

Dwello

A Real Estate Marketplace

•••

Zhe (Zack) Zhang
CS5520 Summer 2024

A Bit About Me

A Bit About Me



- **Name:** Zhe (Zack) Zhang
- **Education:** MSCS Student at Northeastern University, Seattle Campus
- **Graduation:** May 2024

A Bit About Me

- **Background:**

- Former Real Estate Developer Marketing Specialist
- Former Product Manager with 2 years of experience
- Founded a startup in real estate digital marketing

- **Interests:**

- Passionate about technology and real estate



Inspiration for Dwello

- **Real Estate Background:**

- Extensive experience in buying and selling properties
- Constantly exploring opportunities to disrupt the real estate industry



Inspiration for Dwello

- **Market Engagement:**
 - Regularly use Zillow and Redfin to stay updated on the market
- **Vision:**
 - Passionate about bridging innovation with the present
 - A real estate marketplace app is the ideal starting point for a potential business venture



Introducing Dwello

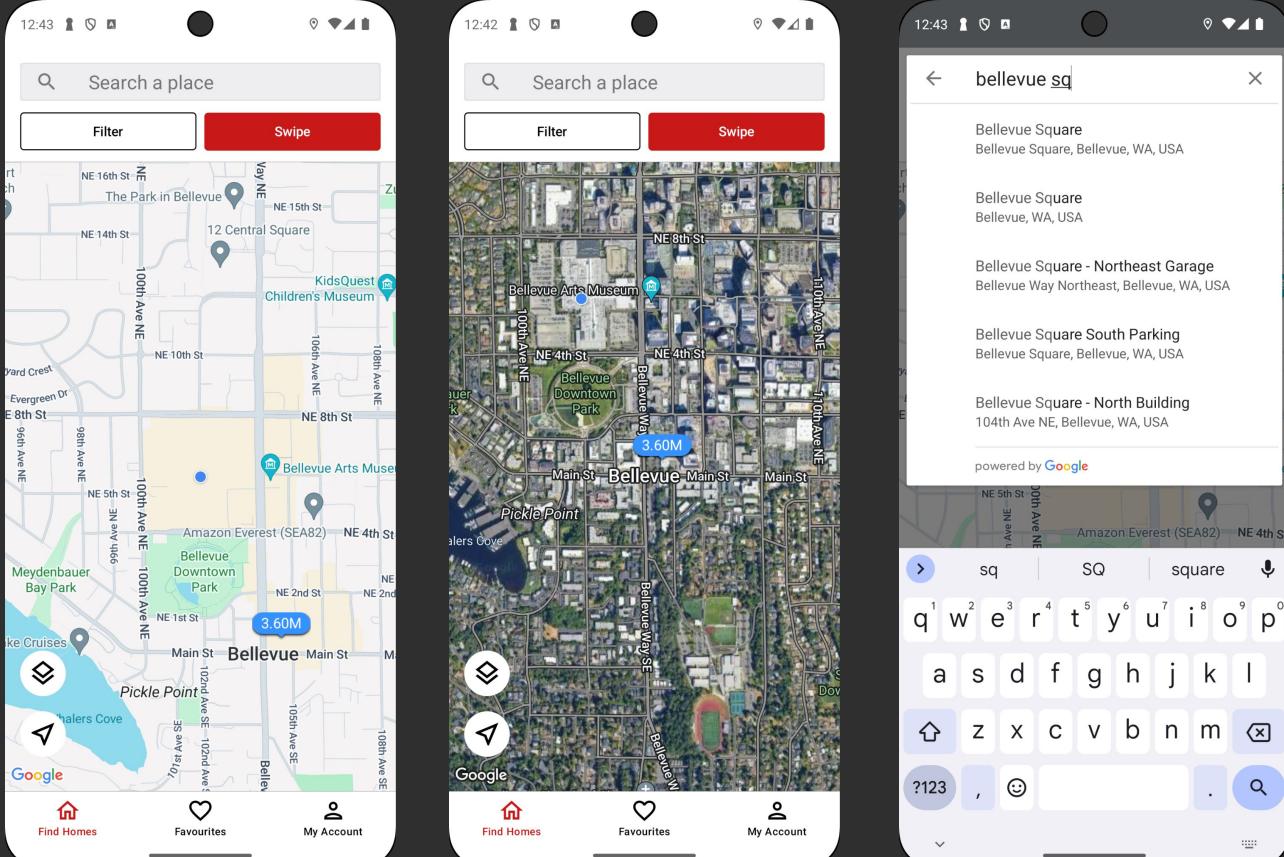
Introducing Dwello

- A Real Estate Marketplace:
 - **Connects** buyers with their dream homes effortlessly
 - **Simplifies** searching, saving, and exploring properties
 - **Provides** a seamless user experience



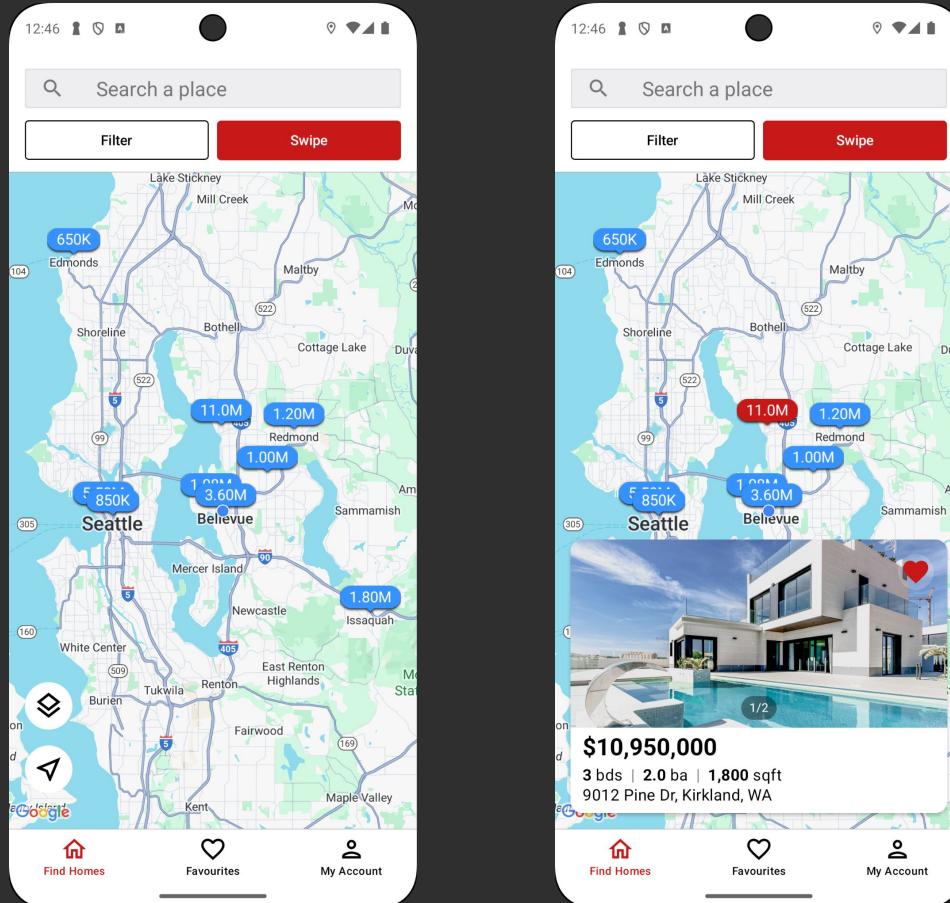
Exploring the Map

- **Navigate** the real estate landscape with an interactive map, empowered by Google Maps
- **Search** for specific locations or properties quickly



