We should add screenshots of the apps and then after every screenshot post whatever is relevant. Maybe if we can see **substitutivity** happening then mention it. Even bugs or some improvement can be mentioned.

/Airlift → IUI(Inductive User Interface)

⏰ 👁 🔇 ³⁶ 📶 30% 🔋 5:57 PM

← AIRLIFT

Sign in

Enter your email
_____

Enter password*
_____

Create New Account

Forgot Password?

Sign in

Enter your email
nabeelfayahoo.com ⚠

Please enter valid email.

Enter password*
● ● ● ● ● ● ● ● ● ● ● ●

The next button could be confused with a skip ac

Substitutivity:
- Classic Search and Galaxy Search
- User can set location by pin, by entering the location through keyboard and by selecting classic routes.

Lack of Substitutivity: iui in
- When user creates an account, they send a message only on your mobile about your successful account creation. Not on email.
- Same goes for forget password, the pin code is sent only on mobile number
- Also they don't tell you where will they send the code :Therefore only code label written.
- Can't enter phone number in 923xxx format, only 0322xxx format.
- No additional sign up options like gmail and all.

Cognitive load:
- Rebook option lessens the memory load.
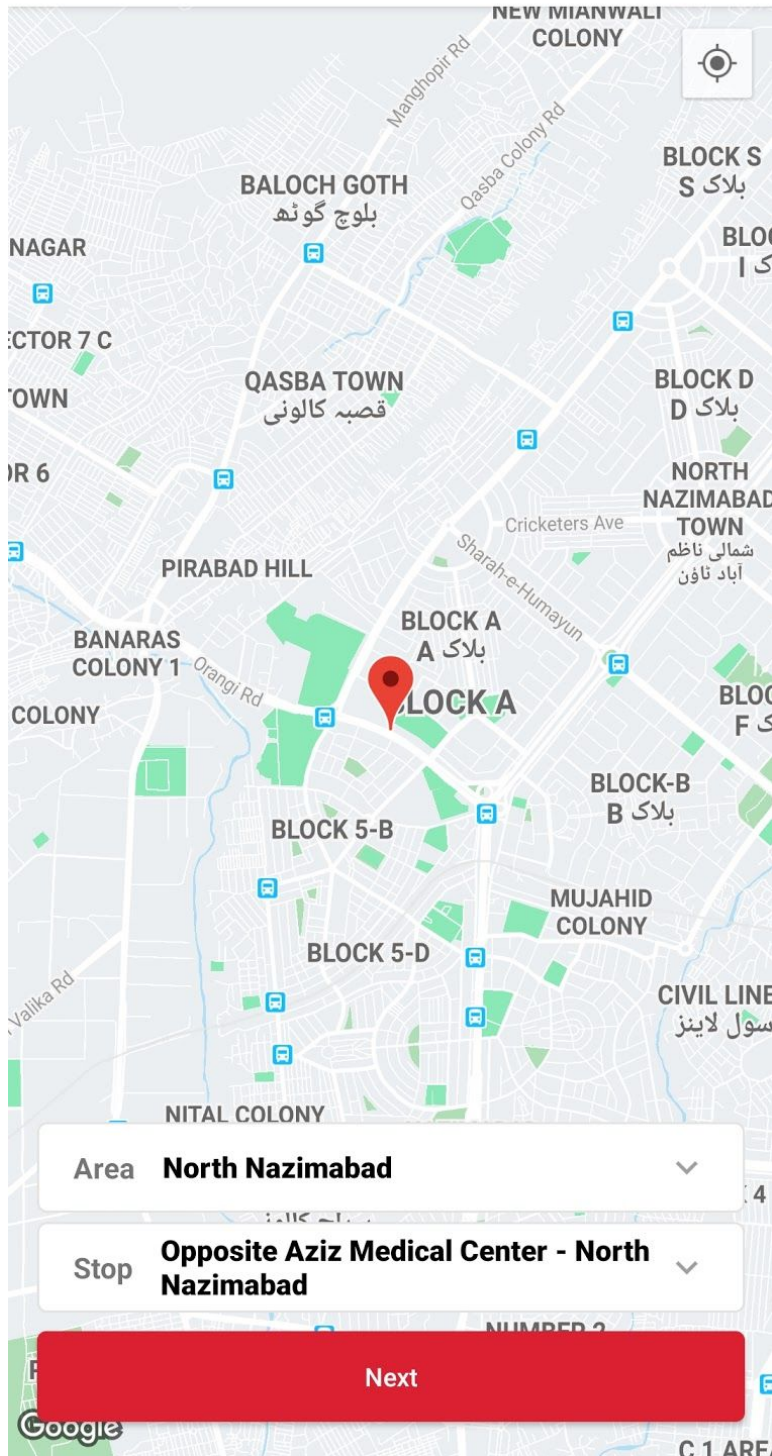- Keeps record of previous locations. One click makes it easier.

Lacks Cognition:
- Sign in page **does not** remembers my email.
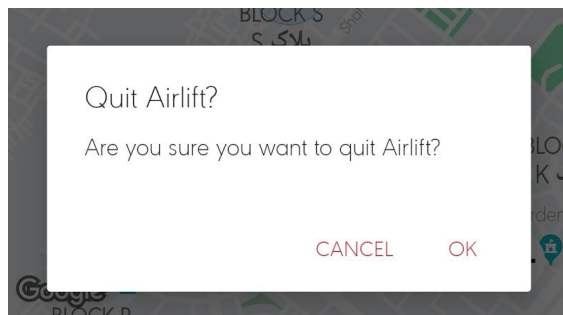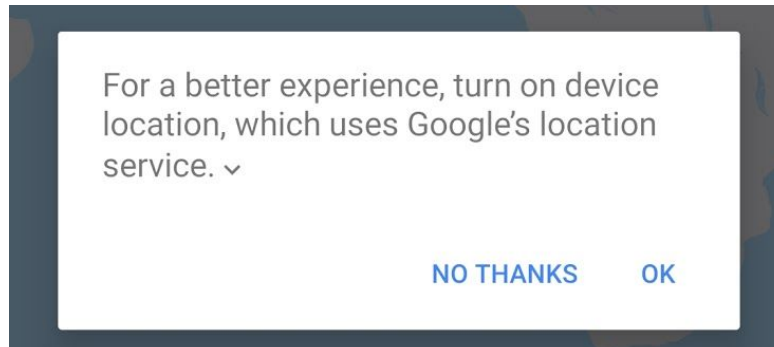- No remember password option.

← **Select pickup**

Area	North Nazimabad	⌄

| Stop	Opposite Aziz Medical Center - North Nazimabad	⌄

Next

They show the output (stop details) both on map, as well as in the drop-down.

Dialog(Feedback):
- User is prompted with dialogues when he enters wrong email or leaves a certain input field empty
- Option for **Forgot Password**
- Default page is assuming you already have an account (frequent users will be happy)
- Default location Karachi is already selected when creating a new account
- Option to create new account
- User is also prompted to turn on location services for better search results

For a better experience, turn on device location, which uses Google's location service. ⌄

NO THANKS   OK

-

Quit Airlift?

Are you sure you want to quit Airlift?

CANCEL   OK

- **Error prevention:** When u exit the app. It confirms
- **User Freedom:** And below is Facebook checking on me if I tapped "Cancel" by mistake. (this is also a possible point to be considered along with error prevention)
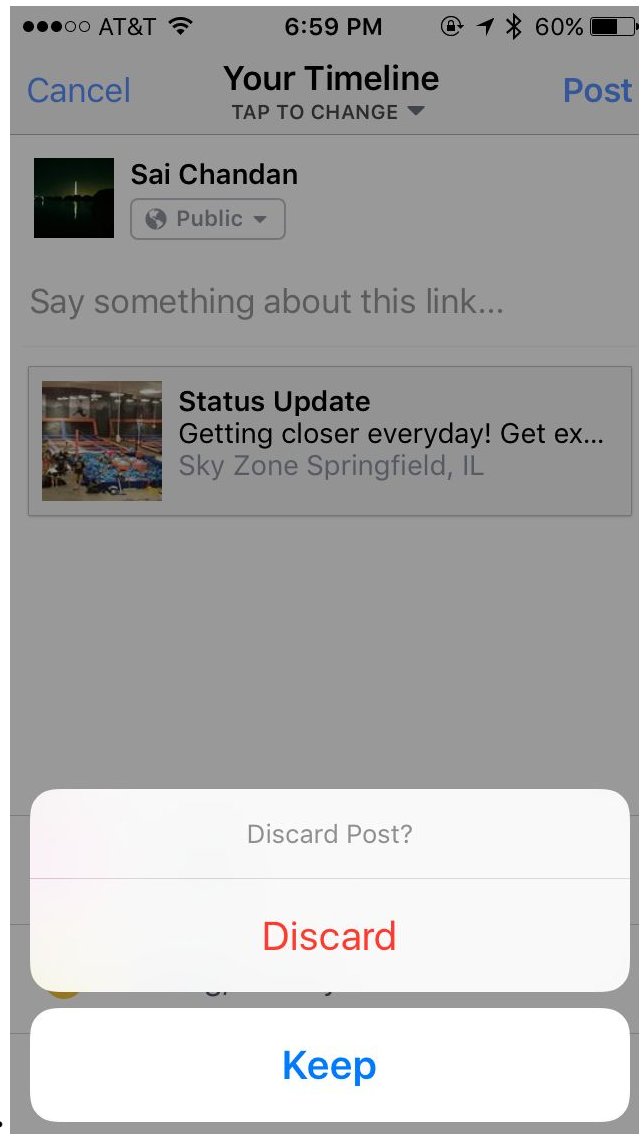
For example:

