Home Broker

A Virtual Real Estate Agent

A Better Real Estate World

- Founder: Ludwig B. Chincarini, Ph.D. CFA
- Ph.D. from MIT and BA from UC Berkeley
- Helped revolutionize the brokerage industry by playing key role in Folio Investing (funded by Mayfield, PSINet, Draper Fisher Jurvetson, and others).
- Advised and created products for IndexIQ (bought in 2015 by NY Life) and FutureAdvisor (bought in 2015 by Blackrock).
- Created first equal-weight index and ETF (RSP), one of most successful ETF creations in last 20 years.
- Professor at University of San Francisco in finance.

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A Better Real Estate World

- The internet has helped improved many markets (e.g. Amazon, AirBNB, UBER), with the exception of real estate.

- A unique and proprietary system that will link buyers and sellers, simplify the home buying process, and reduce fees for home owners.

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A Better Real Estate World

- Which is world would you rather live in?

- World 1: Find a realtor, meet the realtor, deal with the realtor, worry about the realtor's incentives, and pay the realtor effectively 5-6% of the home price?

- World 2: Go online, find properties, visit properties without hassle, get questions answered online/phone, click a button and have system take care of the rest, while paying 1% of the home price?

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A Better Real Estate World

- In 2015, the National Association of Realtors' "DANGER" report — which stands for the Definitive Analysis of Negative Game Changers Emerging in Real Estate, written by industry consultant Stefan Swanepoel of the Swanepoel /T3 Group — rocked the real estate world with its acknowledgment that consumers are demanding lower commission rates and that brokers and agents are responding with new pricing models that "will most likely become commonplace in the next five to ten years."

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Presentation Outline

- The Concept

- Market Opportunity

- Management

- Initial Marketing Plan

- Contacts

- Technology

- Issues

- Competition

- Information Technology

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The Concept

Home buying experience as we know it
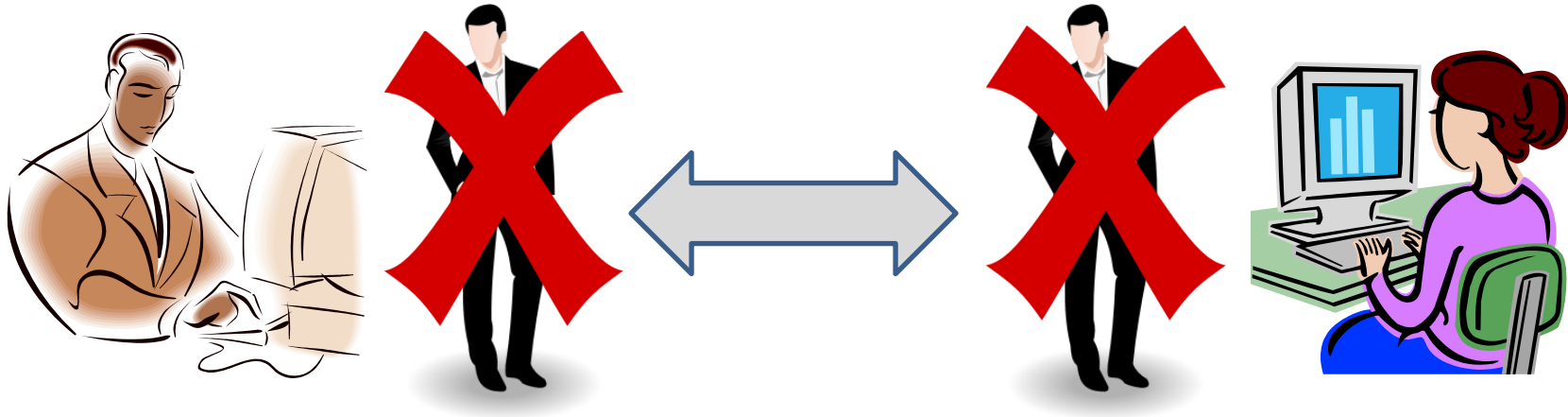
The information age has drastically diminished the importance of having a real estate agent.

The Concept

Home Broker: a peer-to-peer real estate broker platform

Home Broker eliminates the middle man!

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The Concept

What does the real estate market really do?