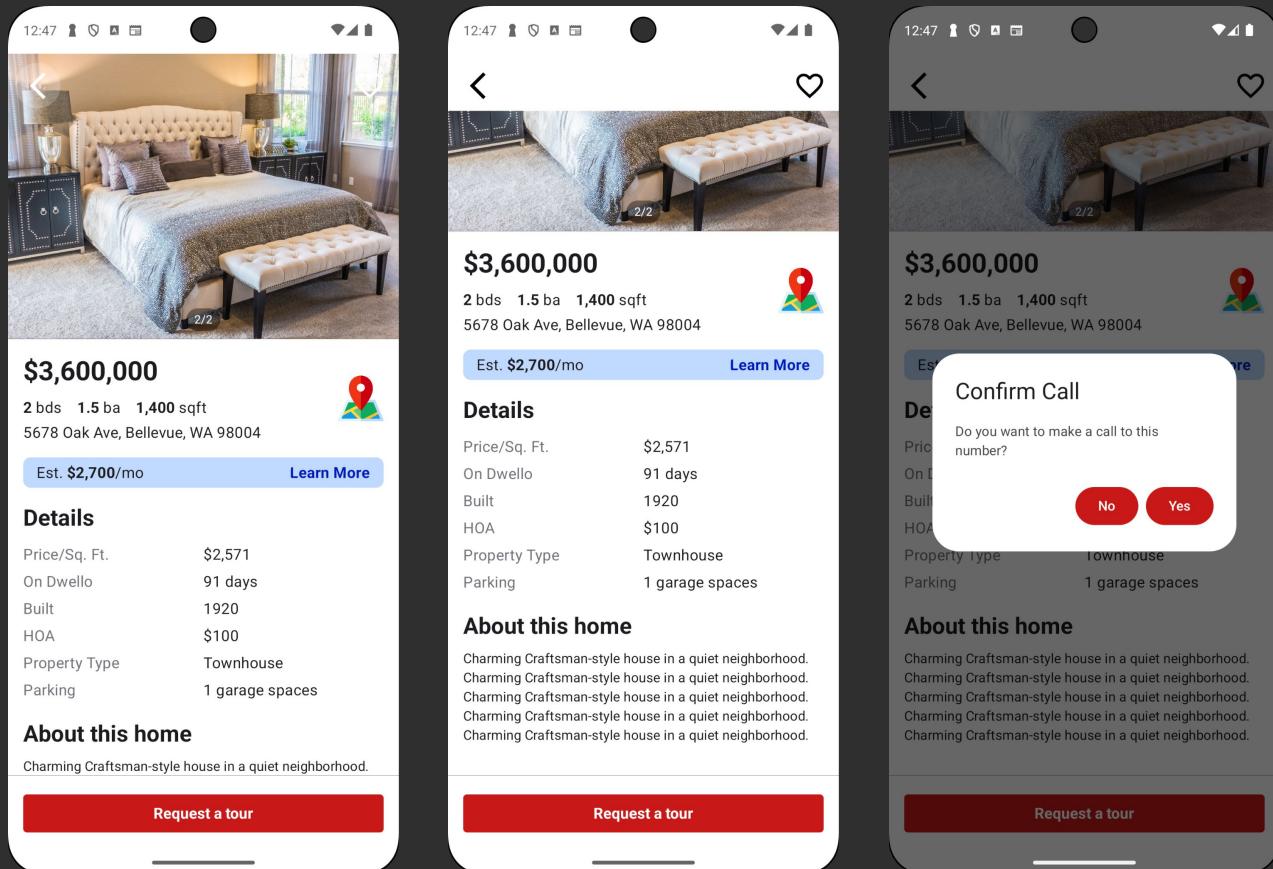
Exploring the Map

- **View** property markers displaying price and availability
- **Save** properties to your favourites directly from the map



