Sexual Health at Princeton

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Project Description

According to recent surveys, a significant number of Princeton University students are engaging in sexual activity, yet they are not properly equipped to engage in such activities in a healthy way. In order to protect themselves from sexually transmitted infections, unwanted pregnancies, and other sexual issues, students must have easy access to sexual health resources on campus. However, since "sex" and "sexuality" are taboo topics on Princeton's campus and in society at-large, many students may not feel comfortable actively seeking advice and information in person. Our easy-to-use system is designed to enable users to address sexual health concerns and questions in a private, individualized fashion. Additionally, since many of these tasks involve patient health information, the system will store data in a confidential way and allow users and relevant shareholders to interact with it discreetly.

Requirements Summary

The design is be constrained by what we consider to be high priority user values: privacy and discretion, ease of use, and easy access. Additional considerations include a discreet name for the product that would not appear out of the ordinary in a browser history or app launcher, in case the user does not want others to find out that they are consulting sexual health resources due to social stigma, along with a platform that is available to most people in our target population regardless of what devices they might own or their ability to go somewhere on campus in person.

Prototype Description

Overview

Princeton Private is a prototype system that provides a way for users to ask questions and browse past questions with their responses. It is presented as a web page intended to be both desktop and mobile friendly. Questions submitted anonymously by users are answered by McCosh health professionals and peer health advisers within 24 hours. They are also categorized by topics and keywords, and visitors to the page may browse answers to past user-submitted questions. For more time-sensitive or personal questions, users may directly reach peer health advisers through an anonymous live chat box. Princeton Private allows users to quickly and privately access information they need and allows the community to build a shared base of knowledge about sexual health.
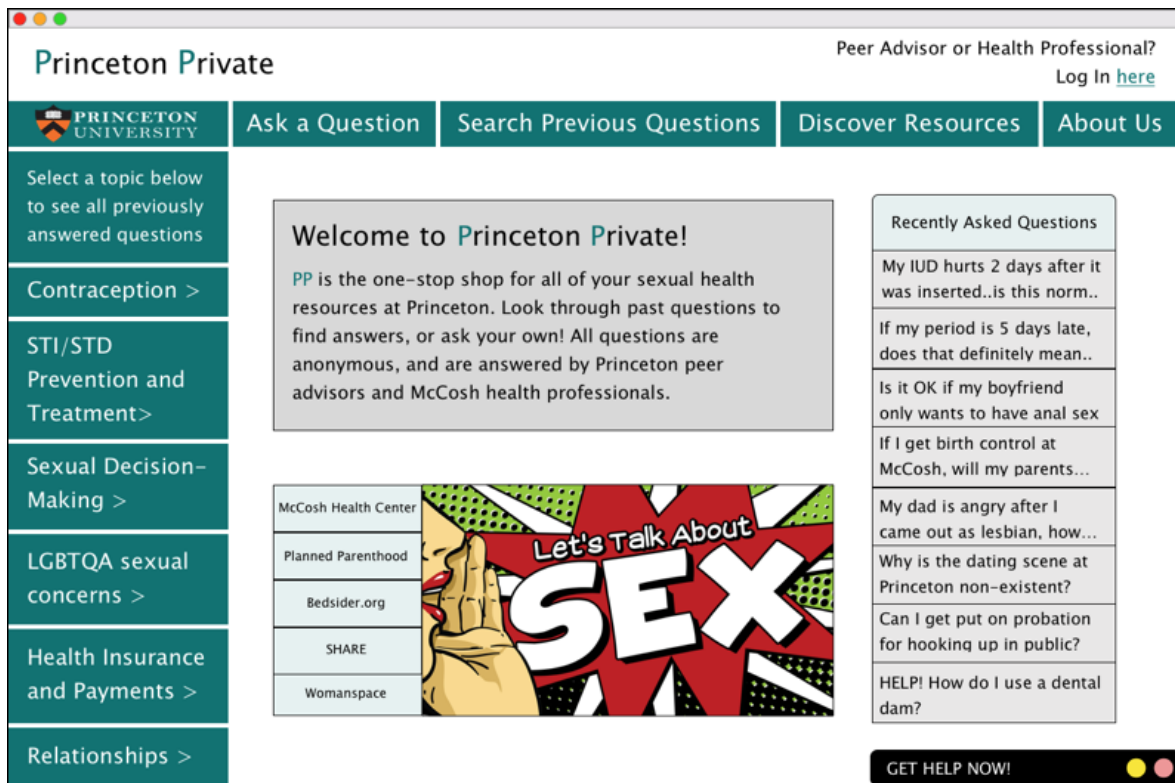
The Prototype

