

Heuristic Evaluation of [SkillSwap]

1. Problem

SkillSwap is a mobile platform that provides a profile/skill search interface and messaging functionality to connect learners and teachers, with the goal of closing the gap between teaching and learning.

2. Violations Found

1. **[H2-8. Aesthetic and minimalist design] [Severity 1] [Found by: B, C, D]**
 The color scheme throughout the SkillSwap application is not consistent. This is visible on the main screen where several components go from a base-ish color to blue, within others. In addition, some different scenes that pop-up have unrelated colors as well. This adds a lot of extra visual information to the application that detracts from the main features that are meant to be accentuated. A great way to fix this is by establishing a strict color scheme where the most important components of the app feature a very distinct color from the rest (for instance, in an application where every table view cell is light grey, a very important cell can stand out by being slightly darker, or by having a different color).
2. **[H2-2. Match Sys & World] [Severity 2] [Found by: C, D]**
 This is a key design concept in interpreting how users come to use SkillSwap. The problem lies the line in the main screen titled “these users match your skills.” In a system/internal environment, this line can be used to describe that certain data has just been filtered for a specific user. The generic line, however, could confuse the user — do these users match a skill that you want to teach, or that you want to learn; are these users potential teachers or learners? Ultimately, a great solution is to treat the users that were found by your algorithm as if they were non-internally organized. In other words, make them seem like they were found *specifically* for the current user. Instead of saying “this user matches your skill” (of dancing that you want to learn), you can say “we found some dance teachers near you!” The latter makes it seem like a more personal real-world match that the user might be more likely to interact with.
3. **[H2-7. Flexibility and efficiency of use] [Severity 2] [Found by: D]**
 The “tap to expand” drawer design can be a little problematic in terms of efficiency of use. When you first start SkillSwap additional steps need to be taken in order to see the “your current network” and the “your current skills” drawers. This can mean that both simple and power users will always 100% need to expand those drawers when the app starts (which means an extra step for everyone to start using the app). This can be improved by removing the drawers entirely. They can always be expanded. As a solution, all of the content that the user needs can instantly show up on the main screen. This means that users can quickly tap around and efficiently use the app. The next few propositions give a good intuition of how to achieve this.
4. **[H2-8. Aesthetic and minimalist design] [Severity 2] [Found by: D]**
 When all of the drawers are expanded, a lot of content is introduced at once. This means that information that is irrelevant and the user does not currently need might be unavoidable to the user. One possible solution to this is to restructure the main screen by introducing a tabbed interface — alternatively, any interface where users can easily flow through the app would work (such as a ViewPager-based layout, or buttons in the navigation bar which take you to another Activity, or a Navigation Drawer / side menu that you swipe right to reveal from the left side). Some of the information displayed on the screen can be hidden in another activity/scene.

For reference, this is a viewpager based layout:

<https://guides.codepath.com/android/ViewPager-with-FragmentPagerAdapter> (see images).

Navigation Drawer: <https://material.google.com/patterns/navigation-drawer.html#>

5. **[H2-8. Aesthetic and minimalist design] [Severity 2] [Found by: B, D]**

The “what’s new” section in the main screen can be moved in a way where the main screen is cleaner, and the important information provided by the section is still immediately accessible. Having this section in the main screen makes the design of the app a little less minimalist. Instead, SkillSwap can introduce a “notifications” section with a button on the navigation bar or side menu. This button will have an alert bubble / counter (!) that immediately tells the user if anything needs their attention. A custom Activity for notifications is also good way to organize all of the push notifications that the user might’ve received. Since they already received a push notification for the event that is “new,” it might not be necessary to display it again first thing consistently.

6. **[H2-8. Aesthetic and minimalist design] [Severity 2] [Found by: A, D]**

The “your current skills” section on the main screen is not immediately needed for simple or power users. This can lead to more convoluted design. If we adopt the assumption that the main reason that users would want to use “SkillSwap” is to find other people to teach and to learn from, then users might not immediately want to see their skills as soon as they open the app. A good solution is to include “your current skills” under the user’s personal profile (so that when the user clicks to see their profile, they see this section). That would mean that “your current skills” is better organized within the app and if we adopt the previous propositions, the only thing that remains to organize in the app is the “your current network” section — and now you would have the entire screen’s real-estate to do this.

