



Comprehensive Real Estate Insights Platform

Members:

Donovan Murphy - dmurphy2021@my.fit.edu

Jonathan Bailey - jbailey2021@my.fit.edu

Enrique Obregon - eobregon2020@my.fit.edu

Faculty Advisor & Client:

Fitzroy Nembhard - fnembhard@fit.edu

- Florida Institute of Technology, Department of Computer Science -

Guidelines for Milestone 4 Progress Evaluation

Progress of Current Milestone (Progress Matrix):

| Task | Completion % | Donovan | Jonathan | Enrique | To do |
|---|--------------|---------|----------|---------|---|
| ROI Tool | 85% | 10% | 80% | 10% | Implement logic into frontend and figure out how to pull information from house instead of having the user enter it all |
| Investigate JavaScript functions and card layout on the home screen | 95% | 50% | 10% | 30% | Fully implemented, continue refining UI/UX based on testing feedback |
| Working Website Demo's | 80% | 33% | 33% | 33% | Add a Neighborhood Insight Demo, refine UI consistency |
| House Comparison Tool | 90% | 0% | 0% | 100% | Improve design elements and implement final comparison logic |
| Flask + MERN stack & caching/geolocating users | 40% | 33% | 33% | 33% | Implement caching methodology, optimize geolocation for relevant property listings |

Discussion of each accomplished task for the current Milestone:

Task 1: Frontend Development and Home Comparison Tool

We successfully enhanced the frontend, particularly focusing on improving the Home Comparison Tool. The interface now allows users to seamlessly switch to comparison mode and compare up to three homes. Additional styling and UI refinements were made to ensure a smooth experience. The comparison layout now visually highlights differences in key attributes such as price, square footage, and year built.

16863 Muskgrass Dr

5.2 Average







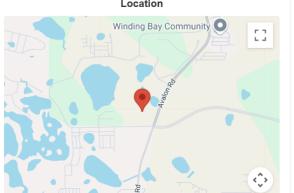
\$779,990

| | | | |
|------------------------|-------------------------|-----------------------------|----------------------------|
| 4.0 Bedrooms | 3.5 Bathrooms | 3,066 Square Feet | \$254 Price/sqft |
|------------------------|-------------------------|-----------------------------|----------------------------|

About This Home

Welcome to this stunning 4-bedroom, 3.5-bathroom home located at 16863 Muskgrass Drive in Winter Garden, FL. This beautiful home, situated in a desirable neighborhood, boasts 3,066 square feet of spacious and modern living space, perfect for families or those who entertain. The exterior features a combination of light-colored siding and stone accents, surrounded by landscaped gardens and a 2-car garage providing ample parking space. Upon entering, you are greeted by a formal dining room and an inviting interior that showcases a seamless flow between the living spaces. The kitchen is a focal point of the home, equipped with high-end appliances, sleek countertops, and plenty of storage for all your culinary needs. Whether you're

Location



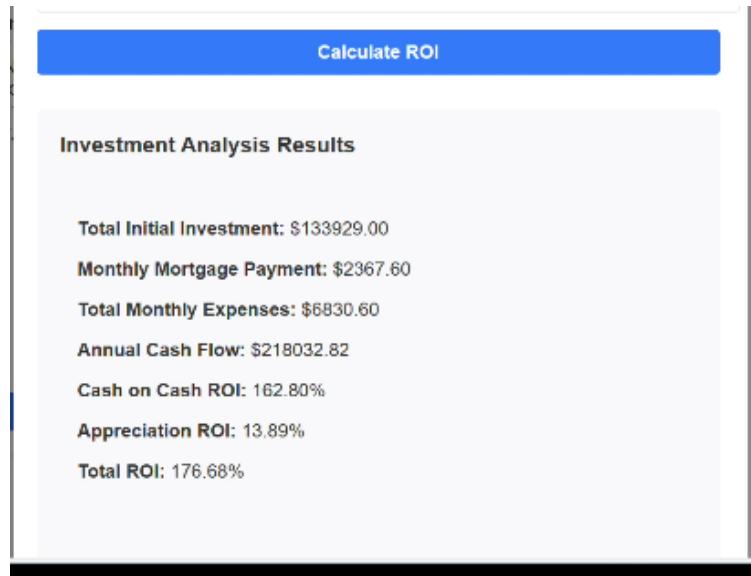
Task 2: ROI Tool

Significant progress was made in the logic implementation of the ROI Tool. The tool is now capable of calculating key investment metrics such as net profit, monthly mortgage payments, and cash-on-cash return. The next steps include pulling financial data directly from home listings to reduce user input and integrating the finalized logic into the frontend UI for a more seamless experience.

The screenshot shows a modal window titled "Investment ROI Calculator". It contains several input fields for financial data:

- Purchase Price (\$): 619900
- Down Payment (\$): 123980
- Closing Costs (\$): 10000
- Annual Property Taxes (\$): 10000
- Annual Insurance (\$): 20000
- Expected Monthly Rent (\$): 25000
- Monthly Expenses (\$): 1963
- Interest Rate (%): 4
- Appreciation Rate (%): 3

At the bottom is a blue "Calculate ROI" button.