Multimodality
- When user books the ride user receive notification
  - Sound -> echoic
  - Vibration -> haptic
  - Notification -> visual

- When user cancel the ride user get notification
- Notification both app and messaging ke through hai
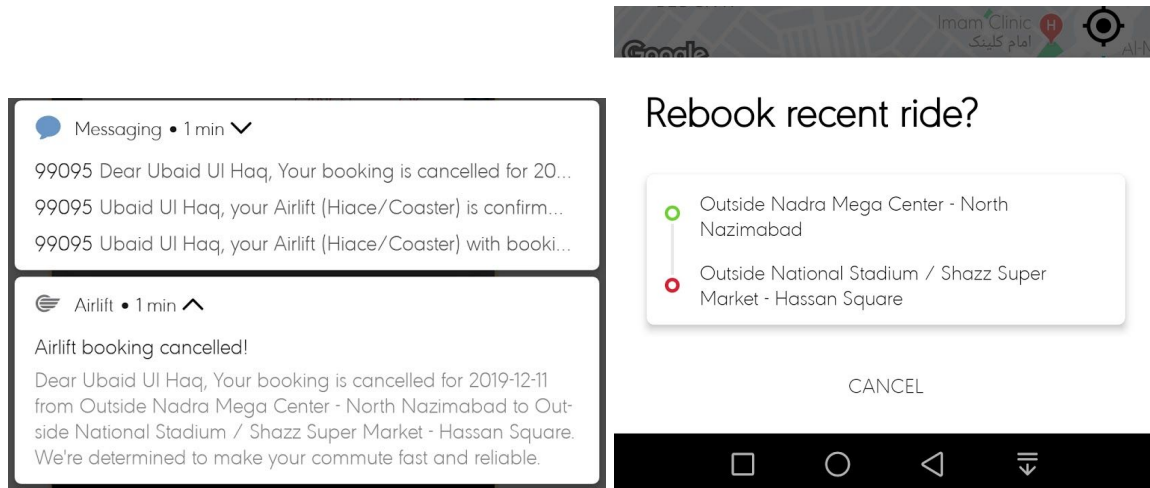
Task migratability
- User can set home and work location once(no it can be updated from setting).
  User control
- Provide user to rebook the ride without entering the same information again. System will enter the information for him
  System control

  For online payments, the app takes you to MCB Pay which performs the rest of the task (Task Migratability)

←   Booking confirmation

Schedule for: **Dec 11, 2019**

Seats remaining: 13   Minimum fare: 60.0

Pickup Location

📍   Outside Nadra Mega Center - North Nazimabad

Start: 10:24 PM

Dropoff Location

📍   Outside National Stadium / Shazz Super Market - Hassan Square

End: 10:44 PM

Booking Fare

Minimum fare applicable

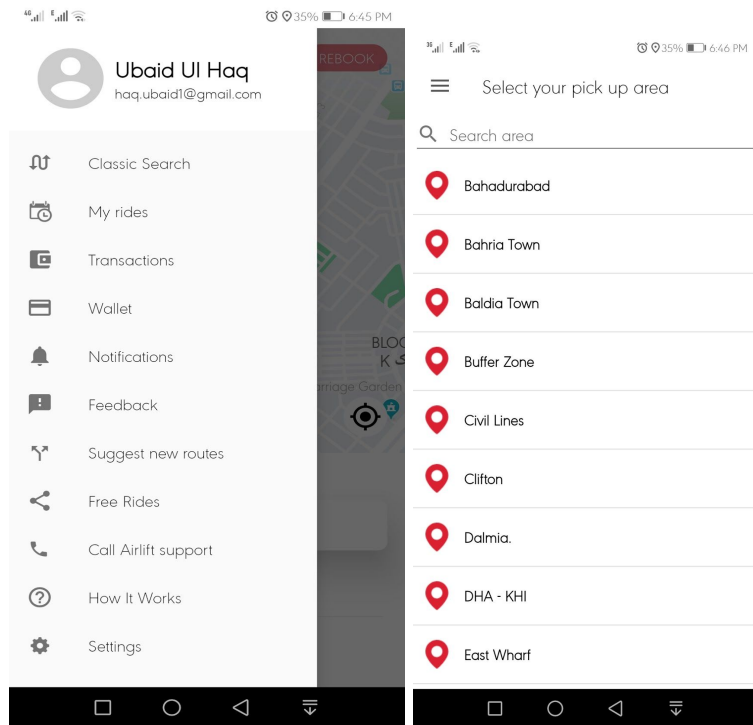Promo code

Enter promo code

Total charges (ALC):   60.0

Book now

GTakes confirmation of user before booking and shows him details of booking
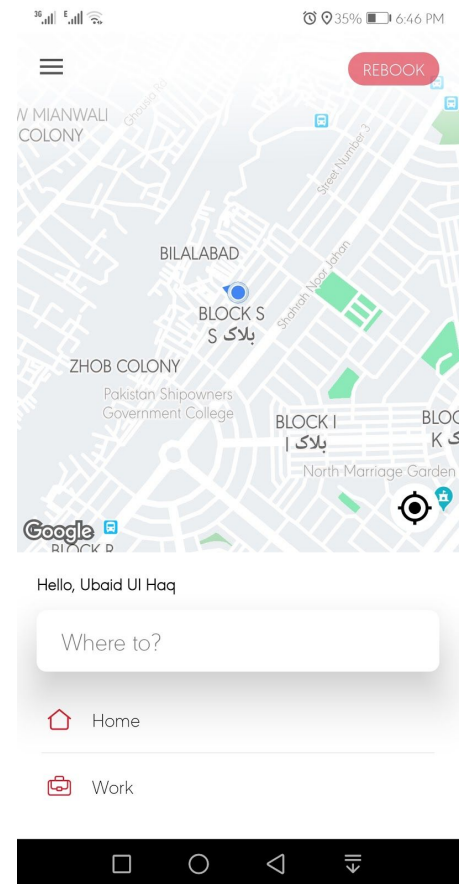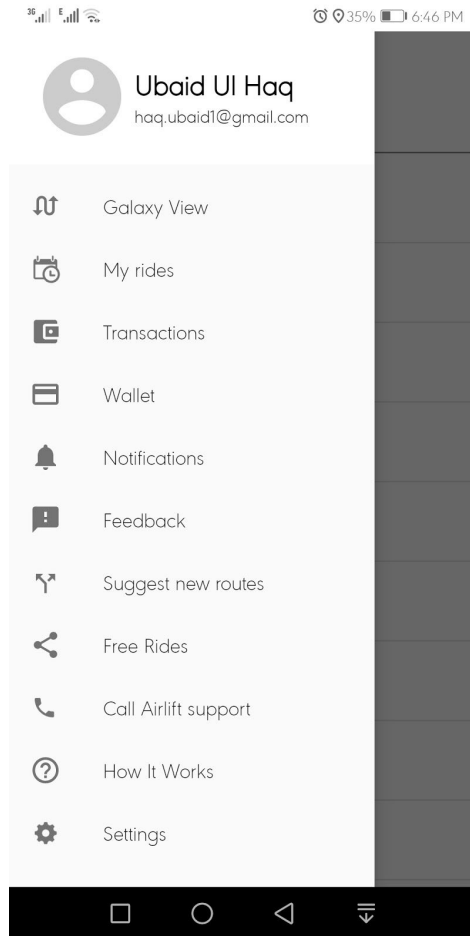What is ALC? Novice user does not understand.

Customizability
- Different views for the user.

Classical search

- IB in

Galaxy view

Setting up and changing the Home and Work locations as per user requirements, choosing different ACL packages.

Left screen (navigation menu):

Ubaid Ul Haq
haq.ubaid1@gmail.com

Galaxy View

My rides

Transactions

Wallet

Notifications

Feedback

Suggest new routes

Free Rides

Call Airlift support

How It Works

Settings

Right screen:

REBOOK

N MIANWALI COLONY

BILALABAD

BLOCK S
بلاک S

ZHOB COLONY

Pakistan Shipowners Government College

BLOCK I
بلاک I

BLOC
K کا

North Marriage Garden

Google

BLOCK R

Hello, Ubaid Ul Haq

Where to?