7. **[H2-4. Consistency and standards] [Severity 1] [Found by: D]**

The main screen, under “your current network,” the chat bubble image is visible next to people in your network. Clicking on the image does not take you to a chat interface. Therefore people might wonder what the image actually means. Alternatively, an image of an arrow that hints for “more info” might be show.

8. **[H2-8. Aesthetic and minimalist design] [Severity 3] [Found by: C, D]**

The “your current network” section is the most important of the main screen. However, it currently is not entirely obvious that that is the case. This means that the content under this screen should be expanded so that everything in it is relevant and absolutely needed. If the previous propositions are adopted (#6 and #5) and this section takes up the entire real estate of the screen, then one possible way to reorganize its content is by including a specific section on the screen where matches such as “we found some dance teachers near you!” that are relevant to the user show up. This removes the need for the “these users match your skills” section. Furthermore, the “teaching” and “learning” from sections both include the same names in a redundant matter (Sandy, Sandy, Jamie, Jamie). Alternatively, these names can be replaced with an interface where the latest people in your network are shown at the top in a way similar to the following:

Latest Matches

Jamie

[Biking] <==(swap logo)==> [Algebra]

Sandy

[Biking] <==(swap logo)==> [Algebra]

9. **[H2-1. Visibility of system status] [Severity 2] [Found by: D]**

After clicking in the profile button next to “Hello, Alice” users are dropped into a page with the user’s profile. The fact that this is my profile, and that I can edit it, is not mentioned anywhere in the app. This means that it is possible for the user to not know what is going on. A good way to fix this is by keeping the navigation bar seen on the main screen on top of this scene, too, and putting the title “My Profile” or “Edit Profile” on it.

10. **[H2-4. Consistency and standards] [Severity 4] [Found by: D, B]**

The main screen has a navigation bar with the “SkillSwap” logo, but after navigating throughout different screens such as the profile and skill-picking scenes, the navigation bar disappears. This breaks platform conventions on both iOS and Android. Forcing this navigation bar to appear will fix the problem in which users need to have a physical back button to go back. This navigation bar by default is meant to help navigate between *new* activities that are meant to be abstracted away from the main screen.

11. **[H2-10. Help and documentation] [Severity 2] [Found by: C, D, B]**

The reason why there are points and badges (and what the badges are) is not obvious. I think that users need help and documentation in order to know what these are — or better yet, a way to want to earn points without necessarily knowing (yet) what the benefits are. As a solution I think that the gamification system should be a lot more engaging. For instance, when users just see points they wonder... “what does this mean? What does 100 points mean?” A good way to establish a relative scale of comparison is by writing something like “100/300, 200 points to reach level 2” and then on the badges section have level 2 badges with content such like “unlocked secret skills” (upon reaching level 2) or something along those lines that makes the points a lot more fun to compete for.

12. **[H2-8. Aesthetic and minimalist design] [Severity 2] [Found by: D]**

Let’s assume that when users view their profile, then they want to see information about themselves and edit their picture, name, bio, etc. Under this model the “browse skills” and “search users” buttons that are under the profile scene are redundant since they are rarely needed on this specific scene (when users request to view their profile they might not be trying to browse other skills or search for other users). A solution would be to remove these buttons from the profile scene. This gives more space to include information about the user’s points and the like.

13. **[H2-7. Flexibility and efficiency of use] [Severity 3] [Found by: D]**

The “can teach” and “want to learn” cards under the profile scene should definitely be there. However, they do not allow users to tailor for frequent actions or to edit this data in the first place. I think these cards are a good opportunity to accelerate the expert user. One way that this can be done is by allowing the reordering of want to learn / can teach activities via drag and drop (with this system, the highest in the list are the most wanted). Furthermore, there should be a way to “take back” or delete activities from these lists directly. This is also a good opportunity to remove the I, A, and B acronyms and replace them with sub sections of beginner, advanced, and intermediate tasks.

