

Heuristic Evaluation of Knock

1. Problem

Through a mobile app, Knock's map-based user interface allows users to select a person they don't know in their vicinity, contact that person, and then meetup.

2. Violations Found

- 1. [H2-3: User control and freedom] [Severity 2] [Found by: A]**
After signing in through Facebook, there should be a button somewhere on the screen that allows users to sign out (e.g. to end their activity or switch users).
- 2. [H2-10: Help & Documentation] [Severity 2] [Found by: A, B]**
On the map screen (see prototype page 8), there should be some kind of legend indicating what each icon (green arrow, blue dot, yellow arrow) means.
- 3. [H2-4: Consistency & Standards] [Severity 1] [Found by: A]**
On the map screen (see prototype page 8), there should be a representative fraction scale for users to estimate distances (e.g. 1cm = 100m type scale). Users cannot be expected to estimate distances without such a scale.
- 4. [H2-5: Error prevention] [Severity 3] [Found by: A]**
Consider a scenario where thousands of users are using this app in an extremely densely populated location (e.g. Manhattan). There should be a way to limit the amount of icons that appear on the screen (instead of displaying every single icon within 20 miles).
- 5. [H2-6: Recognition not recall] [Severity 2] [Found by: A, B]**
The map screen should show the currently selected view options (show me and within). Users should not have to open up the options screen to find this information.
- 6. [H2-6: Recognition not recall] [Severity 1] [Found by: A]**

On the icon information screen (see prototype page 6), the user information should be displayed as a popup bubble above each icon instead of a text box on the bottom of the screen. Users could then have multiple pop-up bubbles open and compare information simultaneously without having to choose one icon after another sequentially.

7. [H2-5: Error Prevention] [Severity 3] [Found by: A, B]

On the icon information screen (see prototype page 6), the function of the “meet” button is unclear to users since no location has been selected. Consider adding some help/documentation or removing this button from the screen. If this button leads directly to the screen named “Navigate”, perhaps consider renaming this button to “Navigate”.

8. [H2-4: Consistency & Standards] [Severity 1] [Found by: A, B]

On the location search screen (see prototype page 4), it may be useful to have some documentation as to what the search box is used for. Some users may confuse this function with “search a nearby user by name”.

9. [H2-4: Consistency & Standards] [Severity 4] [Found by: A]

On the location search screen (see prototype page 4), there should be a list of results from the search placed somewhere on the screen. For example, it may be possible for the map to have multiple locations with the word “taqueria”. In this scenario, it is unclear which location should be chosen without a results screen.

10. [H2-3: User control & Freedom] [Severity 4] [Found by: A, B]

There does not seem to be a way to cancel a meetup once one has been arranged. Perhaps consider adding a button with which a user can send a notification to the other user if he or she does not wish to meet anymore.

11. [H2-1: Visibility of Status] [Severity 4] [Found by: A, B]

During the entire flow of “choosing a meetup location”, it is unclear how two users come to a consensus as to where to meet up. For example, if user 1 chooses to meet at location A, but user 2 does not agree, there should be a prompt somewhere. Users should only be able to move forward (and open google maps) if there is a confirmation that both users are happy with the location of choice.

12. [H2-7: Flexibility and efficiency of use] [Severity 2] [Found by: A]

Given that it may be possible to estimate the contents of an initial message (one user is trying to contact another user), it may be useful to include a few

pre-constructed messages (e.g. “Hi, would you like to meet?”) on the message screen (see prototype page 2).

13. [H2-7: Flexibility and efficiency of use] [Severity 1] [Found by: A]

Assuming that a user can pinch/zoom/scroll the map screen, consider adding a “show all on map” feature. This can simplify the range selection (helpful for expert users). Instead of choosing an explicit range in the options, the range can automatically be set. If the user cannot pinch/zoom/scroll on the map, consider adding this functionality.

14. [H2-4: Consistency & Standards] [Severity 3] [Found by: A]

When choosing a location (see prototype page 12), it would make sense to display the travel time for the person the user is trying to meet up in addition to the user’s own travel time. This will help users pick a “fair” location to meet up if they so choose.

15. [H2-1: Visibility of System Status] [Severity 4] [Found by: A]

It is currently unclear what happens if a user receives a message or a request to meet up. Is something supposed to pop up in real-time? Can users receive multiple requests which he or she could then respond to asynchronously? Is it possible to entertain two requests at the same time?

16. [H2-3. User control and freedom] [Severity 2] [Found by: B]

The opening interface only provides an option to log in through Facebook, limiting users’ ability to interact with the application if they don’t have a Facebook or don’t want to connect their Facebook immediately. Allow users to log-in through email and then choose to import Facebook friends or contacts once they are in the app. Provide an explanation for why connecting to Facebook is necessary.

17. [H2-5. Error prevention] [Severity 3] [Found by: B]

The “Discoverable” selection is a single toggle. The user is not able to filter to what degree of connection they are discoverable to. It is unclear whether they are discoverable to the same type of people they are searching for, or whether they are discoverable to all strangers. This misunderstanding could potentially lead to privacy concerns. Make “discoverable” a feature with multiple options like the “Show me” feature.