Task 3: MERN Stack w/ Flask

We have continued to work with Flask for our backend, improving efficiency and making API integrations smoother. This has allowed us to use the housing data coming from the backend to the frontend without being limited by api call or specific zip code limitations. This progress has allows for better data handling and enhances performance when pulling real estate data from multiple sources.

3031 Juanita Cir

4.4 Poor

\$185,000

| | | | |
|-----------------|------------------|----------------------|---------------------|
| 3.0 Bedrooms | 1.5 Bathrooms | 1,072 Square Feet | \$173 Price/sqft |
|-----------------|------------------|----------------------|---------------------|

About This Home

Charming 4-Bedroom Home with Endless Potential! Welcome to your future oasis! This spacious 4-bedroom, 2-bathroom home is on a generous lot, offering plenty of room for outdoor activities, gardening, or future expansions. This property can be transformed into your dream home with a little tender loving care. As you step inside, you'll be greeted by an inviting living space, perfect for family gatherings and entertaining friends. The kitchen, while in need of some updates, can be turned into your dream kitchen. Outside, the large lot is a blank slate, ready for your landscaping vision. Imagine summer barbecues, a play area, and a tranquil garden retreat. The possibilities are endless! Located within easy access to local amenities, schools, parks, beaches, and restaurants. This home is perfect for those looking to invest in a property with great potential.

Location

Task 4: Website Demos

We created interactive demos for key features, including the Home Comparison Tool, demonstrating its functionality and ensuring alignment with project goals. The demo effectively showcases the platform's ability to provide quick, comparative insights on multiple properties. Upcoming demos will focus on Neighborhood Insights and enhanced ROI calculations. These demos can be found on our project page website.

\$619,900

| | | | |
|-----------------|------------------|----------------------|---------------------|
| 4.0 Bedrooms | 2.5 Bathrooms | 2,332 Square Feet | \$266 Price/sqft |
|-----------------|------------------|----------------------|---------------------|

About This Home

This stunning 3-bedroom, 2.5-bath home was extensively renovated in 2021 with over \$300,000 in upgrades too many to list! About 2332 sq. feet under air and designed for an owner-user, the property features NEW open cell spray foam insulation, a NEW screened enclosure (2024), all NEW electrical, plumbing (original main drain), flooring, and a beautifully remodeled kitchen with high-end granite. Situated on a spacious lot, there's potential to build a 600 sq. ft. auxiliary structure in the backyard. With modern updates throughout, this home is move-in ready and perfect for those seeking quality and convenience in a prime location. To protect privacy, interior photos are not available. Showings are available for pre-qualified buyers only.

Property Details

Year Built: 1958.0
Style: SINGLE_FAMILY
Stories: 1.0
Lot Size: 16,553 sqft
HOA Fee: \$0/month
Days on Market: 11

Contact Agent

Calculate Investment ROI

Location

Listed By
James T. White
Manage Street LLC
Email: hello@managestreet.com
Phone: [{"ext": None, "primary": True, "type": "Office", "number": "3219264105"}]

Discussion of contribution of each team member to the current Milestone:**Donovan Murphy:**

During this milestone of the RealEase project, I made a significant amount of progress in developing the front end of our web application, particularly advancing the Home Comparison Tool and ROI Calculator. I focused on improving the user interface with property cards, ensuring they are visually engaging and convey relevant information succinctly. Using HTML, CSS, and JavaScript, I aligned these designs with the project's goals and user expectations.

In addition, I continued to refine the integration between our database schema and back end, optimizing data accuracy and retrieval efficiency. My work required close collaboration with backend developers to synchronize efforts, enabling a seamless connection between the database and the front end.

I also researched advanced uses of Flask for our Python-based backend framework, identifying practical implementations to support new features and streamline the functionality of our tools. This research helped shape strategies for integrating Flask effectively into our application.

These efforts collectively aimed to advance our project milestones, providing innovative solutions to meet team and user needs while focusing on organization and technical precision.

Jonathan Bailey:

My work focused on transitioning ROI calculations from a command-line interface to a dynamic, user-friendly UI. I implemented interactive elements to ensure users can enter data effortlessly while viewing real-time ROI metrics. I also contributed to backend testing and helped ensure accurate calculations for financial indicators. Additionally, I researched and implemented UI responsiveness with Tailwind CSS to improve compatibility across devices.

Enrique Obregon:

I was responsible for the further development of the Home Comparison Tool, integrating data sources and improving layout design. Additionally, I refined the frontend UI by enhancing navigation flow and adding .svg formatting for optimized performance. My focus was also on integrating neighborhood insights data for the next milestone.