14. **[H2-6. Recognition rather than recall] [Severity 4] [Found by: A, C, D, B]**

Every time that the user sees the acronyms I, A, and B, then the application assumes that they have memorize what these acronyms mean (Intermediate, Advanced, Beginner). In order to solve this a new system can be introduced where each activity icon / text has a cue that indicates how difficult each skill is. I do want to take this opportunity to point out that skill is extremely subjective. Something that is advanced to one person might be beginner’s work to another. Therefore, I would suggest doing away with this. I will be more likely to try a super hard task if I wasn’t told about how hard it is all along. I would prefer to evaluate my own caliber given a task. A very valid model that can be applied here is the hours per week model. Instead of evaluating tasks based on I, A, or B, you can say something like 5hrs/wk, meaning that for some tasks you need to put in more hours a week than others. The harder, the more

hours a week I should put in — but, under this system, that does not mean that I can't do it because it's too hard, rather it means that I need to put in more hours. This also gives you an opportunity to create an algorithm that calculates how many hrs per week *you specifically* need to put based on previous teaching / learning trends. This is incredible value in the world of profitable applications.

15. **[H2-4. Consistency and standards] [Severity 2] [Found by: A, D]**

When viewing a request to swap skills (specifically the “Emily wants to swap skills with you” scene), the “Swap Skills with Emily” and the “Accept SkillSwap Request” buttons both do the same thing, yet they have different text. Users might wonder whether these two are the same thing. The “Accept SkillSwap Request” button is under the “View Emily’s Profile.” Additionally, the “Emily wants to swap skills with you” scene includes a button to decline the request, while the “View Emily’s Profile” scene does not include such a button. If the users are viewing the profile, it might be valid to completely remove the “Accept SkillSwap Request” button, since they will return to view the scene in which the potential swap is recommended and they have the opportunity to choose to accept or decline from there.

16. **[H2-3. User control and freedom] [Severity 3] [Found by: D]**

In the “Emily wants to swap skills with you” scene, accepting or denying the request does not give the user an opportunity to undo the action, or to correct their mistake (if it was a mistake). A good solution to this is to include a dialog saying “Emily will be notified that you’re interested” and a button saying “continue” and afterwards, an ability to undo the acceptance should be offered (and Emily can get another notification saying “Alice has canceled the SkillSwap”).

17. **[H2-4. Consistency and standards] [Severity 2] [Found by: D]**

In the scene “You are now Skill Swap partners with Emily” there are three buttons (and one within “Start Messaging” that can lead for users to wonder whether they all mean the same thing. For instance, the question of how “Share communication preferences” and “Start messaging” differ is ambiguous. One might argue that I can share my communication preferences via a message. A possible solution would be to remove the “Share communication preferences” button. Furthermore, “Sharing Availability” and the Calendar button under the chat are mostly delivering a consistent message, but given that they are both offered within one screen from each other might leave for an opportunity to remove the “Sharing Availability” icon and make it available directly from the chat screen. One possible solution is to take the user directly to the chat screen saying “You are now SkillSwap partners with Emily” and at the top of the chat screen users can see something cool like “prepare to become the best trickster there’ll ever be” along with convenient options to “Send Availability” directly via the chat, which then leads to the calendar.

18. **[H2-3. User control and freedom] [Severity 4] [Found by: D]**

The way that users currently view their matches is very abstracted and not direct. Users should have the control to see everyone that they have matched with and are swapping skills with instantly. Currently, users can see matches on the main screen but this can lead to a few very high priority issues: (1) the list of matches on the main screen can get too long, and we might not want to see year old sessions in the main screen, (2) the fact that teaching and learning are both in the main screen might make it more confusing to instantly pick out who you want to message and why (in general, it's more content to look through). I would like to reference that proposal #8, featuring a way to redesign the “teaching” to “learning from” portrayal of information is a valid option for better organizing this information, however a dedicated way to see people you have messaged is still highly needed. An ideal solution would be a dedicated activity/scene with “matches” in which every row inside of the table takes you to the chat that represents that match. When displaying what activity is being taught / learned, it's important to take into consideration that the user might care more about one activity over the other. For instance, they might care more about learning how to do something (since that might be why they opened the app) rather

than teaching. Of course, this differs per user, but it can bring to light the strategy of showing what you are learning first in the list rather than information on what you are teaching.

