

Research Report

MHCI Capstone: Kiavi
Carnegie Mellon University
Spring 2022

Executive Summary

The goal of our project is to identify real estate investors' pain points and ways that Kiavi can address them by using currently available data. We spoke to 28 REIs using directed storytelling, participatory journey mapping, contextual inquiry and speed dating interviews. Here is our key findings and opportunities:

INSIGHTS

Because REIs require hyper-local knowledge with regards to the location and type of tenants, investors stay in their comfort zone and rarely pursue other opportunities.

Out of the many important relationships an investor has, the relationship with the general contractor is the most crucial, yet also the hardest to find.

To maximize long-term benefits, successful investors must prioritize opportunities that add value and therefore be flexible with their budget.

Investors find identifying quality deals difficult because they must spend time widening the top of their funnels using many sources, then they require an effective filter (definition of success) to only catch the deals that work for them.

OPPORTUNITIES

What if investors could access hyper-local knowledge about their market of interest?

What if investors could find dependable & qualified contractors to minimize unforeseen problems?

What if investors could easily keep track of all tasks throughout their investing journey?

What if investors found more motivated sellers to expedite the process of identifying the properties that match their goals?

What if investors could project their future cash flow with more confidence & accuracy?

What if investors can identify areas of high ROI within renovation?

Project Objectives

Kiavi would like to understand:

- 1 The complete customer journey of rental property investors and **any pain points along the way**
- 2 **New capabilities** that should be developed to address those pain points using current Kiavi data
- 3 The **technologies** that real estate investors **use**, who they interact with and the services they pay for,
- 4 What REIs are spending money on for each investment, and how that spending might align with **current or future Kiavi offerings**

Who We Are



**Human-
Computer
Interaction
Institute**

**Carnegie
Mellon
University**

The MHCI program is the first program in the world dedicated to preparing professionals for careers related to human-computer interaction, user experience design, and user-centered research.

Advised by seasoned industry practitioners Derek Wahila and Denise Hardman, we are an interdisciplinary team of five embarking on the 8-month project work with Kiavi.

This research report comes at the halfway point of our project. In the report, we present real customer and industry insights that we uncovered in order to expose unique and underinvested value propositions for Kiavi.

Our Team:

Vikitha Bezawada

Yang Cheng

Lea Emerlyn

Jae Kim

Jennifer Lee

Current Real Estate Trend

More homes were flipped last year than any year since 2006. At the same time, gross revenues are dropping while a larger proportion of investors pays in cash. Real estate investors may increasingly turn to renting out their properties in reaction to lower returns on flipping.

At the same time, disruption in real estate is being driven by never-seen-before amounts of venture capital. VC investment in US real estate tech has reached over \$35 billion since 2015, with \$4.5 billion in just the first three months of 2021. This capital means new business and technology innovation across the real estate industry.

As the industry gains momentum, Kiavi is poised as a tech leader in the financing space to provide solutions for rentals as investors turn to buy and hold.

Source: ATTOM 2021 Home Flipping Report, GCA Advisors

Kiavi's Value Proposition

We understand that Kiavi provides a number of advantages to its customers.

- 1 First, customers rely on Kiavi to lend large amounts of capital with fewer credit requirements and faster processing than banks, allowing them to scale quickly.
- 2 Customers enjoy transparency and ease of use thanks to Kiavi's digital-first approach.
- 3 Kiavi has teams specializing in helping investors to plan their rehab spending and estimate value of the property.
- 4 Finally, Kiavi builds strong relationships with its customers through effective account managers.

Target Audience

Kiavi's offerings appeal most to **driven investors** who want the proper support to **scale quickly** and effectively.

Background & Goals

Kiavi has a great value proposition as a hard money lender for investors who want to flip and rehab homes. Since the launch of the new rental loan product, Kiavi now would like to identify new tech opportunities to support the new product. Kiavi's renovation guidance is invaluable for house-flipping investors, but Kiavi wants to create additional software products that make them equally essential to rental investors.

Kiavi collects lots of data from their investors but does not yet know how best to use this data to help their customers or third parties. Finally, Kiavi would like to identify new sources of income beyond returns from lending; these might include providing software as a service or monetizing their collected data.

This research will help identify opportunities for Kiavi to serve both existing customers who are expanding to rentals as well as attract new customers.

WHAT WE DID

Research Overview

Research Methods

To get a deep understanding of who real estate investors are and their lived experiences, we took a generative research approach to learn about their overarching goals, behaviors, needs, and pain points.

We conducted four types of research:

	METHOD	GOAL	# OF PARTICIPANTS
Need Discovery	Directed Storytelling & Interviews	By asking "tell me the story of your most recent investment", we gathered rich stories quickly and familiarized ourselves with the problem space	12
	Participatory Journey Mapping	We invented a new participatory method to find the emotional highs and lows in the customer journey	4
	Contextual Inquiry	Observe investors in context as they work to uncover hidden insights	4
Need Validation	Speed Dating	Rapidly get feedback on different ideas for early stage concept validation	8

Detailed explanations of each method can be found in the Appendix at the end of this report.

Research Participants

During our generative (need discovery) research, we interviewed 20 real estate investors with various backgrounds. While some investors were full-time investors with 5-15+ years of experience, others were part-time investors with 1-5 years of experience in real estate investing. By talking to a diverse set of profiles, we were able to gain an in-depth understanding of the entire investing journey.



Hands-off = more outsourcing; hands-on = maintaining full control by doing majority of the work themselves; Low-risk = rentals, syndications, turn-key; high-risk = fix-n-flip

WHAT WE LEARNED

Insights & Opportunities

01 Hyper-local knowledge

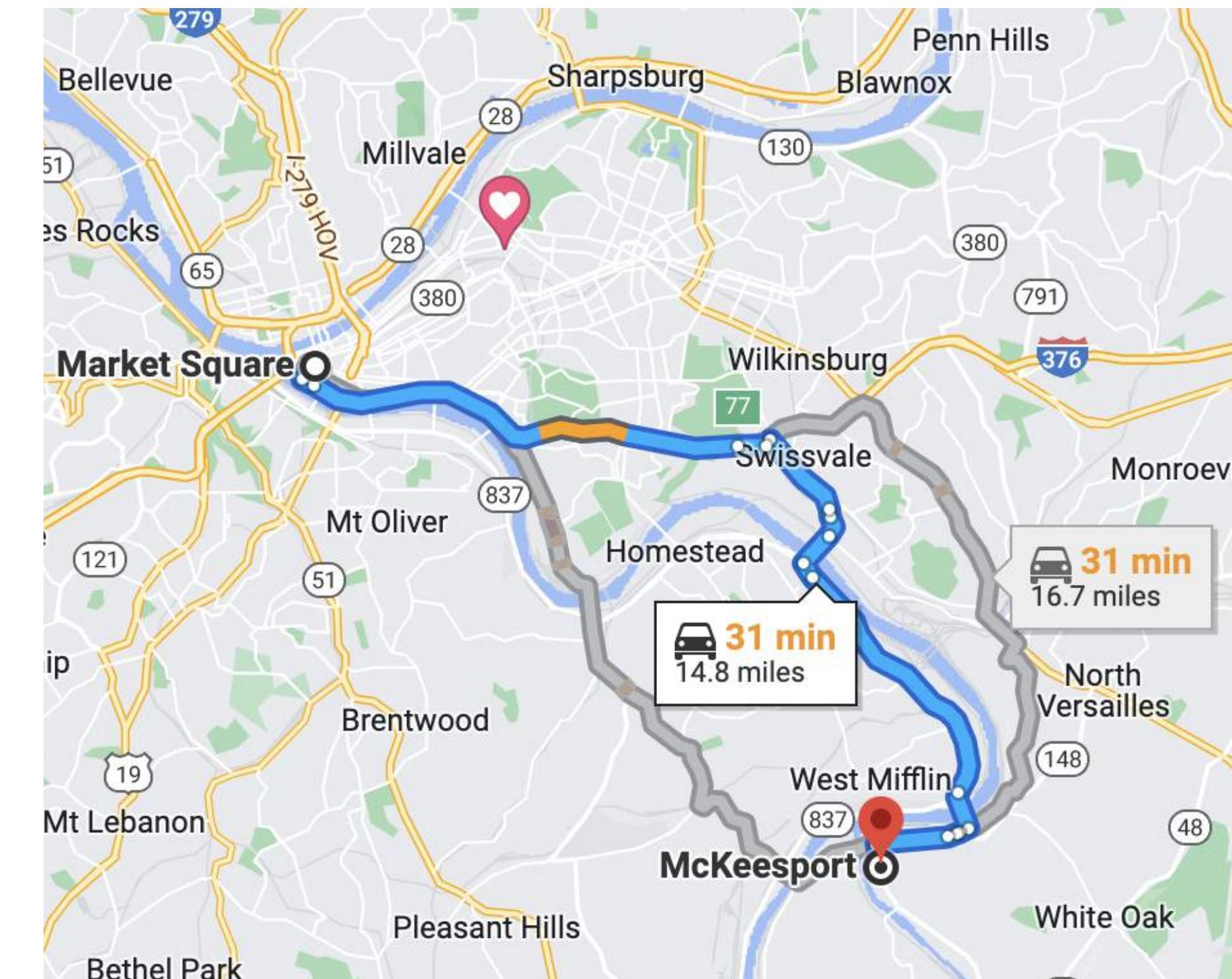
Because REI requires hyper-local knowledge with regards to the location and type of tenants, investors stay in their comfort zone and rarely pursue other opportunities.