1. Home-buying / Selling Process Expert

   Home Broker software will walk you through the buying / selling process providing

   guidance and expertise throughout the entire process.

2. Community Expert

   Home Broker provides buyers with community analytics and statistics to provide

   buyers with all of the relevant information to find the perfect home.

3. Marketer and salesperson

   Home Broker, through our partners, provides sellers with all the necessary tools to property

   market their property.

4. Negotiator

   Home Broker provides a bidding system that allows bidders to place bids to seller and also send messages to seller within message period. In cases where buyer would like to use a real person, home broker has staff on-hand to perform any traditional functions.

5. Security

   Home Broker provides lock-boxes to homes and allows people to go and see homes during open houses with a home deliverer present for security purposes. The lock-box system also allows for realtors to see the property, but bids must be posted through home broker system.

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The Concept

"No way, you can't do that. Realtors are too important!"

1. Realtors have specialized training and are irreplaceable.

    Not true. Oftentimes, training consist of an afternoon class. A well functioning system can be more efficient.

2. People won't like to deal with you without an agent.

    Not true. Once people get used to a well-functioning system, they will love it. Also, Home Broker plans to keep in-house

    lawyers that can handle special circumstances.

3. Need someone to show house

    Not true. Some homeowners will be happy to show their own house and Home Broker will also send HB showers to

    open houses.

4. Need a realtor since such a big and important decision

    This is a scare tactic for home owners. With an efficient system that works well, people will realize that this system can hold

    Your hand while selling or buying a house.

5. Monopoly of Data

    You'll never get access to the important data, the MLS system is too difficult. Home Broker will have a registered real estate broker so that it can also get

    access to the necessary data for it's models. It will also allow people to directly post their pictures and home details on the website.

6. Real Estate Industry will Boycott

    This may be true, but as we offer advantages to realtors and make business deals, more realtors and homeowners will use the website.

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The Concept

Buying Agents

- The information revolution has rendered buying agents *obsolete*.

- Buyers can utilize the internet to find everything they are looking for; location, desired school district, open floor plans, and neighborhood statistics etc.

- *So why do many buyers still use buying agents?*

- Buying agents show buyers properties.

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The Concept

- Home Broker provides buyers with complete access to view the properties.
- The seller has 100.0% control over the process (i.e. seller can be present or absent)
- All relevant property information to buyers
- No more scheduling viewing dates with your real estate agent! Schedule online.

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Market Opportunity

- In 2015, 5,250,000 homes sold for a median price of $222,400.

- TAM for Home Sales = **$1.2 trillion annually**

- On average, 88.0% of buyers and sellers utilize a real estate agent / broker.

- At an average fee of 5-6%, real estate agent / broker fees account for approx. $62.0 billion annually.

- However, the 12.0% who do it themselves also have a need for our platform.

Market Opportunity

- 42% of recent home buyers looked at properties online as the *first step* in the home buying process.

- 59% of home buyers were very satisfied with their recent home buying process.

- 87% of buyers utilized a real estate agent.

- 89% of sellers utilized a real estate agent.

- The most important reason for getting an agent, (53% surveyed) was to help find the right home.

Market Opportunity

Early Customers for Home Broker

- 8% of recent home sales were FSBO. This could be an $80 Billion market. Even 2% penetration at 1% leads to $16M.

- Twenty and Thirty somethings with internet familiarity and first time home buying or selling parent's homes

- New condo buildings using our network to sell

- Investors represented 15% of real estate sales in 2015 and 2016 might be more savvy and use system

- Cash buyers

Market Opportunity
Next Markets

- Foreclosure auctions through Home Broker

- Commercial real estate transactions about $200 billion in USA

- Other countries residential markets

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Potential Partnerships

- vFlyer – Online Real Estate Listing Marketing
- Vault Locks – Key Storage Lock Boxes
- SoFi – other FinTech mortgage brokers
- Homeowner's Insurance providers
- Home Inspection companies
- Title Companies
- Bank Mortgage Systems
- CompStak, Tenant Rex, CoStar, LoopNet, Honest Buildings (for Commercial Real Estate)

Management (Confidential)