19. [H2-7. Flexibility and efficiency of use] [Severity 3] [Found by: D]

On the main screen, under “your current skills,” there is a few different lists that contain skills. However, none of them are clickable. This can make it hard for the experienced user to effectively navigate. One possible solution is mentioned in proposition #6. Information on your current skills can be left for the profile scene itself. However, “other skills you might be interested” is a very valuable set of information. Under the current model, the button “Search for other skills” completely disregards the “other skills you might be interested” category despite how important it seems to be — in essence, users can only find new, trending, or popular skills through here and not necessarily things pertaining to them as advertised on the main screen. The section with skills you might be interested in can be merged into the “search for other skills” scene. This scene can start off with that information, since it’s user-specific and can be valuable.

20. [H2-4. Consistency and standards] [Severity 3] [Found by: D]

On the “Search specific skill” scene, the “or search by” extra widgets are all out of place with the rest of the app. This can lead for users to wonder what some of these filtering options mean. For instance, the concept of the genre has not been mentioned anywhere else throughout the application. Since the genre box is “fill in,” the user might have no idea what to put here. Furthermore, the difficulty section has stars. However, difficulty has been measured using “I, B, or A” throughout the app. The last box with the time commitment seems like it was slapped in here but not implemented into any skill descriptions out there. Proposition #14 is relevant here. A suggested solution is to consider proposition #14 and remove difficulty if time commitment is seen as something that can replace it. Potential genres should be more clear. The “Browse Skills” scene is a good place to organize skills by genre if exposure to a genre is really desired.

21. [H2-1. Visibility of system status] [Severity 3] [Found by: D]

Under the Piloting activity, saying that “I want to learn it” brings up a new scene that says “Skill added.” Users might not know what is going on — specifically, they might wonder where the skill was added to or what happens next? Do people see it now? How? What do they see? A good solution would be to answer some of those questions in the scene that shows up after you click on “I want to learn it” as well as some information on how to undo your action.

22. [H2-4. Consistency and standards] [Severity 3] [Found by: C, D]

On the main screen, under the “your current network,” and under both “learning” and “teaching” sections, both “Jamie” links take to user to the same scene. Users might wonder what clicking on both of these links mean. Why click on the Jamie under learning rather than the Jamie under teaching if they both take the user to the same thing? Furthermore, the “Swap Summary” has a set of “Skill Completed” and “Cancel Skillswap” buttons that might confuse the user. If I complete a skill under learning, what have I completed? Did I learn it and also taught it, or “completed” exactly what process? If I cancel a skillswap under teaching, then am I cancelling the swap as a hole, or just refusing to teach while still learning? Should the ability to do this be possible with your current model? A good solution is to restructure this page. One “Cancel skill swap” button might be enough if you want to enforce that canceling from teaching or learning means that you can’t receive / give the other. The “Skill Completed” buttons should be replaced. An option for “I learned Fencing” with a “Review” button / rating scale and an option for “I’m done teaching Juggling” might be more user friendly and might avoid redundancy.

23. [H2-7. Flexibility and efficiency of use] [Severity 3] [Found by: D]

The “Search for Other Users” scene that is launched from the main screen has a fixed list of “can teach” and “want to learn” activities, each with their difficulties. Expert users, or users that want more flexibility,

might notice that it's NOT possible to edit what users they are searching for from this list. More importantly, they cannot rank what's important. By selecting multiple items, they are all emphasized as equally important. Making it possible for expert users to do these things is a good solution. As an alternative solution, it seems like when searching for a skill, users are actually searching for people that can teach this skill. Therefore, the "search for other skills" scene can completely replace the "Search for Other Users" scene. Instead, the section "other skills you might be interested" that is proposed in #19 can show the result that "Search for Other Users" would've shown (since it's basically just finding activities for which potential teachers match your interests). This abstracts a layer of complexity. The end result is that all users will only be looking for skills that they want to know more about, and when looking for these skills they will run into people that can teach it in exchange for something. Skills, and then people. Not the other way around.