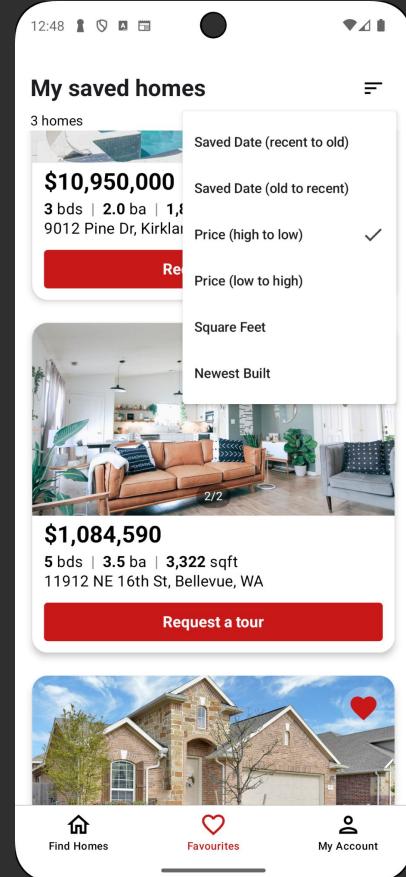
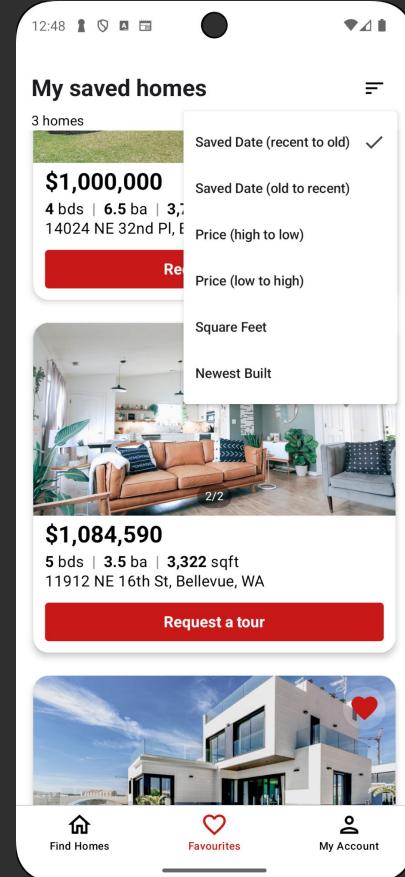
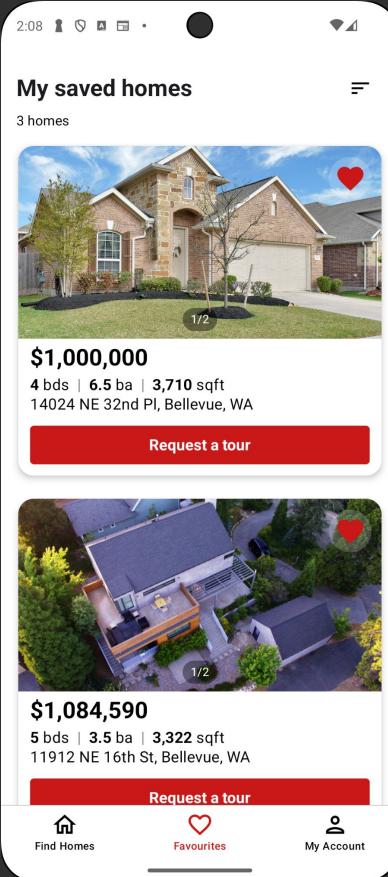
Property Details

- **Access** detailed property information, including pricing, size, and more
- **view** high-quality images and key details at a glance
- **Request** a tour directly from the property details page



