

VOLTRON

The new wave of women's health

Our Mission:

Voltron seeks to improve the health of women in a way that is informative, personalized, and convenient.

What We Do:

We are working to develop Comma, a single application which seeks to help women track and improve their health by providing valuable information on different contraceptive options, personalized data on contraceptive use and menstrual cycle tracking, as well as reminders to take contraceptives, make appointments, and get prescription refills!

Our Research:

As a team, we surveyed over 250 women about their typical contraceptive use, their satisfaction, and potential areas of improvement. We analyzed this research and used it to make Comma the best it can be for the most women.

1. Target users
 - Target users: women with menstrual cycles
 - Not targeting: men
 - This is appropriate because the app is for birth control and period maintenance.
2. An overview of what the solution will do and why it's needed
 - The results of our survey show that over half of women often have anxiety over the effectiveness of their birth control, and many do not feel confident in how well they track their cycle.
 - Comma will create a convenient platform for women to track their cycle, their menstrual related symptoms (acne, bloating, cramps, etc.) and receive reminders to take their birth control. This will help women keep track of their cycle and symptoms, and hopefully reduce anxiety related to birth control
 - The app will also analyze data about the users (BMI, weight, previous contraception methods used, menstrual related symptoms, etc.) and find patterns

in order to recommend a different kind of birth control for the user. (Ex. if you're reacting badly to a certain brand of birth control, Comma will see if there's a trend of people with similar traits who also reacted badly to a this birth control and see what other brands worked better for them.)

- Comma will also provide advice on emergency contraceptives to take in case of missed pill or other emergency. Hopefully this will further reduce anxiety.
- Existing solutions
 - There are a few similar platforms which exist, but none which provide all of the same benefits in the same location. For instance, there are existing applications to track menstrual cycles, and applications which track birth control use, and even applications which compare different birth controls, but none that do all of this in the same place. This gives our particular application both an element of convenience, and a more holistic view of the user.

3. Task analysis

- User platform
 - Mobile and desktop users.
- Target region
 - This application is designed to accommodate users from anywhere, provided that they have consistent access to the internet and speak English.
- Age range
 - From about 10-65 (age range for starting period to menopause) Having such a diverse range of users, it is necessary for this application to provide multiple benefits to align with the different goals for improved female health that different groups in this range might have.
- Implications of economic standing
 - In many places, economic standing may pose certain limitations on the accessibility of contraceptives. Comma is designed to benefit those of any economic standing with consistent access to a computer or apple/android device. A person with access to all contraceptive options may explore the full benefits of the application while a user who cannot afford a different contraceptive which is optimized for them may not benefit as much, but would still have a platform for tracking and recording menstrual cycles.
- Characteristics of the task environment
 - The important characteristics of the task environment are that users may use the app in any of a wide variety of environments since they will be using it on a mobile device. Because the app handles sensitive medical information, it is likely desirable that it be somewhat discreet and secure

since mobile devices travel often into public spaces and may be used there.

- Task overview

- What are people trying to achieve: The problem is that many women of reproductive age lack the proper methodology, knowledge, and platform to track their reproductive health.
- Why are they trying to achieve it: Many women are uninformed of their contraceptive options, unhappy with their current contraceptive, or having trouble managing contraceptive use and/or menstrual cycles. One of the many benefits of this application is that it seeks to accommodate many different problems at ones.
- How are they going to achieve it: In tracking reproductive health and birth control use, and by providing a platform by which the statistics are readily available, users will be provided a more holistic view of their female health, with additional resources for improvements as are necessary or desired. For instance, a user of Comma who uses a certain brand of contraception may notice that over time, they experience high rates of side effects compared to other users and low rates of effectiveness due to use. Comma would provide a platform through which the user can both explore other options of contraception which may be a better fit for their lifestyle, or have access to tools which can improve effectiveness of the current contraceptive.

- Structured task analysis

- 0: Register

1. Click create account on website
2. Enter information
 - 2.1 Enter email and password
 - 2.2 Enter biological information (age, weight, height)
 - 2.3 Birth Control
 - 2.3.1 Choose name of birth control
 - 2.3.2 Compare different birth controls
 - 2.3.2.1 Enter symptoms
 - 2.4 Choose which reminders you want (possibly none)
 - 2.4.1 Enable notifications
 - 2.4.2 Choose time
3. Confirm
 - 3.1 Click confirm
 - 3.2 Receive email confirmation
4. Download app
 - 4.1 Download app
 - 4.2 Log in
 - 4.3 Enable permissions

4. Research

- Through a questionnaire developed to aggregate data on the wants and needs of the target user group, we have received the following statistics:
 - Over half of those surveyed have tried multiple different contraceptives before finding one they liked.
 - About half of those surveyed have experienced anxiety related to birth control effectiveness.
 - The most popular and desired method for remembering to take contraceptives is through an alarm.
 - The most common source of information about contraceptives is a gynecologist or other medical professional.
 - Commonly desired features included ovulation and symptom trackers.
- Over the course of 5 days we received over 250 responses by sharing the survey among friends and on social media, and responses continue to come in.
- The majority of respondents in our survey were between 18 and 24 years of age. This is likely due to our sampling method involving mostly reaching out to friends on social media and age of our group members being around that same age range.