Home

Work

(Show profile picture icon but you cannot update it)

← Your pickup stop

JF-7611 - SILVER

KDA SCHEME #1

SHABBIRABAD

Makkah Masjid

Kaybees Snacks & Restaurant

Ros

OCK B

Dr M Ilyas St

DARWAISH COLONY

7th St

Lal Qila

Pakistan Air Force Museum

Toyota Central Motors

1st St

Preston University

10th St

14th St

FALCON COMPLEX FAISAL

Main Rd

15th St

BLOCK 3

BLOCK 6

BLOCK 5

DADABHOY TOWN

BLOCK 4

BLOCK 8

BLOCK 7

Bilal St

SECTOR I

Google

JF-7611 - SILVER

DIRECTIONS TO STOP

← Your pickup stop

JF-7611 - SILVER

SHABBIRABAD

Makkah Masjid

Kaybees Snacks & Restaurant

Ros

Dr M Ilyas St

DARWAISH COLONY

7th St

Lal Qila

Pakistan Air Force Museum

Toyota Central Motors

1st St

Preston University

10th St

14th St

FALCON COMPLEX FAISAL

15th St

BLOCK 3

BLOCK 6

BLOCK 5

DADABHOY TOWN

BLOCK 4

Bilal St

Google

JF-7611 - SILVER

Last stop crossed	Your stop
Executive Tower (Dolmen Mall Clifton) - Clifton KHI	Opposite Awami Markaz Bus Stop - Shahrah e Faisal

DIRECTIONS TO STOP

← My rides

SCHEDULED   HISTORY

Dec 13, 2019

Booking ID: 2135899

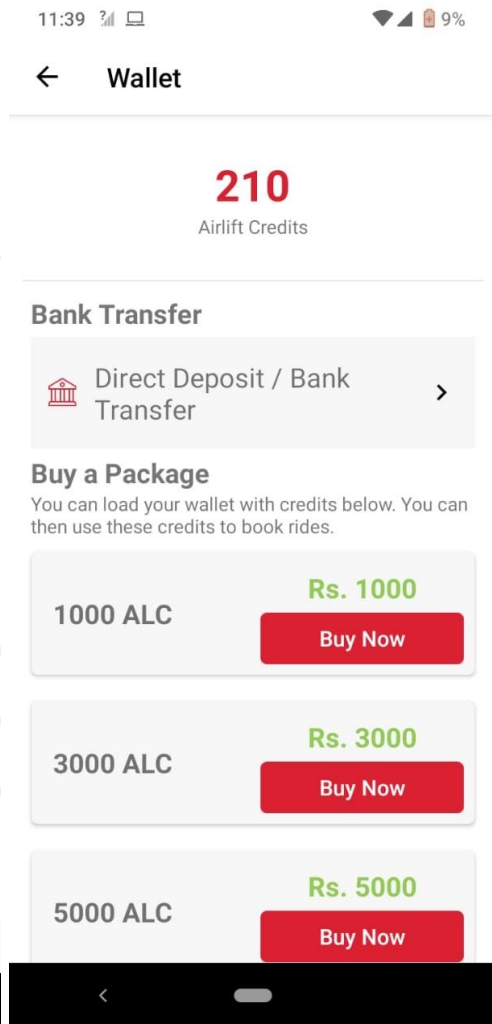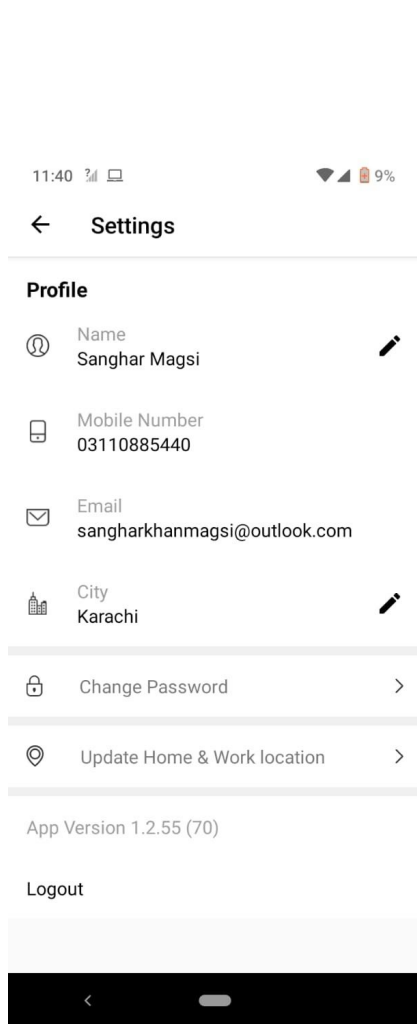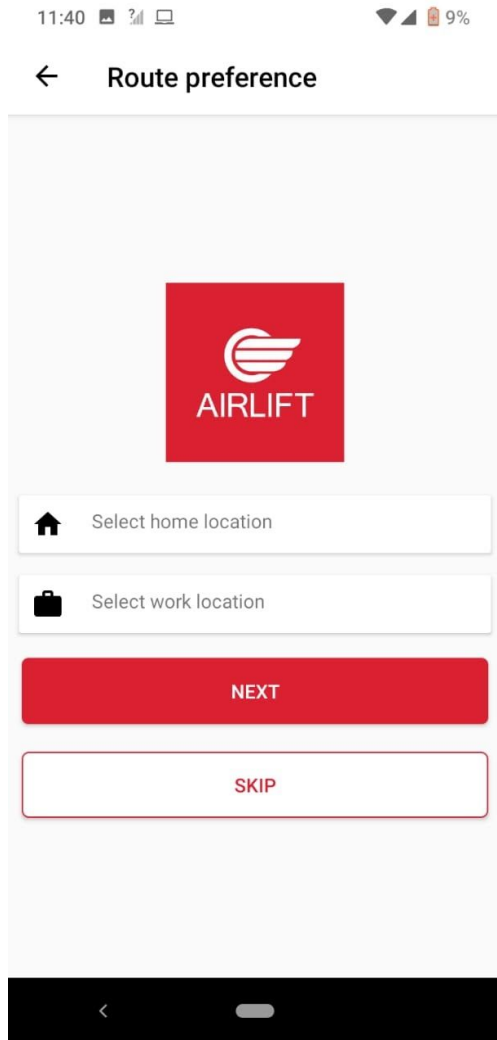12:25 pm ◎ Opposite Awami Markaz Bus Stop - Shahrah e Faisal

12:56 pm 📍 Outsdie Fast University - Quaidabad

📍 TRACK   🔄 CHANGE   🗑 CANCEL

← **Settings**

Profile

Name
Sanghar Magsi ✏️

Mobile Number
03110885440

Email
sangharkhanmagsi@outlook.com

City
Karachi ✏️

🔒 Change Password ›

📍 Update Home & Work location ›

App Version 1.2.55 (70)

Logout

← **Wallet**

210
Airlift Credits

Bank Transfer

🏛️ Direct Deposit / Bank Transfer ›

Buy a Package
You can load your wallet with credits below. You can then use these credits to book rides.

1000 ALC	**Rs. 1000**
	Buy Now
3000 ALC	**Rs. 3000**
	Buy Now
5000 ALC	**Rs. 5000**
	Buy Now

7

(Cannot change the mobile number like whatsapp do, if you have new mobile number you cannot change it, can any one tell me what should I call this problem)

(And you cannot manually pay the driver, if you have money in the wallet it will be cancelled automatically)->(Dialogue Initiative)

(and third when you try to update work or home location you will see skip button, however it should be cancel button instead, so it's confusing).

(Airlift is globalized as it only has english as language, you cannot change it, but zameen.com provide change in language)->(Customizability)