Dr. Ludwig B. Chincarini – Founder and ICEO
- Instrumental in building highly innovative firm, Folio*fn (Raised over $100M VC)*
- Advisor to FutureAdvisor (sold to Blackrock in 2015) and IndexIQ (sold to NY Life in 2015)
- Advisor to USCF Investments
- Author of Quantitative Equity Portfolio Management and The Crisis of Crowding
- Professor of Finance at the School of Management at the University of San Francisco
- Ph.D. MIT, BA UC Berkeley

Mr. XXX (20 years of IT experience)
- Seasoned Chief Information Officer
- Helped develop IT systems at 2 startups
- Worked as IT lead for several Fortune 500 companies

Advisory Team (Confidential)

Mr. Tom Givan (35 years of IT experience)
- Partner Investment Systems Financial Firm
- Managing Director Online Brokerage JP Morgan
- Chief Information Officer, Foliofn Investments
- Senior VP of Investment Systems, Scudder
- Developed IT systems for 2 startups

Mr. XXX
- Founder and CEO of XXX
- BLA BLA BLA

Competitor Analysis

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Competitor Analysis

- **Ten-X**: Online buy/sell realestate 1.5% fee.
- **Redfin***: Real-estate info MLS and buyer's agent taking 1.5% plus seller's agent 3% fee (4.5%).
- **OpenDoo**r: Purchases people's homes within minutes of listing.
- **Homie***: A peer-to-peer real estate marketplace where people can meet and communicate. Company connects to all kinds of people. Research/data.
- **RoofStock**: Online marketplace to sell/buy leased single-family homes. Research/analytics.

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Competitor Analysis

- **SoloPro**: Connects buyers with real-estate agents, search homes, make offer, can also get tasks performed (price a home etc).

- **VivaReal**: Allows people to find homes for purchase, operating mainly in Brazil.

- **Reali**: Connecting buyers/sellers directly to avoid real estate commissions. Palo Alto market.

- **ListingDoor**: Tools to help individuals sell their own homes.

- **SRE**: Allows buying and selling on site through assisted process with reduced broker fees.

- **Compass**: Claims to combine technology with realty, but looks like a high-end real estate company.

Competitor Analysis

	Home Broker	Ten-X	REDFIN Your New Way Home	COMPASS	reali	[image: blue house logo][1]	homie[1]	Golden[1] Key
Utilizes Real Estate Agents	No	Yes/No	Yes	Yes	Yes/No	No	Yes	Yes
Peer-to-Peer Transactions	✓	✓	✗	✗	✓	✗	✗	✗
Serves as Buyer Agent	✓	✗	✗	✗	✓	✓	✗	✗
Serves as Seller Agent	✓	✓	✗	✗	✓	✓	✗	✗
Mobile App	✓	✓	✓	✓	✓	✓	✗	✗
Buyer Commission Refund	2.5%	NA	Variable	NA	2.5%[2]	NA	NA	NA
Buyers Agent Fee Charged	0.5%	NA	Variable	NA	$2,950	NA	NA	$2,199
Total Sellers Commission	1.0%	1.5%[3]	1.5%	NA	1.5%	NA	NA	$2,199
Total Trans. Commissions	1.0%	4.5%	4.5%	NA	4.0%	NA	NA	$2,199

Barriers to Entry

- Patents on system interface and back-engine

- Patent on bidding system

- Other players are tied into existing realtor network and will have difficulty maneuvering (e.g. RedFin)

- New, innovative GUI easy to use

- Flexible, innovative and successful team

- We will focus on one market first

Initial Marketing Plan

- Need to attract people to website

- Once website is liquid and well-known, business may thrive.

- Early plan: Pay customers to use website.

- Three types of buyers: HO, HO with realtor, HO with discount realtor.

- Three types of sellers: HO, HO with realtor, HO with discount realtor

Initial Marketing Plan

- Bay area: 200 listings per year, company takes 1%, $2.3M revenues.

- Sellers: Won't come with realtor, unless 3%. For year 1 and 2, we don't charge anything and give you $100 cash for signing up.

- Buyers: We pay $100 for making legitimate bids (ask or better) divided by number of legitimate bidders.

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Initial Marketing Plan

- Cost of plan for 2 years. Assume 1000 listings (cap), $200,000.

- Once site has volume and customers, no pay to play, and company takes 1 - 1.5% fees.