Details: We found that typically REIs invest in areas that they are most familiar with because they know what potential risks to anticipate and can prepare accordingly. In order to invest in unfamiliar areas, they require hyper-local knowledge (i.e. neighborhood reports, resident's experiences, and future prospects) to thoroughly evaluate investment opportunities. With this knowledge, they are more confident about stepping out of their comfort zone to explore a wider range of investment opportunities.

Evidence:

"The more you know about your area, the more you're going to be prepared and to take advantage of opportunities. For example, I can't buy a property in McKeesport, but I know someone who can, so you call them and say, okay, does this make sense?"

"We stay in our comfort zone, but we want to move out of it. But then you're out of your comfort zone. Cause we don't know the streets. [...] Like downtown, block to block, there would be a big difference in resale value in and the type of people who live there."



OPPORTUNITY

What if investors could access hyper-local knowledge about their market of interest?

Kiavi is currently working on a Market Data platform that provides customers with trends & tools to help them generate more leads, identify opportunities, and make better financial decisions. This platform can extend to include extensive information about the various neighborhood (i.e. future developments, transportation, resident insights) to help pros find deals in areas they are unfamiliar with.

Investors repeatedly mentioned that they require this level of granularity in neighborhood knowledge to confidently invest in that area. For example, details such as restrictions on planting trees, districts being classified as historical, and tenant behaviors are all important for investors to know, especially when they are looking to scale.

Moreover, this platform can also serve as an educational tool for beginner investors, thereby expediting their journey from a beginner to a pro investor. One important consideration here is that the source of the data needs to be transparent for investors to trust it.

Supporting details:

"This is what I'm doing this anyway by myself, but just right now, I just have to go to different sources. [...] I mean, if I have some huge thing for one of my eyes, instead of apps go to different websites, that's very interesting too."



OPPORTUNITY

What if investors could project their future cash flow with more confidence & accuracy?

01

Cash flow = total income - total expenses. This straightforward equation holds the key to the financial health of every investor. However, there are many different variables that can affect the future cash flow of a property that are hard to predict, on both the income and expenses side.

Kiavi already has comprehensive data on the properties customers purchase (i.e. sales price, renovation costs) which, if combined with data on how well these properties perform on the market (i.e. rent and cash flow), can yield a powerful prediction model mapping property to cash flow. Investors would be able to fill out the information about a property they are interested in and get an accurate prediction of cash flow that is closer to reality than a generic spreadsheet.

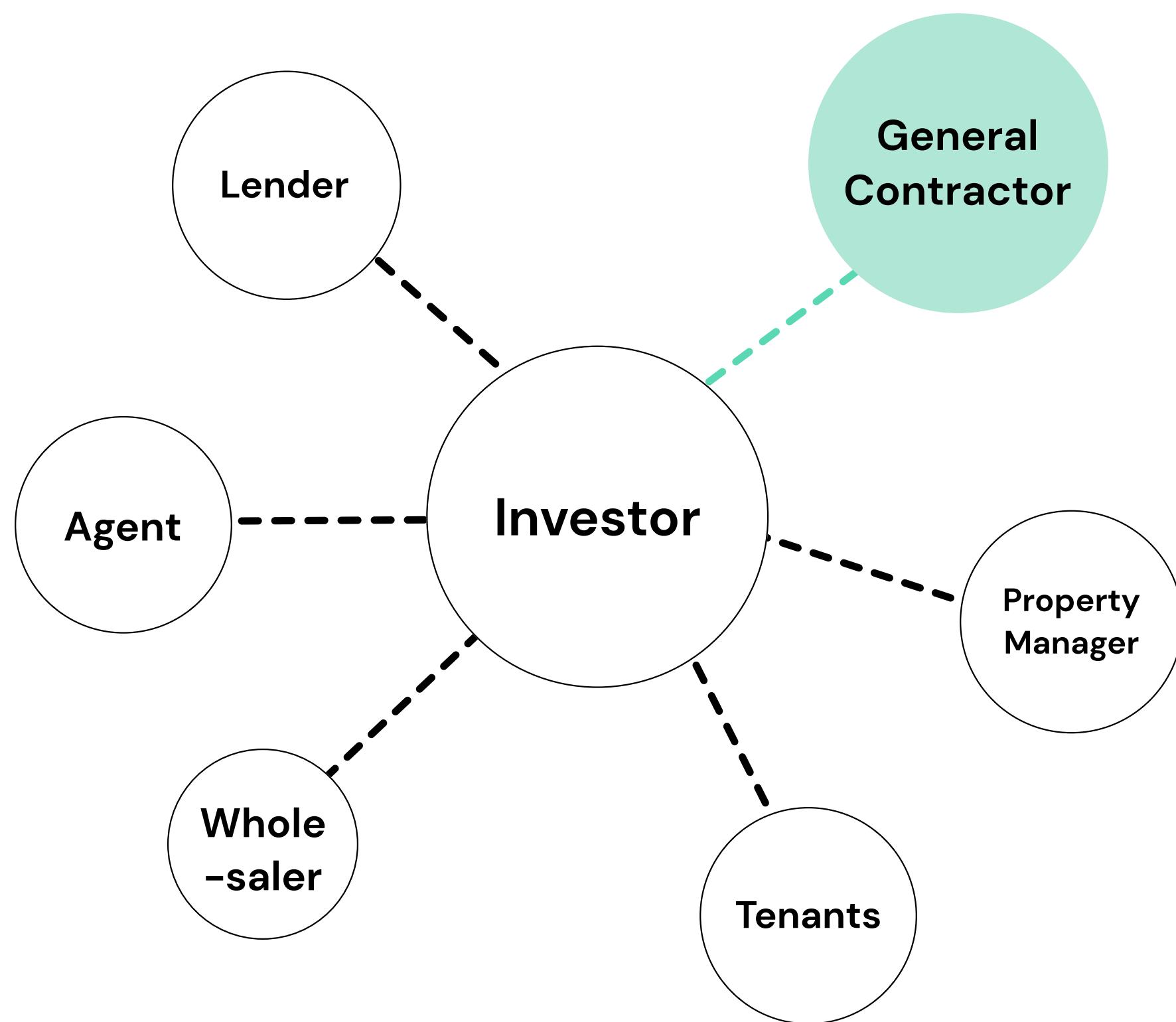
The model's training data could come from crowdsourcing. An "investing diary" or QuickBooks-like platform would incentivize investors to input their income and expenses data, in exchange for an exclusive prediction model that can help them make better decisions.

Supporting details:

"Understanding and educating on possible variables and also learning [what to include in cash flow calculation]... because you can say I'm getting \$200 a month and one frozen pipe set you back three years as far as cashflow"



02 Finding good general contractors



Out of the many important relationships an investor cultivates, the relationship with the general contractor is the most crucial, yet hardest to find.

Details: Real estate is a relationship-driven industry, where established relationships with real estate agents, lenders, other REIs, tenants, contractors, and property owners can largely determine the investment outcome. Of these, we found that it is especially hard to find and maintain relationships with contractors because it is hard for investors to gauge a contractor's competency without first-hand experience. Moreover, there is a misalignment between an REI's goals (quick, cost-efficient, and quality work) and contractors' motivations (make more money, may prioritize personal needs overstaying on timeline), which REIs interpret as a lack of professionalism practiced by contractors.