Flexibility

Robustness

Bug/Glitch/Bad UX Design

Suggest Route - UX Design

There is a small error in the design, the page in the drawer navigator section named "Suggest new Routes" has a LIST of different routes with a thumb (Like) icon next to us that can be pressed to vote for that route.
The problem is, when the thumb is touched/pressed, the list reloads from the top and user loses track of his current scroll point. I.e where he was on the list. This can be annoying and must be changed such that the list does not reload from the top when adding the vote to the database. (This doesn't happen in iOS tho, just checked)
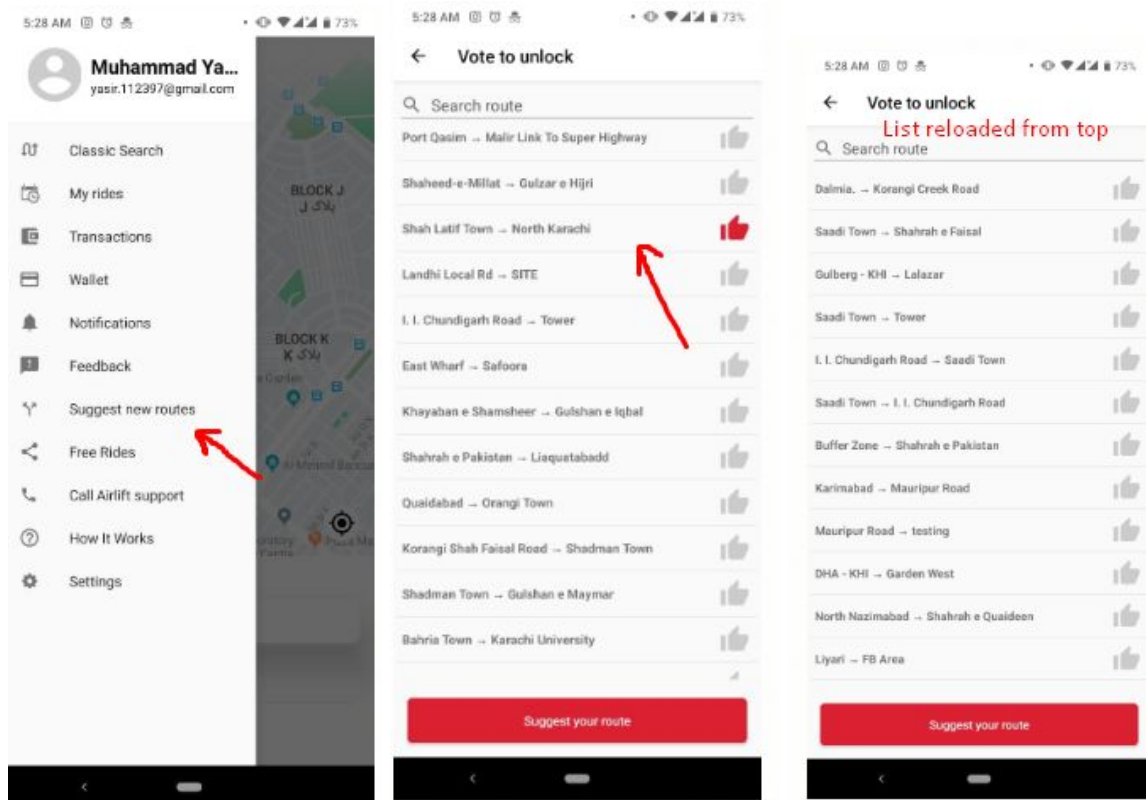
[NAVIGATION DRAWER DESIGN ISSUE]
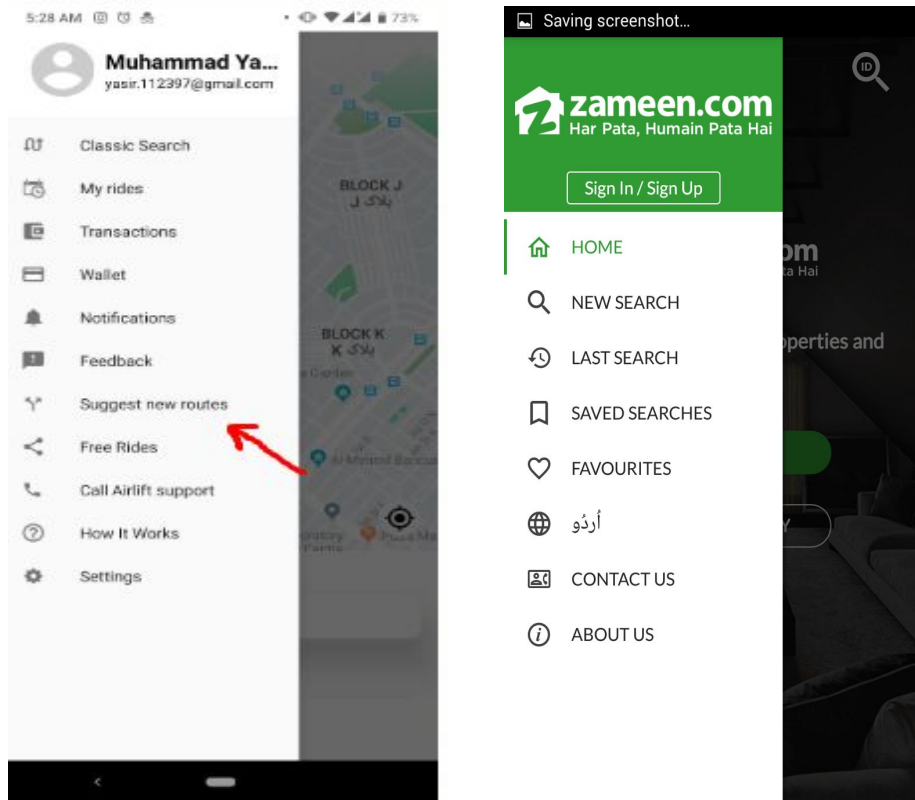
H

Navigation Drawer of Airlift and Zameen .com application has too many items which can also be placed under single keyword which is also a design flaw Transaction can be placed inside the wallet as we have in careem , in similar way zameen app has separate item for last search new search saved search in navigation drawer while all of those can be placed in a single item refer to slide 37-39 ch1.
[Learnability Missing in both Appsi] : Novice user don't get any tutorial visiting first time like Fifa [Sir rauf class example]

I think learnability is there in both app. In case of Airlift, since it's more or less like Careem/UBER which we have been using so there's a sense of familiarity which leads to learnability. (That's Predictability) THAT'S SYNTHESIZABILITY

Learnability is there in airlift as there is a section of instructions to guide new users.
In side nav bar there is an option for instructions.
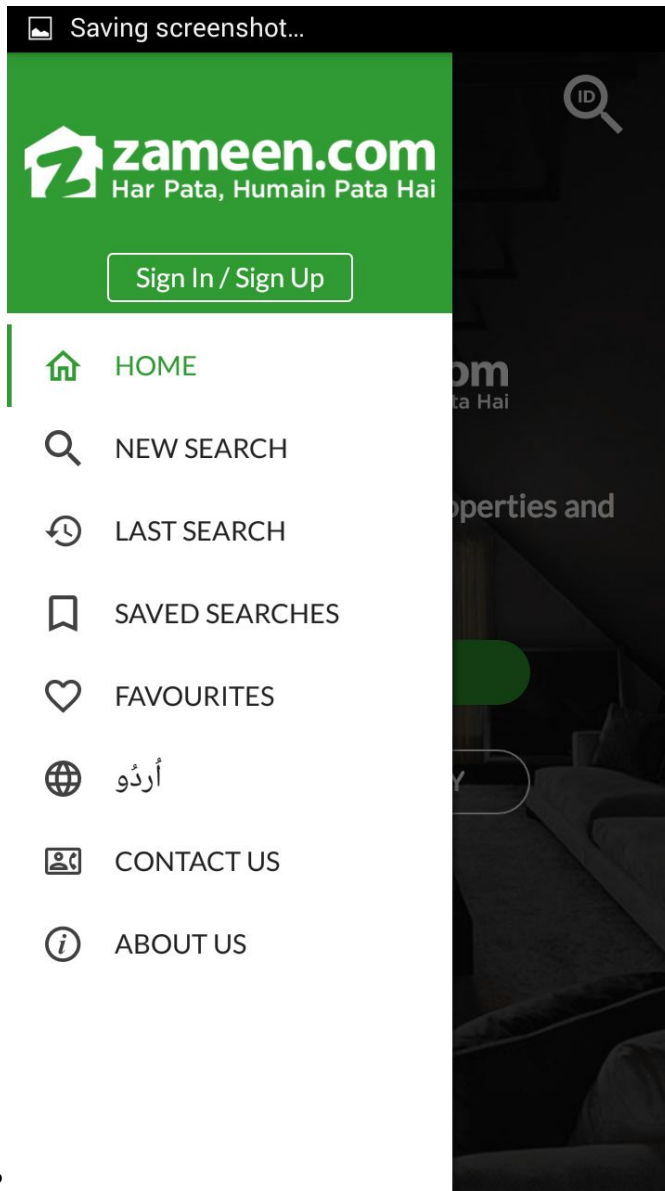(That's not learnability) exactly! (robustness?)

OBSERVABILITY ISSUE
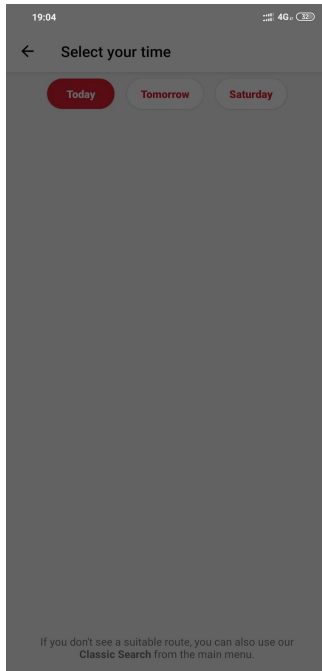
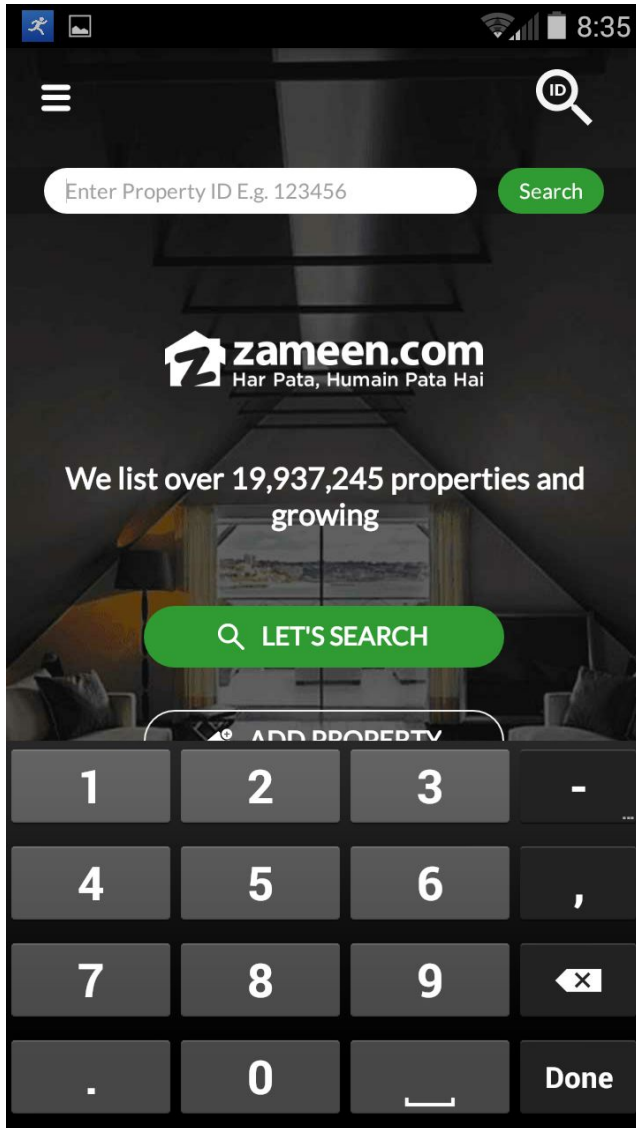**No visibility of system status**