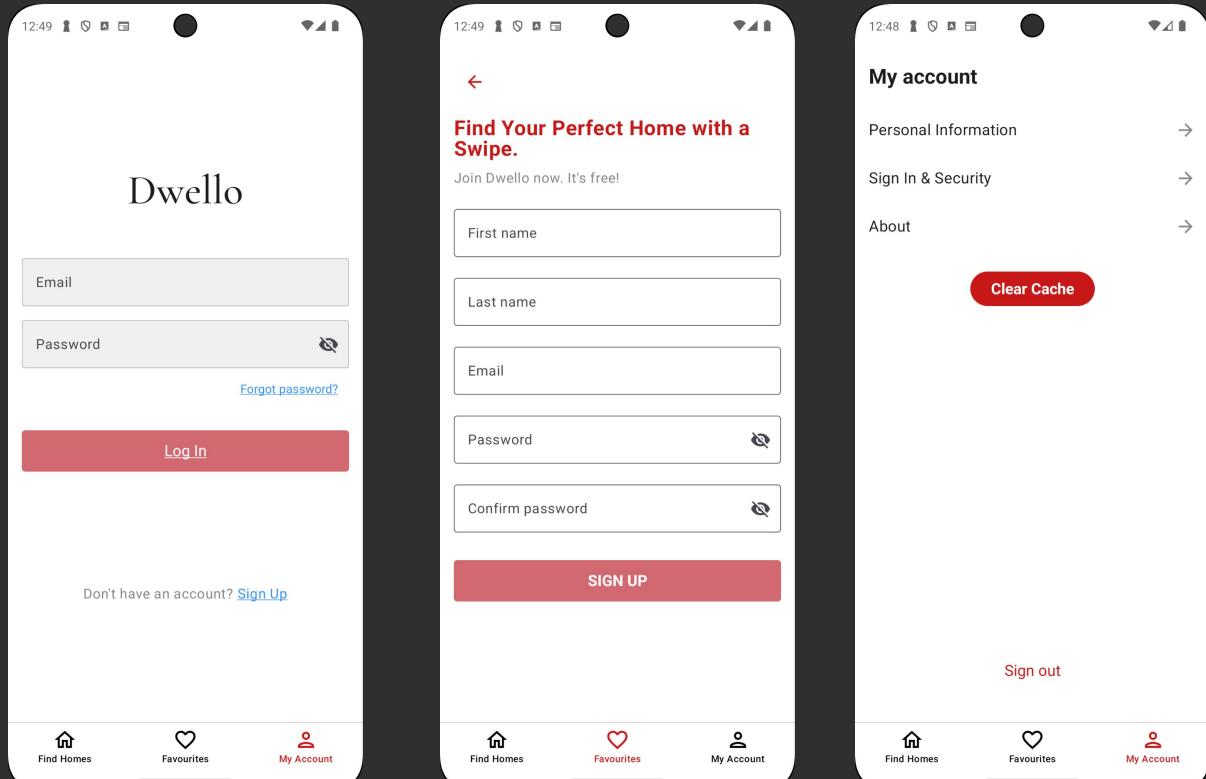
Saved Homes

- **View** your saved homes in one place for easy access
- **Sort** your saved homes by date, price, size, or other criteria
- **Organize** your favourites to find the right property quickly



User Account & Authentication

- **Manage** your personal information securely
- **Sign in** easily with a streamlined login process
- **Onboard** new users with a quick and simple sign-up
- **Access** account actions like sign-out and cache clearing with ease