Evidence:

"We had overruns. That plumber, I mean, after he already did work and he did it to the wrong, then we tore out 90, 80% of what he put in. I lost all the material costs, you know, electrician costs more because he didn't really know what he was doing. And there was some things I had to repair."

"...And that's quite a process to try and to find contractors that you can rely on and depend on and trust. ... The contractors typically are here today and gone tomorrow."

What if investors could find dependable & qualified contractors to minimize unforeseen problems?

Given that Kiavi already requests the Scope of Work from investors detailing the rehab items and costs, there exists an opportunity to take this step further by taking more of the estimation work off of investors' shoulders. An idea that excited investors is an online marketplace where they can receive quotes and inputs from multiple contractors to ensure that they are receiving the best possible price from qualified contractors.

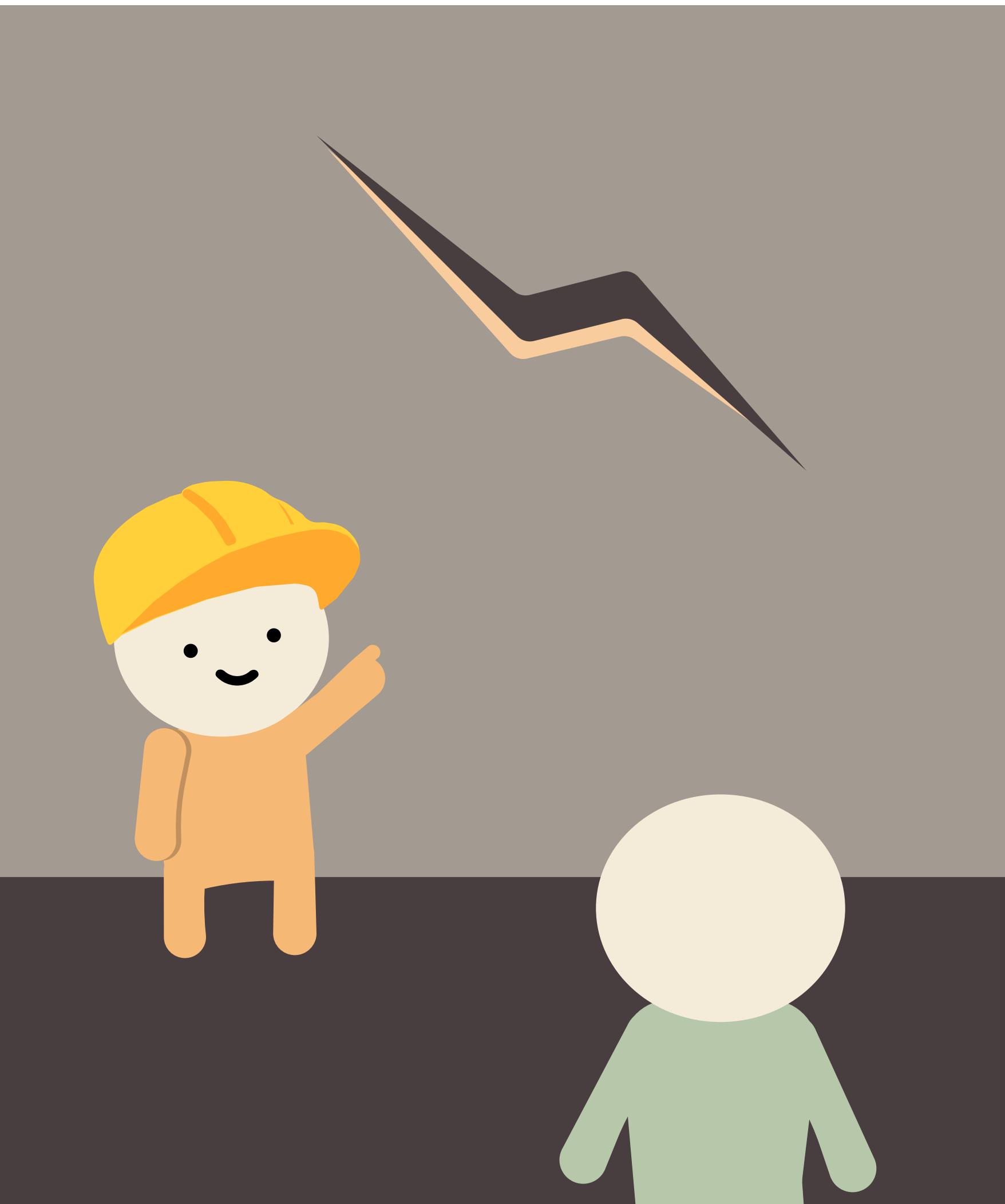
Additionally, experienced contractors bring an invaluable benefit by pointing out issues that investors might have overlooked or didn't know even existed. We heard from contractors that they are able to diagnose a problem and make recommendations only with a verbal description.

However, this idea entails a two-sided marketplace which is difficult for Kiavi to participate in effectively. Nevertheless, Kiavi can leverage the data they have from the Scope of Work to allow investors to develop confidence in their process of finding reliable contractors by providing a detailed report of estimate costs.

Supporting details:

"If you could get that to work, it would be a hit. The, the only thing I would say is that like, it would have to be narrowed down to find what are the specifics, like what level of finish are you looking at? [...] If you could do that though, that would be a game changer"

O2



03 Balancing costs and value

To maximize long-term benefits, successful investors must prioritize opportunities that add value and therefore be flexible with their budget.

Details: Our initial assumption that investors prioritize minimizing expenses above all else was partially disproved. Even though maintaining the budget while rehabbing remains critical, successful investors look for opportunities and spend more on those with the highest ROI. These high ROI opportunities often involve kitchen renovations, curb appeal, and other amenities like a rooftop. However, this eye for value seems to come only with experience with the market (i.e. what countertops are typical for this class of property in this city?) and keeping up to date with what buyers and tenants value.

Evidence:

"I'm not looking to save money. Show me where I can spend the extra \$3,000 to make \$5,000."

"I've been doing this over 20 years and I still don't know how to quantify. I just know that when I do these extra things, the house sells faster and for more money."

BUDGET COST (EACH)	BUDGET COST (TOTAL)	ACTUAL COST (EACH)	ACTUAL COST (TOTAL)
\$ 500.00	\$ 500.00	\$ 750.00	\$ 750.00
\$ -	\$ -	\$ -	\$ -
\$ -	\$ -	\$ -	\$ -
\$ 200.00	\$ 200.00	\$ 350.00	\$ 350.00
\$ -	\$ -	\$ -	\$ -
\$ 500.00	\$ 500.00	\$ 500.00	\$ 500.00
\$ 750.00	\$ 750.00	\$ 750.00	\$ 750.00
\$ 200.00	\$ 200.00	\$ 200.00	\$ 200.00
\$ 800.00	\$ 800.00	\$ 800.00	\$ 800.00
\$ 250.00	\$ 250.00	\$ 350.00	\$ 350.00
\$ 500.00	\$ 500.00	\$ 450.00	\$ 450.00
\$ -	\$ -	\$ -	\$ -
\$ 80.00	\$ 240.00	\$ 240.00	\$ 720.00
\$ -	\$ -	\$ -	\$ -
\$ 20.00	\$ 20.00	\$ 20.00	\$ 20.00
\$ 60.00	\$ 720.00	\$ 80.00	\$ 960.00
\$ 30.00	\$ 567.00	\$ 30.00	\$ 567.00
\$ -	\$ -	\$ -	\$ -
\$ 20.00	\$ 378.00	\$ 20.00	\$ 378.00
\$ -	\$ -	\$ -	\$ -
\$ 350.00	\$ 350.00	\$ 300.00	\$ 300.00
\$ -	\$ -	\$ -	\$ -
\$ 150.00	\$ 150.00	\$ 200.00	\$ 200.00
\$ -	\$ -	\$ -	\$ -
\$ -	\$ -	\$ -	\$ -
\$ -	\$ -	\$ -	\$ -
TOTAL MATERIALS	\$ 6,125.00		\$ 7,295.00
\$ 3,000.00	\$ 3,000.00	\$ 5,000.00	\$ 5,000.00
TOTAL LABOUR	\$ 3,000.00		\$ 5,000.00
GRAND TOTAL (BUDGET)	\$ 9,125.00		\$ 12,295.00

What if investors can identify areas of high ROI within renovation?

03

We found that pro investors find it important to meet short-term financial goals but they find it equally important to be aware of the value created through unplanned expenses to obtain long-term gains. For example, cosmetic additions to properties such as kitchen renovations, outdoor landscaping, and addition of amenities (such as parking spots) make the property value significantly go up in the future.