When something is in process they disable the UI and overlay this semi black screen. For observability, they could show a loading icon or even better, an animated loader.
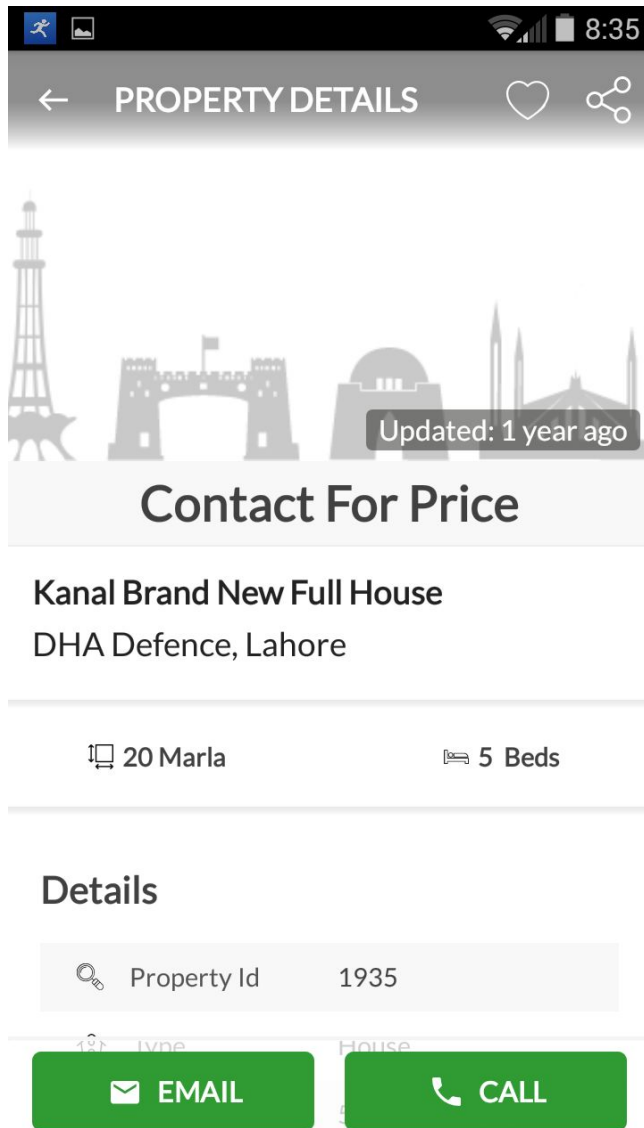
Zameen.com

?

They are using Urdu tagline, Har pata humain pata hai to reduce cognitive load on user.
Um, that's no help tho!

Enter Property ID E.g. 123456   Search

zameen.com
Har Pata, Humain Pata Hai

We list over 19,937,245 properties and growing

🔍 LET'S SEARCH

ADD PROPERTY

1	2	3	-
4	5	6	,
7	8	9	⌫
.	0	␣	Done

PROPERTY DETAILS

Updated: 1 year ago

Contact For Price

Kanal Brand New Full House

DHA Defence, Lahore

20 Marla   5 Beds

Details

	Property Id	1935
	Type	House

EMAIL   **CALL**

- Useful information like size and number of room is right there on the front
- Buttons to call and email. Two alternates.4

Aug 2019   Sep 2019   Oct 2019   **Nov 2019**

● Percentage of total searches by location

DHA Phase 6
24.4   〉

DHA Phase 5
20.1   〉

DHA Phase 3
12.6   〉
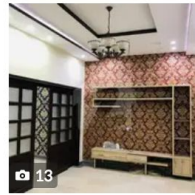
DHA Phase 8
9.9   〉

DHA Phase 4
9.8   〉
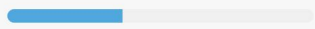
🖼 Saving screenshot...

View search trends

Recommended Houses

PKR **20 Thousand**
Formanites Housing...
House
Updated: 1 day ago
🛏 2   🛁 2   5 Marla   ♡
📷 13

PKR **20 Thousand**
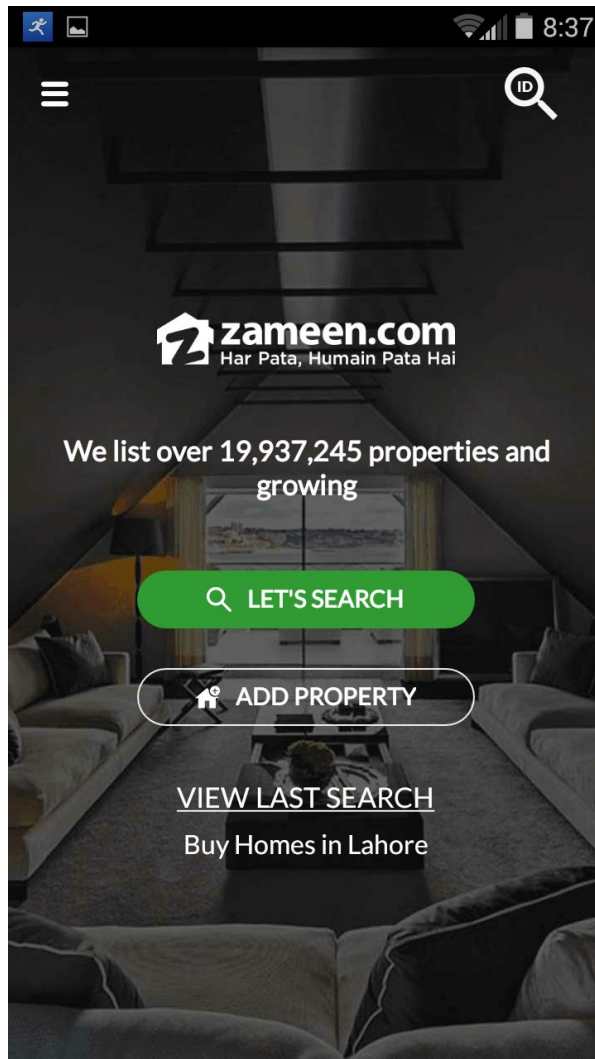Jail Road, Lahore
House
Updated: 1 month ago
🛏 1   🛁 2   3 Marla   ♡
📷 6

PKR **15 Thousand**
Gulshan-e-Ravi - Block...

✉ EMAIL   📞 CALL

Recent search for frequent users

27,670 Homes ⚙ FILTERS ↕ SORT

🔥 **SUPERHOT**
📷 23

PKR **5.15 Crore**
DHA Phase 6, DHA...
House
Updated: 1 hour ago
🛏 5   🛁 6   20 Marla ♡

🔥 **SUPERHOT**
📷 41

PKR **4.12 Crore**
DHA Phase 6, DHA...
House
Updated: 1 hour ago
🛏 5   🛁 6   20 Marla ♡

🔥 **SUPERHOT**
📷 49

PKR **4.65 Crore**
DHA Phase 6, DHA...
House
Updated: 2 hours ago
🛏 5   🛁 6   20 Marla ♡

SELECT CITY

Type and select your location

Popular Cities

Islamabad

Karachi

Lahore

Rawalpindi

Other Cities

Shortcuts for frequently used cities

FILTERS   APPLY

Buy   Rent

🏷 Price Range (PKR)   **Change Currency**

| 0   ▼ | to | Any   ▼ |

🛏 Bedrooms

Studio   1   2   3   4   5

⬚ Area Range (Marla)   **Change Area Unit**

| 0   ▼ | to | Any   ▼ |

🛁 Baths

1   2   3   4   5   6+

RESET   SEARCH

FILTERS   APPLY

Buy   Rent

📍 Select Locations

Searching in **Lahore**   **Change City**

| Type and select your location |

🏢 Property Types

Homes   Plots   Commercial

House   Flat   Upper   Lower
                   Portion   Portion

🏷 Price Range (PKR)   **Change Currency**

| 0   ▼ | to | Any   ▼ |

RESET   SEARCH

8:36

✕

zameen.com
Har Pata, Humain Pata Hai

Welcome to Zameen.com

Email
|

Password 🚫

Forgot Password?