- Site allows all three-types, but must inform system. For sellers, no problem, they choose (0-3%). For buyers (0-3%), no problem, they choose (handled in bidding process).

- HB's fee 1% after 2 years (implies aggregate fee < 4%)

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Patents

- Should apply for patent on bidding net-of-fee system ASAP.

- Should apply for other patents as system gets built.

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Information Technology

- HomeBroker Software Platform

- Infrastructure

Home Broker System

FRONT END/CUSTOMER EXPERIENCE

CRM
Capture/Track Customers

Seller Request
Module

Buyer Request
Module

DEMOGRAPHICS/VALUATION ALGORITHMS

BUYER/SELLER MATCHING

MATCHED PROPERTY RECONAISSANCE

OFFER/COUNTEROFFER TRACKING
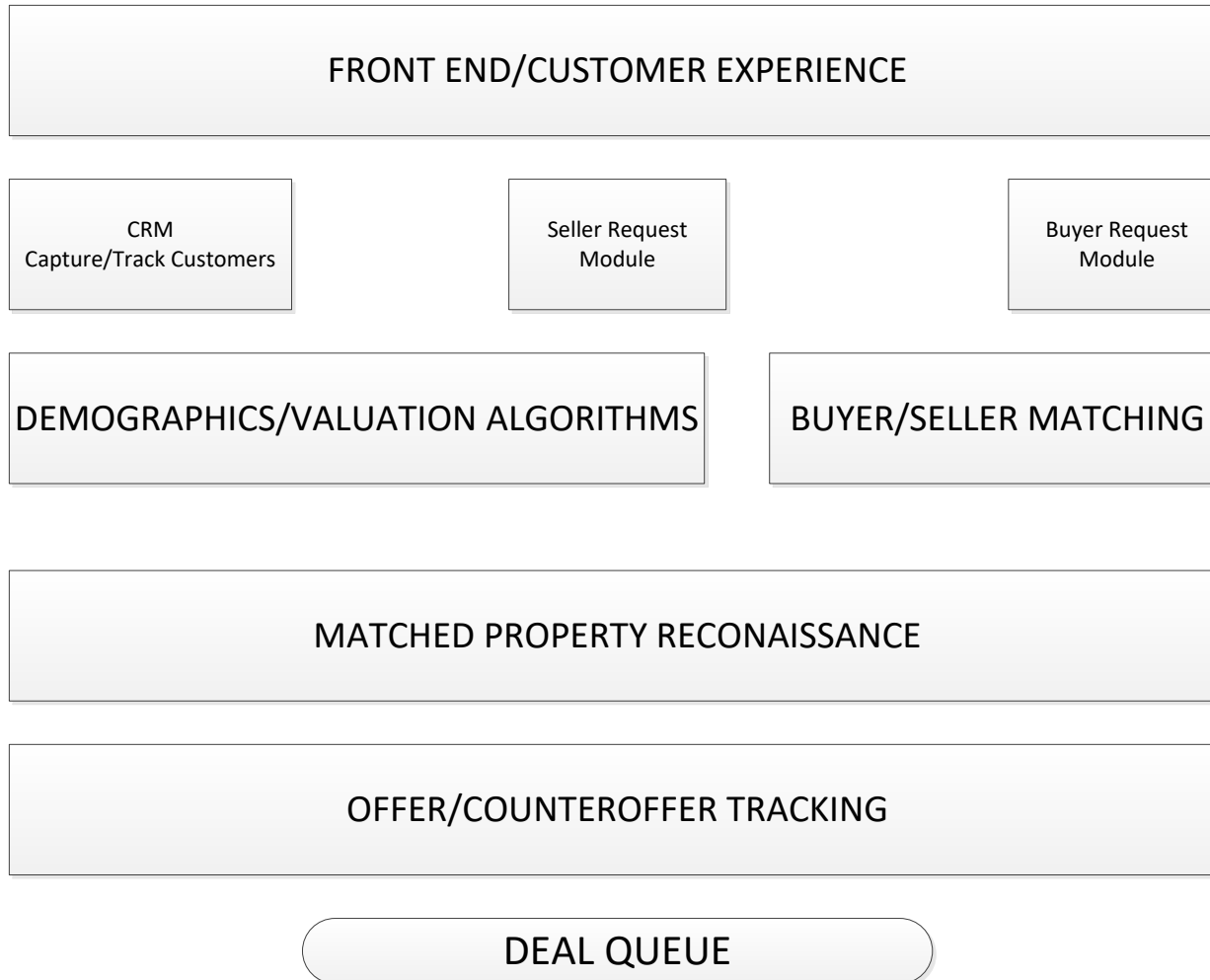
DEAL QUEUE

Home Broker System

DEAL QUEUE

WORKFLOW MANAGER

zipForms

Title
Company

Data
Providers

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Highlights of HB Software Platform

HOME/ FRONT END

- Home Page/Intro
- Editorial Content
- Who we are/How to Play

This will be the user's first experience with HomeBroker. It will assist both Buyer and Seller through the initial phases of the process. An additional revenue opportunity will be gained through advertising for title companies, lawyers, mortgage brokers, etc

GATHER DATA

- CRM/Account Data
- Seller registration
- Buyer Registration/Wish List
- Background checks and Buyer Qualification

Initial Data Acquisition will be the key launch point for HomeBroker consumers. A CRM database will provide registration, and will additionally perform background checks on all parties for security purposes. Sellers will provide listing and desired price. Buyers will provide property "wish list" – area, price range, amentiies, etc. Over time, the database of clients could potentially provide another revenue opportunity

Match

- Demographics/Valuation
- Buyer Matching
- Propose matched transactions to both sides

The Match process will use market "comp" data to ensure validity of seller sales price. Fairly simple algorithms can match buyers with sellers – alternatively, buyers can search and select their own deals