This finding is in accordance with the Real Estate Investor Survey conducted by Kiavi in Q1 2022. It found that REIs spend 12–14% of their renovation budget on kitchens. The outcome of this is a more attractive property for buyers.

Through recommendations, predictions, and modeling generated from Kiavi's data, we recommend that Kiavi sees this as an opportunity to help investors identify areas that have the potential to increase the ROI within the renovation process. This can help investors make their properties more attractive to tenants and ensure their financial success.

Supporting details:

"I think when they look at the kitchen and they see like a really well put together, nice looking kitchen with great tile and, you know, it's just generally nice looking. I think it gives them a really great feeling about the house as a whole. [...] And then other than not the backyard, obviously like the front of the house, you want it to have good curb appeal"



OPPORTUNITY

What if investors could easily keep track of all tasks throughout their investing journey?

03

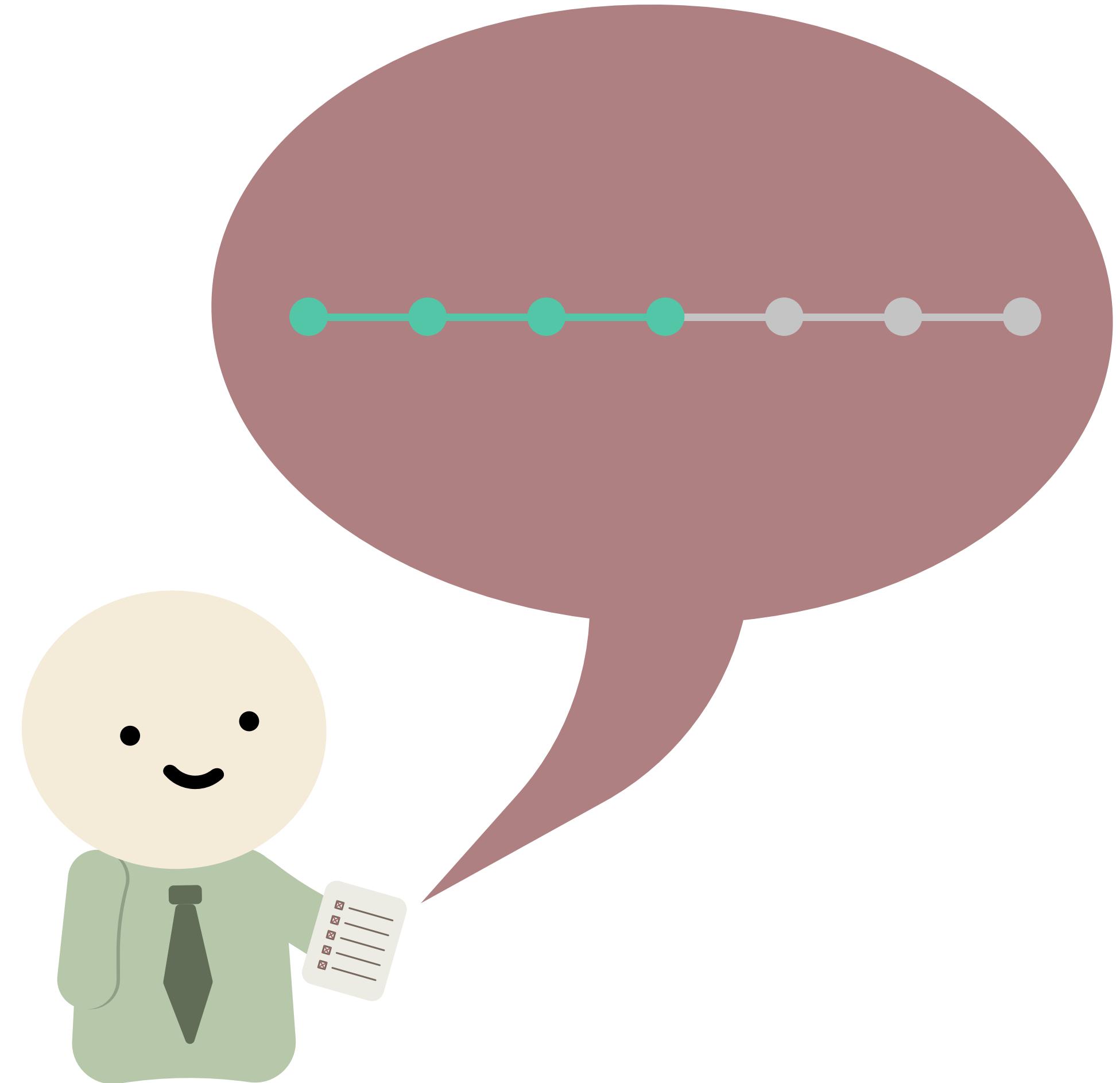
The number of tedious tasks, taxes, insurance and paperwork involved in real estate investing can get overwhelming for investors. Even those who are ready to purchase their second property can get lost in the process. It is nearly impossible to keep track of all the requirements, due dates, and documents when investing in real estate.

For example, one full-time investor in Pittsburgh mentioned that they have forgotten to get proof of Worker's Compensation, a form of insurance, from their contractors. If the contractor were to get injured on the job, the consequences would be disastrous.

All investors would benefit from a software that can keep track of all the paperwork and steps during their journey so that they can reference them in the future. This would make investors comfortable with ramping up quicker as they would learn the business more easily.

Supporting details:

"If you go into Fox chapel, you could look at a piece of property and say, okay, I want to clear out this area. Well, Fox chapel, and like many other areas has guidelines on what trees you can cut down and what you can't. [...] there's limits on how much you can do with landscaping and things like that as well. Every community is different."



04 Finding deals that fit your goals

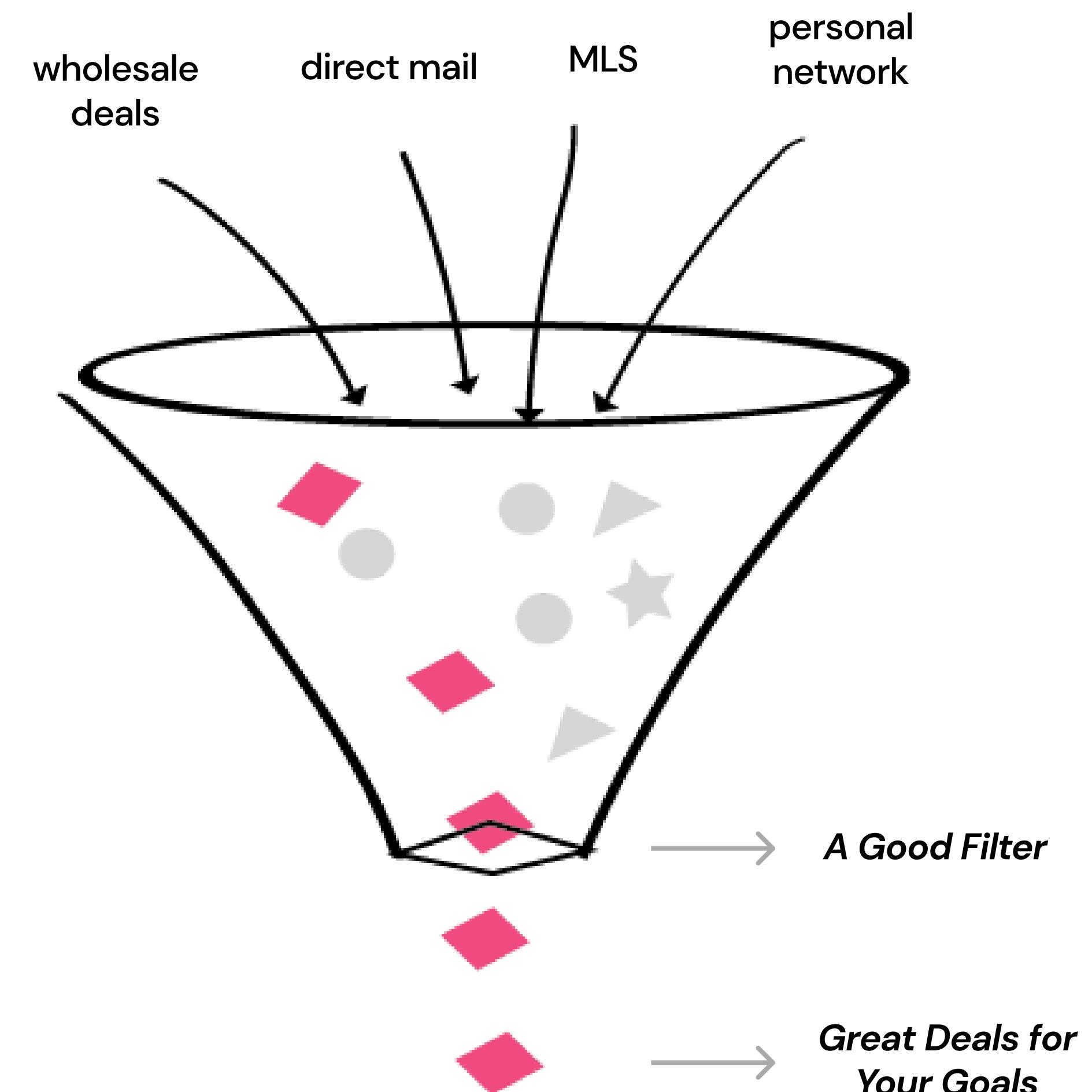
Investors find identifying quality deals difficult because they must spend time widening the top of their funnels using many sources, then they require an effective filter (definition of success) to only catch the deals that work for them.