Implications

- Synthesis of how these attributes will influence our future designs
 - Based on the data gathered, we have decided to add an alarm option to the application which allows the user to set reminders to either take a contraceptive or to make an appointment to have their current contraceptive checked, refilled or replaced.
 - In order for our app to be more than a simple alarm, we need to provide further functionality. The results of the survey have guided us towards cycle tracking, since many respondents desired that the app track cycles and do not keep good track of their cycles themselves.
 - Additionally, we intend to provide information on birth control for emergency situations, in order to potentially help reduce anxiety felt by women about the effectiveness of their method.
 - Because most women get their information on birth control from their doctors, we are considering expanding the scope of our application to allow medical professionals to connect with it and provide some personalized info that could be readily accessible within Comma.
 - Future designs should include updates on most current forms of birth control being used. As new contraceptive options are added to the market, they should also be added to the application.
- Further questions
 - It might be beneficial to see how often our target user group visits the gynecologist, being that this is reported as the primary source of

information on contraceptive use. If the average user only visits the gynecologist for 1-2 hours per year, then it is possible that the average user also overestimates their knowledge of contraceptive options, risks, and benefits.

- It may be useful to gather information from doctors about how they might want to use Comma to communicate with patients, if that is a feature we want to pursue.

Questionnaire

https://docs.google.com/forms/d/1eXmqVf_rFqgPXWyTzklYM40PMgY7O2dJKu1BS7vCzR4/edit?usp=sharing

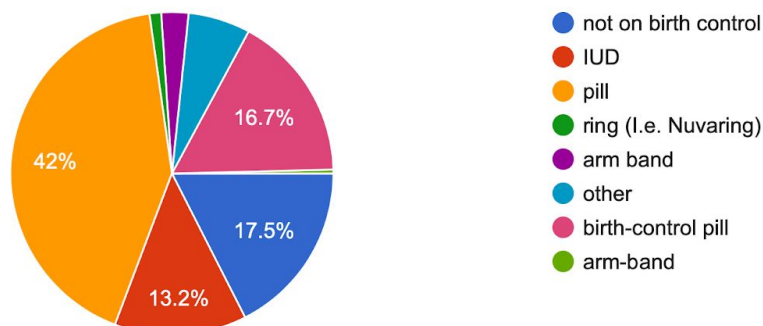
Major components of the application

1. Organized information for comparisons of different contraceptive options
2. Cycle and symptom tracker
3. Reminders for appointments, refills, and to take pills
4. Aggregated data on pill use
5. Projected effectiveness of contraceptive
6. Information on emergency contraceptive options based on contraceptive use

Data Results from Questionnaire:

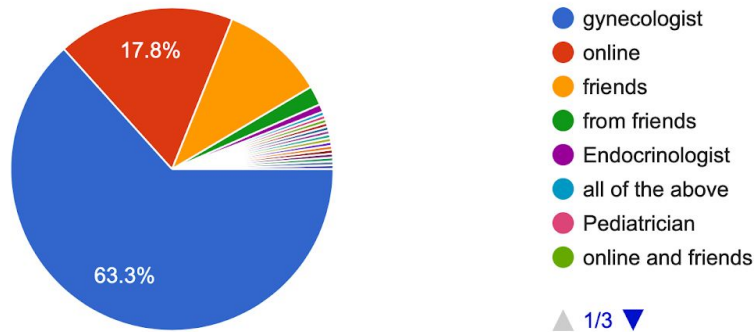
What is your current method of birth control?

257 responses



How do you currently get information about birth control?