Highlights of HB Software Platform

Assess
- Enable Buyer/Seller Communication
- Arrange Showings
- Provide remote and on-site assistance

During the Assess phase, buyers and sellers will be able to communicate with one another. Home showings can be arranged in either unsupervised of supervised (by HomeBroker resource) modes.

DEAL
- Offer/Counteroffer tracking
- Negotiate additional T's & C's
- Fully self-directed or assisted option

The Deal phase is where the proverbial rubber meets the road. Buyer and seller can exchange offers, as well as Terms and Conditions. The flexibility of the HB platform will allow participants to choose the level of assistance they need. Arrange inspection? Locate title company? Negotiate with seller? These will all be available as unit priced options

CLOSE
- Takes accepted offer through to deal completion
- External provider interfaces – zipForms, title companies, mortgage brokers

The deal must eventually be closed. HB will arrange for forms, Title Company, setting closing dates, arranging mortages, etc. Again, each of these will be available as an ala carte option depending on the clients' appetite for a self-directed experience

Highlights of Infrastructure

The Home Broker IT platform leverages industry leading capabilities of the Amazon Web Services (AWS) Infrastructure. Design goals of the infrastructure include:

- Performance and Efficiency to ensure responsiveness at a reasonable cost:
  - All components scale to accommodate increasing demand
  - Scaling with demand ensures high utilization and low IT costs
  - Location in Northern CA improves performance for initial target markets
- Flexibility to support and grow with the business
  - Support for all system workloads, including web transactional, document repositories, workflows, and external service connections
  - Ability to include AWS support of mobile, data analytics, and machine learning capabilities
  - Support for scaling to nationwide presence
- High Reliability to ensure uninterrupted service
  - Infrastructure components spread across AWS availability zones provide high availability with respect to datacenter failures