Details: When asked about the biggest challenges, finding quality deals consistently ranked among the highest with our participants. But the problem with finding deals is not that it's inherently difficult, it is about spending time.

It's crucial to widen the top of the funnel by using as many property sources as possible, including For Sale by Owner, direct mail, driving for dollars, and agents. Many investors would like to expand to more direct tactics but it takes time to set up these channels then wait for leads to mature.

Evidence:

"You're going to go out and talk to real estate agents. You're going to go visit properties. You're going to just constantly tour properties. And that's really the tool. It's just your legs. It's really, and your phone calls and phone calls and emails to constantly look and as many properties as you can to find that one property."



What if investors found more **motivated sellers** to expedite the process of identifying the properties that match their goals?

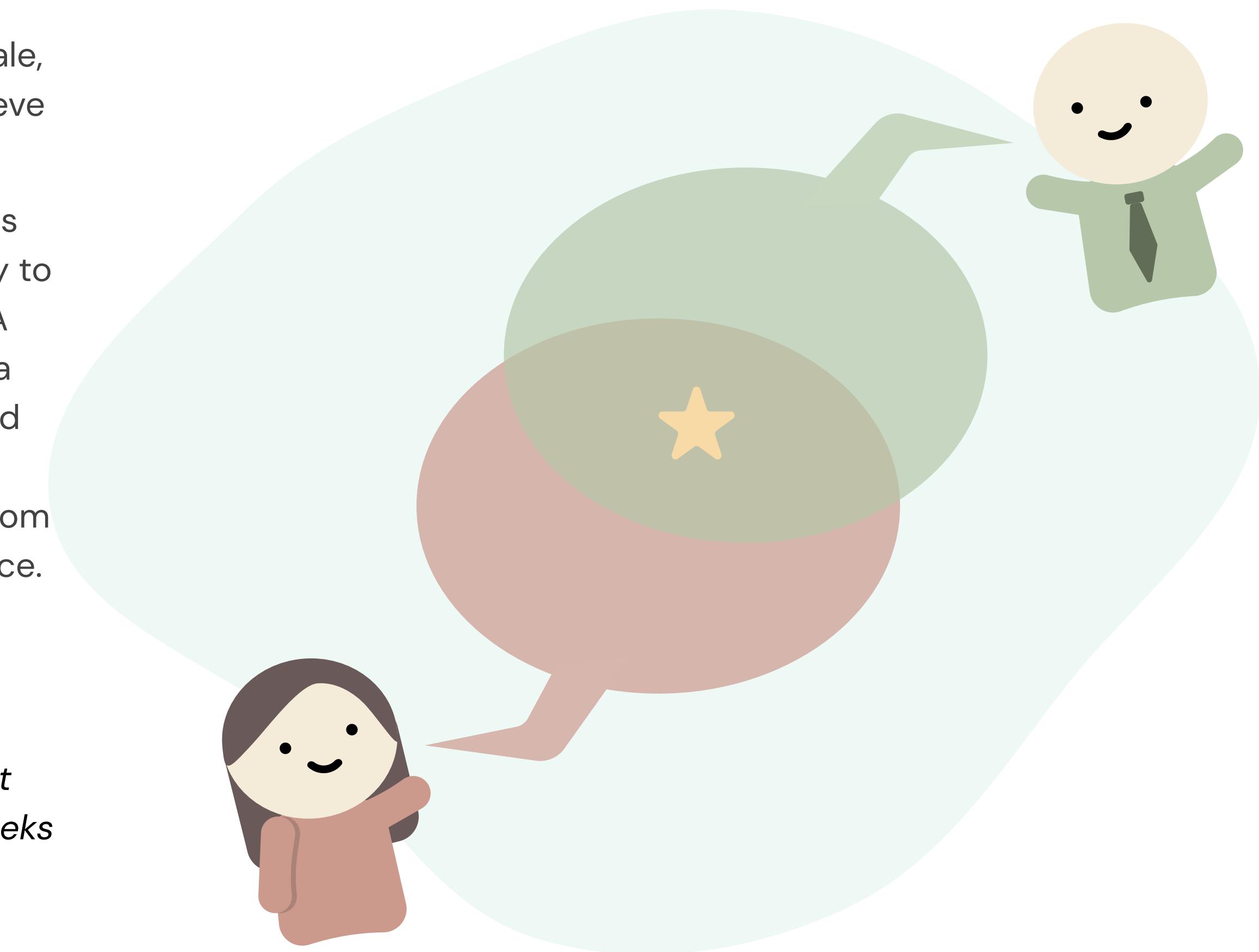
04

Given today's hot real estate market, quality deals often come from personal connections, wholesalers, and direct tactics such as mail campaigns and driving for dollars. Since finding deals involves on-the-ground experience that is difficult to scale, making this process more efficient would bring value investors' businesses. We believe the key to accelerating deal finding is in identifying motivated sellers.

Motivated sellers are great for REI. For a variety of reasons (e.g. divorce), these sellers want to close fast and they are willing to negotiate. There is a significant opportunity to shortcut the real estate deal funnel by picking out motivated sellers from the pool. A partnership with a seller-side platform such as Zillow is imagined where as soon as a seller posts a property for sale, a screening process is conducted (e.g. via automated call) where the reason for selling their property is identified. If the seller is deemed motivated, their deals are highlighted to investors. Both seller and investor benefit from this process to achieve their goal of closing the deal fast at a mutually beneficial price.

Supporting details:

Not so much the cap rate, you're looking for motivated sellers. Because if they're not really willing to sell, you're going to be spinning your wheel. You could just spend weeks trying to get them.



ADDITIONAL FINDINGS

Small but Mighty



Additional findings

These are additional findings that we either only heard from a smaller number of investors or represented a less significant business opportunity for Kaivi, yet still, shed light on notable patterns and behaviors.

Bookkeeping is a time suck

We heard from a small number of investors that a big-time suck is comparing project outcome and seeing how it fits into business outcome, before they scale large enough to outsource bookkeeping. General solutions exist such as QuickBooks online but it has a steep learning curve and is not tailored to REI.

Another related pain point is the lack of payroll software for small businesses with 1099 contractors. Investors who employ three to five contractors currently do much manual work and set up on this front.

Sourced from Google Images



Additional findings

Long distance investing is on the rise

As real estate prices rise, more people are becoming interested in investing in areas outside the city they reside in. Long-distance investing may seem daunting to beginner investors, but they can handle any difficulties that arise as long as they have adequate information. Expanding investors' effective range opens up lots of opportunities for them to find deals that match their profiles.

Spending resources for long-term gains is difficult

While beginner investors find that it's important for them to do all the work themselves (fixing up the house, managing the property), pro investors believe that outsourcing is crucial to scale faster. While outsourcing requires more upfront financial investment, it allows investors to focus on other revenue-generating activities that help them achieve more financial success in the long term.