Video Demo



Technical Details

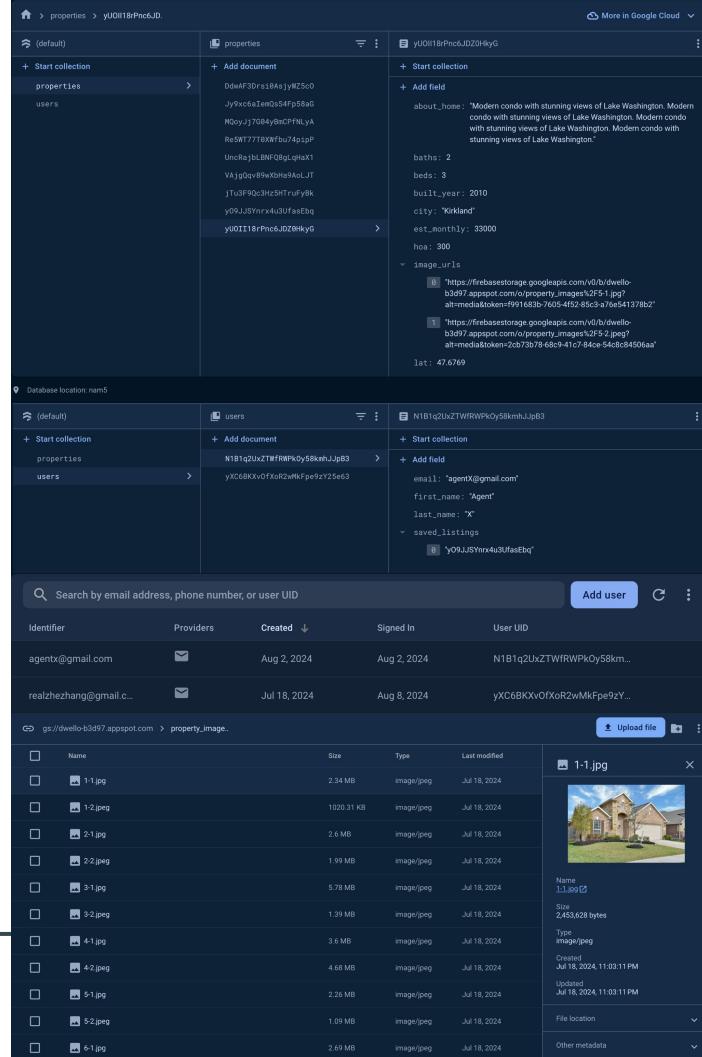
Frontend Development

Building the UI, managing complex navigation, and interactive map integration



Backend Integration

Handling authentication, database management, storage, and syncing data in realtime



The image shows a screenshot of the Firebase Realtime Database and Storage console. The top section displays the Realtime Database structure with a document named 'yu0II18rPnc6JDZB0kyG' containing fields like 'about_home', 'baths', 'beds', 'built_year', 'city', 'est_monthly', 'hoes', and 'image_urls'. Below this, the Storage console shows a list of images with their URLs and metadata. The bottom section is a table of users with columns for Identifier, Providers, Created, Signed In, and User UID.

Identifier	Providers	Created	Signed In	User UID
agentx@gmail.com	✉	Aug 2, 2024	Aug 2, 2024	N1B1q2uZTWRWPkOy58kmhJlpB3
realzhezhang@gmail.c...	✉	Jul 18, 2024	Aug 8, 2024	yXC6BKXvOfx02uR2MkFpe92Yz5e63

Search by email address, phone number, or user ID Add user

Identifier Providers Created ↓ Signed In User UID

agentx@gmail.com ✉ Aug 2, 2024 Aug 2, 2024 N1B1q2uZTWRWPkOy58kmhJlpB3

realzhezhang@gmail.c... ✉ Jul 18, 2024 Aug 8, 2024 yXC6BKXvOfx02uR2MkFpe92Yz5e63

gs://dwello-b3d97.appspot.com > property_image

Upload file

Name	Size	Type	Last modified
1-1.jpg	2.34 MB	image/jpeg	Jul 18, 2024
1-2.jpeg	1020.31 KB	image/jpeg	Jul 18, 2024
2-1.jpg	2.6 MB	image/jpeg	Jul 18, 2024
2-2.jpeg	1.99 MB	image/jpeg	Jul 18, 2024
3-1.jpg	5.78 MB	image/jpeg	Jul 18, 2024
3-2.jpeg	1.39 MB	image/jpeg	Jul 18, 2024
4-1.jpg	3.6 MB	image/jpeg	Jul 18, 2024
4-2.jpeg	4.68 MB	image/jpeg	Jul 18, 2024
5-1.jpg	2.26 MB	image/jpeg	Jul 18, 2024
5-2.jpeg	1.09 MB	image/jpeg	Jul 18, 2024
6-1.jpg	2.69 MB	image/jpeg	Jul 18, 2024