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Technical Infrastructure Overview
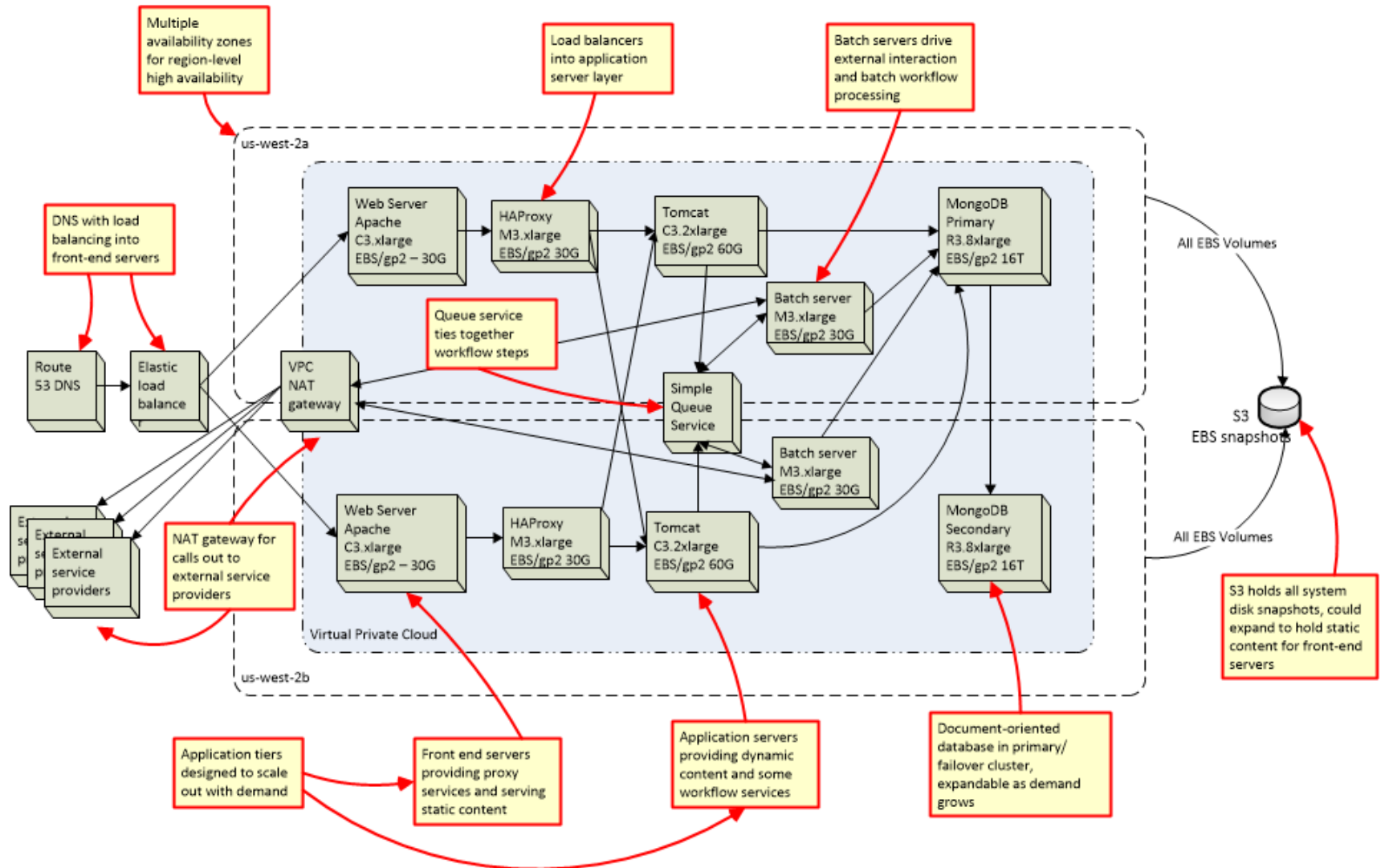
Technical Infrastructure Pricing