Figure 1: *Main page for Princeton Private. The top menu bar allows students to ask a new question, search previously asked questions by keyword, discover on- and off-campus resources, and learn about Princeton Private. The left menu bar allows students to search through previously asked questions by topic. The widgets in the middle of the page provide shortcuts to trending topics, resources, and questions that have been accessed or asked recently. The bottom chat widget allows students to chat with a peer advisor immediately if they have an urgent sexual health issue or question. See Figure 2 for expanded chat bar.*

Figure 2: *The expanded chat bar. This is what the chat widget will look like when the student clicks on the minimized black bar in Figure 1 that says "GET HELP NOW!". The identity of the student will be kept anonymous before, during, and after the chat session.*

Figure 3: *The "Ask a Question" page. The student types their question in the textbox, picks the topic that the question fits best under, then has the option to type in other relevant keywords to the question to allow the question to be easily discoverable by other users in the future. For example, a question regarding STIs and condoms could be classified under "STI/STD Prevention and Treatment" or "Contraception". To submit their question, the student presses on the "submit" button. See Figure 4 for the question receipt confirmation.*
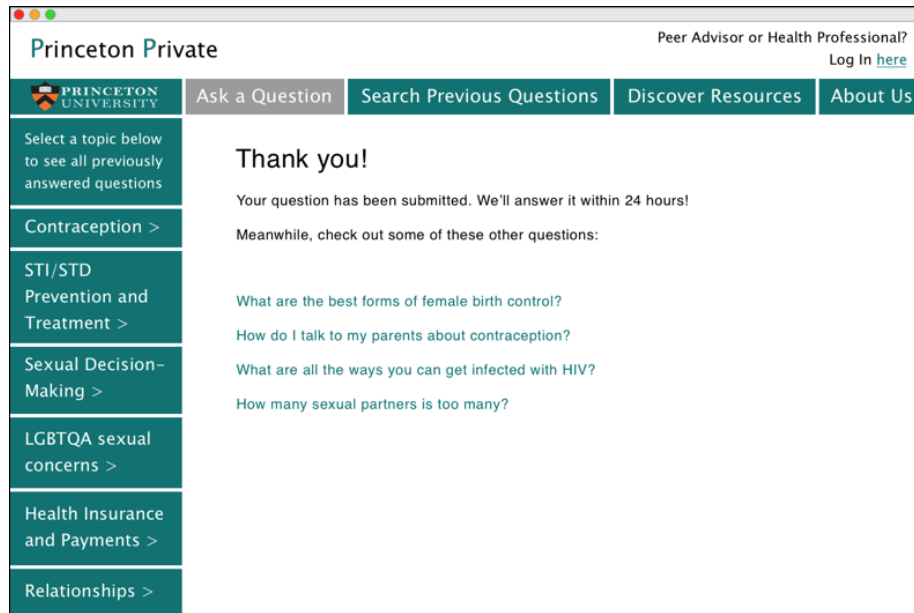
Figure 4: *The page that appears once the student submits their question. They are assured that the question will be answered within 24 hours by a health professional and/or a peer advisor.*
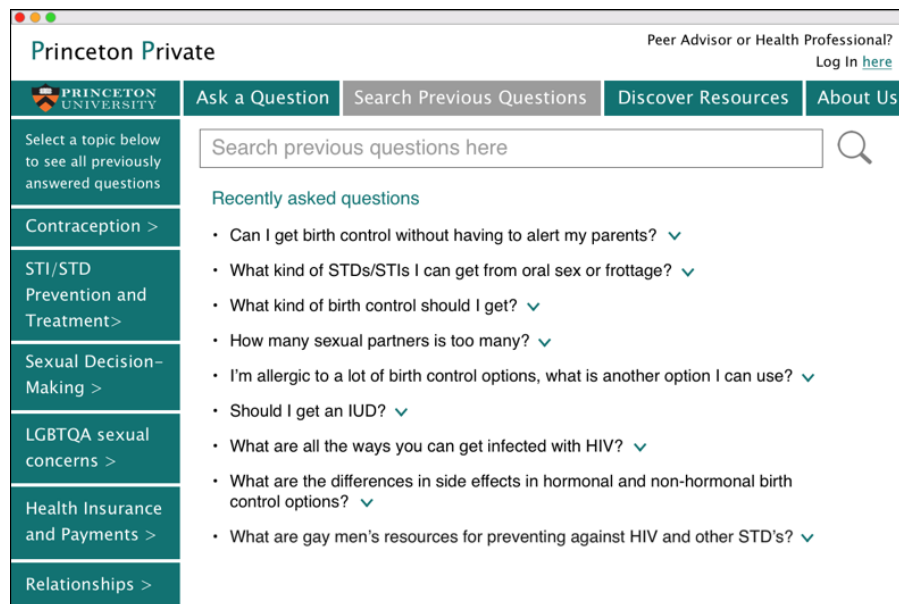
Figure 5: *The page that allows students to search through previously asked questions by keyword. The user can type a keyword into the search box or explore recently asked questions below if they are unsure what they want to search. If they type a keyword into the search box and press the magnifying glass icon, they are shown the results of that keyword search. See Figure 6 for the results page.*
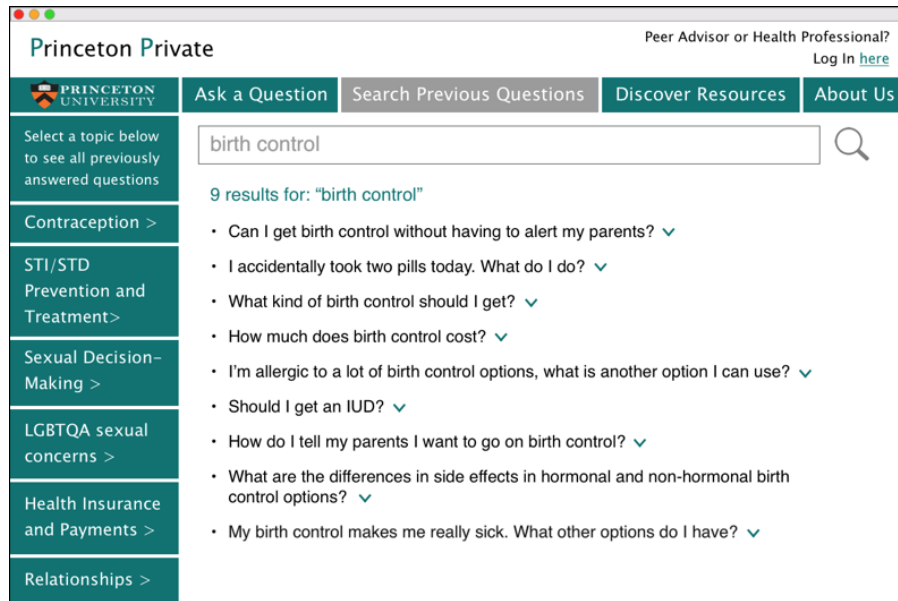
Figure 6: *The results page for the keyword search. In this example, the user searched for "birth control", and the results show the most relevant questions regarding the keyword.*
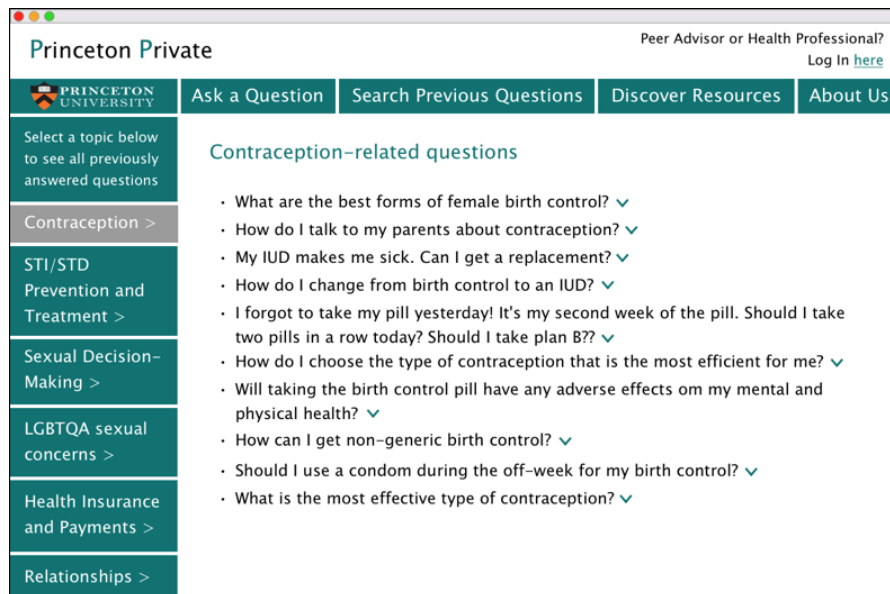
Figure 7: *The page shown when the user searches previously answered questions by topic. In this example, the user clicked on "contraception" in the left menu bar, which took them to a list of the previous asked and answered questions that were tagged with the keyword "contraception". See Figure 8 for the expanded question view when the user clicks on the question they are interested in viewing.*