1-1.jpg

Name 1-1.jpg

Size 2,453,628 bytes

Type image/jpeg

Created Jul 18, 2024, 11:03:11 PM

Updated Jul 18, 2024, 11:03:11 PM

File location

Other metadata

Caching with Room Database

Local caching for quick access, and ensuring offline access



Database Inspector Network Inspector Background Task Inspector

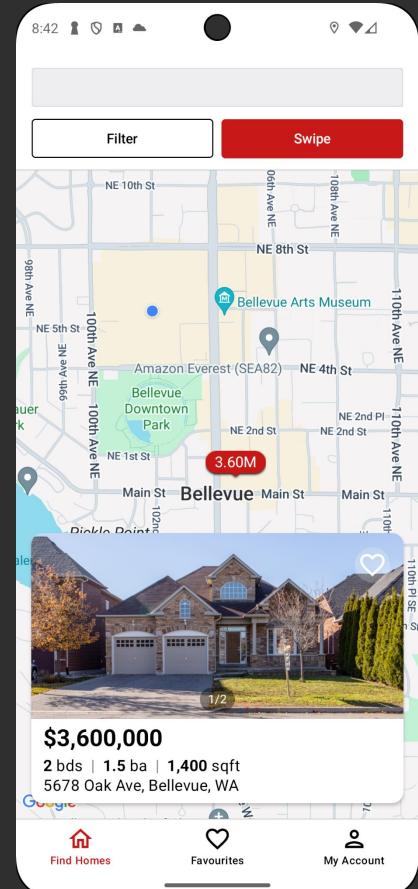
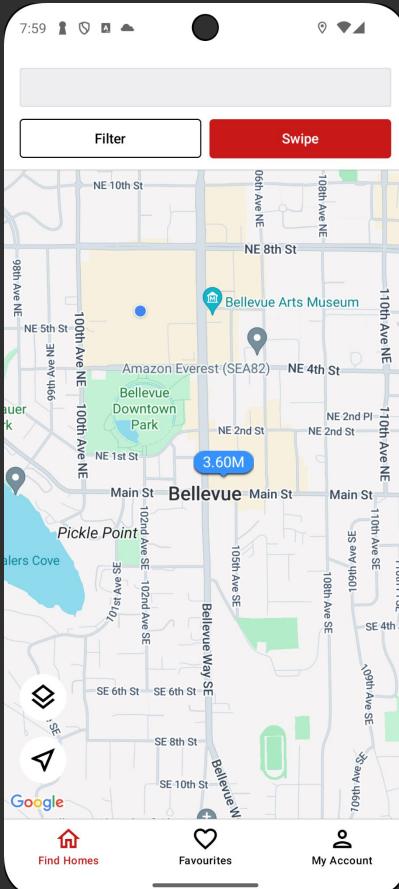
Databases properties Live updates

	pid	about...	baths	beds	built_year	city	...	
com.google.android.datatral	1	DdwAF3Drsil	Cozy cottage	2.5	2	1940	Edmonds	
> firestore.%5BDEFAULT%5D.	2	Jy9xc6alemC	Immaculately	6.5	4	2016	Bellevue	
property_database	3	MQoyJ7G04	A beautiful h	2.5	4	1995	Seattle	
> properties	4	Re5WT77T0	Beautifully re	3.5	5	2018	Bellevue	
room_master_table	5	UncRajbLBNI	Eco-friendly	3.5	3	2018	Issaquah	
ue3.db (closed)	6	VAjgQqv89w	Luxury penth	5.5	4	2015	Seattle	
	7	jTu3F9Qc3H	Spacious sut	3.5	4	2005	Redmond	
	8	yO9JJSYnrw	Charming Cr.	1.5	2	1920	Bellevue	
	9	yUOII18rPnct	Modern conc	2.0	3	2010	Kirkland	
beds	built_year	city	est_monthly	a	image...	list_date	parking...	phone
2	1940	Edmonds	2500	50	["https://fire...	1721804400	2	42558
4	2016	Bellevue	42073	0	["https://fire...	1721286000	4	+1 (42)
4	1995	Seattle	3200	150	["https://fire...	1720076400	2	+1 (42)
5	2018	Bellevue	38000	300	["https://fire...	1719817200	4	+1 (42)
3	2018	Issaquah	3800	250	["https://fire...	1713423600	2	42558
4	2015	Seattle	10000	500	["https://fire...	1710918000	2	42558
4	2005	Redmond	5000	200	["https://fire...	1722495600	3	42558
2	1920	Bellevue	2700	100	["https://fire...	1715238000	1	42558
3	2010	Kirkland	33000	300	["https://fire...	1721718000	1	42558
price	propert...	state	street	sqft	thumbn...	zipcode	lat	long
650000	Single-family	WA	7890 Birch S	1200	https://fire...	98020	47.8107	-122.3774
1000000	Single-family	WA	14024 NE 32	3710	https://fire...	98007	47.6400027	-122.152404
850000	Single Family	WA	1234 Maple S	2200	https://fire...	98101	47.6062	-122.3321
1084590	Single-family	WA	11912 NE 16t	3322	https://fire...	98007	47.618422	-122.217943
1800000	Single-family	WA	4567 Greenw	2000	https://fire...	98027	47.5301	-122.0326
5500000	Condo	WA	1234 Skyline	4500	https://fire...	98121	47.6119	-122.343
1200000	Single-family	WA	3456 Cedar l	3000	https://fire...	98052	47.674	-122.1215
3600000	Townhouse	WA	5678 Oak Av	1400	https://fire...	98004	47.6104	-122.2007
10950000	Condo	WA	9012 Pine Dr	1800	https://fire...	98033	47.6769	-122.206