	Service	Details	Usage	Pricing		Units	Monthly		Annual	
Production	Route 53 DNS	30M queries/month		$	0.40	$/M queries/Month	$	12.00	$	144.00
	Virtual Private Cloud NAT instance	NAT running time	100%	$	0.05	$/hour	$	32.40	$	388.80
		NAT data transfer	100%	$	0.05	$/g transferred	$	32.40	$	388.80
	Elastic Load Balancer	Active time	100%	$	0.03	$/hour	$	20.16	$	241.92
		255,000G/month	100%	$	0.01	$/g transferred	$	2,040.00	$	24,480.00
	Web servers (2)	Compute (C3.xlarge)	100%	$	0.33	$/hr	$	473.76	$	5,685.12
		Storage (30G)	100%	$	0.12	$/gb-month	$	7.20	$	86.40
		255,000G/month	100%	$	0.08	$/g transferred	$	19,125.00	$	229,500.00
	Proxy servers (2)	Compute (M3.xlarge)	100%	$	0.31	$/hr	$	443.52	$	5,322.24
		Storage (30G)	100%	$	0.12	$/gb-month	$	7.20	$	86.40
	Application Servers (2)	Compute (C3.2xlarge)	100%	$	0.48	$/hr	$	688.32	$	8,259.84
		Storage (60G)	100%	$	0.12	$/gb-month	$	14.40	$	172.80
	Simple Queue Service	Assume free tier use					$	-	$	-
	Batch Servers (2)	Compute (M3.xlarge)	100%	$	2.96	$/hr	$	4,268.16	$	51,217.92
		Storage (30G)	100%	$	0.12	$/gb-month	$	7.20	$	86.40
	Database servers (2)	R3.8xlarge	100%	$	2.96	$/hr	$	4,268.16	$	51,217.92
		Storage (16T)	100%	$	0.12	$/gb-month	$	3,840.00	$	46,080.00
	S3 - EBS snapshots	Storage (32.3T)	100%	$	0.03	$/gb-month	$	2,131.80	$	25,581.60
						Production Total	**$**	**37,411.68**	**$**	**448,940.16**

		Monthly		Annual	
Development & Test	Assume 75% utilization (25% down time)	**Non production Total**	**$**	**12,907.03**	**$**	**154,884.36**
	Assume 90% of time requires environment scaled to 40% of prod					
	Assume 10% of time requires production-sized environment					

	Monthly		Annual	
Infrastructure Total	**$**	**50,318.71**	**$**	**603,824.52**

Technical Infrastructure – Assumptions and Notes

Variable	Assumed / calculated value
Number of sellers	100,000.00
Seller Interactions per user per month	15
Seller transfer out (per session in GB)	0.02
Seller transfer in (total in GB)	0.15
Number of buyers	300,000.00
Buyer interactions per user per month	15
Buyer transfer out (per session in GB)	0.05
Average page requests per session	20
Visitors per day	200,000.00
DNS queries per day (5 per session)	1,000,000.00
DNS queries per month	30,000,000.00
Total out per month (GB)	255,000.00

Infrastructure Notes:
- Production is not likely to be 100% up, so this may overstate costs
- Additional components may be required
  - Additional security infrastructure such as a Web Application Firewall (WAF)
  - Gateway to serve mobile device services
  - Service to send outgoing message to mobile users
  - Application development services (code repository and build tools)
- Non production environment is a rough estimate

Pro Forma Financials

(US$ in 0's)	2017	2018	2019	2020	2022
Bay Area Houses Sold	*3*	*305*	*1,446*	*2,742*	*4,038*
Bay Area Market Penetration	*0.0%*	*0.4%*	*2.0%*	*3.8%*	*5.6%*
Revenue	**$ 25,943**	**$ 2,281,702**	**$ 9,432,282**	**$ 17,780,362**	**$ 26,620,838**
COGS	8,227	299,550	1,406,339	2,663,478	3,920,617
Gross Profit	**17,716**	**1,982,152**	**8,025,943**	**15,116,884**	**22,700,221**
% Gross Margin	*68.3%*	*86.9%*	*85.1%*	*85.0%*	*85.3%*
Operating Expenses	5,100,525	6,688,389	6,890,960	7,098,841	7,312,958
Operating Profit (Loss)	**(5,082,809)**	**(4,706,236)**	**1,134,983**	**8,018,043**	**15,387,262**
% Operating Margin	*NA*	*NA*	*12.0%*	*45.1%*	*57.8%*
Income Taxes	0	0	0	0	5,162,935
Net Income	**$ (5,082,809)**	**$ (4,706,236)**	**$ 1,134,983**	**$ 8,018,043**	**$ 10,224,328**
% Net Income Margin	*NA*	*NA*	*12.0%*	*45.1%*	*38.4%*

*Based on sales of single family, condos, multi-family, and town houses across 9 counties in the Bay Area. For example, a 1% penetration corresponds to 53 houses transacted on our platform.

