harbor, Globe Life Field, AT&T stadium, and more! Great Location!	Tue Nov 14 2023 00:00:00 GMT-0500 (Eastern Standard Time)	3789	landlord	Sat Nov 18 2023 00:00:00 GMT-0500 (Eastern Standard Time)
3548	5678	2222 Aldine Street	19136	Welcome home to this brand new bi-level condo on Aldine! This condo is modern, minimalist, and spacious.	Tue Oct 24 2023 00:00:00	3789	tenant	Tue Nov 07 2023 00:00:00 GMT-0500

View Listings (continued)

Vinyl plank flooring. New windows to help keep your utility bills down, hot water heater. HVAC recently services and new AC outside unit (condenser) installed. Large backyard. Close to Six Flags, Hurricane Harbor, Globe Life Field, AT&T stadium, and more! Great Location!									
3548	5678	2222 Aldine Street, Philadelphia, PA	19136	Welcome home to this brand new bi-level condo on Aldine! This condo is perfectly positioned to access all of the great restaurants and retail shops in the area! Enter unit A to a stunning open-concept living area that leads into a wrap-around kitchen equipped with quartz counters, stainless steel appliances and marble backsplash. Bedrooms on both floors offer tons of space and have direct access to a private bath.	Tue Oct 24 2023 00:00:00 GMT-0400 (Eastern Daylight Time)	3789	tenant	Tue Nov 07 2023 00:00:00 GMT-0500 (Eastern Standard Time)	
8217	1234	1111 Market Street, Philadelphia, PA	19103	Beautiful 2 bedroom, 2 bath end-unit townhouse available starting in 2024. ALL UTILITIES INCLUDED. 2 PARKING SPOTS Newer washer, dryer, and kitchen appliances. The open layout features hardwood floors t/o, new recessed LED lighting, crown molding, and lots of natural light. The open kitchen has a breakfast bar, subway tile backsplash, and pendant lighting. The dining room, private balcony, pantry, and laundry room complete the main living area. The master bedroom has new hardwood floors, is also located on the main floor and has a large walk-in closet with custom shelving. The 1st fl bedroom includes a built-in shelving unit, plenty of storage, and a private full bathroom. Each level has its own luxurious, full bathroom with granite vanities. Additional features include CENTRAL AIR, lots of storage, and side garden! The garage has a built-in storage unit and second refrigerator for extra storage.	Wed Sep 06 2023 00:00:00 GMT-0400 (Eastern Daylight Time)	2456	landlord	Mon Jan 01 2024 00:00:00 GMT-0500 (Eastern Standard Time)	



Search Listings

The screenshot shows a web browser window with the following details:

- Title Bar:** The title bar displays "Search Listings" and the address bar shows "localhost:3000/search".
- Header:** A navigation bar includes a "Sign in" button, a user icon, and standard browser controls (back, forward, search).
- Content Area:** The main content area has a light orange background.
 - Section Header:** "Search a Listing" is centered at the top of the content area.
 - Text:** "Search by description" is displayed above a search input field.
 - Input Field:** A white input field with a black border and a "Go" button to its right.
 - Text:** "Enter a desired keyword or phrase:" is displayed below the input field.
 - Section Header:** "Search by Postal Code" is located at the bottom of the content area.

Search Listings (continued)

The screenshot shows a web browser window with a light orange background. At the top, the title bar includes a 'Sign in' button, standard window controls, and the URL 'localhost:3000/search'. Below the title bar, there are two search sections.

Search by description
Enter a desired keyword or phrase:
 Go

Search by Postal Code
Enter desired postal code:
 Go

Search Results

The screenshot shows a web browser window with the URL `localhost:3000/search`. The page has a light beige background. At the top left is a navigation bar with icons for home, search, and refresh. The main content area features a large image of a row of modern townhouses with yellow and grey siding, dark roofs, and white trim. A watermark for "iStock Credit: GaryAlvis" is visible in the center of the image. Below the image is a table with the following data:

LISTING_ID	HOUSE_ID	ADDRESS	POSTAL_CODE	DESCRIPTION	DATE_LISTED	RENT	UTILITIES	DATE_AVAILABLE
8217	1234	1111 Market Street, Philadelphia, PA	19103	<p>Beautiful 2 bedroom, 2 bath end-unit townhouse available starting in 2024. ALL UTILITIES INCLUDED. 2 PARKING SPOTS Newer washer, dryer, and kitchen appliances. The open layout features hardwood floors t/o, new recessed LED lighting, crown molding, and lots of natural light. The open kitchen has a breakfast bar, subway tile backsplash, and pendant lighting. The dining room, private balcony, pantry, and laundry room complete the main living area. The master bedroom has new hardwood floors, is also located on the main floor and has a large walk-in closet with custom shelving. The 1st fl bedroom includes a built-in shelving unit, plenty of storage, and a private full bathroom. Each level has its own luxurious, full bathroom with</p>	Wed Sep 06 2023 00:00:00 GMT-0400 (Eastern Daylight Time)	2456	landlord	Mon Jan 01 2024 00:00:00 GMT-0500 (Eastern Standard Time)

Add Listing

The screenshot shows a web browser window with the title "Add Listing" and the URL "localhost:3000/add". The page has a brown header with the text "Add a New Listing". Below the header, there are two main sections: "Listing Information" and "House Information".