Figure 8: *Expanded question view for when the user clicks on a question of interest. In this scenario, the user clicked on the question "I forgot to take my pill yesterday! It's my second week of the pill. Should I take two pills in a row today? Should I take Plan B?". The answer box appears below the clicked question and can be minimized by clicking on the question again. The answers are separated based on who wrote the answer, with the health professional response appearing first and the student/peer advisor response appearing second. This is how the expanded question view looks in all instances where the user is able to click on a previously asked question.*
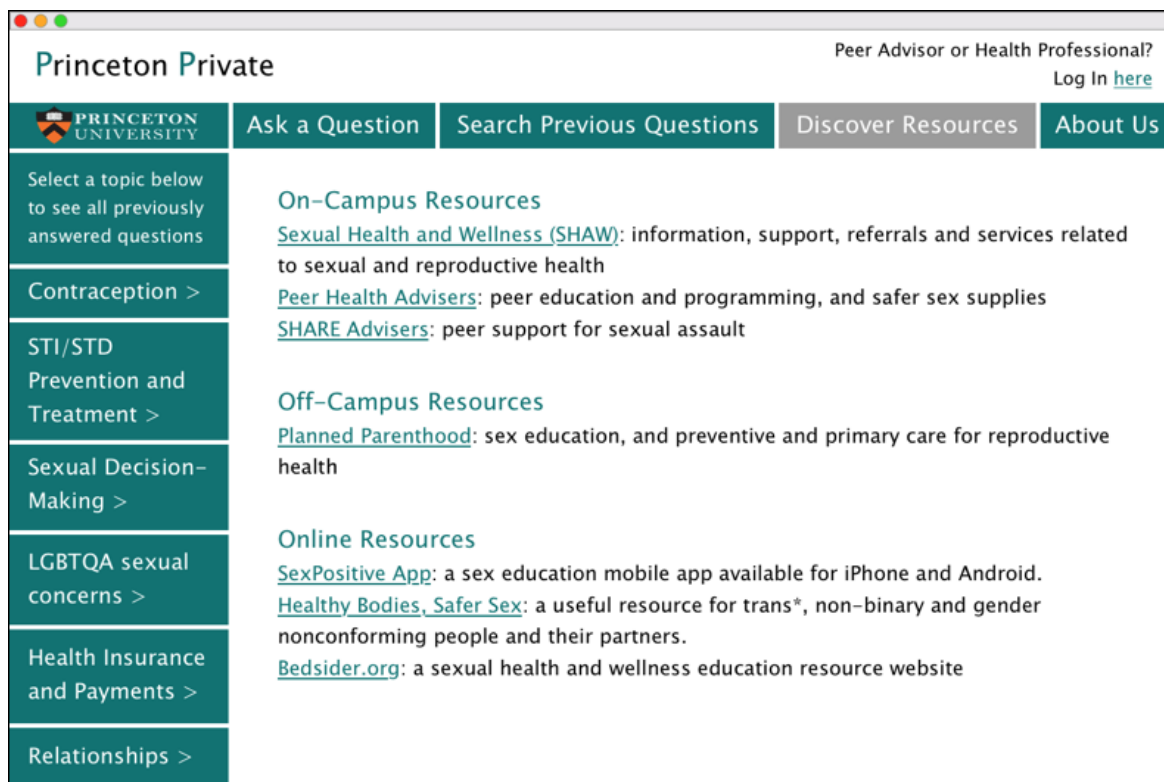
Figure 9: The "Discover Resources" page where the user can learn about the multitude of sexual health resources available on campus, off campus, and online. When the user clicks on the relevant links, they are redirected to the respective site.