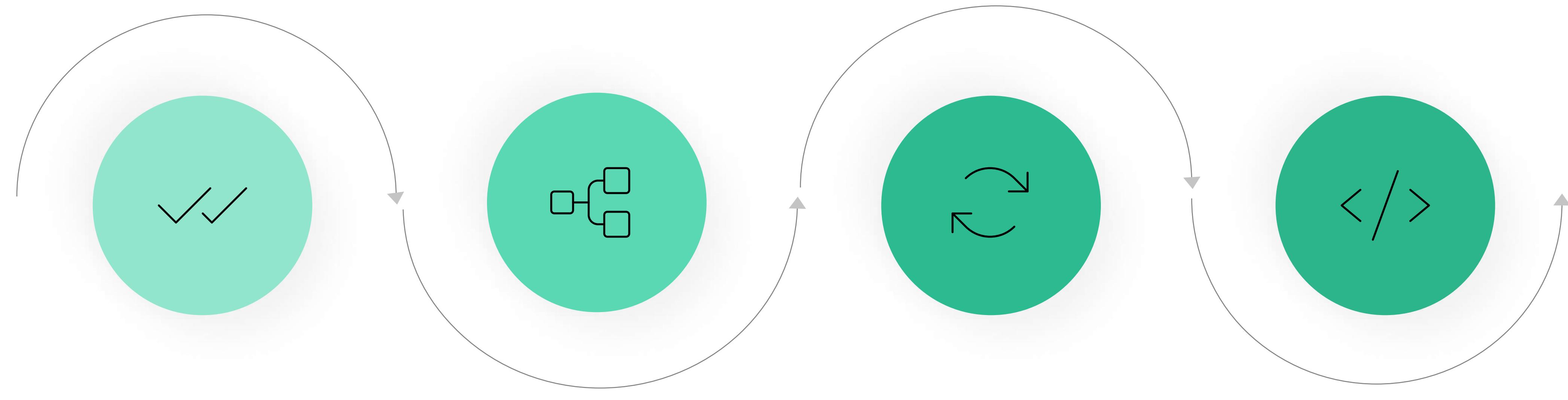
LOOKING AHEAD

Next Steps

Next Steps

Looking ahead into the summer, we aim to narrow the scope of the project and start to define one single solution. Our final goal is to design a tool that improves the day-to-day experience of pro investors as well as establish the competitive position for Kiavi by leveraging the company's unique capabilities.

Summer plans



Decide

Find consensus on a single idea and finalize the direction

Parallel prototype

Produce prototypes and gather feedback to narrow down on features

Iterative & test

Consolidate into one prototype, test, iterate, and repeat!

Hand-off

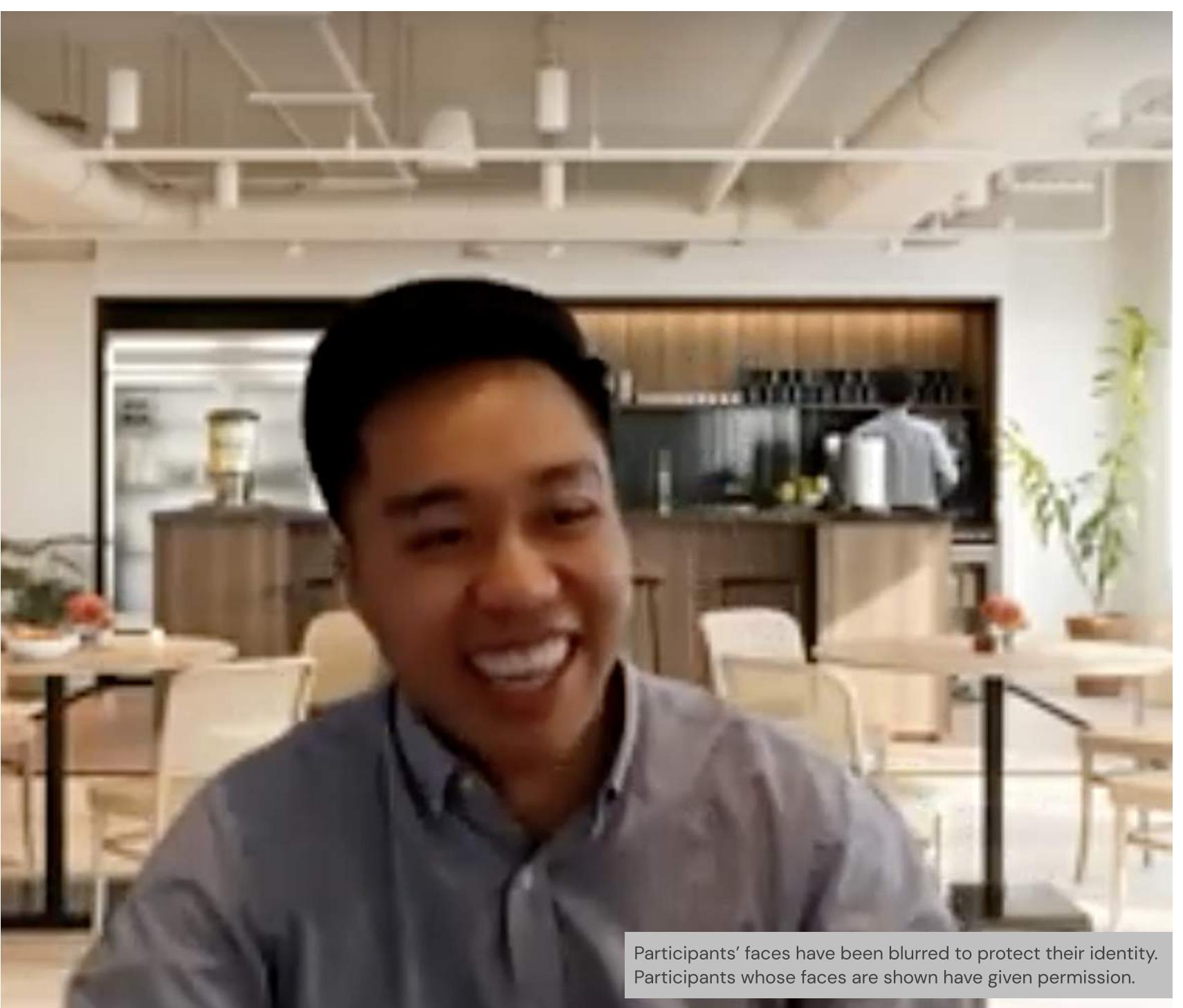
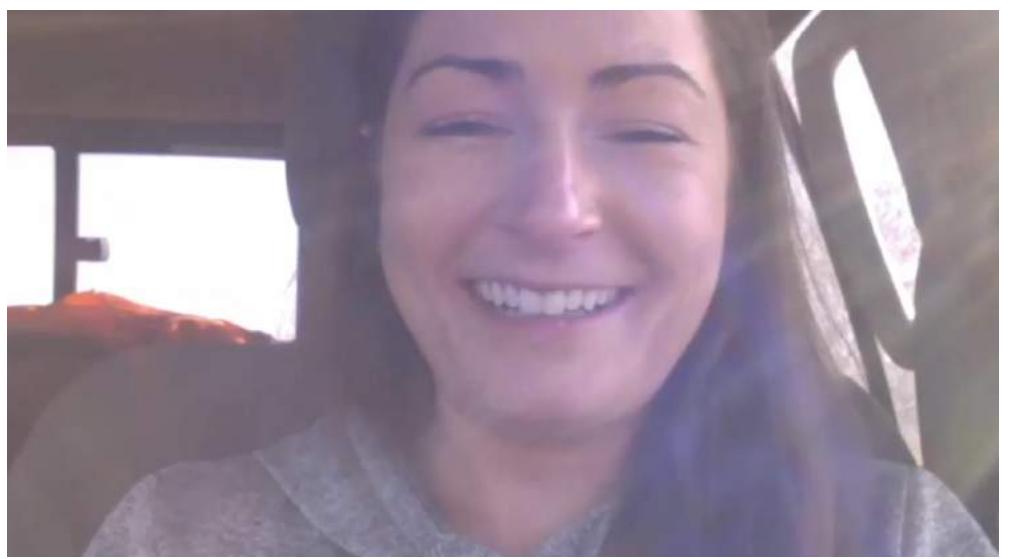
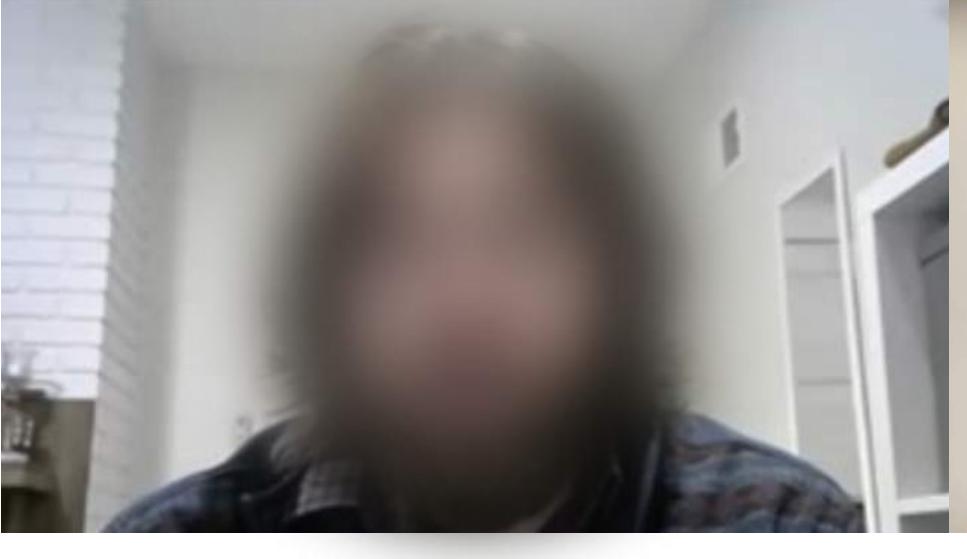
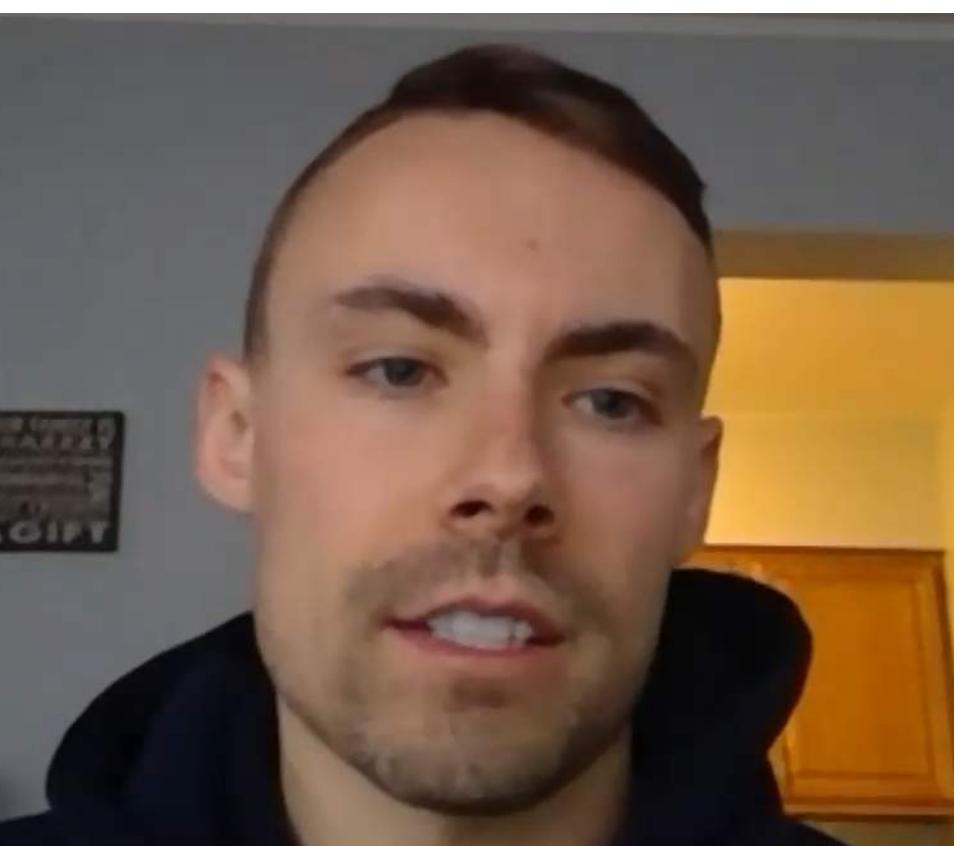
Polish final prototype and hand-off to clients along with design assets