Sign In

OR

f Login with Facebook

Need an account? **Sign up**

Kanal Brand New Full House
DHA Defence, Lahore

⌨ **20 Marla**   🛏 **5 Beds**

Details

🔍	Property Id	1935
🏠	Type	House
🛏	Bed(s)	5
⌨	Area	20 Marla
⊘	Purpose	For Rent
⊙	Location	DHA Defence

Description

ylis

kitchen and beautiful area

✉ **EMAIL**   📞 **CALL**

8:37

Buy Rent

MIN:

0

0

500,000

1,000,000

2,000,000

3,500,000

MAX:

Any

Any

1,000,000

2,000,000

3,500,000

5,000,000

RESET DONE

Baths

RESET SEARCH

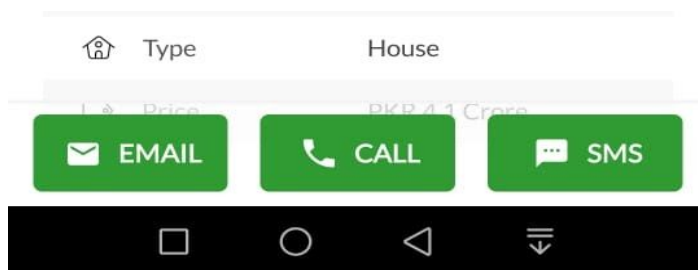Consistency for buy and rent
Consistency and Standards (Nielsen's Heuristics)
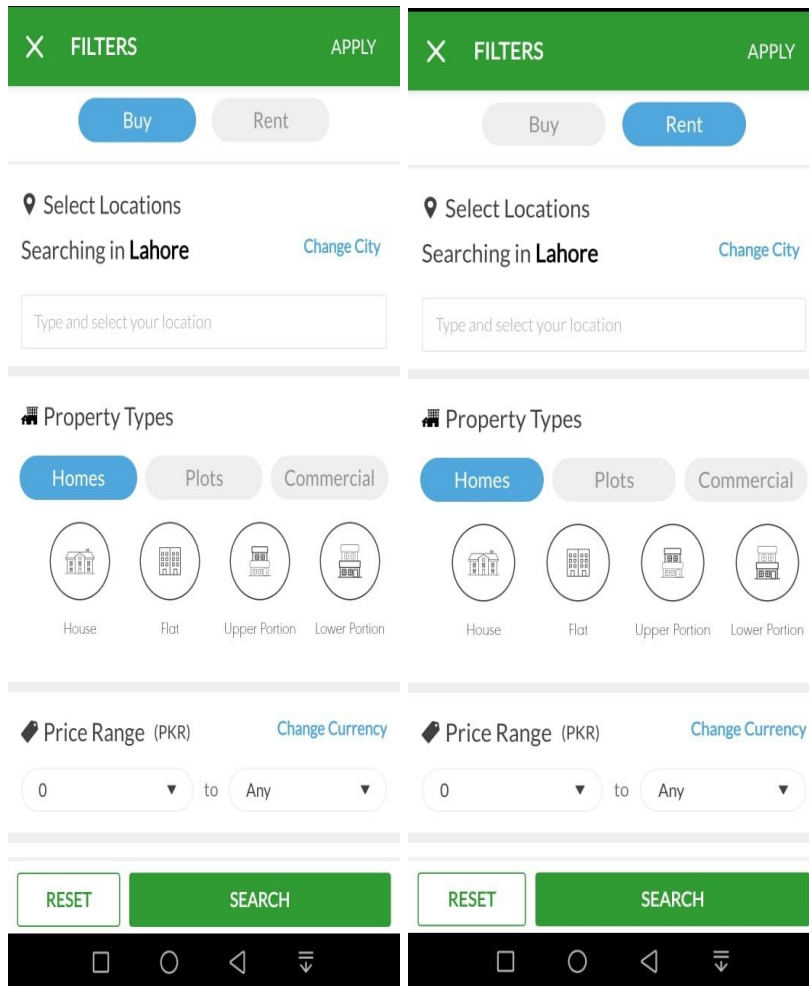
Consistency for buy and rent

email , call and sms button (metaphors)
(jese sir ne recycle bin ki example di thi icon pe dustbin hai jis se user ko pata chalta hai
trash ka aisay envelope, phone and sms ka icon dya hua hai) **I guess it's Familiarity.**

(You cannot select multiple property types in filter, like I want to check houses and flats but can't check both at the same time I have to do it separately)
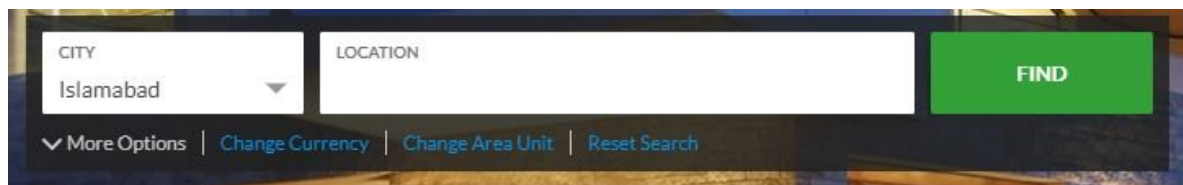

Taking feedback from the user

Zameen.com Website

Reset Search: clicking on 'reset search' clears everything without confirmation.
Adding the location expands the 'more options' field (Dont know what its called tho. Please edit) **Generalizability**? (lack of error prevention, since could be a mistake)
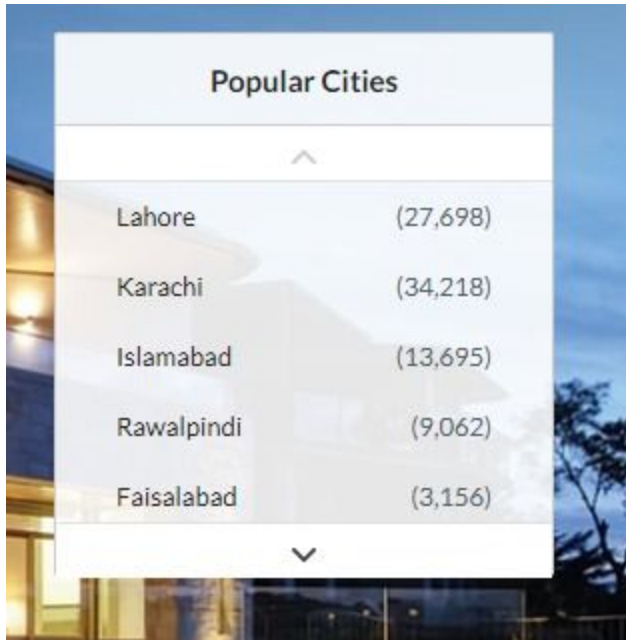

Reset search **efficiency** mein ajayega cuz u reducing the number of steps user has to take to execute the task
^ But the problem can be user galti se us pe click karde?

More options might be minimalistic or simple design, something like not confusing user with too many options

Customizability

showing stats to user.

I think the cities should be sorted according to number of ads available or alphabetically. That way it would be easy for the user to find what he/she is looking for instead of going through the entire list and looking for that particular item

big font to help visibility

Details & Description

Zameen ID	1740		City	Peshawar	
Locality	Sher Ali Town		Price	PKR 98 Lakh to 98 Lakh	
Types	Houses		Developer	Emerlad Real estate and Builders	

striped tabled to help distinguish rows
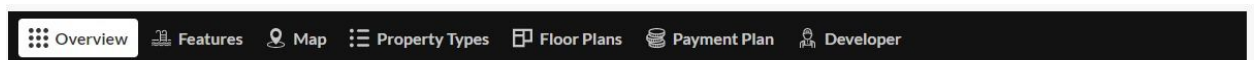
Nav bar shows current location and updates as user scrolls
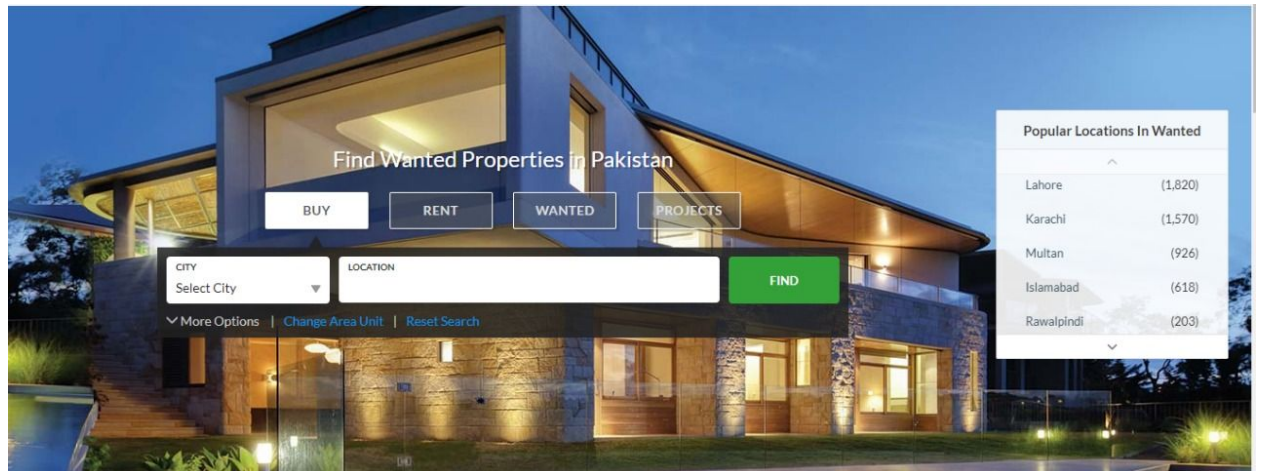
Background image gives idea to user what this website is about

Separate background for real estate

Substitutivity

Different language modes(Localization)