24. [H2-10. Help and documentation] [Severity 4] [Found by: C, D]

When the user marks that they have learned a skill, a pop-up comes up suggesting "Are you sure you're finished learning this skill?" The user might need a little help interpreting what this means. This can lead to questions such as "when am I really sure that I learned something?" and the answer to this can differ per activity. A good solution is to have the teacher mark off when they think that their learner has truly grasped the material (or an opportunity to say that they only grasped half). This is a great segue for task 3. Teaching something you've learned. If teachers say how well their learners learned something, then that learner can become a certified teacher.

25. [H2-4. Consistency and standards] [Severity 2] [Found by: D]

The "Congratulations! You've been matched up!!" scene that shows up when you "Search for Other Users" is different than the "You've been matched up" scene that shows up when you accept Emily's request via the main screen. This is an inconsistency since users might get confused as to how getting a match actually looks like. A possible solution is to make all "you've matched" screens look the same.

26. [H2-4 Consistency & Standards] [Severity 3] [Found by: C]

After going into chat message and selecting availability date, the continue button was expected to take the user back to chat message but instead is brought back to the home landing page. Make the continue button take the user back to chat message.

27. [H2-5 Error Prevention] [Severity 3] [Found by: C]

After clicking complete skill, which brings user to complete screen and review page, I was able to click back button which immediately brings user back to the swap summary page. This can be a large error since what has happened to the complete task? Is it complete or undone? Did I leave review? Add error message when user clicks back to confirm canceling process of complete skill and a OK or Cancel button to see if user actually wants to exit from screen.

28. [H 2-4 Consistency & Standards] [Severity 3] [Found by: C]

Connected to the previous issue, when I am at the swap summary page and click back, it brings me back to the completed skill page and the back buttons go into an infinite loop between swap summary and completed skill. Make sure that the back button for the swap summary brings back to landing page.

29. [H2-2 Match between system and the real world] [Severity 2] [Found by: A]

As I entered the "Search for other skills"/"New skills" screen, I was uneasy because I was uncertain if I should be looking for skills that I had or skills that I wanted. If I were going through this process outside of an app, the knowledge of whether or not I was searching for a skill to teach or a skill to learn would significantly influence that search process. (Especially the two lists are more or less exclusive for most people.) I would start the "Show others what you want to learn" task flow with an early choice between

“Look for skills to learn” and “Look for skills you can teach”, maybe even from the app’s main screen. I would also convert the screen currently asking if the user wants to learn or teach that skill to a simple summary/confirmation screen.

30. [H2-4 Consistency and standards] [Severity 2] [Found by: A]

On the profile screen, two lists of skills are presented: “Can teach”, and “Want to learn”, with buttons beneath each of those lists. However, those two buttons serve critically different functions: one searches for new *skills* to list as being able to teach, and one searches for other *users* who can teach skills the current user has listed as wanting to learn. This is especially problematic because the dialog for finding a SkillSwap partner is not particularly oriented towards finding skills to learn as opposed to skills to teach: it aims to balance the two. To fix this, I would have both buttons beneath these lists on the profiles page be used to add skills to those respective lists, and add a third button to search for SkillSwap partners.

31. [H2-6 Recognition rather than recall] [Severity 3] [Found by: A, B]

As mentioned in last week’s studio, on the results page when searching for a partner, the acronyms “CT” and “WTL” place too much of a memory burden on the user to remember what those acronyms might represent. I would spell these words out, and I would also consider restructuring the UI of this page to create clear divisions between “can teach” and “want to learn” – perhaps a 2-column design with all “want to learn” skills in one column and all “can teach” skills in the other. Color coding for skill levels may also be appropriate, although icons or text will also be necessary to indicate skill levels.

32. [H2-4 Consistency and standards] [Severity 1] [Found by: A]

On the App’s main screen, under “Your Current Network”, users that the current user is already connected to are listed with text only, but users that the app recommends connecting with are listed with both text and a profile picture. Not only is this an inconsistent way to display other users, this actually places too much emphasis on the less-common task of connecting with new users rather than interacting with people the user is already connected to. I would fix this by using profile pictures for people the user is already connected to, listed in one horizontally-scrollable row for people the user is teaching, and another such row for people the user is learning from.