Appendix

Directed storytelling

The preliminary research phase helped us form an initial understanding of the problem space and gave us ideas of where to dig deeper. Thus, when kicking off the interviews, our goal was to understand the entire customer journey in real estate investing and pinpoint unmet needs.

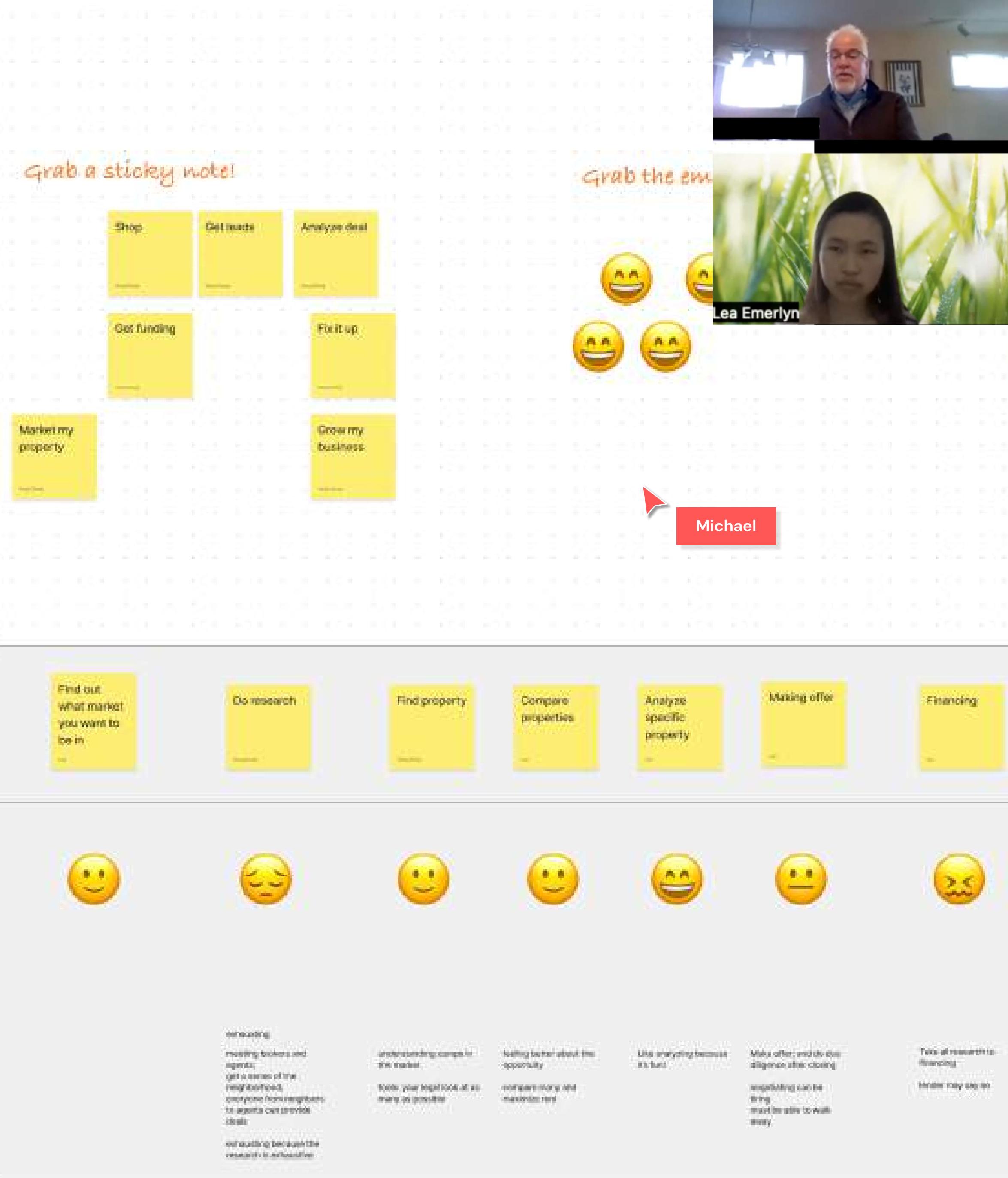
We structured the interviews into two sections: directed storytelling and semi-structured interview. In directed storytelling, we asked participants to walk us through the story of their most recent investment. Since we couldn't observe the entire journey, which could take up to one year, directed storytelling was helpful for quickly revealing consistent patterns across experiences. In the semi-structured interview section, we asked big-picture questions such as "what do you find most challenging?" and "if you had a magic wand, what would be most helpful for you in terms of real estate investing?", in order to discover the most salient needs and challenges.