Future Plans

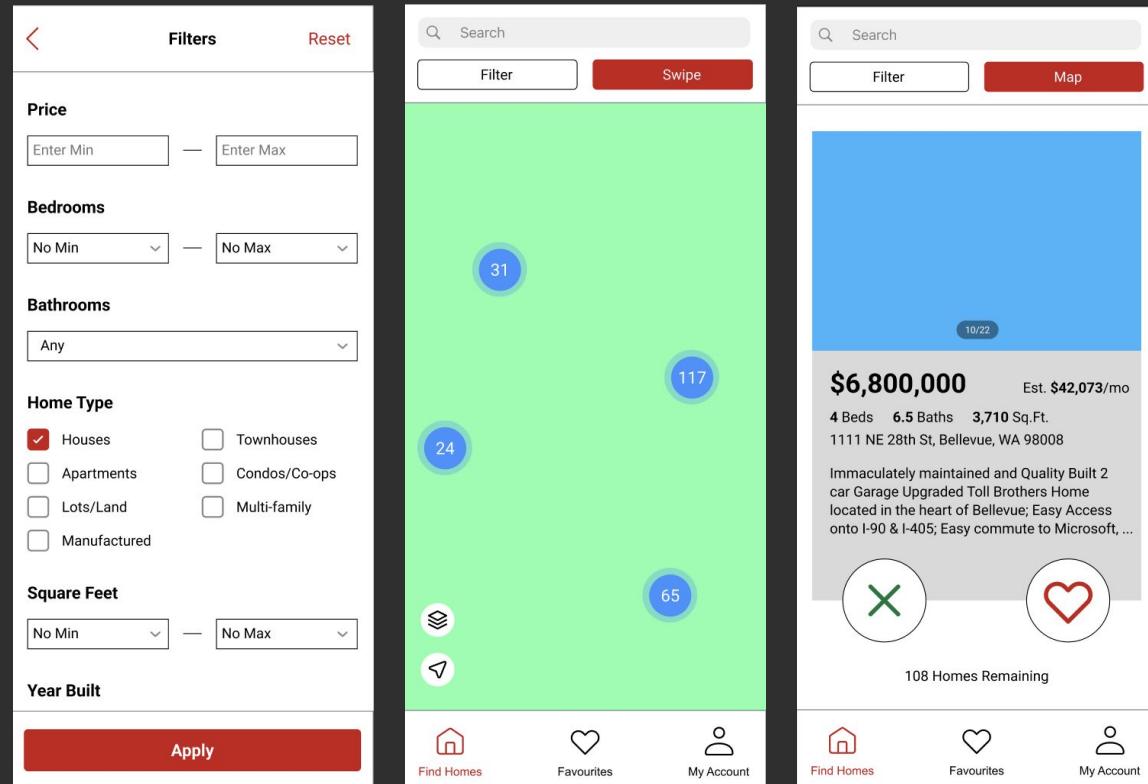
Fix Bugs

- **Autocomplete Search:**
 - Fragment gets “disconnected” during recompositions
- **Unsigned-in User Save:**
 - Redirect to login when an unsigned-in user tries to save a property



Enhance Functionality & User Experience

- **Advanced Filtering:**
 - Implement geo-boundary filters for precise searches
- **Clustered Markers:**
 - Improve map visualization in dense areas
- **Swipe Mode:**
 - Allow users to view and save properties like a dating app



Network & Security

- **Network Setup:**
 - Establish a robust server infrastructure
- **Enhance Security:**
 - Implement advanced security measures to protect user data



Thank You