Scenarios of Use

User A is experiencing a very heavy and painful period after getting a copper IUD inserted at McCosh Health Center a few weeks ago. She has received mixed advice regarding what she should do going forward -- some friends say that the pain is normal for a copper IUD, while some say she should go to the health center for the pain. Since the pain is preventing her from doing her schoolwork and interacting with friends, she starts a live chat with a peer advisor on Princeton Private, describing her situation and asking for advice. The peer advisor responds immediately, instructing her to do some self-examinations, and continues to listen to her and give advice. Eventually the two decide that it is best if User A heads to McCosh immediately, where a nurse will be ready to see and examine her.

User B had sex with his girlfriend the night before, and realized the next day that the condom they used had a slight tear in it. He thinks it is a good idea if he walks with his girlfriend to go buy Plan B. However, User B is unsure where they can buy it around Princeton and how much it costs at each store. He navigates to Princeton Private, and types "Plan B" into the search bar

under "Search Previous Questions". He finds a question similar to the one he is looking for: *Where can I buy Plan B around campus, and how much does it cost at each location?* The McCosh health professional responds: "Plan B can be obtained from McCosh by students for $20. This can be charged to the student account or paid in cash." The peer advisor responds: "Additionally, Plan B can be obtained from the following local pharmacies at the following prices: CVS on Nassau Street - $26, U Store Pharmacy - $30, Rite Aid at Princeton Shopping Center - $24. Many students choose to go to the CVS on Nassau Street, as it provides a sense of privacy, and is not linked to their student identity in any way." User B discusses the options with his girlfriend, and they decide to walk to the CVS on Nassau Street and purchase Plan B for $26.

User C identifies as LGBTQ+, and is wondering if there is a health professional at McCosh that specializes in LGBTQ+ sexual health. They navigate to Princeton Private and ask a new question: *Is there a nurse/doctor at McCosh that specializes in LGTBQ+ health issues? If so, who, and what is their gender identity?*. Within a few hours, User C receives a responses from a health professional describing background and experience of the two health professionals at McCosh who specialize in LGBTQ+ sexal health.