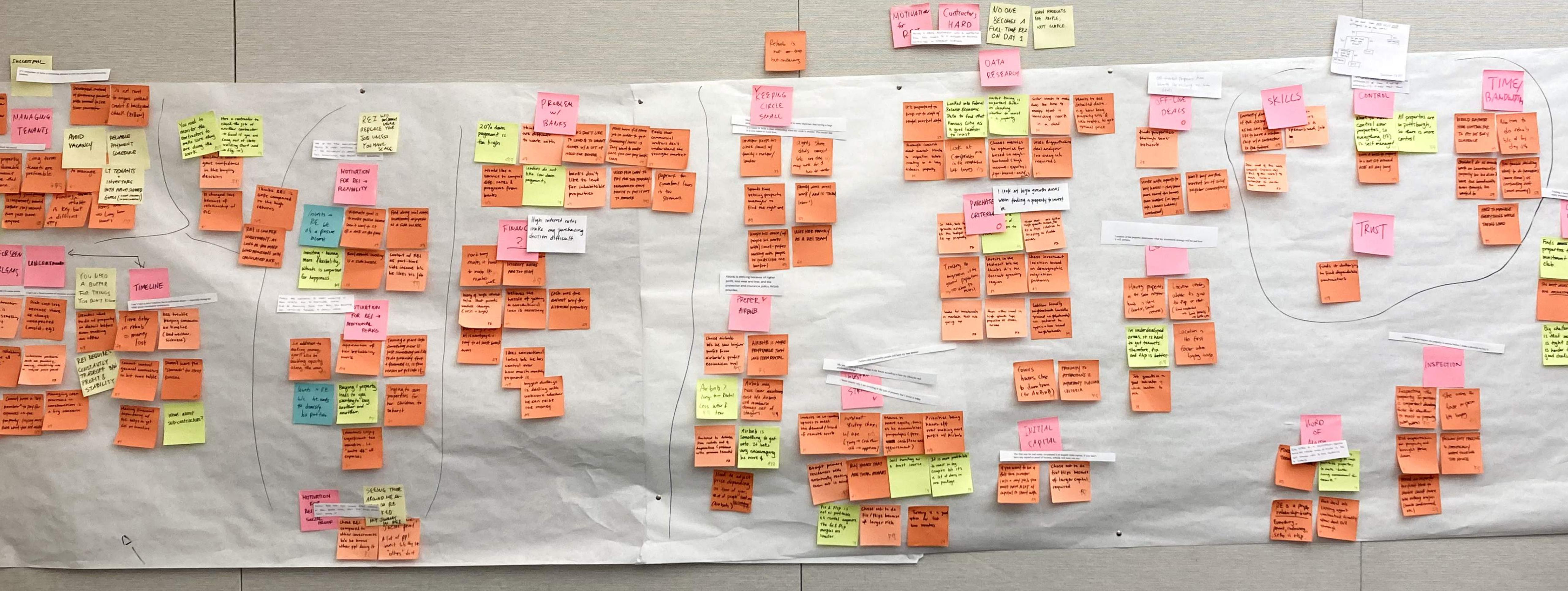


Participatory journey mapping

Because many real estate investors have been in the business for years or even decades, one risk of the interview method is that participants could be very accustomed to their daily annoyances – perhaps they even developed their workarounds – that those pain points don't come to mind anymore. Therefore, we developed our own participatory research method to really understand real estate investors by working together with them.

We set up a canvas with a palette with pre-filled stickies of investing stages, blank stickies, and emojis ranging from very sad to very happy. In the session, the interviewer and the participant worked together to create their personal customer journey map. Because the investors' emotions were brought to the surface, we were able to understand how they truly felt about routine tasks such as research, and we got to hear the stories.





Affinity Diagram

Affinity diagram is a method to synthesize findings from qualitative data in a bottom-up manner. We first clustered 100+ stickies and formulated high-level summary statements for each cluster and conducted a walk-the-wall with our faculty advisors and clients.

To dig deeper, our team spent more time discussing root causes for the recurring themes we observed and tried to challenge any preconceived notions that we gathered to eventually come to the four insights in this report.



Contextual inquiry

After conducting both directed storytelling and participatory journey mapping sessions, we were able to get an overview of the entire real estate investing journey. However, these interviews relied solely on the investors' memories and only gave us a summary of their experience.



Therefore, we went to the properties of several investors and observed them as they went about their everyday tasks. In addition to gaining explicit knowledge from the investors, with this method we also understood some of their tacit knowledge.

These sessions also painted a clearer picture for us of each of the detailed steps in real estate investing. Since the investors were in their real physical environment, it allowed us to easily ask targeted questions about specific tasks they were completing or objects they were using.

Speed dating

Before going ahead with any solution, our team needs to know which solution concept is most feasible for both our end-user and our client, Kiavi. With these storyboards, we are illustrating what problems real estate investors are facing and what their lives will look like with our proposed solutions.

We conducted speed dating sessions with investors in order to get a sense of what types of solutions they think are the most impactful for them. These sessions not only allowed us to see whether investors think that potential solutions are useful, but also to confirm that the solution is actually addressing a real need.

Since prototyping is very time-consuming, conducting these speed dating sessions allowed us to test our solutions before investing too much time into fully developing them.



Brandon wants to find great deals in the neighborhoods he's interested in but he is not coming across enough. Today's market competition makes it even tougher.



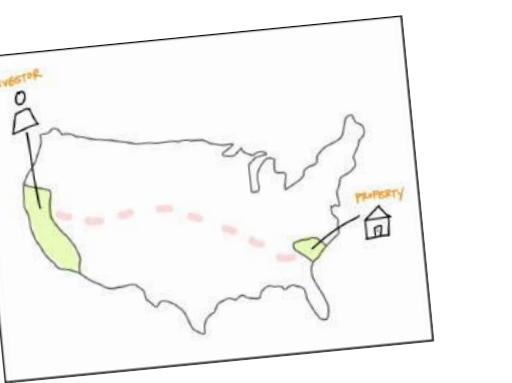
Brandon uses a company called DealFinder which finds sellers and screens to make sure they are motivated to sell. These deals are exclusive to DealFinder clients.



Brandon now has a ample supply of deals coming through. Knowing that these are motivated sellers helps him save time and close faster.



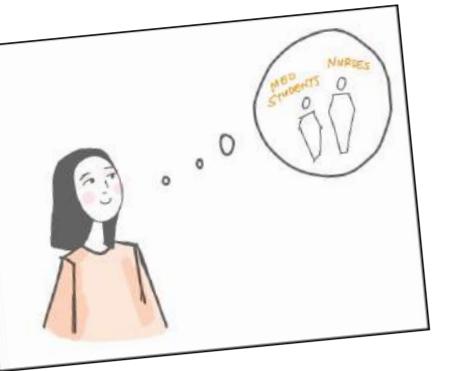
Jane wants to invest in a property out of state but is discouraged by her lack of local knowledge in the area.



Kai wants to invest in a property out of state, but due to her busy schedule, she doesn't have time to travel.



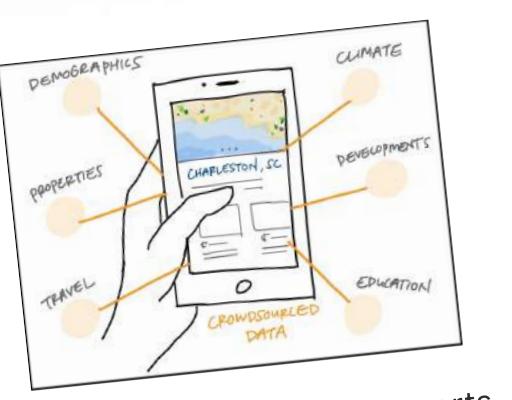
A web page map shows Kai comparables, school zones, proximity to commercial buildings, and demographics for a specific neighborhood.



Seeing that there's a new hospital being developed in the neighborhood, Kai feels confident investing in a property there with targeted tenant groups in mind.



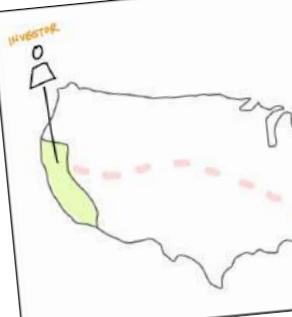
Jane wants to invest in a property out of state but is discouraged by her lack of local knowledge in the area.



Jane uses an app that reports important localized information about a neighborhood by crowdsourcing data from locals



Jane feels confident that the neighborhood is worth investing a property in.



Kai wants to invest in a property out of state but to her busy schedule doesn't have time.