Localization: Option to choose region eg. Pakistan, Bangladesh etc
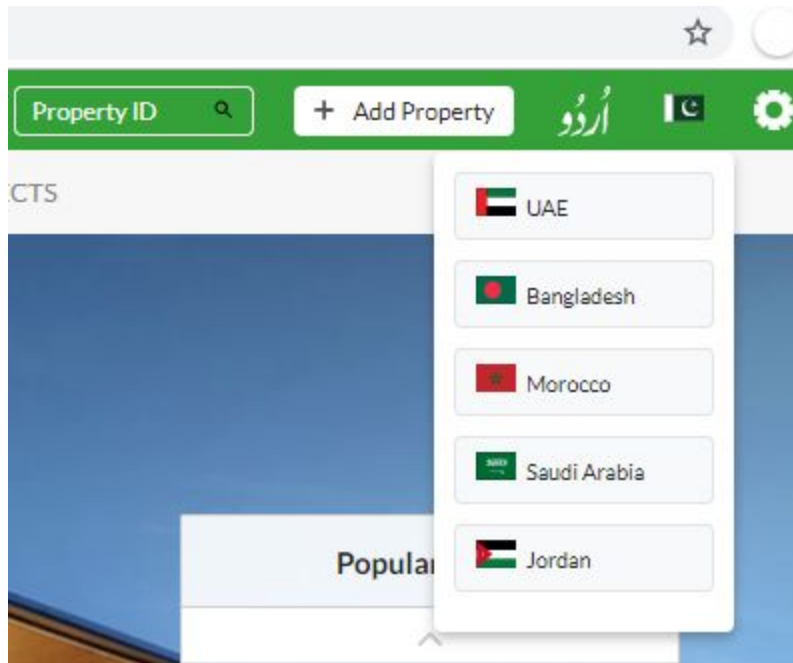
Internationalisation because allows design and content for audience that varies in culture, region, or language.

NO clear dialogue boxes on the basis of **visibility.**

Zameen.com partners portal where they have completely different search functionality customized a/c to partners and their locations.
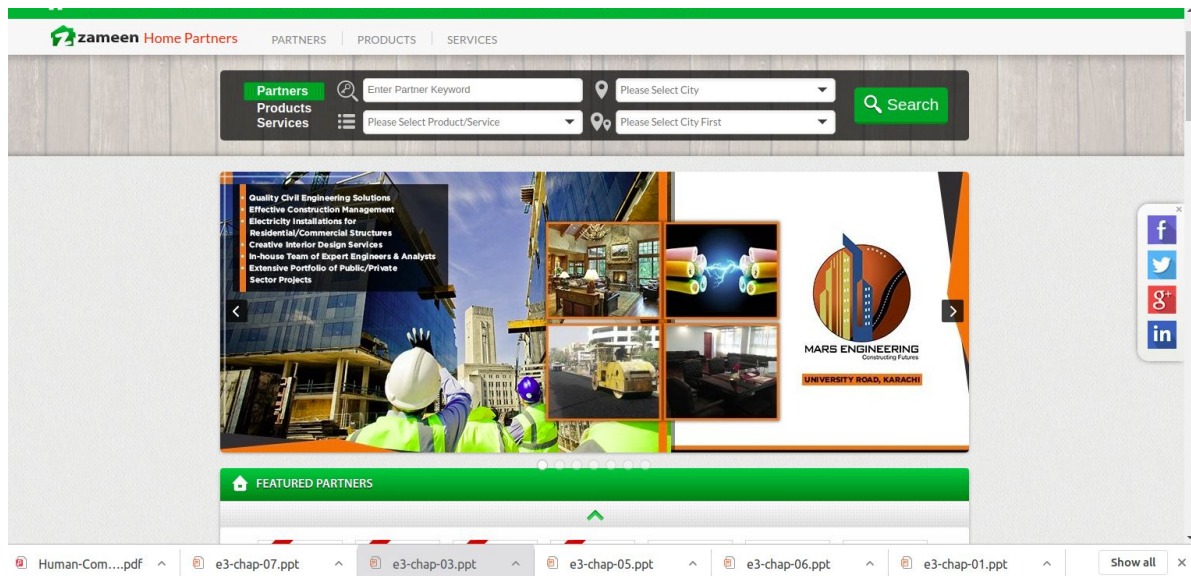
Plot Finder

No option to go back to the previous screen/page after you use plot finder functionality (try to click on name icon but you are right about not having "go back" button)
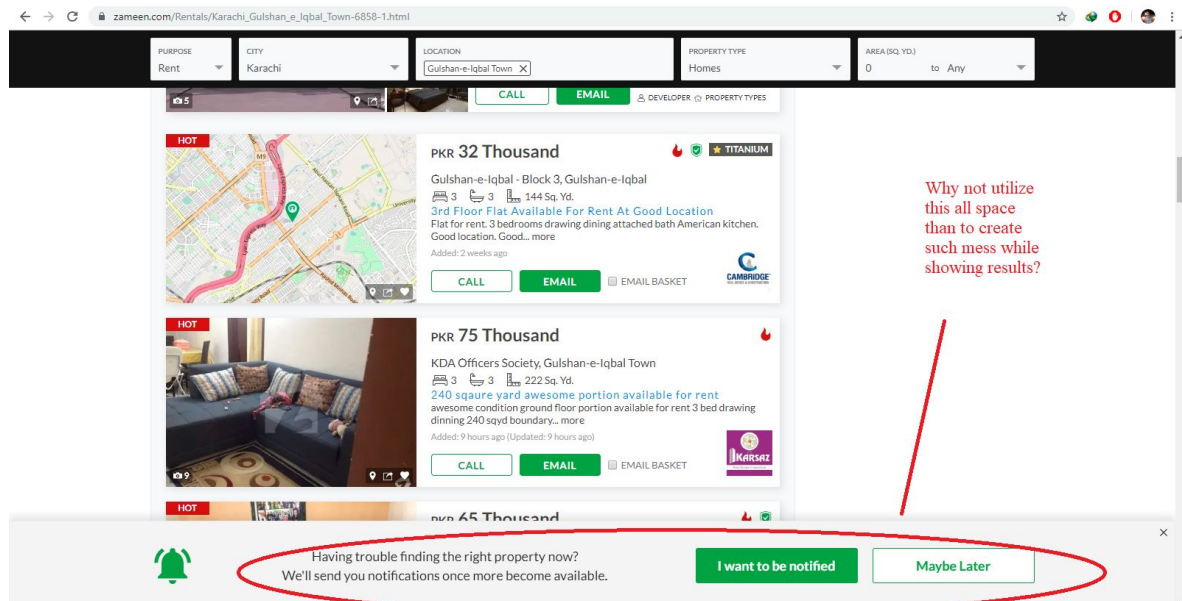
Such mess while showing results, space could have been utilized better
Oper already achi jagah search bar le gaya (also, search bar expands when you hover over it, making only one ad visible at a time)...
Neeche phir yeh

Also the ads which are lying in the middle of house ads. Affecting the focus of user.

Website remembers my search history by storing cookies but without my permission (what could this be?) may be violating task adequacy

Topics

Gestalt theory → user always by to solve the problem by breaking it down to smaller parts that he is familiar with

Analogy is that user uses his/her knowledge of the domain in solving the problem, but wat if user has no knowledge, so he will have to learn

Fitts's law is a predictive model of human movement primarily used in human–computer interaction and ergonomics. This scientific law predicts that the time required to rapidly move to a target area is a function of the ratio between the distance to the target and the width of the target.

Norman 7 principles:

1. Use both knowledge in the world and   knowledge in the head.
2. Simplify the structure of tasks.
3. Make things visible: bridge the gulfs of Execution and Evaluation.
4. Get the mappings right.
5. Exploit the power of constraints, both natural and artificial.
6. Design for error.
7. When all else fails, standardize

Norman model:

1. User establish the goal
2. Formulate intention
3. Specific action at interface
4. Execute action
5. Perceive system state

6. Interpret system state
7. Evaluate system w.r.t goal

Concentrate only on user's view of interaction

Ergonomics: Study of the physical characteristics of interaction

Common interaction style
● Menus
● CLI
● WIMP
● Point and click
● Form fills
● Dialogue boxes
● Popup menus

Error & repair strategy → Incase of error, how to repair error is prompted or not?

Design tradeoffs → Limitations

Design Principles to support usability:
1. **Learnability**
   a. **Predictability**
   b. **Synthesizability**
   c. **Familiarity**
   d. **Consistency**
   e. **Generalizability**
2. **Flexibility**
   a. **Substitutivity**
   b. **Task migratability**
   c. **Dialog initiative :** Air lift maybe user preemptive
3. **Robustness**
   a. **Observability**
   b. **Recoverability**
   c. **Responsiveness**
   d. **Task conformance**
   e. **Task completeness**
   f. **Task adequacy**

Schneiderman
1. **Strive for consistency**
2. **Enable frequent users to use shortcuts**
3. **Offer informative feedback for every user action**
4. **Design dialogs to yield closure** Tell them what their action has led them to i.e: Ride Booked/ Property Sold/ Ad Placed
5. **Offer error prevention and simple error handling**: Clear error message is displayed and error is prevented.

6. **Permit easy reversal of actions**: User can cancel the action if he wants and will return to the main screen
7. **Support internal locus of control**: User is in control of the system
8. **Reduce short-term memory:** Less functional elements on every page, so that user does not have to recall for a specific task.