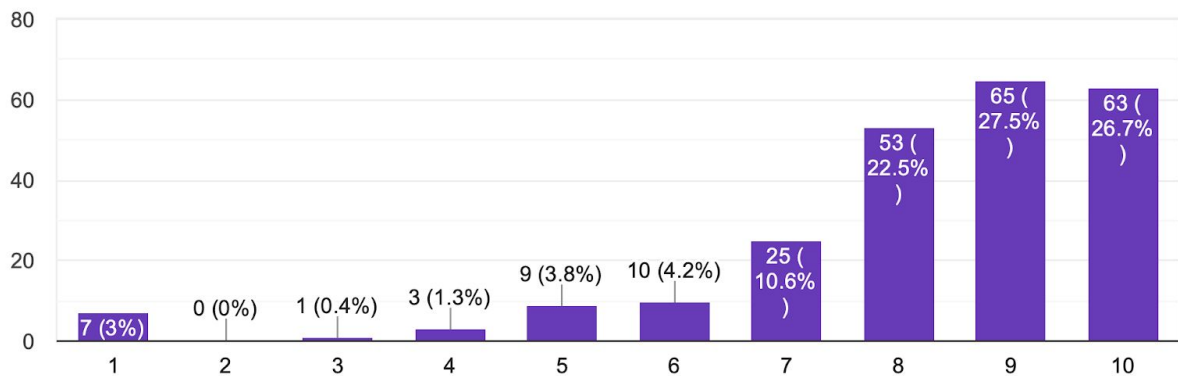
259 responses



The many small options are free responses written under the “other” category and consist of mostly other types of doctors or some combination of above answers.

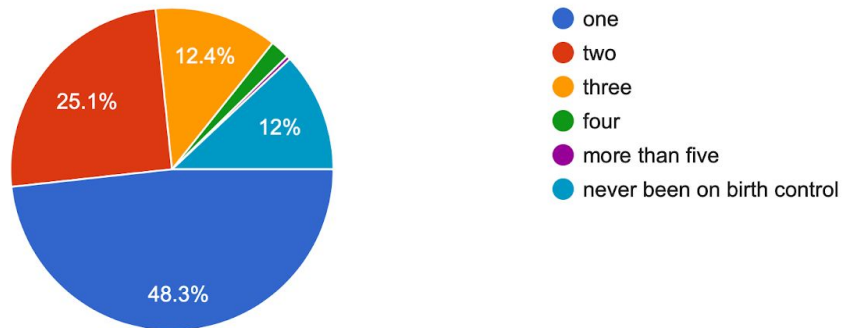
How confident in your current method of birth control?

236 responses



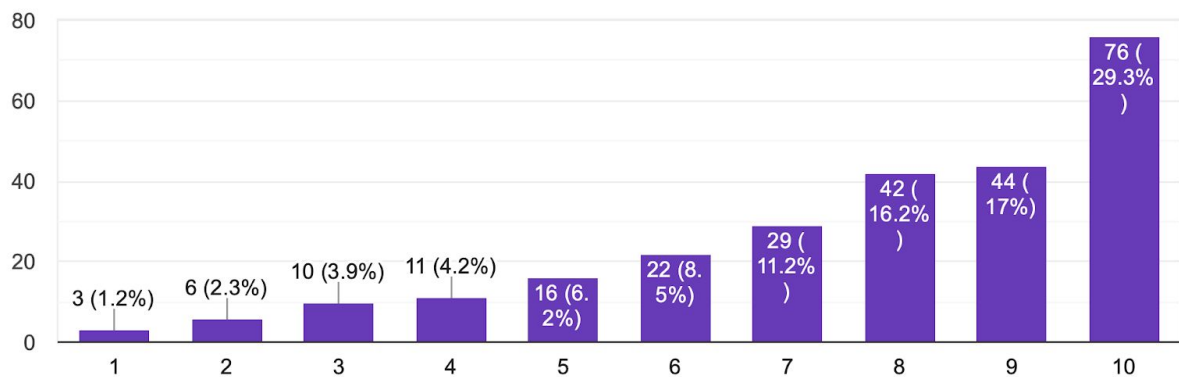
How many different forms of birth control have you had to try before finding the right one?

259 responses



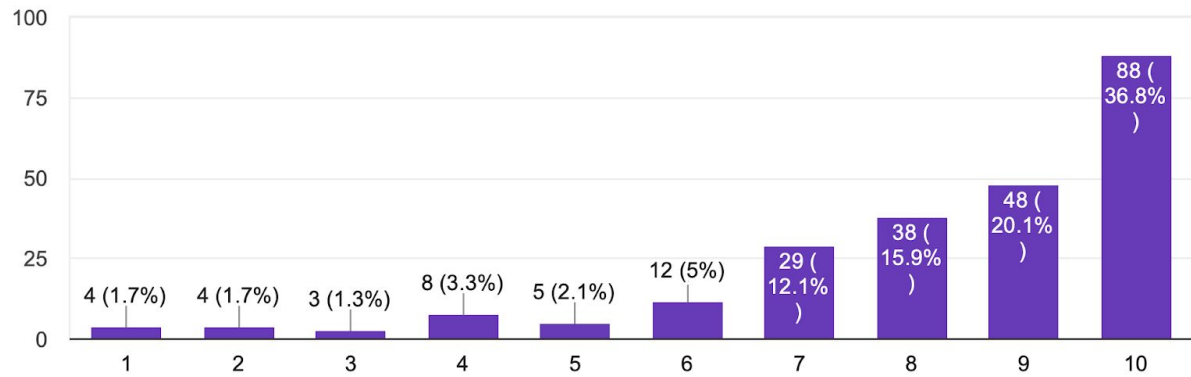
How informed are you about the potential ineffectiveness of birth controls?