18. [H2-1. Visibility of system status] [Severity 3] [Found by: B]

The user is able to hit “Meet” without first contacting the other user. It is unclear whether the other user has agreed to meet as well or what the next course of action should be. Replace “Meet” with “Request Meeting” and enter a chat screen similar to “Contact.”

19. [H2-7. Flexibility and efficiency of use] [Severity 2] [Found by: B]

The settings interface allows users to choose the degree of separation using a slider. As a result, users who choose “strangers” must also choose “friends” and “friends of friends” since they are lower on the slider. Allow users to check which degree of separation they prefer, since they may prefer to meet only strangers.

20. [H2-10. Help and documentation] [Severity 2] [Found by: B]

The “recommended” location header on the navigation interface does not give a clear reason why it is recommended. Even though the reason is to provide a halfway point, the user is not able to figure out why the app recommends this location over others, and may think it’s a “better” place to travel to for reasons other than distance. Replace the text “Recommended” with “Recommended Halfway point.”

21. [H2-2. Match between system and the real world] [Severity 1] [Found by: B]

The description of the potential contact is labeled “Friend of a friend,” giving no detailed information about who connects the user and this contact. In the real world, people prioritize friends of friends based on how close they are to their actual friend and would want this information to factor into their decision to meet. Replace the generic description with a more detailed statement, such as “Friend of Mark H.”

22. [H2-4. Consistency and standards] [Severity 1] [Found by: B]

On the screen of the contact profile, the original map screen is referred to as “Map” while on the navigation page the original screen is referred to as “Home.” Once users start navigating, there exist two maps - one of the navigation screen and one of the home screen, with “Map” and “Home” both still existing as buttons that bring you to the same page. To avoid user confusion, replace the “Map” button on the contact profile with “Home” to match the navigation screen.

3. Summary of Violations

Category	# Viol. (sev 0)	# Viol. (sev 1)	# Viol. (sev 2)	# Viol. (sev 3)	# Viol. (sev 4)	# Viol. (total)
[H2-1: Visibility of Status]	0	0	0	1	2	3
[H2-2: Match Sys & World]	0	1	0	0	0	1

[H2-3: User Control]	0	0	2	0	1	3
[H2-4: Consistency]	0	3	0	1	1	5
[H2-5: Error Prevention]	0	0	0	3	0	3
[H2-6: Recognition not Recall]	0	1	1	0	0	2
[H2-7: Efficiency of Use]	0	1	2	0	0	3
[H2-8: Minimalist Design]	-	-	-	-	-	-
[H2-9: Help Users with Errors]	-	-	-	-	-	-
[H2-10: Documentation]	0	0	2	0	0	2
Total Violations by Severity	0	6	7	5	4	22
Note: check your answer for the green box by making sure the sum of the last column is equal to the sum of the last row (not including the green box)						

4. Evaluation Statistics

Severity / Evaluator	Evaluator A	Evaluator B	Evaluator C	Evaluator D	Evaluator E
sev. 0	0	0	-	-	-
sev. 1	4	3	-	-	-
sev. 2	4	5	-	-	-
sev. 3	3	3	-	-	-
sev. 4	4	2	-	-	-
total (sev. 3 & 4)	7	5	-	-	-
total (all severity levels)	15	13	-	-	-

5. Summary Recommendations

- Overall clean and easy to use interface
- Add more login options (apart from Facebook)
- Provide more options to help users feel in control
 - Add more intuitive toggle options for the map screen
 - Have toggle option present on the map screen rather than as a separate settings overlay
 - Add descriptions for all ambiguous elements on each screen
- Increase visibility to help users feel more secure in their privacy
 - Provide more information about the contact's actions and decisions

- Allow a user to cancel a meeting
- Make sure to address the “message/request received” flow so user and contact actions can match

Severity Ratings

- 0 - don't agree that this is a usability problem
- 1 - cosmetic problem
- 2 - minor usability problem
- 3 - major usability problem; important to fix
- 4 - usability catastrophe; imperative to fix

Heuristics

[H2-1: Visibility of System Status]

- keep users informed about what is going on

[H2-2: Match Between System & Real World]

- speak the users' language
- follow real world conventions

[H2-3: User Control & Freedom]

- “exits” for mistaken choices, undo, redo
- don't force down fixed paths

[H2-4: Consistency & Standards]

[H2-5: Error Prevention]

[H2-6: Recognition Rather Than Recall]

- make objects, actions, options, & directions visible or easily retrievable

[H2-7: Flexibility & Efficiency of Use]

- accelerators for experts (e.g., gestures, kb shortcuts)
- allow users to tailor frequent actions (e.g., macros)

[H2-8: Aesthetic & Minimalist Design]

- no irrelevant information in dialogues

[H2-9: Help Users Recognize, Diagnose, & Recover from Errors]

- error messages in plain language
- precisely indicate the problem
- constructively suggest a solution

[H2-10: Help & Documentation]

- easy to search
- focused on the user's task

- list concrete steps to carry out
- not too large