Design Rationale

Health issues are *personal* issues; thus, individuals should have access to a system that allows them to receive information in the way they want to receive it. Since most college students have their laptop or mobile phone on them at all times, a website felt like the most intuitive platform, as it could be accessed from essentially any device at any time, allowing the user greater flexibility with regards to *when* and *where* they can access information about sexual health at Princeton.

Our prototype has the advantage of being usable by most students, without excluding by operating system or requiring an installation or needing to log in. These low barriers to entry help people get the information they need promptly. The format of collecting common anonymous questions also helps the community learn from past questions and build a shared knowledge base. Because the answers use a mix of expert and peer advice, the users have the advantage of both the experience of experts and the candidness of peers.

Some potential disadvantages are related to capabilities we trade off in order to protect privacy. For example, because we do not require logins to preserve the user perception of total anonymity, there is no feature in our prototype to ask private questions in the main q/a interface. Instead, users must use a live chat session. There may also be challenges, as with all approaches which use human moderation, with making sure the q/a and live chat are consistently staffed. We also discovered an area where UI improvement could be made through user feedback. Reviewing the feedback, we noticed that the relative hierarchy between the topics and page navigation links could be improved. During our in-class prototype testing session, many testers gave feedback that the UI elements were visually similar even though they represented different types of links, causing confusion.

Results: In Class Evaluation

In general, participants found it fairly easy to navigate our system! After reading the description on the website homepage, every participant understood that the main functionality of the website was to submit and read student questions about sexual health. They also understood that they were supposed to look for a question in the previous questions section before asking it to avoid repeated content. Everyone understood how the interface for asking questions worked, including the categorization of the question topic and the keyword tags for each question. They were all able to discover other features such as searching for questions and finding out information about resources. They generally thought that the resources listed were useful and that it was helpful that we provided external links to those resources in an organized manner, classifying the resources as on-campus, off-campus and online. Many participants identified the site's similarities to Piazza, which allowed them to use the website easily. We also received positive feedback on some more nuanced features, like the dual health professional and student answer to each question. The users liked that there was a student response separate from the health professional response, since they see it as a more direct answer that avoids bureaucracy. About half of the users liked that we listed common categories for previous questions to allow a search by topic, since they see using the search bar as a last resort, and our implementation helped them avoid that. Most users mentioned that the "Get Help Now" live chat feature was a helpful resource for those needing a prompt response, and they understood the difference between that and the "Ask a Question" section.

Although users were able to navigate the website easily, there was still confusion surrounding a few of our features. The main confusion was about the differences between keyword search through the "Search Previous Questions" at the top of the page and the category search along the left side menu. We intended for these two to be unique different ways to search the previous questions: one by topic, and the other one by keyword. It wasn't clear to users what each function was doing and which of the two they should use. With regards to the topic of searching, some mentioned that they would find it more useful if we had a search bar at the top, since that is how most websites they use frequently are structured. In addition, when participants simulated submitting questions, they were confused about the anonymity of their question and who would be answering the question. Some participants also asked who the "Get Help Now!" chat was connecting them with on the main homepage, whether it was a health professional or simply other students. Another point that participants brought up was whether or not we had a solution for what to do if a student-submitted answer is wrong, which could be solved by having health professionals "endorse" the student answer. Finally, something that wasn't clear was the manner in which questions are answered. We intended for users to login in order to answer questions (but that feature wasn't implemented in our prototype yet) so users were unsure about whether they could answer questions themselves and how.