259 responses



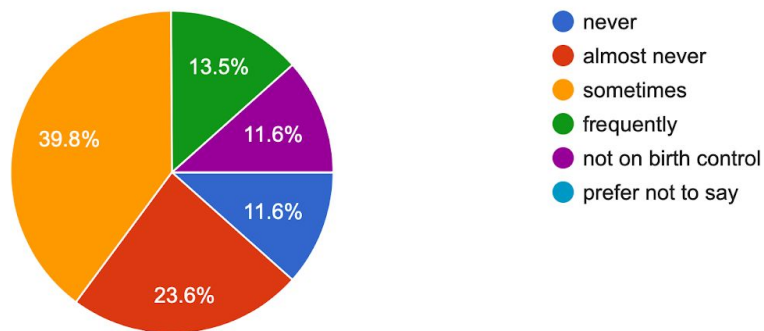
How satisfied are you with your current method of birth control?

239 responses

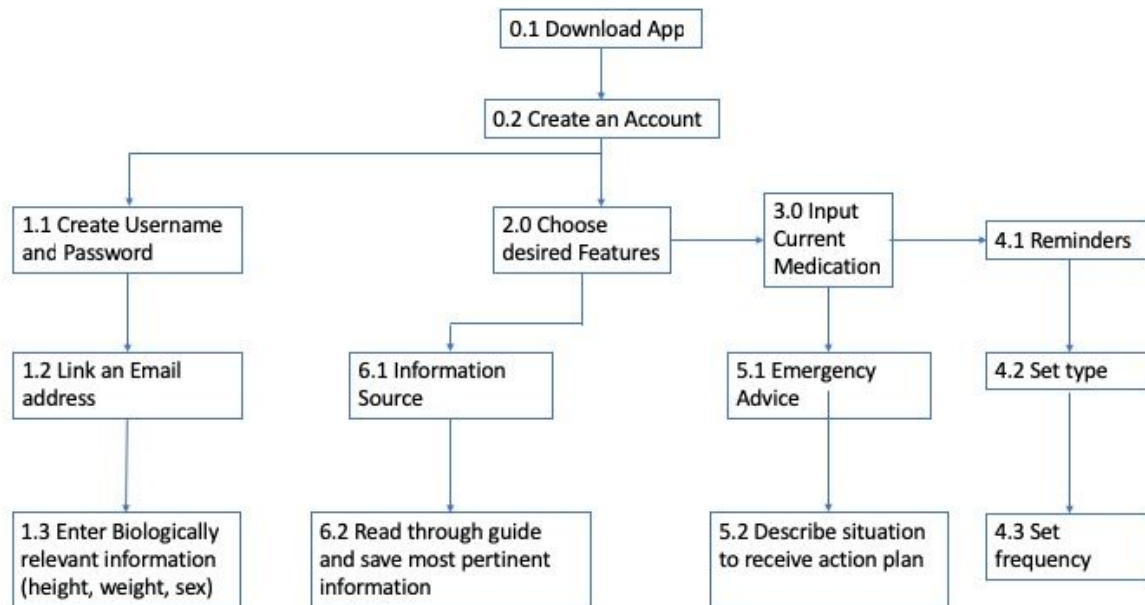


Have you ever had anxiety about the effectiveness of your birth control method?

259 responses



Task Analysis and Application use guide:



The app works as Follows:

- User download Comma from one of several locations and creates an account upon opening it for the first time
- The user makes a username and password, links the account to an email, and enters as much of the relevant health information they are comfortable sharing.
- From here, those who wish to use the app only for the information about the various types of medication and about cycle management in general can skip directly to encyclopedia guide.
- Those who intend to use the app for tracking and emergency advice can choose to do so. They are prompted to input their current medication, and have the ability to set how they want their reminders to function.
- Users also have the option to receive advice about what to do if they miss a pill and what the overall effectiveness of their medication will be in the near future. The user has the option to customize how they want to app to function in such situations.