Plan for the next Milestone (task matrix):

| Task | Donovan | Jonathan | Enrique |
|--|--------------------|---------------|------------------------|
| 1. Finalize caching implementation & optimize user location tracking | implement/test 40% | Research 20% | Research/implement 40% |
| 2. Continue to develop and begin testing of Neighborhood Insights Tool | Design 50% | Design 25% | Design 25% |
| 3. Finalize ROI tool & improve frontend styling | Implement 40% | Implement 30% | Implement 30% |

Discussion of each planned task for the next Milestone:

Task 1: Implement Caching & User Location Tracking

To improve speed and efficiency, we will finalize a caching system for frequently accessed data such as previous home searches. Additionally, we will integrate location tracking to display relevant property listings based on a user's geolocation.

Task 2: Neighborhood Insights Tool Development

This feature will be a major differentiator for our platform. We will research, design, and implement an advanced insights tool that provides crime rates, school ratings, and local business information for each listing. This requires extensive API integration and thoughtful UI presentation to ensure a seamless user experience.

Task 3: Finalizing ROI Tool & Frontend Enhancements

We will refine the ROI tool by pulling data automatically from home listings rather than requiring manual entry. Additionally, we will implement UI enhancements to ensure an intuitive design, including improved visual hierarchy and interactive elements that allow users to engage with financial projections easily.

Date(s) of meeting(s) with Client & Faculty Advisor during the current milestone:

- January 28, 2025
- February 21, 2025

Client & Faculty Advisor feedback on the current milestone

Task 1: Feedback on Home Comparison Tool

The client provided valuable insights during the development of the Home Comparison tool, shaping its functionality and overall user experience. One of the most impactful pieces of feedback was the recommendation to integrate images of the homes into the comparison tool. By adding pictures, we significantly enhanced the visual appeal and usability, making it easier for users to quickly assess and compare properties at a glance.

Through regular discussions and iterative refinements, we adjusted the user interface and overall flow of the tool to align more closely with the client's vision. Their feedback was instrumental in ensuring a smoother, more intuitive experience that meets end-user needs while improving the tool's overall functionality. The collaborative process continues to drive meaningful enhancements as we progress.

Task 2: Guidance on Front-End Design

The client expressed overall satisfaction with the frontend design and was pleased with the progress made in terms of aesthetics and usability. However, they provided crucial suggestions for further refinement, particularly regarding visual hierarchy within the home details section. They emphasized the need to highlight the most important information in a way that naturally draws the user's attention, ensuring a seamless browsing experience.

To implement this feedback, we are working on:

- Adjusting font sizes, colors, and spacing to create a clearer distinction between primary and secondary information.
- Utilizing bold and contrast elements to emphasize critical details such as pricing, square footage, and key features.
- Refining layout organization to improve readability and ease of navigation.

By continuously incorporating client feedback, we are ensuring that the frontend design remains user-friendly, visually appealing, and aligned with their expectations. These refinements will contribute to a more engaging and efficient experience for users as they interact with the application.

Task 3: Guidance on ROI Implementation

Our faculty advisor provided critical feedback on enhancing the ROI tool's functionality, focusing on improving user experience and reducing unnecessary input fields. One of the main recommendations was to introduce a call-to-action button prominently displayed on home comparison cards. This button, when clicked, would trigger a pop-up form pre-filled with existing property information, allowing users to enter only the necessary additional details. This adjustment aims to streamline the process and improve ease of use.

During our meeting, our advisor also stressed the importance of optimizing frontend performance, particularly addressing **latency issues** when users search for a specific location in the main menu. To tackle this challenge, we:

- Brainstormed multiple solutions, including data preloading, optimized API calls, and caching mechanisms.
- Plan to conduct performance tests to determine the most effective solution for reducing delays.

Lastly, in terms of the ROI tool itself, our advisor recommended minimizing the number of required manual inputs. Instead of having users fill in extensive fields, they should be able to select a button while viewing a home, which will instantly display the calculated ROI with pre-integrated housing data. This adjustment will not only save time but also make the feature more intuitive and user-friendly.

By implementing these suggestions, we aim to enhance the efficiency, usability, and overall performance of the application, ensuring that users have a seamless experience while accessing key real estate insights.

Faculty Advisor Signature: _____ Date: _____

Evaluation by Faculty Advisor

Faculty Advisor: detach and return this page to Dr. Chan (HC 209) or email the scores to pkc@cs.fit.edu

Score (0-10) for each member: circle a score (or circle two adjacent scores for .25 or write down a real number between 0 and 10)

| | | | | | | | | | | | | | | | | |
|--------------------|---|---|---|---|---|---|-----|---|-----|---|-----|---|-----|---|-----|----|
| Donovan Murphy | 0 | 1 | 2 | 3 | 4 | 5 | 5.5 | 6 | 6.5 | 7 | 7.5 | 8 | 8.5 | 9 | 9.5 | 10 |
| Jonathan Bailey | 0 | 1 | 2 | 3 | 4 | 5 | 5.5 | 6 | 6.5 | 7 | 7.5 | 8 | 8.5 | 9 | 9.5 | 10 |
| Enrique Obregon | 0 | 1 | 2 | 3 | 4 | 5 | 5.5 | 6 | 6.5 | 7 | 7.5 | 8 | 8.5 | 9 | 9.5 | 10 |

Faculty Advisor Signature: _____

Date: _____