We put all of our prototypes made with Sketch together into a Powerpoint, and created "hotspots" on each page that would simulate clicking on buttons and lead to the appropriate page. Using this method to move to other slides was helpful because it simulated navigating the actual website. Our prototype consisted of enough different screens to provide the users with

several different actions: using the chat, asking a question, searching by topic, searching by keyword, looking at the resources, and learning more about the project. The various functionalities provided were useful in replicating the different actions that will be allowed by our final product. Since the final system will be online, using the methods chosen helped to display our prototype on a computer screen. Another important advantage is that the sketches we created already included many visual design choices such as a color scheme, menu bars, a logo and spacing of different kinds of content, which means that a lot of the work we did for this prototype can directly transfer over to our final prototype, given that users reacted favorably to the given design decision. Finally, the kind of prototype we created allowed us to work separately on different pages once we had decided the color scheme and designed the elements that are repeated on each page, so we were able to divide up the work and have everyone contribute to the prototype, making everyone acquainted with sketching tools at the same time.

The main con of our current prototype is that since the website was not fully implemented, it didn't allow the users to perform actions that would be working on the actual website. An example of this is that we didn't write answers for all of the previous questions we listed, so we had to direct users to click on a specific question that we had answered. Additionally, since we didn't implement the part of the website that allows users to answer questions, we weren't able to get feedback on this functionality. However, we had discussions with our users about this topic, and we were able to get their opinions on how it should be implemented, even if they didn't have a concrete system to critique. Additionally, we had discussed in our group meeting how we would want to implement the functionality to answer questions, so we explained it to our users.

The first change that we would want to make is to redesign the two types of search provided, since this seemed to be a big point of confusion for our users. We received some contradictory feedback about how this redesign should happen: some only want the search by keyword functionality, while some prefer the search by category one. Ideally, we would try to combine them both into one feature that allows for both searches. We also have to reconsider where in the page this search should be located, as some found it helpful to be on the left side, while others preferred to see it at the top of the page.

Another change that we would make is adding the functionality for health professionals to endorse student answers. This would be used to verify the correctness of an answer, mark a student answer as wrong, or delete an answer if the health professional feels that that a wrong answer could be potentially damaging to some users, since the topics sensitive, and sometimes life-threatening.

Anonymity is another field that we would want to vastly improve on. We are considering adding text on the"Ask a Question" page reminding the user that questions are anonymous, or adding a drop-down menu, similar to Piazza, that allows the students to specify their anonymity: "anonymous to students" or "anonymous to all".

We also want to make clearer how the mechanism for answering questions works and who can answer these questions. In order to do this, we were thinking of adding an initial page

explaining that both students and health professionals can answer questions, and link that to a login page to verify their identities. We could also add a functionality to our main page with more obvious text - instead of the "Log In" text we have now, we could have something saying "Want to answer these questions? Click here".

In terms of the live chat, we want to specify who the user is talking to in the chat. This doesn't need to be the identity of the person behind the chat, but general advisor category of the person answering the question: health professional, peer advisor, other, etc. This is an easy fix that would go a long way into making our website more user-friendly, which would lead students to use it more often, and make our goal of vastly improving sexual health on campus possible.

A change that we are still debating is whether we want to add a mandatory login for our users to ask questions. This is something we debated both within our group and with our test users, as there are strong opinions on both sides. Adding a login verifies that the users are indeed Princeton students, and stops "trolls" from using our page. It also leads to a more personalizable user experience, since a user can have favorite topics and see their previous question. It also allows for users to receive a notification when their question has been answered. However, the big downside is that it can be perceived as limiting anonymity, even if we ensure the users that we won't link their credentials to a question they ask. Since confidentiality was an important issue that came up during our user research, we wouldn't want the login feature to limit the help students can get. Removing the need to login would make the page more accessible, but would limit the ability of users to be notified when their question is answered. A workaround for this would be adding a feature after submitting a question where users can fill in their email to be notified when that question is answered. This isn't really confidential, since only the person that asked the question can be shown that page, but at least it is a choice that users make after asking a question, so confidentiality issues wouldn't limit their ability to ask a question.

Finally, in terms of evaluation techniques, we would want our users to navigate the prototype in an undirected manner. Since our current prototype didn't have all the features implemented, we had to direct them to the parts that they could interact with. We hope that our final prototype is built in a way that users can interact with it without need for further instructions.