Listing Information:

- Listing ID:
- Description:
- Date Listed: (format: YYYY-MM-DD)

House Information:

- House ID:
- stories: (dropdown menu showing "1")
- Type: (dropdown menu showing "Single-Family")
- Number of Bedrooms:
- Number of Bathrooms:
- Parking Availability: yes no

Add Listing (continued)

The screenshot shows a web browser window with the title "Add Listing" at the top. The URL in the address bar is "localhost:3000/add". The page contains a form for adding a listing, with various input fields and dropdown menus. The background of the form area is a light orange color.

Left Column:

- Listing ID:** [Text input field]
- Description:** [Large text area]
- Date Listed:** [Text input field] (e.g., YYYY-MM-DD)
- Rent:** [Text input field] (e.g., 12.00)
- Utilities are the Responsibility of:** • tenant • landlord
- Date Available:** [Text input field] (e.g., YYYY-MM-DD)

Right Column:

- House ID:** [Text input field]
- stories:** [Dropdown menu] (1)
- Type:** Single-Family
- Number of Bedrooms:** [Text input field]
- Number of Bathrooms:** [Text input field]
- Parking Availability:** • yes • no
- Parking Availability:** [Dropdown menu] (Finished)
- Address:** [Text input field] (e.g., 1111 Test Street Philad)
- Postal Code:** [Text input field]

Bottom Right: Submit



Update Listing

The screenshot shows a web browser window with the following details:

- Title Bar:** "Sign in" button, tab labeled "Update Listings", address bar showing "localhost:3000/update".
- Content Area:** A large orange header section contains a house icon and the text "Update a Listing".
- Form Section:** A white rectangular form area contains the text "The Listing to be updated" and "Enter the Listing ID of the listing you want to update:". Below this text is a white input field.
- Bottom Section:** A smaller orange footer section contains a white input field and the text "The desired update".

Update Listing (continued)

The screenshot shows a web browser window with the title "Update Listings". The URL in the address bar is "localhost:3000/update". The page content is as follows:

Enter the Listing ID of the listing you want to update:

The desired update

Enter the new rent:

Update

Delete Listing

The screenshot shows a web browser window with the following details:

- Title Bar:** The title bar displays "Delete a Listing" and the URL "localhost:3000/delete".
- Header:** A navigation bar with icons for home, back, forward, and search.
- Main Content:** The main area has a light orange background.
 - Section Header:** "Delete a Listing" centered at the top of the content area.
 - Text:** "The Listing to be deleted" followed by a large input field.
 - Text:** "Enter the Listing ID of the listing you want to delete:" followed by a smaller input field.
 - Buttons:** A red "Delete" button at the bottom center.



General Features Specifics

- Login
 - Session tracking
 - Has a variable (`usernameID`) to store the agent ID for session tracking
 - When logging in, agent ID is stored
 - When agent logs out, `usernameID` is set back to null
 - If without a login preceding, the pages are accessed using get (/main, /listings, /search, /update, /delete..), then no listing results will show and no edits can be done to jeopardize the database (every attempt to do so will result in a fail). This is since `usernameID` will be null and not initialized with an agentID
- Icons
 - Added logout, home, and search icons to redirect agents instead of links
- Viewing the Listings
 - A view listings page is dynamically generated, and the listings shown in it are tailored to the specific agent logged in, using `usernameID = agentID`

General Features Specifics (Cont'd)

Note: all of the following are tailored to take into account usernameID = agentID

- Searching
 - Multiple search types are available: agent can search by a keyword in description or by zip code, or both!

A search result page is dynamically generated

- Adding
 - The agent can add a new listing along with the new house associated with that listing
 - The agent can add a new listing associated with an existing house in the database
- Updating
 - The agent can update a listing's rent using its ListingID
- Deleting
 - The agent can delete a listing using its ListingID to indicate a listing has gone off-market
 - The house is kept in the database in case the agent wants to relist it

An add/update/delete confirmation page is displayed



Error Handling Features Specifics

- Incorrect Login Data
 - If login is unauthorized or non-correct data is entered, redirects to unauthorized access page
- Adding Went wrong
 - If there is an error with adding a listing, redirects user to an add fail page that tells the agent something went wrong
 - If adding listing with a new house fails but adding the house succeeds, server will send a query to delete the newly added house from the database (the house shouldn't be added without the listing)
- Nonsensical Data
 - For all pages: when nonsensical data is entered, **redirects agent to a fail page** telling them something went wrong and to try again, and the faulty edits are not done to the backend.
 - For the search page: shows a blank list in the search result page
- Blank Fields
 - For all pages: If fields are left blank, **does the same thing** as entering nonsensical data
 - For the search page: shows a list of all the listings of the currently logged-in agent in the search result page (as if they searched by nothing! and just viewed the listings)



Ranking Statement

Member 1: Adrienne Loc

My teammate and I agree that I handled 50% of the overall project. My specific tasks included:

- I coded all the sql statements & DB creation (MySQL Workbench work)
- I coded all of the CSS and done the whole formatting (background colors, styles, buttons..) of all of the HTML pages
- Nodejs: login, listings, add, update

Member 2: Nadin Musallam

My teammate and I agree that I handled 50% of the overall project. My specific tasks included:

- I suggested the initial structure of the 3 entity DB schema (ER & Relational model)
- I coded the whole basic structure of all of the HTML pages, all of the forms, as well as the confirmation of failure or success pages
- Nodejs: search, delete, plus the first parts of the .js file(setting up the HTTP server, the mysql connection, accessing files, the basic get requests routing table)