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(US$ in 0's)	2017	2018	2019	2020	2022
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Revenue	**$ 25,943**	**$ 2,281,702**	**$ 9,432,282**	**$ 17,780,362**	**$ 26,620,838**
Title & Escrow	2,400	244,000	1,156,800	2,193,600	3,230,400
MLS Data Fees	4,533	2,530	2,530	2,530	2,530
Additional MLS Fees	564	15,802	72,852	137,652	202,452
Additional Data Providers	350	618	637	656	675
Home Sales Costs	300	30,500	144,600	274,200	403,800
Photographers	60	6,100	28,920	54,840	80,760
Cost of Goods Sold	8,227	299,550	1,406,339	2,663,478	3,920,617
Gross Profit	**17,716**	**1,982,152**	**8,025,943**	**15,116,884**	**22,700,221**
% Gross Margin	*68.3%*	*86.9%*	*85.1%*	*85.0%*	*85.3%*
Salaries and related	650,000	1,071,200	1,103,336	1,136,436	1,170,529
Contracted Development	2,688,000	2,768,640	2,851,699	2,937,250	3,025,368
Payroll & Account. Services	42,000	43,260	44,558	45,895	47,271
Sales & Marketing	1,000,000	2,060,000	2,121,800	2,185,454	2,251,018
Travel & Entertainment	30,000	30,900	31,827	32,782	33,765
Supplies & Other Exp.	20,050	20,600	21,218	21,855	22,510
Facilities & Comm.	64,650	66,590	68,587	70,645	72,764
Research & Development	400,000	412,000	424,360	437,091	450,204
Depreciation & Amortization	2,000	5,260	7,338	8,710	10,123
Operating Expenses	4,896,700	6,478,450	6,674,723	6,876,117	7,083,552
Operating Profit (Loss)	**(4,878,985)**	**(4,496,297)**	**1,351,220**	**8,240,768**	**15,616,669**
% Operating Margin	*NA*	*NA*	*14.3%*	*46.3%*	*58.7%*

Pro Forma Financials - Assumptions

Operating Assumptions		Description
Listing Fee	0.75%	Per transaction
Title & Escrow Fees	$800.0	Per transaction
Salary Burden	30.0%	Additional insurance and tax burden associated with employee's
Sales & Marketing Spend	$2.0 million	Annually
Payroll & Accounting Services	$3,500	Per month
Initial Platform Buildout	$1,172,000	Approximately 6.0 months to bring platform to basic functionality
Contracted Development Team	$224,000	Monthly
Infrastructure Spend	$600,000	Annually
Travel & Entertainment Spend	$30,000	Annually
Supplies & Other Expenses	$20,000	Annually
Capital Expenditures	$10,000	Annually
Income Taxes	35.0%	Federal Income Tax Rate
Home Showing Costs	$20.0	Per hour
Showing Hours Per House	5.0	Hours spent per house showing the house to potential buyers
Additional hires	2019	In 2019, additional hires for marketing, finance, and business development
Inflation Assumption	3.0%	Prices and expenses assume an inflationary environment going forward

*Salaries based on CEO, CTO, BD1, Admin, and Broker – does not include development team costs.

Home Broker

Exit for Investors

- IPO

- Sale to Strategic Buyer (system and/or customers) Some potential targets – large real estate company, REDFIN, Zillow.

Needs and Uses of Funds

Sources and Uses (1)		Descriptions
Obtain capital for start-up phase	$10.2 million	
Infrastructure Expenditures	$1.0 million	
Contracted Platform Development	$4.6 million	Approximately $1.2 million for base functionality and $3.4 million for additional functionality, mobile build, user interface and maintenance.
Salaries and Benefits	$1.5 million	
Sales & Marketing	$2.7 million	
Payroll & Accounting Outsourcing	$0.1 million	Outsource
Travel & Entertainment	$0.1 million	Travel and entertainment associated with business development
Supplies & Other Expenses	$0.0 million	Approximately $35,000 annually on supplies and other expenses
Rent & Communications	$0.1 million	Approximately $5,400 monthly rent, phone, and internet expenses
Total Capital for Start-up Phase	$10.2 million	
(1) Required funding to reach profitability taking into account generated revenues.		

Risks

- Will such a system be easy and reliable enough for home buyers and sellers to forgo a realtor eventually and/or will "sooner" realtors forgo fees for use of system?

- Will we be able to get sufficient data on sales to build a reliable home advisor algorithm?

Thank you