Norman

1. Use both knowledge in the world and knowledge in the head :
2. Simplify the structure of tasks
3. Make things visible
4. Get the mappings right
5. Exploit the power of constraints, both natural and artificial
6. Design for error
7. When all else fails, standardize

Four Golden Rules:

1. •knowing where you are
2. •knowing what you can do
3. •knowing where you are going
    –or what will happen
4. •knowing where you've been
    –or what you've done

Cognitive walkthrough

The **cognitive walkthrough** method is a [usability inspection method](#) used to identify [usability](#) issues in interactive systems, focusing on how easy it is for new users to accomplish tasks with the system. **Cognitive walkthrough** is task-specific, whereas [heuristic evaluation](#) takes a holistic view to catch problems not caught by this and other [usability inspection methods](#). The method is rooted in the notion that users typically prefer to learn a system by using it to accomplish tasks, rather than, for example, studying a manual. The method is prized for its ability to generate results quickly with low cost, especially when compared to [usability testing](#), as well as the ability to apply the method early in the design phases before coding even begins

The trademark of the cognitive walkthrough method are the four yes/no learning theory based questions asked of the system being inspected. There are several formulations of those questions, but each formulation eventually asks the same thing.

From Martin and Hannington:

1)The effect of the action is what user wants?

2)Will the user able to see that the action is available

3)Would he know that this is the particular action he needs to perform

4)Feedback after action is provided?

Nielsen's heuristic
1. Visibility of system status
2. Match between system and the real world
3. User control and freedom
4. Consistency and standards
5. Error prevention
6. Recognition rather than recall
7. Flexibility and efficiency
8. Aesthetic and minimalist resignOr Or han
9. zzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzz zzzzzzzzz Jani paper ka time hogaya hai kmene
10. Help users recognize, diagnose and recover from errors
11. Help and documentation

kjiuii

QOC and IBIS design rationale

Types of Design Rationales:

- .Process-oriented: decision making or brainstorming done while developing the design

- Structure-oriented: documenting design decisions after designing (post-hoc activity)

Issue-based information system (IBIS):

- Process oriented

- Issues: problem

- Positions: solution

- Arguments: why this solution

- Sub-issues: problems arising   from other issues

Design space analysis (DSA):

-
   Structure oriented

- QOC (question, options,   criteria) : issue, alternative solution, assessment option

- In QOC, the option that was selected is *highlighted*

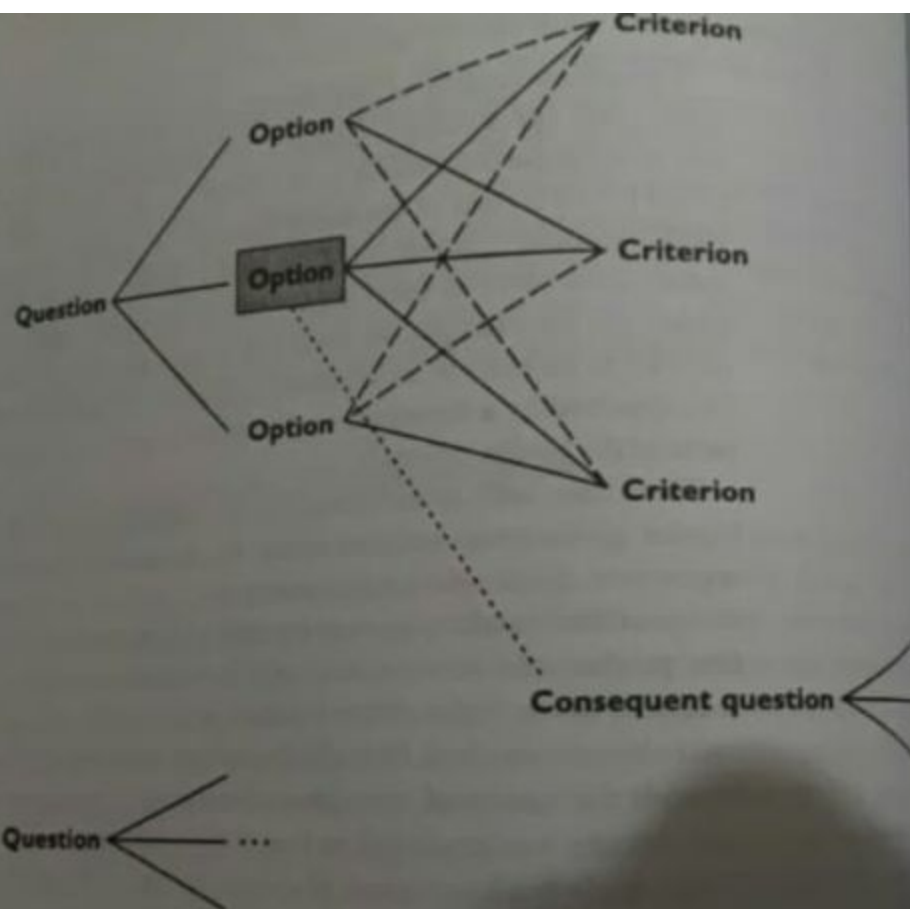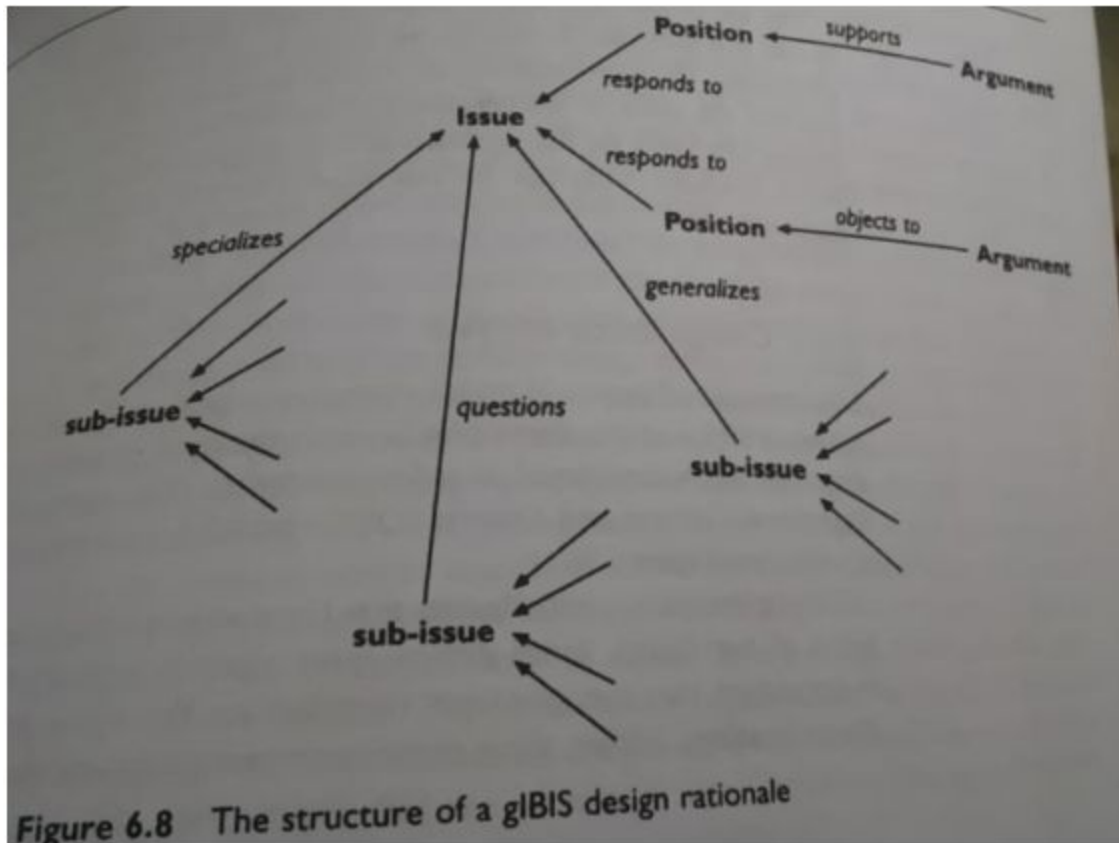- DRL (decision representation   language) : similar to QOC

Figure 6.9   The QOC notation

Figure 6.8 The structure of a gIBIS design rationale

Psychological design rationale

Empirical methods:experimental design
Select participants, variables and hypothesis and conduct the experiment

Observational techniques

1)Think aloud
User describes his interaction with the system while using it to the evaluator
2) cooperative evaluation in this user thinks of himself as a collaborator and. Ot as a test subject.

Query techniques by interview or questionnaires

Evaluation by monitoring physiological responses
1)Facades And Fixations

Factors distinguishing evaluation techniques
1)which stage of cycle
2)lab or field eval

3)subjective/objective Subjective means something which does not show a clear picture or it is just a person's outlook or expression of opinion. An objective statement is based on facts and observations. On the other hand, a subjective statement relies on assumptions, beliefs, opinions and influenced by emotions and personal feelings

4)qualitative or quantitative data
5)information gathered low or high
6)immediacy of response
7)intrusiveness
8)resources you have

GREEN COLOUR (ZAMEEN.COM):

- Green has many of the calming attributes. It's one of the most restful and relaxing colors for the human eye.
- A symbol of growth. Green can represent new beginnings and growth.
- The green color is often used to indicate safety or success.

RED COLOUR (AIRLIFT):

- Captures attention but imo not a good design choice as red shows danger as well and does not give that trustworthy feeling.
- red light is able to travel the longest distance through fog, rain.
- The colour red is widely used to signal a warning. It is a strong, noticeable colour which is also associated with passion. Those in a red car will love attention, be ambitious and want others to see them as having a sense of fun and an energetic personality