33. [H2-1 Visibility of system status] [Severity 2] [Found by: A, B]

As was mentioned in studio last week, the result of tapping days when setting availability is unclear when results are indicated as a day with a checkmark, a day with an x, and blank days. Does tapping a day indicate I’m available that day, or that I’m unavailable that day? Can I tap days marked with an x? I would fix this by establishing two distinct visual cues on the availability calendar: one that indicates whether a day is available to select or not (greying out unavailable days may be a good choice for this), and one that indicates a day is actually selected or not (the green check marks may be the best option here).

34. [H2-5 Error Prevention] [Severity 2] [Found by: A]

On the availability selection screen, I see no evidence that the app does anything to prevent the user from indicating they are available on a day in the past, which obviously would be an error condition. I would fix this by applying the “unavailable to select” styling to all days in the past, and not allowing scrolling to past months.

35. [H2-8 Aesthetic and Minimal Design] [Severity 3] [Found by: A, C]

The app, overall, uses a relatively small font size and small buttons throughout. These are likely to be difficult to read and difficult to tap on smaller mobile devices. The small font size also has the effect of making the app, especially the home screen, feel cluttered. I would implement an app-wide font size/button size increase, and would split the accordion-menu sections of the home screen into tabs instead.

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	2	1	0	3
[H2-2: Match Sys & World]	0	0	2	0	0	2
[H2-3: User Control]	0	0	0	1	1	2
[H2-4: Consistency]	0	2	4	4	1	11
[H2-5: Error Prevention]	0	0	1	1	0	2
[H2-6: Recognition not Recall]	0	0	0	1	1	2
[H2-7: Efficiency of Use]	0	0	1	3	0	4
[H2-8: Minimalist Design]	0	1	4	2	0	7
[H2-9: Help Users with Errors]	0	0	0	0	0	0
[H2-10: Documentation]	0	0	1	0	1	2
Total Violations by Severity	0	3	15	13	4	35

4. Evaluation Statistics

Severity / Evaluator	Evaluator A	Evaluator B	Evaluator C	Evaluator D
sev. 0	0%	0%	0%	0%
sev. 1	33% (1)	33% (1)	33% (1)	67% (2)
sev. 2	40% (6)	20% (3)	13% (2)	73% (11)
sev. 3	15% (2)	8% (1)	46% (6)	62% (8)
sev. 4	25% (1)	50% (2)	50% (2)	100% (4)
total (sev. 3 & 4)	18% (3)	18% (3)	47% (8)	71% (12)
total (all severity levels)	29% (10)	20% (7)	31% (11)	71% (25)

5. Summary Recommendations

The app is sturdily built and many of the functions work properly and as expected. However, the greatest issue surrounds usability and its initial hard learning curve. Think about adding a key to remind the user what different abbreviations or symbols mean. It might also be a good idea to use accelerators to give quick instructions to new users indicating what the most common symbols mean.

Focus on the main screen. We suggest focusing on usability in the landing page. What does the user want to do most likely when they first open the app? Probably searching for new skills? We would love to see the buttons (links) to be larger and easier to read and press.

We would also recommend giving some thought to helping the user build a better mental map of the layout of the app – right now, we found it easy to get a bit lost trying to work out what screen connected to what. Thinking a bit about the broad categories of your screens, and how you might convert those categories into high-level navigation options, could have a big payoff. Adding skills the user can teach seems like an initial set up more like a settings task instead of searching through alongside skills the user wants to learn (which is the current set up).

Lastly, color and consistency of pages should be done with more care. There is a lot of color in the interface, which makes the app seem confusing on first glance. Additionally, the meaning behind the colors (mainly green and purple) are not consistent. For example, some of us initially thought purple represented skills, but when it came to adding the skill, the specific skill information page was then green, which is used to symbolize users in the main landing page. But overall, great idea and looking forward to your Hi-fi prototypes.